CORE LABORATORIES N V
Form 10-K
February 11, 2019

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

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FORM 10-K
(Mark One)
Q ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR

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

For the transition period from__ ________ ____ ____to _ ____ ____ ____ ____ ___

Commission File Number 001-14273
CORE LABORATORIES N.V.
(Exact name of registrant as specified in its charter)

The Netherlands	Not Applicable
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
Strawinskylaan 913 Tower A, Level 9 1077 XX Amsterdam The Netherlands	Not Applicable
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (31-20) 420-3191

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

Title of each class	Name of each exchange on which registered
Common Shares, EUR 0.02 Par Value Per Share	New York Stock Exchange; Euronext Amsterdam Stock Exchange

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ¨ No Q

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 Q

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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes Q No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

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

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

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 Act). Yes ¨ No Q

As of June 30, 2018, the aggregate market value of common shares held by non-affiliates of the registrant was approximately $5,468,878,207.

As of February 8, 2019, the number of common shares outstanding was 44,316,940.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Report, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the Annual Meeting of Shareholders to be held in 2019, which definitive proxy statement shall be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Report relates.

CORE LABORATORIES N.V.
FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018
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PART I

ITEM 1. BUSINESS

General

Core Laboratories N.V. is a Netherlands limited liability company. We were established in 1936 and are one of the world's leading providers of proprietary and patented reservoir description and production enhancement services and products to the oil and gas industry. These services and products can enable our clients to improve reservoir performance and increase oil and gas recovery from their producing fields. We have over 70 offices in more than 50 countries and have approximately 4,700 employees.

References to "Core Lab", "the Company", "we", "our", and similar phrases are used throughout this Annual Report on Form 10-K (this "Form 10-K") and relate collectively to Core Laboratories N.V. and its consolidated affiliates.

In the first quarter of 2018, in a continuing effort to streamline our business and align our business strategy for further integration of services and products, the Company committed to divest the business of our full range of permanent downhole monitoring systems and related services, which had been part of our Production Enhancement segment. All prior period income statements have been adjusted to reclassify amounts related to this business to discontinued operations to conform to current period presentation. All disclosures on operating income and net income within these statements reflect the results from continuing operations for all periods presented. These reclassifications had no impact on the reported net income attributable to Core Laboratories N.V., financial position or cash flows for any of these prior periods.

Business Strategy

Our business strategy is to provide advanced technologies that improve reservoir performance by (i) continuing the development of proprietary technologies through client-driven research and development, (ii) expanding the services and products offered throughout our global network of offices and (iii) acquiring complementary technologies that add key technologies or market presence and enhance existing services and products.

Development of New Technologies, Services and Products

We conduct research and development to meet the needs of our clients who are continually seeking new services and technologies to lower their costs of finding, developing and producing oil and gas. While the aggregate number of wells being drilled per year has fluctuated relative to market conditions, oil and gas producers have, on a proportional basis, increased expenditures on technology services to improve their understanding of the reservoir and increase production of oil and gas from their producing fields. We intend to continue concentrating our efforts on services and technologies that improve reservoir performance and increase oil and gas recovery.

International Expansion of Services and Products

Another component of our business strategy is to broaden the spectrum of services and products offered to our clients on a global basis. We intend to continue using our worldwide network of offices to offer our services and products that have been developed internally or obtained through acquisitions. This global emphasis allows us to enhance our revenue through efficient utilization of our worldwide network.

Acquisitions

We continually review potential acquisitions to add key services and technologies, enhance market presence or complement existing businesses.

More information relating to any significant acquisitions is included in Note 4, Acquisitions of the Notes to the Consolidated Financial Statements in Part IV of this Form 10-K ("Notes to Consolidated Financial Statements").

Operations

We derive our revenue from services and product sales to clients primarily in the oil and gas industry.

We operate our business in two reporting segments. These complementary segments provide different services and products and utilize different technologies for improving reservoir performance and increasing oil and gas recovery from new and existing fields. Disclosure relating to the operations and financial information of these business segments is included in Note 19 of the Notes to Consolidated Financial Statements.

- Reservoir Description: Encompasses the characterization of petroleum reservoir rock, fluid and gas samples to increase production and improve recovery of oil and gas from our clients' reservoirs. We provide laboratory-based analytical and field services to characterize properties of crude oil and petroleum products to the oil and gas industry. We also provide proprietary and joint industry studies based on these types of analyses.
- Production Enhancement: Includes services and products relating to reservoir well completions, perforations, stimulations and production. We provide integrated diagnostic services to evaluate and monitor the effectiveness of well completions and to develop solutions aimed at increasing the effectiveness of enhanced oil recovery projects.

We offer our services worldwide through our global network of offices. Services accounted for 69%, 74% and 79% of our revenue from continuing operations for the years ended December 31, 2018, 2017 and 2016, respectively.

We manufacture products primarily in five facilities for distribution on a global basis. Product sales accounted for 31%, 26% and 21% of our revenue from continuing operations for the years ended December 31, 2018, 2017 and 2016, respectively.

Our product sales backlog at December 31, 2018 was $16.9 million compared to $17.5 million at December 31, 2017. Sources of raw materials for our products are readily available, and we expect that our current sales backlog at December 31, 2018 will be completed in 2019.

Reservoir Description

Commercial oil and gas fields consist of porous and permeable reservoir rocks that contain natural gas, crude oil and water. Due to the density differences of the fluids, natural gas typically caps the field and overlies an oil layer, which overlies the water. We provide services that characterize the porous reservoir rock and all three reservoir fluids. Services relating to these fluids include determining quality and measuring quantity of the fluids and their derived products. This includes determining the value of different crude oil and natural gases by analyzing the individual components of complex hydrocarbons. We measure these hydrocarbons at reservoir conditions to determine the changes in their physical properties with changing pressure and temperature. The number of pressure-volume-temperature ("PVT") related projects has been increasing for the last several years, and reservoir fluid analyses now contribute approximately 60% of Reservoir Description revenue.

We analyze samples of reservoir rocks for their porosity, which determines reservoir storage capacity, and for their permeability, which defines the ability of the fluids to flow through the rock. These measurements are used to determine how much oil and gas are present in a reservoir and the rates at which the oil and gas can be produced. We also use our proprietary services and technologies to correlate the reservoir description data to wireline logs and seismic data by determining the different acoustic velocities of reservoir rocks containing water, oil and natural gas.

The combined use of both the reservoir rock and fluid data are invaluable to oil companies to determine the most efficient method by which to recover, process, and refine these hydrocarbons to produce the maximum value added to crude oil and natural gas fields. Early evaluations and key decisions about well performance and viability are important for optimizing a reservoir. This is accomplished using our Digital Rock Characteristics ("DRC") services which include (1) Dual Energy Computed Tomography ("DECT") which is a non-destructive petrophysical evaluation technique to provide early time insight of reservoir lithology and reservoir quality; and (2) Micro Computed Tomography which is a high resolution pore imaging service that provides early time quantification of both routine and special core analysis properties.

Core Lab's proprietary DECT scanner-based deliverables generate millimeter-scale three dimensional images and accompanying high-resolution petrophysical logs on cored intervals by calibrating DECT information to the vast library of physical measurements in Core Lab's proprietary database. The DECT deliverables from Core Lab are more detailed than down-hole logs and provide better bed resolution as well as accurate information on rock properties such as lithology, porosity, density, rock strength and acoustic properties.

We have developed unique analytical processes to understand the flow characteristics and saturation profiles of unconventional reservoir systems including (1) High Frequency Nuclear Magnetic Resonance ("NMR") measurements to allow the T1/T2 mapping to gain understanding of movable vs. non-movable fluid saturation distribution of these complex systems; and (2) Enhanced Oil Recovery ("EOR") of shale reservoirs by evaluating the effectiveness of gas cycling in nano-pore structures to significantly increase long-term production rates and volumes.

Core Lab holds various patents, trade secrets, and proprietary designs for laboratory equipment required to analyze reservoir rocks as well as the properties and phase behavior of reservoir fluids. We manufacture a wide range of ambient and reservoir condition rock and fluid analysis laboratory equipment for our own use throughout our international laboratory network. Among these devices are complex, high-pressure, high temperature, reservoir condition, multi-phase flow systems and full visualization PVT cells, along with the ancillary equipment required to support these laboratory programs. We also sell equipment of this type to universities, government institutes, and client company research labs.

While recognizing the need to optimize the logistical chain of our clients, from producing well to retail sales of petroleum products, a state-of-the-art IT platform CONNECT: was launched to efficiently acquire our field data, laboratory analysis and any other observations relevant to our client base. The system is designed for single data entry, and that data can be used for further analysis and, more importantly, be shared with our clients by process flow dashboards with key performance indicators. The system can also share real-time data on mobile devices, enabling our clients to make quick decisions.

This methodology of sharing data has been embraced by an increasing number of clients, as it has not only saved them costs, but, more importantly, the data can be used for trend analysis in many ways, such as the ability to forecast bottlenecks, thus eliminating waste and increasing efficiency.

Two experience centers have been set up, both in the U.S. and Europe, where our clients can get acquainted with optimizing the flow of business as well as our advanced systems for data analysis. All initiatives are meant to increase efficiency and add value to our client base. New modules continue to be added to our suite of IT platforms that enhance the distribution chain of our customers, with further development continuing during 2019.

We are involved in numerous large-scale reservoir management projects, applying proprietary and state-of-the-art techniques from the earliest phases of a field development program until the last economic barrel of oil is recovered. These projects are of increasing importance to oil companies as the incremental barrel is often the lowest cost and most profitable barrel in the reservoir. Producing incremental barrels increases our clients' cash flows which we believe will result in additional capital expenditures by our clients, and ultimately further opportunities for us.

Some of these are industry consortium projects that provide critical reservoir information to a broad spectrum of clients in a cost effective manner. Many of them examine unconventional reservoirs, particularly in the US and Canada. For example, our Permian Basin study evaluates the petrophysical, geochemical, completion and production characteristics of this very active play in West Texas. Our clients use this information, not only to improve their drilling and production activities, but also to evaluate potential acquisition and divestiture opportunities. Outside of North America, we have an ongoing global shale study that examines the unconventional reservoir potential in Central and Southern Europe, North Africa, India, China and Australia, among other regions. We also have studies focused on tight sandstone reservoirs around the world and unconventional plays in the Middle East.

During 2018, we launched a joint industry project ("JIP") focused on evaluation of unconventional Mississippian reservoirs in the SCOOP and STACK areas of the Anadarko Basin of Oklahoma. This JIP will evaluate geological, geochemical and petrophysical characteristics of conventional cores to develop a stratigraphic model for the study area, calibrate wireline logs to reflect physical measurements of the core samples, determine optimum landing zone targets and distances related to down-spacing, predict production potential and estimate ultimate crude oil recoveries. The data and interpretations will also be used to determine optimum completion techniques. In addition, a SCOOP-STACK Rock Catalog will be developed using our proprietary methodology and data analytics techniques. This catalog will allow clients to better evaluate the potential of wells from drill cuttings when conventional core is unavailable.

During 2018, we also launched analytical JIP programs associated with unconventional Enhanced Oil Recovery ("EOR") for two basins in the United States: the "Unconventional Enhanced Oil Recovery Permian Basin" ("Permian Basin EOR JIP") and the "Unconventional EOR in the Eagle Ford Formation" (the "Eagle Ford EOR JIP"). These studies are focused on incremental oil recovery from cyclic engineered-gas injection in the formation. The Permian Basin EOR JIP, focused on the Wolfcamp Formation in both the Midland and Delaware Basins, follows two successful Core Lab JIPs in the Midland and Delaware Basins, which were conducted for over 75 operators. Those earlier studies focused on the geological and petrophysical properties of target reservoir horizons, and therefore provide a critical foundation for the recently initiated unconventional EOR JIP in the Wolfcamp Formation. In the Eagle Ford EOR JIP, participants will furnish a large variety of reservoir cores and reservoir fluids from the Eagle Ford formation to be studied to determine the most effective techniques to boost ultimate recovery rates. Due to steep decline curves and low recovery factors, there is a need to assess the effectiveness of enhanced oil recovery techniques in these nano-darcy rocks. The technological and analytical methodologies used in these new Unconventional EOR JIPs are the summation of years of proprietary experience in unconventional EOR testing and in

providing analytical data sets to operators to help them optimize their reservoirs. Core Lab plans to follow the Eagle Ford EOR JIP and Permian Basin EOR JIP with similar JIPs in other applicable unconventional reservoirs in North and South America.

Apart from unconventional settings, several conventional reservoir studies are currently being conducted for the deep water Gulf of Mexico and several different plays around the offshore Atlantic margins of South America and Canada. Onshore, we have also conducted dozens of conventional reservoir studies on every continent except Antarctica.

Production Enhancement

We provide diagnostic services and products to help optimize completion and reservoir operations and field development strategies in order to increase recoverable reserves in the most efficient way. Two production enhancement methods commonly used are (i) hydraulic fracturing of the reservoir rock to improve flow and (ii) flooding a reservoir with water, carbon dioxide, nitrogen or hydrocarbon gases to force more oil and gas to the wellbore. Many oilfields today are hydraulically fractured and/or flooded to maximize oil and gas recovery. Although Core Lab is not a hydraulic fracturing company, we do provide services that are used by others to develop and optimize hydraulic fracturing and field flood projects and to evaluate the success of those projects. Our services, technologies and expertise play a key role in the success of both methods.

The hydraulic fracturing of a producing formation is achieved by pumping a fluid slurry containing a proppant material into the reservoir zone at extremely high pressures. This fractures the rock and the proppant material "props" or holds the fractures open after the pressure pumping is complete so that reservoir fluids can flow to the production wellbore. Our data on rock type and strength are critical for determining the proper design of the hydraulic fracturing job. In addition, our testing indicates whether the fluid slurry is compatible with the reservoir rock so that damage does not occur that would restrict production. We also provide testing of various propping agents and software to help pick the best proppant based on net present value calculations of client investments. Our proprietary and patented ZERO WASH® tracer technology is used to determine cluster efficiency and ensure maximum stimulated reservoir volume and increased ultimate recovery.

SPECTRACHEM® is another proprietary and patented technology developed for optimizing hydraulic fracture performance. SPECTRACHEM® is used to aid operators in determining the efficiency of the fracture fluids used. SPECTRACHEM® tracers allow operators to evaluate the quantity of fracture fluid that returns to the wellbore during the clean-up period after a hydraulic fracturing event. This technology also allows our clients to evaluate load recovery, gas breakthrough, fluid leak-off and breaker efficiency, all of which are important factors for optimizing oil and/or natural gas production after the formation is hydraulically fractured.

The SPECTRACHEM® service is effective in determining the effectiveness and efficiency of the hydraulic fracture stimulation of long multi-stage horizontal wells in oil- and gas-shale plays throughout North America and with growing demand internationally as unconventional resource plays are developed globally. SPECTRACHEM® data sets are used to determine how each frac stage is flowing. Frac stages with ineffective flows may warrant further stimulation, remedial actions and guide improvements on future frac designs.

Our unique completion monitoring system, COMPLETION PROFILER™, helps to determine flow rates from reservoir zones after they have been hydraulically fractured. This provides our clients with a baseline of early production information and can be compared to subsequent production logs later in the life of the well to see how hydrocarbon production from different reservoir layers or different quality rock varies over time.

Our FLOWPROFILER™ service, a proprietary hydrocarbon-based tracer technology, which is a further development of our patented SPECTRACHEM® technology quantifies the hydrocarbon production from discrete segments in

multi-stage horizontal well completions and stimulations in unconventional tight-oil or gas plays. We have tracers used for oil reservoirs which are different from our tracers used for gas reservoirs. FLOWPROFILER™ technology and the analytical methodology for identifying the hydrocarbon-soluble tracers are the protected intellectual property of Core Lab.

FLOWPROFILER™ technology employs a unique hydrocarbon-soluble tracer and water-soluble tracer introduced into specific and isolated stages via the stimulating proppant stream. The hydrocarbon-soluble tracers are absorbed by the crude oil and gas associated with each stage while the water-soluble tracer remains in the stimulation fluid. When the well is flowed, oil, gas and water samples are collected and analyzed in the laboratory to identify and quantify oil or gas flows from each stage and the cleanup of the stimulation fluid. Stages not at optimum flow rates can be identified, precipitating remedial efforts to increase flow and recovery rates, and to provide valuable insight for future wells. This service is being used to monitor offset well interference by sampling offset well oil, gas and water production. The amount of tracer detected in offset wells is being used to help our clients optimize both lateral and vertical well spacing and the amount of fracturing fluids for each stage.

During 2018, we saw broadening acceptance of FLOWPROFILER™EDS, a proprietary technology, which is an engineered delivery system ("EDS"). The break-through EDS technology delivers time-released diagnostics for evaluating the crude oil flow from each stage of a hydraulically fractured completion. This technology comprises proprietary 40/70 or 100 mesh particles, chemically engineered to bond specifically with our oil tracers. This allows for precise placement of tracers in the propped fracture providing accurate identification of oil production by stage. Crude oil production by stage is determined by using this Core Lab-developed technology that enables the diagnostic tracer to be absorbed and chemically-bonded to durable, proppant-size particles that accompany the frac sand. The tracer will release from the engineered particles once they contact the reservoir's crude oil, enabling Core Lab to assess which stages are contributing to crude oil production.

We conduct dynamic flow tests of the reservoir fluids through the reservoir rock, at actual reservoir pressure and temperature, to realistically simulate the actual flooding of a producing zone. We use patented technologies, such as our Saturation Monitoring by the Attenuation of X-rays ("SMAX™"), to help design the enhanced recovery project. After a field flood is initiated, we are often involved in monitoring the progress of the flood to ensure the maximum amount of incremental production is being achieved through the use of our SPECTRAFLOOD™ technology, which we developed to optimize sweep efficiency during field floods.

Our PACKSCAN® patented technology is used to evaluate gravel pack effectiveness in unconsolidated reservoirs. PACKSCAN® measures the density changes in the gravel pack annulus to verify the completeness of the gravel pack protection of the wellbore without any additional rig time.

In addition to Core Lab's many patented reservoir analysis technologies, Production Enhancement has established itself as a global leader in the manufacturing and distribution of high-performance perforating products. Core Lab's unique understanding of complex reservoirs supports our ability to supply perforating systems engineered to maximize well productivity by reducing, eliminating and overcoming formation damage caused during the drilling and completion of oil and gas wells. This "systems" approach to the perforation of an oil or gas well has resulted in numerous patented products.

HERO® ("High Efficiency Reservoir Optimization"), SUPERHERO® and SUPERHERO®Plus are examples of the patented perforating systems which quickly gained market acceptance and became industry leaders in enhancing reservoir performance. The SUPERHERO® and SUPERHERO®Plus charges evolved from HERO® charge technology and use a proprietary and patented design of powdered metal liners and explosives technology resulting in a deeper and cleaner perforating tunnel into the oil and gas reservoir. This allows greater flow of hydrocarbons to the wellbore and helps to maximize hydrocarbon recovery from the reservoir. The more recent charge development of the HERO® Hard Rock or HERO®-HR charges, resulted in Core Lab also having the deepest penetrating perforating charges on the market as certified by API testing.

HERO®PerFRAC is the newest next generation of charges using HERO® technology. In addition to the benefits of HERO® technology, HERO®PerFRAC charges are designed specifically for optimizing fracture stimulation well completions by providing a uniform hole size which minimizes tortuosity effects in the rock during well stimulation resulting in less surface horsepower and less time which both translate into lower costs needed to initiate the fracturing operation. In addition to optimizing stimulation operations with faster, lower cost programs, the production is also enhanced by not only the better well stimulations but the improved near debris free perforation tunnels as the well fluids come back into the casing from the rock. Core Lab's manufacturing operations in the United States and Canada continue to meet the global demand for our perforating systems through facility expansion in addition to gains in efficiency and productivity.

The HERO® line of perforating charges, HERO®PerFRAC, SUPERHERO® and SUPERHERO®Plus charges can eliminate the ineffective perforations that would otherwise limit daily oil and natural gas production and hinder the

optimal fracture stimulation programs needed for prolific production from the Permian Basin, Bakken, Eagle Ford, Marcellus, Niobrara and similar oil- and gas-shale formations.

During 2018, Core Lab completed the acquisition of Guardian Global Technologies Ltd. ("Guardian"). Based in Pyle, Wales, Guardian is a technologically sophisticated designer and manufacturer of downhole instrumentation utilized by international oil and gas operators for well completions. Guardian's proprietary downhole energetic solutions are designed to systemize, simplify, automate, and de-risk the deployment of perforating systems. The Ballistics Delivery System (BDS)™ provides a unique range of perforating tools and equipment, which have been developed to provide a number of advantages over existing technology. The BDS tools facilitate perforation accuracy while addressing wellbore assurance concerns and optimizing safety, thus alleviating some of the challenges often found when perforating, and assists with issues incurred with high underbalanced perforating, running heavy/long assemblies, oriented perforating, depth control, reduction in fishing risk, and acquiring wellbore pressure data as guns fire.

Core Lab's Production Enhancement team has experienced technical services personnel to support clients through our global network of offices for the everyday use of our perforating systems and the rapid introduction of new products. Our personnel are capable of providing client training and on-site services in the completion of oil and gas wells. The patented X-SPAN® and GTX-SPAN® casing patches are supported by our technical services personnel. Recent market applications in Canada's steam-assisted gravity drainage ("SAGD") environment have resulted in an upgrade in temperature ratings to as much as 600°F. These systems are capable of performing in high temperature as well as high pressure oil and gas environments and are used to seal non-productive reservoir zones from the producing wellbore.

Marketing and Sales

We market and sell our services and products through a combination of sales representatives, technical seminars, trade shows and print advertising. Direct sales and marketing are carried out by our sales force, technical experts and operating managers, as well as by sales representatives and distributors in various markets where we do not have offices. Our Business Development group manages a Large Account Management Program to better serve our largest and most active clients by meeting with key personnel within their organizations to ensure the quality of our services and products are meeting their expectations and addressing any issues or needs in a timely manner.

Research and Development

The market for our services and products is characterized by changing technology and frequent product introduction. As a result, our success is dependent upon our ability to develop or acquire new services and products on a cost-effective basis and to introduce them into the marketplace in a timely manner. Many of our acquisitions have allowed us to obtain the benefits of the acquired company's research and development projects without incurring significant costs if we had attempted to develop the services and products ourselves. We incur costs as part of internal research and development, and these costs are charged to expense as incurred. We intend to continue committing financial resources and effort to the development and acquisition of new services and products. Over the years, we have made a number of technological advances, including the development of key technologies utilized in our operations. Substantially all of our new technologies are the result of requests and guidance from our clients, particularly major oil companies.

Patents and Trademarks

We believe our patents, trademarks, trade secrets and other intellectual property rights are an important factor in maintaining our technological advantage, although no single one of these is considered essential to our success. Typically, we will seek to protect our intellectual property in all jurisdictions where we believe the cost of such protection is warranted. While we have patented some of our key technologies, we do not patent all of our proprietary technology even where regarded as patentable. We protect our intellectual property, including through the use of appropriate confidentiality agreements, legal enforcement proceedings and by other means.

International Operations

We operate facilities in more than 50 countries. Our non-U.S. operations accounted for 54%, 56% and 62% of our revenue from operations during the years ended December 31, 2018, 2017 and 2016, respectively. We attribute service revenue to the country in which the service was performed rather than where the reservoir or project is located while we attribute product sales revenue to the country where the product was shipped as we feel this gives a clearer view of our operations. We do, however, have significant levels of service revenue performed and recorded in the U.S. that are sourced from projects on non-U.S. oilfields.

The following graphs and table summarize our reported revenue by geographic region for the years ended December 31, 2018, 2017 and 2016:

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	United States	Europe/Africa/Middle East	Asia Pacific	Canada	Former Soviet Union	Latin/ South America	Consolidated
2018	$324,073	$ 211,081	$68,641	$34,633	$35,173	$27,245	$ 700,846
2017	$283,969	$ 208,550	$61,410	$30,131	$37,255	$26,504	$ 647,819
2016	$224,642	$ 222,538	$63,268	$20,537	$35,935	$23,312	$ 590,232

While we are subject to fluctuations and changes in currency exchange rates relating to our international operations, we attempt to limit our exposure to foreign currency fluctuations by limiting the amount in which our foreign contracts are denominated in a currency other than the U.S. dollar. However, the ultimate decision as to the proportion of the foreign currency component within a contract usually resides with our clients. Consequently, we are not always able to eliminate our foreign currency exposure. We have not historically engaged in and are not currently engaged in any significant currency hedging or trading transactions designed to compensate for adverse currency fluctuations.

Environmental and Occupational Safety and Health Regulations

We are subject to stringent governmental laws and regulations, both in the United States and other countries, pertaining to protection of the environment and occupational safety and health. Compliance with environmental legal requirements in the United States at the federal, state or local levels may require acquiring permits to conduct regulated activities, incurring capital expenditures to limit or prevent emissions, discharges and any unauthorized releases, and complying with stringent practices to handle, recycle and dispose of certain wastes. Additionally, our operations in the United Sates are subject to stringent occupational safety and health laws and regulations, which are intended to protect worker health and safety. Foreign countries in which we conduct operations may also have analogous controls that regulate our environmental and worker safety-related activities, which controls may impose additional, or more stringent requirements. Consistent with our quality assurance and control principles, we have established proactive environmental and worker safety policies in the United States and foreign countries for the management, handling, recycling or disposal of chemicals and gases and other materials and wastes resulting from our operations. Failure to comply with these laws and regulations may result in the assessment of administrative, civil and criminal penalties, the imposition of remedial or corrective obligations, the occurrence of delays or cancellations in the permitting or performance of projects and the issuance of injunctive relief in affected areas. Historically, our environmental and worker safety compliance costs have not had a material adverse effect on our results of operations; however, there can be no assurance that such costs will not be material in the future or that such future compliance will not have a material adverse effect on our business or results of operations.

New, modified or stricter enforcement of environmental laws and regulations could be adopted or implemented that significantly increase our compliance costs, pollution mitigation costs, or the cost of any remediation of environmental contamination that may become necessary, and these costs could be material. Our clients are also subject to most, if not all, of the same laws and regulations relating to environmental protection and occupational safety and health in the United States and in foreign countries where we operate. Consequently, to the extent these environmental compliance costs, pollution mitigation costs or remedial costs are incurred by our clients, those clients could elect to delay, restrict or cancel drilling, exploration or production programs, which could reduce demand for our products and services and, as a result, have a material adverse effect on our business, financial condition, results of operations, or cash flows.

Our and our clients' compliance with such existing, or any new or amended legal requirements that are placed into effect and applicable in areas where we or our clients conduct operations, could result in our or our clients' incurring significant additional expense and operating restrictions. Our costs may not be fully recoverable from our clients and, thus, could reduce net income. To the extent any such existing or future legal requirements result in increased costs or restrictions or cancellation

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in the operation of our clients, to whom we provide our services, such developments could reduce demand for our products and services and have an indirect material adverse effect on our business.

Additionally, our analytical and manufacturing processes involve the handling and use of numerous chemicals and gases as well as the generation of wastes. Spills or other unauthorized releases of these chemicals, gases, and wastes at our facilities, whether by us or prior owners or operators, or at offsite locations where we transport them for recycling or disposal, could subject us to environmental liability, either from the applicable government agency or private landowners or other third parties. Such liabilities could be strict, joint and several, as is applicable in the United States under such laws as the federal Comprehensive Environmental Response, Compensation and Liability Act and the federal Resource Conservation and Recovery Act. This could also include costs of cleaning up chemicals and wastes released into the environment and for damages to persons, properties or natural resources. As a result of such actions, we could be required to remove previously disposed wastes (including wastes disposed of or released by prior owners or operators), remediate environmental contamination (including contaminated groundwater), and undertake measures to prevent future contamination. We may not be able to recover some or any of these remedial or corrective costs from insurance.

Competition

The businesses in which we engage are competitive. Some of our competitors are divisions or subsidiaries of companies that are larger and have greater financial and other resources than we have. While no one company competes with us in all of our product and service lines, we face competition in these lines, primarily from independent regional companies and internal divisions of major integrated oil and gas companies. We compete in different product and service lines to various degrees on the basis of price, technical performance, availability, quality and technical support. Our ability to compete successfully depends on elements both within and outside of our control, including successful and timely development of new services and products, performance and quality, client service, pricing, industry trends and general economic trends.

Reliance on the Oil and Gas Industry

Our business and operations are substantially dependent upon the condition of the global oil and gas industry. Future downturns in the oil and gas industry, or in the oilfield services business, may have a material adverse effect on our financial position, results of operations or cash flows.

The oil and gas industry is highly cyclical and has been subject to significant economic downturns at various times as a result of numerous factors affecting the supply of and demand for oil and natural gas, including the level of capital expenditures of the oil and gas industry, the level of drilling activity, the level of production activity, market prices of oil and gas, economic conditions existing in the world, interest rates and the cost of capital, environmental regulations, tax policies, political requirements of national governments, coordination by the Organization of Petroleum Exporting Countries ("OPEC"), cost of producing oil and natural gas, and technological advances.

Employees

As of December 31, 2018, we had approximately 4,700 employees. We do not have any material collective bargaining agreements and consider relations with our employees to be good.

Web Site Access to Our Periodic SEC Reports

Our primary internet address is http://www.corelab.com. We file or furnish Quarterly Reports on Form 10-Q, Annual Reports on Form 10-K, Current Reports on Form 8-K, and any amendments to those reports with the U.S. Securities

and Exchange Commission ("SEC"). These reports are available free of charge through our web site as soon as reasonably practicable after they are filed or furnished electronically with the SEC. We may from time to time provide important disclosures to investors by posting them in the investor relations section of our web site, as allowed by SEC rules.

The SEC maintains an internet website at http://www.sec.gov that contains reports, proxy and information statements, and other information regarding our company that we file electronically with the SEC.

ITEM 1A. RISK FACTORS

Our forward-looking statements are based on assumptions that we believe to be reasonable but that may not prove to be accurate. All of our forward-looking information is, therefore, subject to risks and uncertainties that could cause actual results to differ materially from the results expected. All known, material risks and uncertainties are discussed below.

Downturns in the oil and gas industry, or in the oilfield services business, may have a material adverse effect on our financial condition or results of operations.

The oil and gas industry is highly cyclical and demand for the majority of our oilfield services and products is substantially dependent on the level of expenditures by the oil and gas industry for the exploration, development and production of crude oil and natural gas reserves, which are sensitive to oil and natural gas prices and generally dependent on the industry's view of future oil and gas prices. There are numerous factors affecting the supply of and demand for our services and products, which are summarized as:
general and economic business conditions, including market prices of oil and gas and expectations about future prices;
the adoption of legal requirements or taxation;
changes in existing laws, regulations or other governmental actions;
cost of producing and the ability to deliver oil and natural gas;
the level of drilling and production activity;
financial condition of our client base and their ability to fund capital expenditures;
coordination by the OPEC;
weather conditions and the physical effects of climatic change;
civil unrest or political uncertainty in oil producing or consuming countries;
level of consumption of oil, gas and petrochemicals by consumers;
availability of services and materials for our clients to grow their capital expenditures and to deliver product to market; and
availability of materials and equipment from key suppliers.

The oil and gas industry has historically experienced periodic downturns, which have been characterized by diminished demand for our oilfield services and products and downward pressure on the prices we charge. A significant downturn in the oil and gas industry could result in a reduction in demand for oilfield services and could adversely affect our operating results.

Changes in macro-economic factors impacting the oil and gas industry may negatively affect our ability to accurately predict client demand, which could cause us to hold excess or obsolete inventory and experience a reduction in gross margins and financial results.

We cannot accurately predict which or what level of our services and products our clients will need in the future. Orders are placed with our suppliers based on forecasts of client demand and, in some instances, we may establish buffer inventories to accommodate anticipated demand. Our forecasts of client demand are based on multiple assumptions, each of which may introduce errors into the estimates. In addition, many of our suppliers require a longer lead time to provide products than our clients demand for delivery of our finished products. If we overestimate client demand, we may allocate resources to the purchase of materials or manufactured products that we may not be able to sell when we expect to, if at all. As a result, we could hold excess or obsolete inventory, which would reduce gross margin and adversely affect financial results. Conversely, if we underestimate client demand or if insufficient manufacturing capacity is available, we could miss revenue opportunities and potentially lose market share and damage our client relationships. In addition, any future significant cancellations or deferrals of service contracts or product orders could materially and adversely affect profit margins, increase product obsolescence and restrict our

ability to fund our operations.

We depend on the results of our international operations, which expose us to risks inherent in doing business abroad.

We conduct our business in over 50 countries; business performed outside of the United States accounted for 54%, 56% and 62% of our revenue during the years ended December 31, 2018, 2017 and 2016, respectively. We attribute service revenue to the country in which the service was performed rather than where the reservoir or project is located while we attribute product

sales revenue to the country where the product was shipped as we feel this gives a clearer view of our operations. We do, however, have significant levels of service revenue performed and recorded in the U.S. that are sourced from projects on non-U.S. oilfields.

Our operations, and those of our clients, are subject to the various laws, regulations and other legal requirements of those respective countries as well as various risks peculiar to each country, which may include, but are not limited to:
global economic conditions;
political actions and requirements of national governments including trade restrictions, embargoes, seizure, detention, nationalization and expropriations of assets;
interpretation of tax statutes and requirements of taxing authorities worldwide, including the United States, routine examination by taxing authorities and assessment of additional taxes, penalties and/or interest;
trade and economic sanctions, tariffs or other restrictions imposed by the European Union, the United States or other countries;
civil unrest;
acts of terrorism;
fluctuations and changes in currency exchange rates (see section below);
the impact of inflation;
difficulty in repatriating foreign currency received in excess of the local currency requirements; and
current conditions in oil producing countries such as Venezuela, Nigeria, Libya, Iran and Iraq considering their potential impact on the world markets.

Historically, economic downturns and political events have resulted in lower demand for our services and products in certain markets. The continuing instability in the Middle East and North Africa and the potential for activity from terrorist groups that the U.S. government has cautioned against have further heightened our exposure to international risks. The global economy is highly influenced by public confidence in the geopolitical environment and the situation in the Middle East and North Africa continues to be highly fluid; therefore, we expect to experience heightened international risks.

Our results of operations may be significantly affected by foreign currency exchange rate risk.

We are exposed to risks due to fluctuations in currency exchange rates. By the nature of our business, we derive a substantial amount of our revenue from our international operations, subjecting us to risks relating to fluctuations in currency exchange rates.

Our results of operations may be adversely affected because our efforts to comply with applicable anti-corruption laws such as the United States' Foreign Corrupt Practices Act (the "FCPA") and the United Kingdom's Anti-Bribery Act (the "ABA") could restrict our ability to do business in foreign markets relative to our competitors who are not subject to these laws.

We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We may be subject to competitive disadvantages to the extent that our competitors are able to secure business, licenses or other preferential treatment by making payments to government officials and others in positions of influence or though other methods that we are prohibited from using.

We are subject to the regulations imposed by the FCPA and the ABA, which generally prohibits us and our intermediaries from making improper payments to foreign officials for the purpose of obtaining or keeping business. In particular, we may be held liable for actions taken by our strategic or local partners even though our partners are not

subject to these laws. Any such violations could result in substantial civil and/or criminal penalties and might adversely affect our business, results of operations or financial condition. In addition, our ability to continue to work in these parts of the world discussed above could be adversely affected if we were found to have violated certain laws, including the FCPA and the ABA.

If we are not able to develop or acquire new products or our products become technologically obsolete, our results of operations may be adversely affected.

The market for our services and products is characterized by changing technology and product introduction. As a result, our success is dependent upon our ability to develop or acquire new services and products on a cost-effective basis and to introduce them into the marketplace in a timely manner. While we intend to continue committing substantial financial resources and effort to the development of new services and products, we may not be able to successfully differentiate our services and products from those of our competitors. Our clients may not consider our proposed services and products to be of value to them; or if the proposed services and products are of a competitive nature, our clients may not view them as superior to our competitors' services and products. In addition, we may not be able to adapt to evolving markets and technologies, develop new products, or achieve and maintain technological advantages.

If we are unable to continue developing competitive products in a timely manner in response to changes in technology, our businesses and operating results may be materially and adversely affected. In addition, continuing development of new products inherently carries the risk of inventory obsolescence with respect to our older products.

We are subject to the risk of supplier concentration.

Certain of our product lines depend on a limited number of third party suppliers and vendors available in the marketplace. As a result of this concentration in some of our supply chains, our business and operations could be negatively affected if our key suppliers were to experience significant disruptions affecting the price, quality, availability or timely delivery of their products. For example, we have a limited number of vendors for our manufactured product lines. The partial or complete loss of any one of our key suppliers, or a significant adverse change in the relationship with any of these suppliers, through consolidation or otherwise, would limit our ability to manufacture and sell certain of our products.

If we are unable to obtain patents, licenses and other intellectual property rights covering our services and products, our operating results may be adversely affected.

Our success depends, in part, on our ability to obtain patents, licenses and other intellectual property rights covering our services and products. To that end, we have obtained certain patents and intend to continue to seek patents on some of our inventions, services and products. While we have patented some of our key technologies, we do not patent all of our proprietary technology, even when regarded as patentable. The process of seeking patent protection can be long and expensive. There can be no assurance that patents will be issued from currently pending or future applications or that, if patents are issued, they will be of sufficient scope or strength to provide meaningful protection or any commercial advantage to us. In addition, effective copyright and trade secret protection may be unavailable or limited in certain countries. Litigation, which could demand significant financial and management resources, may be necessary to enforce our patents or other intellectual property rights. Also, there can be no assurance that we can obtain licenses or other rights to necessary intellectual property on acceptable terms.

There are risks relating to our acquisition strategy. If we are unable to successfully integrate and manage businesses that we have acquired and any businesses acquired in the future, our results of operations and financial condition could be adversely affected.

One of our key business strategies is to acquire technologies, operations and assets that are complementary to our existing businesses. There are financial, operational and legal risks inherent in any acquisition strategy, including:

- increased financial leverage;
- ability to obtain additional financing;
- increased interest expense; and
- difficulties involved in combining disparate company cultures and facilities.

The success of any completed acquisition will depend on our ability to effectively integrate the acquired business into our existing operations. The process of integrating acquired businesses may involve unforeseen difficulties and may require a disproportionate amount of our managerial and financial resources. In addition, possible future acquisitions may be larger and for purchase prices significantly higher than those paid for earlier acquisitions. No assurance can be given that we will be able to continue to identify additional suitable acquisition opportunities, negotiate acceptable terms, obtain financing for acquisitions on acceptable terms or successfully acquire identified targets. Our failure to achieve consolidation savings, to incorporate the acquired businesses and assets into our existing operations successfully or to minimize any unforeseen operational difficulties could have a material adverse effect on our financial condition and results of operation.

We are subject to a variety of environmental and occupational safety and health laws and regulations, which may result in increased costs and significant liability to our business.

We are subject to a variety of stringent governmental laws and regulations, both in the United States and foreign countries relating to protection of the environment, and occupational health and safety. Certain of these laws and regulations may impose joint and several, strict liability for environmental liabilities, such as the remediation of historical contamination or recent spills, and failure to comply with such laws and regulations could result in the assessment of damages, fines and penalties, the imposition of remedial or corrective action obligations, the occurrence of delays or cancellations in permitting or development of projects, or the suspension or cessation of some or all of our operations. These stringent laws and regulations could require us to acquire permits or other authorizations to conduct regulated activities, install and maintain costly equipment and pollution control technologies, impose specific safety and health standards addressing work protection, or to incur costs or liabilities to mitigate or remediate pollution conditions caused by our operations or attributable to former owners or operators.

Additionally, our clients are also subject to most, if not all, of the same laws and regulations relating to environmental protection and occupational safety and health in the United States and in foreign countries where we operate. To the extent existing environmental laws and regulations or any new or more stringently enforced environmental legal requirements significantly increase our clients’ compliance costs, pollution mitigation costs or remedial costs, our clients could elect to delay, restrict or cancel drilling, exploration or production programs, which could reduce demand for our products and services and have a material adverse effect on our business, financial condition, results of operations, or cash flows. For example, hydraulic fracturing continues to attract considerable public and governmental attention, both in the United States and in foreign countries, resulting in various controls applied to fracturing activities.

Hydraulic fracturing is a process used by oil and gas exploration and production operators in the completion of certain oil and gas wells whereby water, sand or other proppants and chemical additives are injected under pressure into subsurface formations to stimulate gas and, to a lesser extent, oil production. Some countries outside the United States, such as Bulgaria, the Czech Republic and France, currently have imposed moratoria on hydraulic fracturing while other countries, such as the United Kingdom, allow fracturing activities but those activities are not as widely pursued as they are in the United States. In the United States, the fracturing process is typically regulated by state oil and gas commissions, but several federal agencies have asserted regulatory authority over certain aspects of the process.

Additionally, a growing number of states have adopted, and other states are considering adopting, legal requirements that could impose more stringent disclosure, permitting and/or well construction requirements on hydraulic fracturing operations, and local governments may also seek to adopt ordinances within their jurisdictions regulating the time, place and manner of hydraulic fracturing activities.

If new or more stringent federal, state or local legal restrictions related to the hydraulic fracturing process are adopted in areas where our exploration and production clients’ operate, those clients could incur potentially significant added costs to comply with such requirements and experience delays or curtailment in the pursuit of exploration, development or production activities, which could reduce demand for our products and services.

See "Environmental and Occupational Safety and Health Regulations", under Item 1 of this Form 10-K for further discussion on environmental and worker safety and health matters.

We may be unable to attract and retain skilled and technically knowledgeable employees, which could adversely affect our business.

Our success depends upon attracting and retaining highly skilled professionals and other technical personnel. A number of our employees are highly skilled engineers, geologists and highly trained technicians, and our failure to continue to attract and retain such individuals could adversely affect our ability to compete in the oilfield services industry. In periods of high utilization, there may be a shortage of skilled and technical personnel available in the

market, potentially compounding the difficulty of attracting and retaining these employees. As a result, our business, results of operations and financial condition may be materially adversely affected.

We require a significant amount of cash to service our indebtedness, make capital expenditures, fund our working capital requirements and pay our dividend, and our ability to generate cash may depend on factors beyond our control.

Our ability to make payments on and to refinance our indebtedness, to fund planned capital expenditures, and pay our dividend depends, in part, on our ability to generate cash in the future. This ability is, to a certain extent, subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control.

No assurance can be given that we will generate sufficient cash flow from operations or that future borrowings will be available to us in an amount sufficient to enable us to service and repay our indebtedness or to fund our other liquidity needs. If we are unable to satisfy our debt obligations, we may have to undertake alternative financing plans, such as refinancing or restructuring our indebtedness, selling assets, reducing or delaying capital investments or seeking to raise additional capital. We cannot assure that any refinancing or debt restructuring would be possible or, if possible, would be completed on favorable or acceptable terms, that any assets could be sold or that, if sold, the timing of the sales and the amount of proceeds realized from those sales would be favorable to us or that additional financing could be obtained on acceptable terms.

Disruptions in the capital and credit markets could adversely affect our ability to refinance our indebtedness, including our ability to borrow under our existing revolving credit facility ("Credit Facility"). Banks that are party to our existing Credit Facility may not be able to meet their funding commitments to us if they experience shortages of capital and liquidity or if they experience excessive volumes of borrowing requests from us and other borrowers within a short period of time.

Because we are a Netherlands company, it may be difficult for you to take legal action against our supervisory directors or us and it may not be possible to obtain or enforce judgments against us.

Although we are a Netherlands company, our assets are located in a variety of countries. In addition, not all members of our supervisory board of directors are residents of the same countries as other supervisory directors. As a result, it may not be possible for you to effect service of process within certain countries upon our supervisory directors, or to enforce against our supervisory directors or use judgments of courts of certain countries predicated upon civil liabilities under a country's federal securities laws. Because there is no treaty between certain countries and the Netherlands providing for the reciprocal recognition and enforcement of judgments, some countries' judgments are not automatically enforceable in the Netherlands or in the United States, where the principal market for our shares is located. In addition, there is doubt as to whether a court in one country would impose civil liability on us or on the members of our supervisory board of directors in an original action brought against us or our supervisory directors in a court of competent jurisdiction in another country and predicated solely upon the federal securities laws of that other country.

Our operations are subject to the risk of cyber-attacks that could have a material adverse effect on our consolidated results of operations and consolidated financial condition.

Our information technology systems are subject to possible breaches and other threats that could cause us harm. Although we devote significant resources to protect our systems, there can be no assurance that our systems will prevent or limit the effects of cyber attacks or will be sufficient to prevent or detect, or to avoid a material adverse impact on our systems when such attacks do occur. If our systems for protecting against cyber attacks prove not to be sufficient, we could be adversely affected by loss or damage of intellectual property, proprietary information, client data, our reputation, interruption of business operations, or additional costs to prevent, respond to, or mitigate cyber attacks. These risks could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Currently, we have over 70 offices (totaling approximately 3.1 million square feet of space) in more than 50 countries. In these locations, we lease approximately 2.1 million square feet and own approximately 1.0 million square feet. We serve our worldwide clients through six Advanced Technology Centers ("ATCs") that are located in Aberdeen, Scotland; Abu Dhabi, United Arab Emirates; Calgary, Canada; Houston, Texas; Kuala Lumpur, Malaysia; and Rotterdam, The Netherlands. The ATCs provide support for our more than 50 regional specialty centers located throughout the global energy producing provinces. In addition, we have manufacturing facilities located in Godley, Texas and Red Deer, Alberta, Canada, which are included in our Production Enhancement business segment. Our facilities are adequate for our current operations; however, expansion into new facilities or the replacement or modification of existing facilities may be required to accommodate future growth.

ITEM 3. LEGAL PROCEEDINGS

See Note 12 of the Notes to Consolidated Financial Statements.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Price Range of Common Shares

Our common shares trade on the New York Stock Exchange ("NYSE") and the Euronext Amsterdam Stock Exchange ("Euronext Amsterdam") under the symbol "CLB".

On February 8, 2019, the closing price, as quoted by the NYSE, was $63.87 per share and there were 44,316,940 common shares issued and outstanding held by approximately 203 record holders. These amounts exclude shares held by us as treasury shares.

See Part III, "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for discussion of equity compensation plans.

Performance Graph

The following performance graph compares the performance of our common shares to the Standard & Poor's 500 Index and the Philadelphia Oil Service Index ("OSX") for the period beginning December 31, 2013 and ending December 31, 2018. Core Lab is now an established member of the OSX which includes a greater concentration of our most direct peers.

The graph assumes that the value of the investment in our common shares and each index was $100 at December 31, 2013 and that all dividends were reinvested. The stockholder return set forth below is not necessarily indicative of future performance. The following graph and related information is "furnished" and shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, as amended (the "Exchange Act") except to the extent that Core Laboratories specifically incorporates it by reference into such filing.

Share Repurchases in the Fourth Quarter of 2018

The following table provides information about our purchases of equity securities that are registered by us pursuant to Section 12 of the Exchange Act during the three months ended December 31, 2018:

Period	Total Number Of Shares Purchased	Average Price Paid Per Share	Total Number Of Shares Purchased As Part Of A Publicly Announced Program	Maximum Number Of Shares That May Be Purchased Under The Program (4)(5)
October 1, 2018 to October 31, 2018 (1)	—	—	—	3,904,104
November 1, 2018 to November 30, 2018 (2)	169	$86.82	—	3,904,552
December 1, 2018 to December 31, 2018 (3)	42,822	$62.11	—	4,000,218
Total	42,991	$62.21	—	

(1) No shares were repurchased in October, 2018.

(2) All shares repurchased during November, 2018 were surrendered to us by participants in a stock-based compensation plan to settle any personal tax liabilities which may result from the award.

(3) All shares repurchased during December, 2018 were surrendered to us by participants in a stock-based compensation plan to settle any personal tax liabilities which may result from the award.

(4) The maximum number of shares allowed to be purchased under the program was 3,904,104 at September 30, 2018.

(5) During the quarter, 139,105 treasury shares were distributed relating to stock-based awards, including 617 in November, and 138,488 in December.

In connection with our initial public offering in September 1995, our shareholders authorized our Management Board to repurchase up to 10% of our issued share capital, the maximum allowed under Dutch law at the time, for a period of 18 months. This authorization was renewed at subsequent annual or special shareholder meetings. At our annual shareholders' meeting on May 24, 2018, our shareholders authorized an extension until November 24, 2019 to purchase up to 10% of our issued share capital. The repurchase of shares in the open market is at the discretion of management pursuant to this shareholder authorization.

From the activation of the share repurchase program through December 31, 2018, we have repurchased 39,618,299 shares for an aggregate purchase price of approximately $1.6 billion, or an average price of $41.57 per share. At December 31, 2018, we held 479,407 shares in treasury and have the authority to repurchase 4,000,218 additional shares under our stock repurchase program as described in the preceding paragraph.

ITEM 6. SELECTED FINANCIAL DATA

The selected consolidated financial information contained below is derived from our Consolidated Financial Statements and should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and our audited Consolidated Financial Statements each of which is included in this Form 10-K.

	For the Years Ended December 31,				
	2018	2017	2016	2015	2014
	(in thousands, except per share and other data)				
Financial Statement Data:					
Revenue	$700,846	$647,819	$590,232	$782,069	$1,044,926
Income from continuing operations	79,847	80,985	65,024	111,924	246,587
Working capital	128,430	106,851	82,438	117,789	169,954
Total assets	648,827	584,812	573,052	625,258	673,325
Long-term debt and capital lease obligations, including current maturities, net	289,770	226,989	216,488	430,987	353,672
Total equity (deficit)	160,900	148,732	155,297	(23,699)	93,993
Earnings Per Share Information:					
Income from continuing operations					
Basic	$1.81	$1.83	$1.50	$2.62	$5.56
Diluted	$1.80	$1.83	$1.49	$2.61	$5.53
Weighted average common shares outstanding:					
Basic	44,206	44,153	43,479	42,747	44,362
Diluted	44,474	44,264	43,670	42,908	44,600
Cash dividends declared per common share	$2.20	$2.20	$2.20	$2.20	$2.00
Other Data:					
Current ratio (1)	2.25:1	2.06:1	1.79:1	1.98:1	2.29:1
Debt to EBITDA ratio (2)	1.97:1	1.59:1	1.79:1	2.24:1	0.93:1
Debt to Adjusted EBITDA ratio (3)	1.59:1	1.36:1	1.50:1	1.80:1	0.88:1

(1) Current ratio is calculated as follows: current assets divided by current liabilities.
(2) Debt to EBITDA ratio is calculated as follows: debt less cash divided by the sum of income from continuing operations plus interest, taxes, depreciation, and amortization.
(3) Debt to Adjusted EBITDA ratio is calculated as follows: debt less cash divided by the sum of income from continuing operations plus interest, taxes, depreciation, amortization, severance, and certain non-cash adjustments.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Core Laboratories N.V. is a Netherlands limited liability company. We were established in 1936 and are one of the world's leading providers of proprietary and patented reservoir description and production enhancement services and products to the oil and gas industry, primarily through client relationships with many of the world's major, national and independent oil companies.

We operate our business in two reporting segments. These complementary segments provide different services and products and utilize different technologies for improving reservoir performance and increasing oil and gas recovery from new and existing fields:

- Reservoir Description: Encompasses the characterization of petroleum reservoir rock, fluid and gas samples to increase production and improve recovery of oil and gas from our clients' reservoirs. We provide laboratory-based analytical and field services to characterize properties of crude oil and petroleum products to the oil and gas industry. We also provide proprietary and joint industry studies based on these types of analyses.
- Production Enhancement: Includes services and products relating to reservoir well completions, perforations, stimulations and production. We provide integrated diagnostic services to evaluate and monitor the effectiveness of well completions and to develop solutions aimed at increasing the effectiveness of enhanced oil recovery projects.

General Overview

We provide services as well as design and produce products which enable our clients to evaluate reservoir performance and increase oil and gas recovery from new and existing fields. These services and products are generally in higher demand when our clients are investing capital in their field development programs that are designed to increase productivity from existing fields or when exploring for new fields. Our clients' investment in capital expenditure programs tends to correlate over the longer term to oil and natural gas commodity prices. During periods of higher, stable prices, our clients generally invest more in capital expenditures and, during periods of lower or volatile commodity prices, they tend to invest less. Consequently, the level of capital expenditures by our clients impacts the demand for our services and products.

The following table summarizes the annual average and year-end worldwide and U.S. rig counts for the years ended December 31, 2018, 2017 and 2016, as well as the annual average and year-end spot price of a barrel of WTI crude, Europe Brent crude and an MMBtu of natural gas:

	2018	2017	2016
Baker Hughes Worldwide Average Rig Count (1)	2,211	2,029	1,593
Baker Hughes U.S. Average Rig Count (1)	1,032	875	510
Baker Hughes Worldwide Year-End Rig Count (2)	2,244	2,089	1,772
Baker Hughes U.S. Year-End Rig Count (2)	1,078	930	634
Average Crude Oil Price per Barrel WTI (3)	$65.23	$50.80	$43.29
Average Crude Oil Price per Barrel Brent (4)	$71.34	$54.12	$43.67
Average Natural Gas Price per MMBtu (5)	$3.15	$2.99	$2.52
Year-end Crude Oil Price per Barrel WTI (3)	$45.15	$60.46	$53.75
Year-end Crude Oil Price per Barrel Brent (4)	$50.57	$66.73	$54.96
Year-end Natural Gas Price per MMBtu (5)	$3.25	$3.69	$3.71

(1) Twelve month average rig count as reported by Baker Hughes, a GE Company - Worldwide Rig Count.

(2) Year-end rig count as reported by Baker Hughes, a GE Company - Worldwide Rig Count.
(3) Average daily and year-end West Texas Intermediate crude spot price as reported by the U.S. Energy Information Administration.
(4) Average daily and year-end Europe Brent crude spot price as reported by the U.S. Energy Information Administration.
(5) Average daily and year-end Henry Hub natural gas spot price as reported by the U.S. Energy Information Administration.

The prices for both WTI and Brent crude oil showed improvement during 2017 and continued to strengthen through most of 2018; however, they decreased significantly during the last quarter of 2018 to end the year at levels not seen since mid-2016.

The improvement in crude oil prices over this two-year period led to elevated levels in U.S. onshore activities associated with both the exploration and production of oil; however, levels of activity outside the U.S. have remained relatively flat.

In North America, the land-based rig count increased 45% during 2017 and another 19% during 2018, which had a positive impact for both services and product sales to this market over this time period. Although the North America rig count had improved by the end of 2018 it still remained almost 50% below 2014 levels. The build in levels of activities on development projects and producing fields in the U.S. unconventional reservoirs during 2017 continued to strengthen during most of 2018, until October 2018 when the commodity price weakened significantly and activity levels decreased.

Outside of North America, activities associated with the exploration for and production of oil dropped to current lower levels during the industry downturn which began at the end of 2014 and remained relatively flat during 2017 and 2018. Our clients' activities in the international and deepwater markets remained at these lower levels in 2017 and 2018, and although activities have not yet increased, we believe these markets have shown signs of recovery for 2019 and beyond as our clients have announced new capital investment projects throughout 2017 and 2018.

Results of Operations

Operating Results for the Year Ended December 31, 2018 Compared to the Years Ended December 31, 2017 and 2016

We evaluate our operating results by analyzing revenue, operating income and operating income margin (defined as operating income divided by total revenue). Since we have a relatively fixed cost structure, increases in revenue generally translate into higher operating income results. Results for the years ended December 31, 2018, 2017 and 2016 are summarized in the following chart:

Results of operations as a percentage of applicable revenue for the years ended December 31, 2018, 2017 and 2016 are as follows (in thousands, except for per share information):

	2018		2017		2016		2018 / 2017	2017 / 2016
Revenue:							% Change	
Services	$486,820	69.5 %	$480,264	74.1 %	$468,388	79.4 %	1.4 %	2.5 %
Product Sales	214,026	30.5 %	167,555	25.9 %	121,844	20.6 %	27.7 %	37.5 %
TOTAL REVENUE	700,846	100.0 %	647,819	100.0 %	590,232	100.0 %	8.2 %	9.8 %
OPERATING EXPENSES:								
Cost of services* (1)	343,833	70.6 %	333,365	69.4 %	329,520	70.4 %	3.1 %	1.2 %
Cost of product sales* (1)	153,131	71.5 %	131,593	78.5 %	107,983	88.6 %	16.4 %	21.9 %
Total cost of services and product sales	496,964	70.9 %	464,958	71.8 %	437,503	74.1 %	6.9 %	6.3 %
General and administrative expenses (1)	62,910	9.0 %	47,737	7.4 %	39,390	6.7 %	31.8 %	21.2 %
Depreciation and amortization	23,087	3.3 %	24,524	3.8 %	26,288	4.5 %	(5.9)%	(6.7)%
Other (income) expense, net	(737)	(0.1)%	632	0.1 %	(400)	(0.1)%	NM	NM
OPERATING INCOME	118,622	16.9 %	109,968	17.0 %	87,451	14.8 %	7.9 %	25.7 %
Interest expense	13,328	1.9 %	10,734	1.7 %	11,572	2.0 %	24.2 %	(7.2)%
Income before income tax expense	105,294	15.0 %	99,234	15.3 %	75,879	12.9 %	6.1 %	30.8 %
Income tax expense	25,447	3.6 %	18,249	2.8 %	10,855	1.8 %	39.4 %	68.1 %
Income from continuing operations	79,847	11.4 %	80,985	12.5 %	65,024	11.0 %	(1.4)%	24.5 %
Income (loss) from discontinued operations	(58)	— %	2,111	0.3 %	(1,165)	(0.2)%	NM	NM
Net income	79,789	11.4 %	83,096	12.8 %	63,859	10.8 %	(4.0)%	30.1 %
Net income (loss) attributable to non-controlling interest	263	— %	(29)	— %	(36)	— %	NM	NM
Net income attributable to Core Laboratories N.V.	$79,526	11.3 %	$83,125	12.8 %	$63,895	10.8 %	(4.3)%	30.1 %
Diluted earnings per share from continuing operations	$1.80		$1.83		$1.49		(1.6)%	22.8 %
Diluted earnings per share attributable to Core Laboratories N.V.	$1.79		$1.88		$1.46		(4.8)%	28.8 %
Diluted weighted average common shares outstanding	44,474		44,264		43,670			

*Percentage based on applicable revenue rather than total revenue.
"NM" means not meaningful.
(1) Excludes depreciation.

Services Revenue

Services revenue, which is tied more to activities associated with the exploration and production of oil and gas outside the U.S., increased 1.4% to $486.8 million in 2018 from $480.3 million in 2017 which increased 2.5% from $468.4 million in 2016. The increase in revenue was driven by a stronger U.S. market for most of 2018, which was partially offset by a weaker market outside the U.S. Crude oil prices continued to strengthen throughout 2018 until early October when crude oil prices peaked and decreased over 40% by December 2018. The improvement in crude oil

prices continued to support elevated activity levels in the U.S. onshore market for most of 2018, however activities outside the U.S. have remained flat. Although our clients have announced Final Investment Decisions ("FIDs") for several projects outside the U.S. and in offshore environments, significant activity on these projects did not start in 2018 and wells must be drilled and/or completed, stimulated, cored and have reservoir fluid samples collected, before we see a revenue opportunity. We continue our focus on worldwide crude oil related projects, including those related to the development of fields in onshore and offshore North America, offshore South America, offshore Europe and Africa, the Middle East, and Asia Pacific regions.

Product Sales Revenue

Product sales revenue, which is tied more to the completion of wells in North America, increased 28% to $214.0 million in 2018 from $167.6 million in 2017 and increased 38% from $121.8 million in 2016. The 28% increase in product sales revenue

in 2018 compared to 2017 outpaced the 13% increase in rig count and the 25% increase in the completion of wells due to our differentiated well completion product sales surpassing the industry activity levels in North America.

Cost of Services, excluding depreciation

Cost of services increased to $343.8 million in 2018 compared to $333.4 million in 2017 and $329.5 million in 2016. As a percentage of services revenue, cost of services remained relatively flat at 71% in 2018, 69% in 2017 and 70% in 2016. Cost of services as a percentage of services revenue is primarily reflective of how our fixed cost structure is being absorbed by revenue.

Cost of Product Sales, excluding depreciation

Cost of product sales increased to $153.1 million in 2018 from $131.6 million in 2017 and $108.0 million in 2016. As a percentage of product sales revenue, cost of sales improved to 72% for 2018 from 79% for 2017 and 89% for 2016. The improvement in cost of product sales as a percentage of sales revenue in 2018 was primarily due to the improved absorption rates of our fixed costs and investments in manufacturing automation.

General and Administrative Expense

General and administrative ("G&A") expenses include corporate management and centralized administrative services that benefit our operations. G&A expenses were $62.9 million in 2018 compared to $47.7 million and $39.4 million during 2017 and 2016, respectively. The variances are primarily due to changes in compensation expense during those periods, including additional stock compensation expense of $9.9 million in 2018 recorded for retirement eligible employees. See Note 14 , Stock-Based Compensation for further detail.

Depreciation and Amortization Expense

Depreciation and amortization expense of $23.1 million in 2018 is down compared to $24.5 million in 2017 and $26.3 million in 2016.

Other (Income) Expense, net

The components of Other (income) expense, net, for the years ended December 31, 2018, 2017 and 2016 were as follows (in thousands):

	2018	2017	2016
Sale of assets	$(1,078)	$(346)	$(618)
Results of non-consolidated subsidiaries	(203)	(332)	(506)
Foreign exchange	2,598	951	1,776
Rents and royalties	(510)	(454)	(420)
Return on	(644)	(587)	(605)

pension assets and other pension costs			
Acquisition-related costs	623	—	—
Insurance settlement	(707)	—	—
Severance, compensation and other charges	—	1,145	—
Other, net	(816)	255	(27)
Total Other (income) expense, net	$(737)	$632	$(400)

In 2018, we received settlement of a claim for business interruption and damages incurred as a result of Hurricane Harvey in 2017.

Foreign exchange gains and losses for the years ended December 31, 2018, 2017 and 2016 are summarized in the following table (in thousands):

(Gains) losses by currency	2018	2017	2016
Angola Kwanza Spot	$202	$(3)	$408
Australian Dollar	183	12	136
British Pound	158	(92)	807
Canadian Dollar	458	(62)	(130)
Euro	208	1,413	(49)
Indonesian Rupiah	297	80	29
Mexican Peso	141	23	(47)
Turkish Lira	300	32	93
Other currencies, net	651	(452)	529
Total (gain) loss, net	$2,598	$951	$1,776

Interest Expense

Interest expense increased by $2.6 million to $13.3 million in 2018 compared to 2017 primarily due to increased average borrowings on our revolving Credit Facility which was used to fund an acquisition for $49.1 million in September 2018.

Income Tax Expense

Our effective tax rate was 24.2%, 18.4%, and 14.3% for 2018, 2017, and 2016, respectively. Income tax expense of $25.4 million in 2018 increased by $7.2 million compared to $18.2 million in 2017 due to an increase in taxable income in 2018, primarily in the United States. Income tax expense associated with taxable income recognized in the United States increased by $4.9 million in 2018 compared to 2017. No other jurisdiction in which we operate had a material change in income tax expense.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "TCJA") was signed into law reducing the U.S. corporate income tax rate to 21%, effective January 1, 2018. During 2018, various proposed regulations have been released, providing guidance on identified issues and topics regarding the TCJA. The most impactful changes for the company from the TCJA are the deduction limitations for compensation paid to executive officers and the benefit from the foreign derived intangible income regime.

See Note 10, Income Taxes of the Notes to Consolidated Financial Statements for further detail of income tax expense.

Segment Analysis

The following charts and tables summarize the annual revenue and operating results for our two complementary business segments.

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Segment Revenue

Segment Revenue

(dollars in thousands)	For the Years Ended December 31, 2018	% Change	2017	% Change	2016
Reservoir Description	$413,082	(0.5)%	$415,220	(2.6)%	$426,205
Production Enhancement	287,764	23.7 %	232,599	41.8 %	164,027
Total Revenue	$700,846	8.2 %	$647,819	9.8 %	$590,232

Segment Operating Income

(dollars in thousands)	For the Years Ended December 31, 2018	% Change	2017	% Change	2016
Reservoir Description	$54,847	(17.5)%	$66,500	(15.7)%	$78,881
Production Enhancement	63,039	43.3 %	43,987	419.3 %	8,470
Corporate and other (1)	736	NM	(519)	NM	100
Operating Income	$118,622	7.9 %	$109,968	25.7 %	$87,451

(1) “Corporate and other" represents those items that are not directly relating to a particular segment.
"NM" means not meaningful.

Segment Operating Income Margins (1)

	For the Years Ended December 31,		
	2018 Margin	2017 Margin	2016 Margin
Reservoir Description	13.3%	16.0 %	18.5 %
Production Enhancement	21.9%	18.9 %	5.2 %
Total Company	16.9%	17.0 %	14.8 %

(1) Calculated by dividing "Operating Income" by "Revenue."

Reservoir Description

Revenue for our Reservoir Description segment decreased slightly to $413.1 million in 2018 compared to $415.2 million in 2017 and $426.2 million in 2016. The decreases in revenues in 2018 and 2017 as compared to each corresponding prior year were primarily due to the reduced international and deepwater project activity levels during 2017 and 2018. This segment's operations continue to work on large-scale, long-term, crude-oil and LNG projects with an emphasis on producing fields located in offshore developments and international markets. We continue to focus on large-scale core analyses and reservoir fluids characterization studies in the Asia-Pacific areas, offshore Europe and Africa, offshore South America, North America, and the Middle East.

Operating income decreased to $54.8 million in 2018 from $66.5 million in 2017 due to lower activity levels derived from large capital spending projects in international markets and additional stock compensation expense of $6.3 million in 2018 for retirement eligible employees. See Note 14 , Stock-Based Compensation for further detail. Operating income decreased to $66.5 million in 2017 from $78.9 million in 2016, primarily due to lower activity levels. Operating margins, excluding the additional stock compensation expense recorded in 2018 were comparable at 15% in 2018 and 16.0% in 2017 but down from 18.5% in 2016.

Production Enhancement

Revenue for our Production Enhancement segment increased to $287.8 million in 2018 compared to $232.6 million in 2017 and $164.0 million in 2016. The increase in onshore North America industry activity during 2018 and 2017 compared to each corresponding prior year resulted in increased demand for our products associated with land-based completion of oil wells in U.S. unconventional developments.

Operating income for this segment increased to $63.0 million in 2018 from $44.0 million in 2017 primarily due to increased demand for our higher margin products and services and the impact of higher revenue on our fixed-cost structure offset by additional stock compensation expense of $3.7 million in 2018 for retirement eligible employees. See Note 14 , Stock-Based Compensation for further detail. Operating income for this segment increased to $44.0 million in 2017 from $8.5 million in 2016 primarily due to increased demand for our higher margin products and services and the impact of higher revenue on our fixed-cost structure. Operating margins were 21.9% in 2018 up from 18.9% in 2017 and 5.2% in 2016.

Liquidity and Capital Resources

General

We have historically financed our activities through cash on hand, cash flows from operations, bank credit facilities, equity financing and the issuance of debt. Cash flows from operating activities provide the primary source of funds to finance operating needs, capital expenditures and our dividend and share repurchase programs. If necessary, we supplement this cash flow with borrowings under bank credit facilities to finance some capital expenditures and business acquisitions. As we are a Netherlands holding company, we conduct substantially all of our operations through subsidiaries. Our cash availability is largely dependent upon the ability of our subsidiaries to pay cash dividends or otherwise distribute or advance funds to us and on the terms and conditions of our existing and future credit arrangements. There are no restrictions preventing any of our subsidiaries from repatriating earnings, and there are no restrictions or income taxes associated with distributing cash to the parent company through loans or advances. As of December 31, 2018, $12.6 million of our $13.1 million of cash was held by our foreign subsidiaries, including the U.S.

Our financial statements are prepared in conformity with generally accepted accounting principles in the U.S. ("U.S. GAAP" or "GAAP"). We utilize the non-GAAP financial measure of free cash flow to evaluate our cash flows and results of operations. Free cash flow is defined as net cash provided by operating activities (which is the most directly comparable GAAP measure) less cash paid for capital expenditures. Management believes that free cash flow provides useful information to investors regarding the cash that was available in the period that was in excess of our needs to fund our capital expenditures and operating activities. Free cash flow is not a measure of operating performance under GAAP, and should not be considered in isolation nor construed as an alternative to operating profit, net income (loss) or cash flows from operating, investing or financing activities, each as determined in accordance with GAAP. Free cash flow does not represent residual cash available for distribution because we may have other non-discretionary expenditures that are not deducted from the measure. Moreover, since free cash flow is not a measure determined in accordance with GAAP and thus is susceptible to varying interpretations and

calculations, free cash flow, as presented, may not be comparable to similarly titled measures presented by other companies. The following table reconciles this non-GAAP financial measure to the most directly comparable measure calculated and presented in accordance with U.S. GAAP for the years ended December 31, 2018, 2017 and 2016 (in thousands):

	For the Years Ended December 31,		
Free Cash Flow Calculation	2018	2017	2016
Net cash provided by operating activities	$111,827	$124,271	$131,887
Less: cash paid for capital expenditures	(21,741)	(18,775)	(11,356)
Free cash flow	$90,086	$105,496	$120,531

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Free cash flow as a percent of income from continuing operations of 113.3% continued to be strong in 2018. The decrease in free cash flow in 2018 compared to 2017 was primarily due to increases in both working capital and capital expenditures in 2018 as the activity levels in the oil industry improved. The decrease in free cash flow in 2017 compared to 2016 was primarily due to increases in both working capital and capital expenditures in 2017 as the activity levels in the oil industry improved.

Cash Flows

The following table summarizes cash flows for the years ended December 31, 2018, 2017 and 2016 (in thousands):

	2018	2017	2016
Cash provided by/(used in):			
Operating activities	$111,827	$124,271	$131,887
Investing activities	(70,639)	(20,557)	(14,721)
Financing activities	(42,472)	(104,078)	(124,896)
Net change in cash and cash equivalents	$(1,284)	$(364)	$(7,730)

The decreases in cash provided by operating activities in 2018 compared to 2017 and 2017 compared to 2016 was primarily due to increases in working capital and changes in net income as the activity levels in the oil industry improved. Working capital was impacted by the increase in inventories during 2018 which was due to more raw materials and finished goods being held in our distribution network to support the anticipated growth in product sales.

Cash used in investing activities in 2018 increased $50.1 million compared to 2017 primarily as a result of an acquisition for $49.1 million in 2018 as well as increased capital expenditures in 2018 as activity levels in the oil industry improved. Cash used in investing activities in 2017 increased $5.8 million compared to 2016 primarily as a result of increased capital expenditures.

Cash used in financing activities in 2018 decreased $61.6 million compared to 2017. Cash used in financing activities in 2017 decreased $20.8 million compared to 2016. During 2018, we used $7.5 million to repurchase our common shares, $97.3 million to pay dividends, and increased our debt balance by $64 million. During 2017, we used $16.9 million to repurchase our common shares, $97.1 million to pay dividends, and increased our debt balance by $10 million. During 2016, we used $7.2 million to repurchase our common shares, $95.1 million to pay dividends, and decreased our debt balance by $215 million through the issuance of new shares.

During the year ended December 31, 2018, we repurchased 85,985 shares of our common stock for an aggregate amount of $7.5 million, or an average price of $86.66 per share. The repurchase of shares in the open market is at the discretion of management pursuant to shareholder authorization. We regard these treasury shares as a temporary investment which may be used to fund restricted shares that vest or to finance future acquisitions. Under Dutch law and subject to certain Dutch statutory provisions and shareholder approval, we can hold a maximum of 50% of our issued shares in treasury. We currently have shareholder approval to hold 10% of our issued share capital in treasury. On May 24, 2018 at our annual shareholders meeting, our shareholders authorized the extension of our share repurchase program until November 24, 2019 to purchase up to 10% of our issued share capital. We believe this share repurchase program has been beneficial to our shareholders. Our share price has increased from $4.03 per share in 2002, when we began to repurchase shares, to $59.66 per share on December 31, 2018, an increase of over 1,380%.

Credit Facility and Available Future Liquidity

In 2011, we issued two series of senior notes with an aggregate principal amount of $150 million ("Senior Notes") in a private placement transaction. Series A consists of $75 million in aggregate principal amount of notes that bear interest at a fixed rate of 4.01% and are due in full on September 30, 2021. Series B consists of $75 million in

aggregate principal amount of notes that bear interest at a fixed rate of 4.11% and are due in full on September 30, 2023. Interest on each series of the Senior Notes is payable semi-annually on March 30 and September 30.

On June 18, 2018, we entered into an agreement to amend our revolving credit facility ("Credit Facility"). To appropriately size the facility, the aggregate borrowing commitment was reduced from $400 million to $300 million. The Credit Facility provides an option to increase the commitment under the Credit Facility by an additional $100 million to bring the total borrowings available to $400 million if certain prescribed conditions are met by the Company. The Credit Facility bears interest at variable rates from LIBOR plus 1.375% to a maximum of LIBOR plus 2.0%.

Any outstanding balance under the Credit Facility is due June 19, 2023, when the Credit Facility matures. Interest payment terms are variable depending upon the specific type of borrowing under this facility. Our available capacity at any point in time is subject to all terms of the agreements, and is reduced by borrowings outstanding at the time and outstanding letters of credit which totaled $18.0 million at December 31, 2018, resulting in an available borrowing capacity under the Credit Facility of $140.0 million. In addition to those items under the Credit Facility, we had $13.3 million of outstanding letters of credit and performance guarantees and bonds from other sources as of December 31, 2018.

The terms of the Credit Facility and Senior Notes require us to meet certain covenants, including, but not limited to, an interest coverage ratio (consolidated EBITDA divided by interest expense) and a leverage ratio (consolidated net indebtedness divided by consolidated EBITDA), where consolidated EBITDA (as defined in each agreement) and interest expense are calculated using the most recent four fiscal quarters. The Credit Facility has the more restrictive covenants with a minimum interest coverage ratio of 3.0 to 1.0 and a maximum leverage ratio of 2.5 to 1.0. We believe that we are in compliance with all such covenants contained in our credit agreements. Certain of our material, wholly-owned subsidiaries are guarantors or co-borrowers under the Credit Facility and Senior Notes.

In 2014, we entered into two interest rate swap agreements for a total notional amount of $50 million to hedge changes in the variable rate interest expense on $50 million of our existing or replacement LIBOR-priced debt. Under the first swap agreement of $25 million, we fixed the LIBOR portion of the interest rate at 1.73% through August 29, 2019, and under the second swap agreement of $25 million, we fixed the LIBOR portion of the interest rate at 2.50% through August 29, 2024. Each swap is measured at fair value and recorded in our consolidated balance sheet as an asset or liability. They are designated and qualify as cash flow hedging instruments and are highly effective. Unrealized gains and losses are deferred to shareholders' equity as a component of accumulated other comprehensive income (loss) and are recognized in income as an increase or decrease to interest expense in the period in which the related cash flows being hedged are recognized in expense.

In addition to our repayment commitments under our Credit Facility and our Senior Notes, we have non-cancellable operating lease arrangements under which we lease property including land, buildings, office equipment and vehicles.

The following table summarizes our future contractual obligations under these arrangements (in thousands):

	Total	Less than 1 year	1-3 Years	3-5 Years	More than 5 Years
Contractual Obligations:					
Debt (1)	$292,000	$—	$75,000	$217,000	$—
Operating leases	66,322	16,267	22,346	12,894	14,815
Pension (2)	800	800	—	—	—
Total contractual obligations	$359,122	$17,067	$97,346	$229,894	$14,815

(1) Not included in the above balances are anticipated cash payments for interest of $6.1 million a year for 2019-2021 and cash payments for interest of $3.1 million a year for 2022-2023 for a total of $24.5 million.
(2) Our Dutch pension plan requires annual employer contributions. Amounts payable in the future will be based on future workforce factors which cannot be projected beyond one year.

We have no significant purchase commitments or similar obligations outstanding at December 31, 2018. Not included in the table above are uncertain tax positions of $7.5 million that we have accrued for at December 31, 2018, as the amounts and timing of payment, if any, are uncertain. See Note 10 of the Notes to Consolidated Financial Statements

for further detail of this amount.

At December 31, 2018, we had tax net operating loss carry-forwards in various jurisdictions of $25.8 million. Although we cannot be certain that these operating loss carry-forwards will be utilized, we anticipate that we will have sufficient taxable income in future years to allow us to fully utilize the carry-forwards that are not subject to a valuation allowance as of December 31, 2018. If unused, those carry-forwards which are subject to expiration may expire during the years 2018-2028. During 2018, less than $0.1 million of net operating loss carry-forwards which carried a full valuation allowance expired unused.

We expect our investment in capital expenditures to track client demand for our services and products. Given the improving, but still uncertain, trend in industry activity levels, we have not determined, at this time, the level of investment that will be made in 2019. We will, however, continue to invest to fund the purchase of instrumentation, tools and equipment along with expenditures to replace obsolete or worn-out instrumentation, tools and equipment, to consolidate certain facilities to gain operational efficiencies, and to increase our presence where requested by our clients. In addition, we plan to continue to (i)

repurchase our common shares on the open market through our share repurchase program, (ii) pay a dividend and (iii) if available, in the market at acceptable valuations, acquire complementary technologies. Our ability to continue these initiatives depends on, among other things, market conditions and our ability to generate free cash flow.

Our ability to maintain and increase our operating income and cash flows is largely dependent upon continued investing activities. We are a Netherlands holding company and substantially all of our operations are conducted through subsidiaries. Consequently, our cash flow depends upon the ability of our subsidiaries to pay cash dividends or otherwise distribute or advance funds to us. We believe our future cash flows from operating activities, supplemented by our borrowing capacity under existing facilities and our ability to issue additional equity should be sufficient to meet our contractual obligations, capital expenditures, working capital needs, dividend payments, debt requirements and to finance future acquisitions.

Outlook

As part of our long-term growth strategy, we continue our efforts to expand our market presence by opening or expanding facilities in strategic areas and realizing synergies within our business lines subject to client demand and market conditions. We believe our market presence provides us a unique opportunity to service clients who have global operations whether they are international oil companies, national oil companies, or independent oil companies.

We are encouraged by the increased focus of our major clients regarding capital management, return on invested capital (“ROIC”), free cash flow, and returning capital back to their shareholders, as opposed to a focus on production growth at any cost. The companies adopting value versus volume metrics tend to be the more technologically sophisticated operators and form the foundation of Core Lab’s worldwide client base. We expect to benefit from our clients’ shift in focus from strictly production growth to employing higher technological solutions in their efforts to maximize economic production growth and estimated ultimate recovery ("EUR").

During the fourth quarter 2018, the worldwide crude-oil market added supply, likely in anticipation of the proposed Iran sanctions. Consequently, during November and December the per-barrel price of crude oil fell by more than 40% from the year’s peak in October 2018. However, global crude-oil inventories exited 2018 at approximately 38 days of consumption, consistent with a multi-year trend of declining global crude-oil inventories related to demand. The International Energy Agency's ("IEA") most recent estimated worldwide demand projections remain strong with 1,400,000 additional barrels of oil per day needed in 2019.

After five years of muted investment in international, offshore and deepwater projects, oil companies announced more than 30 FIDs in 2018, an increase of more than 20% from 2017. The renewed investment at a global level is critical in order to meet future supply needs. Recognition of the need for investment is evidenced by the FIDs announced over the last two years and Wood McKenzie's estimation of another 30 upstream projects for 2019. However, Core Lab anticipates a slowing in further project announcements until confidence in the balance of global crude-oil markets is restored. We believe there will be a positive correction to the temporary oversupply of crude oil by the end of the first quarter 2019, which should encourage additional FID projects to be announced in 2019.

We continue to focus on large-scale core analyses and reservoir fluid characterization studies in the Eagle Ford, the Permian Basin, offshore Alaska and the Gulf of Mexico, along with Guyana, Malaysia and other international locations such as offshore South America, and the Middle East. We also focus on complex completions in unconventional tight-oil reservoirs, technological solutions and services for increasing daily productions and EURs.

As customary, Core Lab expects typical sequential seasonal industry patterns will cause the first quarter of 2019 to be down, and international field development spending will be funded largely from operating budgets. International recovery on a more broad-based scope is expected to improve as 2019 unfolds. Reservoir Description continues to

discuss international projects with clients, which are in alignment with FIDs previously announced. The revenue opportunity for Reservoir Description occurs once the well has been drilled and core and fluid samples are taken and analyzed. Activity levels and revenue opportunities from these FIDs and the emerging international recovery are expected to have a positive impact on financial performance in 2019.

The average first quarter 2019 U.S. rig count is projected to be flat to modestly down sequentially, with U.S. completion activity to remain at similar levels exiting 2018, until transitory logistical bottlenecks are addressed (e.g. supply chain logistics and take-away restrictions are resolved in the Permian Basin of West Texas). These logistical bottlenecks are anticipated to be resolved in the second half of 2019. In addition, an emerging trend to larger pad drilling sites, increasing from six to eight wells up to 24 wells, will create an increase in drilled but uncompleted wells over the next several quarters. Combined, these issues could impact the rate of revenue growth opportunity for any company that is reliant on completions as a catalyst for growth.

The drilled-but-uncompleted well inventory levels continue to rise and are in excess of moderated inventory levels for current activity levels. These uncompleted wells should provide Core Lab with future revenue opportunities.

Reservoir Description continues to discuss international projects with clients which are in alignment with FIDs previously announced. Activity levels and revenue opportunities from FIDs and the emerging international recovery are expected to have a positive impact on financial performance in 2019. The revenue opportunity for Reservoir Description occurs once the well has been drilled and core and fluid samples are taken and analyzed.

Critical Accounting Estimates

The preparation of financial statements in accordance with U.S. GAAP requires us to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. We evaluate our estimates on an ongoing basis and determine the adequacy of our estimates based on our historical experience and various other assumptions that we believe are reasonable under the circumstances. By nature, these judgments are subject to an inherent degree of uncertainty. We consider an accounting estimate to be critical if it is highly subjective and if changes in the estimate under different assumptions would result in a material impact on our financial condition and results of operations. The following transaction types require significant judgment and, therefore, are considered critical accounting policies as of December 31, 2018.

Income Taxes

Our income tax expense includes income taxes of the Netherlands, the U.S. and other foreign countries as well as local, state and provincial income taxes. We recognize deferred tax assets or liabilities for the differences between the financial statement carrying amount and tax basis of assets and liabilities using enacted tax rates in effect for the years in which the asset is recovered or the liability is settled. We estimate the likelihood of the recoverability of our deferred tax assets (particularly, net operating loss carry-forwards). Any valuation allowance recorded is based on estimates and assumptions of taxable income into the future and a determination is made of the magnitude of deferred tax assets which are more likely than not to be realized. Valuation allowances of our net deferred tax assets aggregated to $9.7 million and $8.2 million at December 31, 2018 and 2017, respectively. If these estimates and related assumptions change in the future, we may be required to record additional valuation allowances against our deferred tax assets and our effective tax rate may increase which could result in a material adverse effect on our financial position, results of operations and cash flows. We have not provided for deferred taxes on the unremitted earnings of certain subsidiaries that we consider to be indefinitely reinvested. Should we make a distribution of the unremitted earnings of these subsidiaries, we may be required to record additional taxes. We record a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in our tax return. We also recognize interest and penalties, if any, related to unrecognized tax benefits in income tax expense.

Long-Lived Assets, Intangibles and Goodwill

Property, plant and equipment are carried at cost less accumulated depreciation. Major renewals and improvements are capitalized while maintenance and repair costs are charged to expense as incurred. They are depreciated using the straight-line method based on their individual estimated useful lives, except for leasehold improvements, which are depreciated over the remaining lease term, if shorter. We estimate the useful lives and salvage values of our assets based on historical data of similar assets. When long-lived assets are sold or retired, the remaining costs and related accumulated depreciation are removed from the accounts and any resulting gain or loss is included in income. These capitalized long-lived assets could become impaired if our operating plans or business environment changes.

Intangible assets, including patents, trademarks, and trade names, are carried at cost less accumulated amortization. Intangibles with determinable lives are amortized using the straight-line method based on the estimated useful life of the intangible. Intangibles with indeterminable lives, which consist primarily of corporate trade names, are not amortized, but are tested for impairment annually or whenever events or changes in circumstances indicate that impairment is possible.

We review our long-lived assets, including definite-lived intangible assets, for impairment when events or changes in circumstances indicate that their net book value may not be recovered over their remaining service lives. Indicators of possible impairment may include significant declines in activity levels in regions where specific assets or groups of assets are located, extended periods of idle use, declining revenue or cash flow or overall changes in general market conditions.

Whenever possible impairment is indicated, we compare the carrying value of the assets to the sum of the estimated undiscounted future cash flows expected from use, plus salvage value, less the costs of the subsequent disposition of the assets. If impairment is still indicated, we compare the fair value of the assets to the carrying amount, and recognize an impairment loss for the amount by which the carrying value exceeds the fair value. We did not record any material impairment charges relating to our long-lived assets held for use during the years ended December 31, 2018, 2017 and 2016.

We record goodwill as the excess of the purchase price over the fair value of the net assets acquired in acquisitions accounted for under the purchase method of accounting. We test goodwill for impairment annually, or more frequently if circumstances indicate a possible impairment.

We evaluated our goodwill for impairment by comparing the fair value of each of our reporting units, which are our reportable segments, to their net carrying value as of the balance sheet date. We estimated the fair value of each reporting unit using a discounted future cash flow analysis. Estimated future cash flows were based on the company's best estimate of future performance. Our impairment analysis is quantitative; however, it includes subjective estimates based on assumptions regarding future growth rates, interest rates and operating expenses. If the carrying value of the reporting unit exceeds the fair value determined, an impairment loss is recorded to the extent that the implied fair value of the goodwill of the reporting unit is less than its carrying value. We did not record impairment charges relating to our goodwill or our indefinite-lived intangible assets during the years ended December 31, 2018, 2017 and 2016.

We have never identified nor recorded any impairments relating to the goodwill of our current continuing operations.

Pensions and Other Postretirement Benefits

We maintain a noncontributory defined benefit pension plan for substantially all of our Dutch employees hired before 2000. We utilize an actuary to assist in determining the value of the projected benefit obligation. This valuation requires various estimates and assumptions concerning mortality, future pay increases, expected return on plan assets and discount rate used to value our obligations. We recognize net periodic benefit cost based upon these estimates. As required by current accounting standards, we recognize net periodic pension costs associated with this plan in income from current operations and recognize the unfunded status of the plan, if any, as a long-term liability. In addition, we recognize as a component of other comprehensive income, the gains or losses and prior service costs or credits that arise during the period but are not recognized as components of net periodic pension cost. See Note 11 of the Notes to Consolidated Financial Statements. Furthermore, we sponsor several defined contribution plans for the benefit of our employees. We expense these contributions in the period the contribution is made.

Stock-Based Compensation

We have two stock-based compensation plans, as described in further detail in Note 14 of the Notes to Consolidated Financial Statements. We evaluate the probability that certain of our stock-based plans will meet targets established within the respective agreements and result in the vesting of such awards. For new awards issued and awards modified, repurchased or canceled, the compensation expense is equal to the fair value of the award at the date of the grant and is recognized in the Consolidated Statements of Operations for those awards over the requisite service period of the award. The fair value is determined by calculating the share price on the date of grant less the discounted value of the expected dividends to be paid over the vesting period.

Off-Balance Sheet Arrangements

Other than normal operating leases, we do not have any off-balance sheet financing arrangements such as securitization agreements, liquidity trust vehicles, synthetic leases or special purpose entities. As such, we are not materially exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in such financing arrangements.

Forward-Looking Statements

This Form 10-K and the documents incorporated in this Form 10-K by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Exchange Act. These "forward-looking statements" are based on an analysis of currently available competitive, financial and economic data and our operating plans. They are inherently uncertain and investors should recognize that events and actual results could turn out to be significantly different from our expectations. By way of illustration, when used in this document, words such as "anticipate", "believe", "expect", "intend", "estimate", "project", "will", "should", "could", "may", "predict" and similar expressions are intended to identify forward-looking statements. You are cautioned that actual results could differ materially from those anticipated in

forward-looking statements. Any forward-looking statements, including statements regarding the intent, belief or current expectations of us or our management, are not guarantees of future performance and involve risks, uncertainties and assumptions about us and the industry in which we operate, including, among other things:

- our ability to continue to develop or acquire new and useful technology;
- the realization of anticipated synergies from acquired businesses and future acquisitions;
- our dependence on one industry, oil and gas, and the impact of commodity prices on the expenditure levels of our clients;
- competition in the markets we serve;
- the risks and uncertainties attendant to adverse industry, political, economic and financial market conditions, including stock prices, government regulations, interest rates and credit availability;
- unsettled political conditions, war, civil unrest, currency controls and governmental actions in the numerous countries in which we operate;
- changes in the price of oil and natural gas;
- weather and seasonal factors;
- integration of acquired businesses; and
- the effects of industry consolidation.

Our businesses depend, to a large degree, on the level of spending by oil and gas companies for exploration, development and production activities. Therefore, a sustained increase or decrease in the price of natural gas or oil, which could have a material impact on exploration, development and production activities, could also materially affect our financial position, results of operations and cash flows.

The above description of risks and uncertainties is by no means all-inclusive, but is designed to highlight what we believe are important factors to consider. For a more detailed description of risk factors, please see "Item 1A. Risk Factors" in this Form 10-K and our reports and registration statements filed from time to time with the SEC.

All forward-looking statements in this Form 10-K are based on information available to us on the date of this Form 10-K. We do not intend to update or revise any forward-looking statements that we may make in this Form 10-K or other documents, reports, filings or press releases, whether as a result of new information, future events or otherwise, unless required by law.

Recent Accounting Pronouncements

Pronouncements Adopted in 2018

In May 2014, the FASB issued ASU 2014-09 ("Revenue from Contracts with Customers"), which provides guidance on revenue recognition. The core principle of this guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This guidance requires entities to apply a five-step method to (1) identify the contract(s) with customers; (2) identify the performance obligation(s) in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligation(s) in the contract; and (5) recognize revenue when (or as) the entity satisfies a performance obligation. We adopted this standard and related amendments on January 1, 2018. The adoption of this standard did not result in any material changes to our revenue recognition policies and procedures nor to our financial statements. Upon adoption, we used the modified retrospective approach; this approach resulted in no cumulative adjustment to retained earnings or net income and no adjustments to prior periods.

In March 2017, the FASB issued ASU 2017-07 ("Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost"), which requires that an employer report the service cost component in the same

line item as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. We adopted this standard on January 1, 2018. We used the practical expedient method which allows us to use the amounts disclosed in our pension footnote for the year ended December 31, 2017 as the estimation basis for applying the retrospective presentation requirement. The adoption of this standard did not result in any material changes to our consolidated financial statements.

Pronouncements Not Yet Effective

In February 2016, the FASB issued ASU 2016-02 ("Leases"), which introduces the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous guidance. The new standard establishes a right-of-use ("ROU") model that requires a lessee to record an ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. The new standard is effective for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years with early adoption permitted. In July 2018, the FASB issued ASU 2018-11 ("Targeted Improvements to Leases"), which provides companies with an additional transition method that allows the effects of the adoption of the new standard to be recognized as a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We have evaluated and elected this optional transition method for adoption. Based on our current lease portfolio, we estimate that the adoption of this standard will result in approximately $77 million of additional assets and liabilities being reflected on our Consolidated Balance Sheets upon adoption of this standard on January 1, 2019; however, there will not be a material impact to our Consolidated Statement of Operations or Cash Flows.

In June 2016, the FASB issued ASU 2016-13 ("Measurement of Credit Losses on Financial Instruments") which replaces the incurred loss impairment methodology in 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. The new standard is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years with early adoption permitted in fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are evaluating the impact that the adoption of this standard will have on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02 ("Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income"), which provides companies with an option to reclassify stranded tax effects resulting from enactment of the Tax Cuts and Jobs Act (the "TCJA") from accumulated other comprehensive income to retained earnings. The new standard is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years with early adoption permitted, and would be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the tax rate as a result of the TCJA is recognized. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

We are exposed to market risk, which is the potential loss arising from adverse changes in market prices and rates. We do not believe that our exposure to market risks, which are primarily related to interest rate changes, is material.

Interest Rate Risk

We maintain certain debt instruments at a fixed rate whose fair value will fluctuate based on changes in interest rates and market perception of our credit risk. The fair value of our debt at December 31, 2018 and 2017 approximated the book value.

In 2014, we entered into two interest rate swap agreements for a total notional amount of $50 million to hedge changes in the variable rate interest expense on $50 million of our existing or replacement LIBOR-priced debt. Under the first swap agreement of $25 million, we have fixed the LIBOR portion of the interest rate at 1.73% through

August 29, 2019, and under the second swap agreement of $25 million, we have fixed the LIBOR portion of the interest rate at 2.50% through August 29, 2024. Each swap is measured at fair value and recorded in our consolidated balance sheet as an asset or a liability. They are designated and qualify as cash flow hedging instruments and are highly effective. Unrealized gains and losses are deferred to shareholders' equity as a component of accumulated other comprehensive income (loss) and are recognized in income as an increase or decrease to interest expense in the period in which the related cash flows being hedged are recognized in expense.

From time to time, we are exposed to interest rate risk on our Credit Facility debt for amounts outstanding in excess of $50 million, which carries a variable interest rate. At December 31, 2018, we had an outstanding balance of $142 million. A 10% change in interest rates would not have a material impact on our results of operations or cash flows.

Foreign Currency Risk

We operate in a number of international areas which exposes us to foreign currency exchange rate risk. We do not currently hold or issue forward exchange contracts or other derivative instruments for hedging or speculative purposes (a foreign exchange contract is an agreement to exchange different currencies at a given date and at a specified rate). Foreign exchange gains and losses are the result of fluctuations in the U.S. dollar ("USD") against foreign currencies and are included in other (income) expense in the statements of operations. We recognized foreign exchange losses in countries where the USD weakened against the local currency and we had net monetary liabilities denominated in the local currency, as well as in countries where the USD strengthened against the local currency and we had net monetary assets denominated in the local currency. We recognized foreign exchange gains in countries where the USD strengthened against the local currency and we had net monetary liabilities denominated in the local currency, as well as in countries where the USD weakened against the local currency and we had net monetary assets denominated in the local currency.

Credit Risk

Our financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. Substantially all cash and cash equivalents are on deposit at commercial banks or investment firms. Our trade receivables are with a variety of domestic, international and national oil and gas companies. Management considers this credit risk to be limited due to the creditworthiness and financial resources of these financial institutions and companies.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

For the financial statements and supplementary data required by this Item 8, see Part IV "Item 15. Exhibits, Financial Statement Schedules."

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, under the supervision of and with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of the end of the period covered by this report. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed by us in our reports filed or submitted under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of December 31, 2018 at the reasonable assurance level.

Our management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud. Further, the design of disclosure controls and internal control over financial reporting must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as that term is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management, under the supervision of and with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of our internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment using these criteria, our management determined that our internal control over financial reporting was effective as of December 31, 2018.

The effectiveness of our internal control over financial reporting as of December 31, 2018, has been audited by KPMG, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control over Financial Reporting

There was no change in our system of internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, during our fiscal quarter ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

The information required by Part III (Items 10 through 14) is incorporated by reference from our definitive proxy statement (the "2019 Proxy Statement") to be filed in connection with our 2019 annual meeting of shareholders pursuant to Regulation 14A under the Exchange Act. We expect to file our definitive proxy statement with the SEC within 120 days after the close of the year ended December 31, 2018.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Incorporated by reference to the definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

Core Lab has a Code of Ethics and Corporate Responsibility that applies to all of its directors, officers and employees, including its principal executive, financial and accounting officers, or persons performing similar functions. Core Lab's Code of Ethics and Corporate Responsibility is posted on its website at www.corelab.com/cr/cms/docs/code_of_ethics_and_corporate_ responsibility.pdf.

ITEM 11. EXECUTIVE COMPENSATION

The information set forth under the captions “Compensation Discussion and Analysis,” “Information About our Named Executive Officers and Executive Compensation” in Core Lab's 2019 Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information under the captions “Ownership of Securities—Security Ownership by Certain Beneficial Owners and Management" and “Compensation Discussion and Analysis--2018 Compensation Program Details” in Core Lab's 2019 Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information under the captions “Information About our Supervisory Directors and Director Compensation—Supervisory Director Independence” and “Information About our Supervisory Directors and Director Compensation—Related Person Transactions” in Core Lab's 2019 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information under the caption “Information About our Independent Registered Public Accounting Firm” in Core Lab's 2019 Proxy Statement is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements

1. The following reports, financial statements and schedules are filed herewith on the pages indicated:

	Page
Report of Independent Registered Public Accounting Firm-KPMG LLP	F-1
Consolidated Balance Sheets as of December 31, 2018 and 2017	F-3
Consolidated Statements of Operations for the Years Ended December 31, 2018, 2017 and 2016	F-4
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2018, 2017 and 2016	F-5
Consolidated Statements of Changes in Equity for the Years Ended December 31, 2018, 2017 and 2016	F-6
Consolidated Statements of Cash Flows for the Years Ended December 31, 2018, 2017 and 2016	F-7
Notes to the Consolidated Financial Statements	F-9

2. Financial Statement Schedule

Schedule II - Valuation and Qualifying Account

(b) Exhibits

The exhibits listed in the accompanying "Index to Exhibits" are incorporated by reference to the filing indicated or are filed herewith.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

INDEX TO EXHIBITS

Exhibit No.	Exhibit Title	Incorporated by Reference from the Following Documents
3.1	Articles of Association of the Company, as amended on May 18, 2017 (including English translation)	Form 10-K, February 12, 2018 (File No. 001-14273)
10.1	Core Laboratories N.V. 2014 Long-Term Incentive Plan (as amended and restated effective as of May 12, 2014) (1)	Proxy Statement dated March 19, 2014 for Annual Meeting of Shareholders (File No. 001-14273)
10.2	Core Laboratories N.V. 2014 Nonemployee Director Stock Incentive Plan (as amended and restated effective as of May 12, 2014) (1)	Proxy Statement dated March 19, 2014 for Annual Meeting of Shareholders (File No. 001-14273)
10.3	Form of Indemnification Agreement to be entered into by the Company and certain of its directors and officers (1)	Form F-1, September 1, 1995 (File No. 000-26710)
10.4	Core Laboratories Supplemental Executive Retirement Plan effective as of January 1, 1998 (1)	Form 10-K, March 31, 1998 (File No. 000-26710)
10.5	Amendment to Core Laboratories Supplemental Executive Retirement Plan, effective July 29, 1999 (1)	Form 10-Q, August 16, 1999 (File No. 001-14273)
10.6	Amendment to Core Laboratories Supplemental Executive Retirement Plan, effective February 28, 2003 (1)	Form 10-Q, May 15, 2003 (File No. 001-14273)
10.7	Amendment to Core Laboratories Supplemental Executive Retirement Plan dated as of March 5, 2008 (1)	Form 10-Q, May 12, 2008 (File No. 001-14273)
10.8	Core Laboratories Supplemental Executive Retirement Plan for Monty L. Davis as amended and restated January 1, 2005 (1)	Form 10-Q, May 12, 2008 (File No. 001-14273)
10.9	Form of Restricted Share Award Program Agreement (1)	Form 10-K, February 20, 2007 (File No. 001-14273)
10.10	Form of Core Laboratories 2011 Non-Employee Director Restricted Share Award Program Agreement (1)	Form 10-Q, April 22, 2011 (File No. 001-14273)
10.11	Form of Core Laboratories 2017 Performance Share Award Program Agreement (ROIC Based) (1)	Filed Herewith
10.12	Seventh Amended and Restated Credit Agreement, dated as of June 19, 2018, among Core Laboratories, N.V., and Core Laboratories (U.S.) Interests Holdings, Inc., and the lenders party thereto and Bank of America, N.A., as administrative agent	Form 8-K, June 25, 2018 (File No. 001-14273)

10.13	Form of Restated Employment Agreement between Core Laboratories N.V. and David M. Demshur dated as of December 31, 2007 (1)	Form 10-Q, May 12, 2008 (File No. 001-14273)
10.14	Amendment to Restated Employment Agreement between Core Laboratories N.V. and David M. Demshur effective January 1, 2010 (1)	Form 10-K, February 22, 2011 (File No. 001-14273)

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10.15	Amendment to Restated Employment Agreement between Core Laboratories N.V. and David M. Demshur effective January 1, 2011 (1)	Form 10-Q, April 22, 2011 (File No. 001-14273)
10.16	Amendment to Restated Employment Agreement between Core Laboratories N.V. and David M. Demshur effective January 1, 2015 (1)	Filed Herewith
10.16	Form of Restated Employment Agreement between Core Laboratories N.V. and Richard L. Bergmark dated as of December 31, 2007 (1)	Form 10-Q, May 12, 2008 (File No. 001-14273)
10.17	Amendment to Restated Employment Agreement dated December 31, 2007, between Core Laboratories N.V. and Richard L. Bergmark (1)	Form 10-K, February 22, 2011 (File No. 001-14273)
10.18	Form of Restated Employment Agreement between Core Laboratories N.V. and Monty L. Davis dated as of December 31, 2007 (1)	Form 10-Q, May 12, 2008 (File No. 001-14273)
10.19	Amendment to Restated Employment Agreement dated December 31, 2007, between Core Laboratories N.V. and Monty L. Davis (1)	Form 10-K, February 22, 2011 (File No. 001-14273)
10.2	Master Note Purchase Agreement, dated as of September 30, 2011	Form 8-K, September 30, 2011 (File No. 001-14273)
21.1	Significant Subsidiaries of the Registrant	Filed Herewith
23.1	Consent of KPMG LLP	Filed Herewith
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed Herewith
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed Herewith
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished Herewith
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished Herewith
101.INS	XBRL Instance Document	Filed Herewith
101.SCH	XBRL Schema Document	Filed Herewith
101.CAL	XBRL Calculation Linkbase Document	Filed Herewith
101.LAB	XBRL Label Linkbase Document	Filed Herewith
101.PRE	XBRL Presentation Linkbase Document	Filed Herewith

101.DEF XBRL Definition Linkbase Document Filed Herewith

(1) Management contracts or compensatory plans or arrangements.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

			CORE LABORATORIES N.V. By its sole managing director, Core Laboratories International B.V.
Date:	February 11, 2019	By:	/s/ JACOBUS SCHOUTEN Jacobus Schouten Managing Director of Core Laboratories International B.V.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated, on the 11th day of February, 2019.

Signature	Title
/s/ DAVID M. DEMSHUR David M. Demshur Chief Executive Officer, Chairman and Supervisory Director	/s/ LAWRENCE BRUNO Lawrence Bruno President and Chief Operating Officer, Supervisory Director
/s/ CHRISTOPHER S. HILL Christopher S. Hill Senior Vice President and Chief Financial Officer	/s/ KEVIN G. DANIELS Kevin G. Daniels Vice President, Treasurer and Chief Accounting Officer
/s/ MARTHA Z. CARNES Martha Z. Carnes Supervisory Director	/s/ CHARLES L. DUNLAP Charles L. Dunlap Supervisory Director
/s/ LUCIA VAN GEUNS Lucia van Geuns Supervisory Director	/s/ MARGARET ANN VAN KEMPEN Margaret Ann van Kempen Supervisory Director
/s/ JAN WILLEM SODDERLAND Jan Willem Sodderland Supervisory Director	/s/ MICHAEL STRAUGHEN Michael Straughen Supervisory Director

Report of Independent Registered Public Accounting Firm
To the Shareholders and Board of Directors
Core Laboratories N.V.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Core Laboratories N.V. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three year period ended December 31, 2018 and the related notes and financial statement schedule II (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 11, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2015.

Houston, Texas
February 11, 2019

Report of Independent Registered Public Accounting Firm
To the Stockholders and Board of Directors
Core Laboratories N.V.:

Opinion on Internal Control Over Financial Reporting

We have audited Core Laboratories N.V. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes and financial statement schedules II (collectively, the consolidated financial statements), and our report dated February 11, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting included in Item 9A of Core Laboratories N.V.'s Annual Report on Form 10-K. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Houston, Texas
February 11, 2019

CORE LABORATORIES N.V.
CONSOLIDATED BALANCE SHEETS
December 31, 2018 and 2017
(In thousands, except share and per share data)

	2018	2017
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$13,116	$14,400
Accounts receivable, net of allowance for doubtful accounts of $2,650 and $2,590 at 2018 and 2017, respectively	129,157	133,097
Inventories	45,664	33,317
Prepaid expenses	15,351	12,592
Income taxes receivable	13,993	7,508
Other current assets	13,696	6,513
TOTAL CURRENT ASSETS	230,977	207,427
PROPERTY, PLANT AND EQUIPMENT, net	122,917	123,098
INTANGIBLES, net	13,054	9,396
GOODWILL	219,402	179,044

DEFERRED TAX ASSETS, net	11,252	10,719
OTHER ASSETS	51,215	55,128
TOTAL ASSETS	$648,827	$584,812
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$41,155	$41,697
Accrued payroll and related costs	22,549	28,887
Taxes other than payroll and income	7,488	7,313
Unearned revenues	17,325	12,627
Income taxes payable	2,917	825
Other current liabilities	11,113	9,227
TOTAL CURRENT LIABILITIES	102,547	100,576
LONG-TERM DEBT, net	289,770	226,989
CONTRACT LIABILITIES	1,401	4,442
DEFERRED COMPENSATION	49,359	52,786
DEFERRED TAX LIABILITIES, net	7,634	5,323
OTHER LONG-TERM LIABILITIES	37,216	45,964

COMMITMENTS AND CONTINGENCIES		
EQUITY:		
Preference shares, EUR 0.02 par value; 6,000,000 shares authorized, none issued or outstanding	—	—
Common shares, EUR 0.02 par value; 200,000,000 shares authorized, 44,796,252 issued and 44,316,845 outstanding at 2018 and 44,796,252 issued and 44,184,205 outstanding at 2017	1,148	1,148
Additional paid-in capital	57,438	54,463
Retained earnings	156,130	173,855
Accumulated other comprehensive income	(5,456)	(8,353)

(loss)		
Treasury shares (at cost), 479,407 at 2018 and 612,047 at 2017	(52,501)	(76,269)
Total Core Laboratories N.V. shareholders' equity	156,759	144,844
Non-controlling interest	4,141	3,888
TOTAL EQUITY	160,900	148,732
TOTAL LIABILITIES AND EQUITY	$648,827	$584,812

The accompanying notes are an integral part of these Consolidated Financial Statements.

CORE LABORATORIES N.V.
CONSOLIDATED STATEMENTS OF OPERATIONS
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands, except per share data)

	2018	2017	2016
REVENUE:			
Services	$486,820	$480,264	$468,388
Product sales	214,026	167,555	121,844
Total Revenue	700,846	647,819	590,232
OPERATING EXPENSES:			
Cost of services, exclusive of depreciation shown below	343,833	333,365	329,520
Cost of product sales, exclusive of depreciation shown below	153,131	131,593	107,983
General and administrative expenses, exclusive of depreciation shown below	62,910	47,737	39,390
Depreciation	22,013	23,605	25,445
Amortization	1,074	919	843
Other (income) expense, net	(737)	632	(400)
OPERATING INCOME	118,622	109,968	87,451
	13,328	10,734	11,572

Interest expense			
Income before income tax expense	105,294	99,234	75,879
Income tax expense	25,447	18,249	10,855
Income from continuing operations	79,847	80,985	65,024
Income (loss) from discontinued operations	(58)	2,111	(1,165)
Net income	79,789	83,096	63,859
Net income (loss) attributable to non-controlling interest	263	(29)	(36)
Net income attributable to Core Laboratories N.V.	$79,526	$83,125	$63,895
EARNINGS PER SHARE INFORMATION:			
Basic earnings per share from continuing operations	$1.81	$1.83	$1.50
Basic earnings (loss) per	$(0.01)	$0.05	$(0.03)

share from discontinued operations			
Basic earnings per share attributable to Core Laboratories N.V.	$1.80	$1.88	$1.47
Diluted earnings per share from continuing operations	$1.80	$1.83	$1.49
Diluted earnings (loss) per share from discontinued operations	$(0.01)	$0.05	$(0.03)
Diluted earnings per share attributable to Core Laboratories N.V.	$1.79	$1.88	$1.46
Cash dividends per share	$2.20	$2.20	$2.20
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:			
Basic	44,206	44,153	43,479
Diluted	44,474	44,264	43,670

The accompanying notes are an integral part of these Consolidated Financial Statements.

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CORE LABORATORIES N.V.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands)

	2018	2017	2016
Net income	$79,789	$83,096	$63,859
Other comprehensive income:			
Derivatives			
Changes in fair value of interest rate swaps	418	98	(293)
Interest rate swap amounts reclassified to interest expense	69	526	829
Income taxes on derivatives	(102)	(156)	(197)
Total derivatives	385	468	339
Pension and other postretirement benefit plans			
Adjustment of unrecognized pension actuarial gain (loss)	1,557	974	(17)
Prior service cost			
Prior service cost recognized during year	157	—	—
Amortization to net income of prior service cost	(106)	(77)	(81)
Amortization to net income of actuarial loss	1,706	440	593
Income taxes on pension and other postretirement benefit plans	(802)	(330)	(124)
Total pension and other postretirement benefit plans	2,512	1,007	371
Total other comprehensive income	2,897	1,475	710
Comprehensive income	82,686	84,571	64,569
Comprehensive income attributable to non-controlling interests	263	(29)	(36)
Comprehensive income attributable to Core Laboratories N.V.	$82,423	$84,600	$64,605

The accompanying notes are an integral part of these Consolidated Financial Statements.

CORE LABORATORIES N.V.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands, except share data)

	Common Shares Number of Shares	Common Shares Par Value	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock Number of Shares	Treasury Stock Amount	Non-Controlling Interest	Total Equity
BALANCE, December 31, 2015	44,350,002	$1,142	$—	$219,207	$(10,538)	1,974,097	$(238,875)	$5,365	$(23,699)
Stock-based compensation, net of awards issued	—	—	(197)	—	—	(141,106)	22,276	—	22,079
Tax benefit of stock-based awards issued	—	—	(1,162)	—	—	—	—	—	(1,162)
Repurchases of common shares	—	—	—	—	—	62,000	(7,161)	—	(7,161)
Dividends paid	—	—	—	(95,145)	—	—	—	—	(95,145)
Issuance of common shares	1,696,250	38	197,164	—	—	—	—	—	197,202
Cancellation of treasury shares	(1,250,000)	(32)	(142,955)	—	—	(1,250,000)	142,987	—	—
Non-controlling interest dividend	—	—	—	—	—	—	—	(1,386)	(1,386)
Other comprehensive income	—	—	—	—	710	—	—	—	710
Net income (loss)	—	—	—	63,895	—	—	—	(36)	63,859
BALANCE, December 31, 2016	44,796,252	$1,148	$52,850	$187,957	$(9,828)	644,991	$(80,773)	$3,943	$155,297
Recognition of true-up from estimated forfeitures upon Adoption of ASU 2016-09	—	—	84	(84)	—	—	—	—	—
Stock-based compensation, net of awards issued	—	—	1,529	—	—	(191,513)	21,413	—	22,942
Repurchases of common shares	—	—	—	—	—	158,569	(16,909)	—	(16,909)
Dividends paid	—	—	—	(97,143)	—	—	—	—	(97,143)
Non-controlling interest dividend	—	—	—	—	—	—	—	(26)	(26)

Other comprehensive income	—	—	—	—	1,475	—	—	—	1,475
Net income (loss)	—	—	—	83,125	—	—	—	(29)	83,096
BALANCE, December 31, 2017	44,796,252	$1,148	$54,463	$173,855	$(8,353)	612,047	$(76,269)	$3,888	$148,732
Stock-based compensation, net of awards issued	—	—	2,975	—	—	(218,625)	31,219	—	34,194
Repurchases of common shares	—	—	—	—	—	85,985	(7,451)	—	(7,451)
Dividends paid	—	—	—	(97,251)	—	—	—	—	(97,251)
Non-controlling interest dividend	—	—	—	—	—	—	—	(10)	(10)
Other comprehensive income	—	—	—	—	2,897	—	—	—	2,897
Net income	—	—	—	79,526	—	—	—	263	79,789
BALANCE, December 31, 2018	44,796,252	$1,148	$57,438	$156,130	$(5,456)	479,407	$(52,501)	$4,141	$160,900

The accompanying notes are an integral part of these Consolidated Financial Statements.

CORE LABORATORIES N.V.
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands)

	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:			
Income from continuing operations	$79,847	$80,985	$65,024
Income (loss) from discontinued operations, net of tax	(58)	2,111	(1,165)
Net income	79,789	83,096	63,859
Adjustments to reconcile net income to net cash provided by operating activities:			
Stock-based compensation	34,194	22,942	22,079
Depreciation and amortization	23,087	24,524	26,872
Changes to value of life insurance policies	(874)	(6,112)	(824)
	1,832	9,015	(14,385)

Deferred income taxes			
Realization of pension obligation	2,257	(724)	(1,243)
Net (recovery) provision for doubtful accounts	692	(202)	(18)
Other non-cash items	(159)	217	345
Changes in assets and liabilities, net of effects of acquisitions:			
Accounts receivable	2,265	(18,565)	31,584
Inventories	(10,403)	446	6,219
Prepaid expenses and other current assets	(9,048)	(4,549)	2,657
Other assets	6,264	545	340
Accounts payable	(1,752)	8,721	(1,036)
Accrued expenses	(6,903)	(6,775)	(6,738)
Other long-term liabilities	(11,239)	10,313	587
Unearned revenue	1,825	1,379	1,589
Net cash provided by operating	111,827	124,271	131,887

activities			
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital expenditures	(21,741)	(18,775)	(11,356)
Patents and other intangibles	(1,190)	(379)	(348)
Acquisitions, net of cash acquired	(47,314)	—	(1,242)
Proceeds from sale of assets	882	702	740
Premiums on life insurance	(1,276)	(2,105)	(2,515)
Net cash used in investing activities	(70,639)	(20,557)	(14,721)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Repayment of debt borrowings	(114,000)	(130,000)	(316,244)
Proceeds from debt borrowings	178,000	140,000	99,000
Excess tax benefits from stock-based payments	—	—	(1,162)

Debt financing costs	(1,760)	—	—
Non-controlling interest - dividend	(10)	(26)	(1,386)
Dividends paid	(97,251)	(97,143)	(95,145)
Repurchase of common shares	(7,451)	(16,909)	(7,161)
Issuance of common shares	—	—	197,202
Net cash used in financing activities	(42,472)	(104,078)	(124,896)
NET CHANGE IN CASH AND CASH EQUIVALENTS	(1,284)	(364)	(7,730)
CASH AND CASH EQUIVALENTS, beginning of year	14,400	14,764	22,494
CASH AND CASH EQUIVALENTS, end of year	$13,116	$14,400	$14,764

The accompanying notes are an integral part of these Consolidated Financial Statements.

CORE LABORATORIES N.V.
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands)

	2018	2017	2016
Supplemental disclosures of cash flow information:			
Cash payments for interest	$11,499	$10,527	$11,248
Cash payments for income taxes	$31,928	$24,314	$12,181
Non-cash investing and financing activities:			
Capital expenditures incurred but not paid for as of the end of the year	$628	$744	$1,627

The accompanying notes are an integral part of these Consolidated Financial Statements.

CORE LABORATORIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2018

1. DESCRIPTION OF BUSINESS

Core Laboratories N.V. ("Core Laboratories", "Core Lab", "the Company", "we", "our" or "us") is a Netherlands limited liability company. We were established in 1936 and are one of the world's leading providers of proprietary and patented reservoir description and production enhancement services and products to the oil and gas industry. These services and products can enable our clients to improve reservoir performance and increase oil and gas recovery from their producing fields. We have over 70 offices in more than 50 countries and have approximately 4,700 employees.

We operate our business in two reporting segments. These complementary segments provide different services and products and utilize different technologies for improving reservoir performance and increasing oil and gas recovery from new and existing fields: (1) Reservoir Description and (2) Production Enhancement. For a description of product types and services offered by these business segments, see Note 19 - Segment Reporting.

In the first quarter of 2018, in a continuing effort to streamline our business and align our business strategy for further integration of services and products, the Company committed to divest the business of our full range of permanent downhole monitoring systems and related services, which had been part of our Production Enhancement segment. All prior period income statements have been adjusted to reclassify amounts related to this business to discontinued operations to conform to current period presentation. All disclosures on operating income and net income within these statements reflect the results from continuing operations for all periods presented. These reclassifications had no impact on the reported net income attributable to Core Laboratories N.V., financial position or cash flows for any of these prior periods.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The accompanying Consolidated Financial Statements have been prepared in accordance with generally accepted accounting principles in the U.S. ("U.S. GAAP" or "GAAP"), and include the accounts of Core Laboratories and its subsidiaries for which we have a controlling voting interest and/or a controlling financial interest. The equity method of accounting is used to record our interest in investments in which we have less than a majority interest and do not exercise control but do exert significant influence. We use the cost method to record certain other investments in which we own less than 20% of the outstanding equity and do not exercise control or exert significant influence. We record non-controlling interest associated with consolidated subsidiaries that are less than 100% owned. All inter-company transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in accordance with U.S. GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. We evaluate our estimates on an ongoing basis and utilize our historical experience, as well as various other assumptions that we believe are reasonable in a given circumstance, in order to make these estimates. Actual results could differ from our estimates, as assumptions and conditions change.

The following accounts, among others, require us to use estimates and assumptions:

allowance for doubtful accounts;
obsolete inventory;
depreciation and amortization;
long-lived assets, intangibles and goodwill;
income taxes;
pensions and other postretirement benefits; and
stock-based compensation.

Accounting policies relating to these accounts and the nature of these estimates are further discussed under the applicable caption. For each of these critical estimates it is at least reasonably possible that changes in these estimates will occur in the short term which may impact our financial position or results of operations.

Cash and Cash Equivalents

Cash and cash equivalents include all short-term, highly liquid instruments purchased with an original maturity of three months or less. These items are carried at cost, which approximates fair value.

Concentration of Credit Risk

Our financial instruments that potentially subject us to concentrations of credit risk relate primarily to cash and cash equivalents and trade accounts receivable. All cash and cash equivalents are on deposit at commercial banks or investment firms with significant financial resources. Our trade receivables are with a variety of domestic, international and national oil and gas companies. We had no clients who provided more than 10% of our revenue for the years ended December 31, 2018, 2017 and 2016. We consider our credit risk related to trade accounts receivable to be limited due to the creditworthiness and financial resources of our clients. We evaluate our estimate of the allowance for doubtful accounts on an on-going basis throughout the year.

Concentration of Interest Rate Risk

We are exposed to interest rate risk on our revolving credit facility (the "Credit Facility") debt, which carries a variable interest rate. We are exposed to interest rate risk on our Senior Notes which carry a fixed interest rate, but whose fair value will fluctuate based on changes in interest rates and market perception of our credit risk.

Derivative Instruments

We may enter into a variety of derivative instruments in connection with the management of our exposure to fluctuations in interest rates or currency exchange rates. See Note 15 - Derivative Instruments and Hedging Activities.

We do not enter into derivatives for speculative purposes.

Accounts Receivable

Trade accounts receivable are recorded at their invoiced amounts and do not bear interest. We perform ongoing credit evaluations of our clients and monitor collections and payments in order to maintain a provision for estimated uncollectible accounts based on our historical collection experience and our current aging of client receivables outstanding, in addition to client's representations and our understanding of the economic environment in which our clients operate. Based on our review we establish or adjust allowances for specific clients and the accounts receivable as a whole, and recognize expense. When an account is determined to be uncollectible, we charge the receivable to our allowance for doubtful accounts. Our allowance for doubtful accounts totaled $2.7 million and $2.6 million at December 31, 2018 and 2017, respectively. The net carrying value of accounts receivable is considered to be representative of its respective fair value.

Inventories

Inventories consist of manufactured goods, materials and supplies used for sales or services to clients. Inventories are stated at the lower of cost or estimated net realizable value. Inventory costs are recorded at standard cost which approximates the first-in, first-out method.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets are comprised primarily of prepaid insurance, value added taxes and prepaid rents.

Property, Plant and Equipment

Property, plant and equipment are carried at cost less accumulated depreciation. Major renewals and improvements are capitalized while maintenance and repair costs are charged to expense as incurred. They are depreciated using the straight-line method based on their individual estimated useful lives, except for leasehold improvements, which are depreciated over the

remaining lease term, if shorter. We estimate the useful lives and salvage values of our assets based on historical data as follows:

Buildings and leasehold improvements	3 - 40 years
Machinery and equipment	3 - 10 years

When long-lived assets are sold or retired, the remaining costs and related accumulated depreciation are removed from the accounts and any resulting gain or loss is included in income. These capitalized long-lived assets could become impaired if our operating plans or business environment changes.

We review our long-lived assets, including definite-lived intangible assets, for impairment when events or changes in circumstances indicate that their net book value may not be recovered over their remaining service lives. Indicators of possible impairment may include significant declines in activity levels in regions where specific assets or groups of assets are located, extended periods of idle use, declining revenue or cash flow or overall changes in general market conditions.

Whenever possible impairment is indicated, we compare the carrying value of the assets to the sum of the estimated undiscounted future cash flows expected from use, plus salvage value, less the costs of the subsequent disposition of the assets. If impairment is still indicated, we compare the fair value of the assets to the carrying amount, and recognize an impairment loss for the amount by which the carrying value exceeds the fair value. We did not record any material impairment charges relating to our long-lived assets held for use during the years ended December 31, 2018, 2017 or 2016.

Intangibles and Goodwill

Intangible assets, including patents, trademarks, and trade names, are carried at cost less accumulated amortization. Intangibles with determinable lives are amortized using the straight-line method based on the estimated useful life of the intangible. Intangibles with indeterminable lives, which consist primarily of corporate trade names, are not amortized, but are tested for impairment annually or whenever events or changes in circumstances indicate that impairment is possible.

We record goodwill as the excess of the purchase price over the fair value of the net assets acquired in acquisitions accounted for under the purchase method of accounting. We test goodwill for impairment annually, or more frequently if circumstances indicate possible impairment.

We evaluated our goodwill for impairment by comparing the fair value of each of our reporting units, which are our reportable segments, to their net carrying value as of the balance sheet date. We estimated the fair value of each reporting unit using a discounted future cash flow analysis. Estimated future cash flows were based on the Company's best estimate of future performance. Our impairment analysis is quantitative; however, it includes subjective estimates based on assumptions regarding future growth rates, interest rates and operating expenses. If the carrying value of the reporting unit exceeds the fair value determined, an impairment loss is recorded to the extent that the implied fair value of the goodwill of the reporting unit is less than its carrying value. Any subsequent impairment loss could result in a material adverse effect upon our financial position and results of operations. We did not record impairment charges relating to our goodwill or our indefinite-lived intangible assets during the years ended December 31, 2018, 2017 or 2016.

We have never identified nor recorded any impairments relating to the goodwill of our current continuing operations.

Other Assets

Cash surrender value of life insurance relates to postretirement benefit plans. See Note 11 - Pension and Other Postretirement Benefit Plans. Investments include unconsolidated affiliates accounted for under the equity method where the operations of these entities are in-line with those of our core businesses. These entities are not considered special purpose entities nor do we have special off-balance sheet arrangements through these entities.

Other assets at December 31, 2018 and 2017 consisted of the following (in thousands):

	2018	2017
Cash surrender value of life insurance	$41,575	$46,314
Investments in unconsolidated affiliates	3,760	3,557
Other	5,880	5,257
Total other assets	$51,215	$55,128

Accounts Payable

Trade accounts payable are recorded at their invoiced amounts and do not bear interest. The carrying value of accounts payable is considered to be representative of its respective fair value.

Income Taxes

We recognize deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the Consolidated Financial Statements or tax returns. Deferred tax assets and liabilities are determined based on the difference between the financial statement and the tax basis of assets and liabilities using enacted tax rates in effect for the year in which the asset is recovered or the liability is settled. We include interest and penalties from tax judgments in income tax expense.

We record a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in our tax return. We also recognize interest and penalties, if any, related to unrecognized tax benefits in income tax expense. See Note 10 - Income Taxes.

Comprehensive Income

Comprehensive income is comprised of net income and other charges or credits to equity that are not the result of transactions with owners. Other comprehensive income consists of prior service costs and an unrecognized net actuarial gain and loss from a pension plan and changes in the fair value of our interest rate swaps. See Note 11 - Pension and Other Postretirement Benefit Plans and Note 15 - Derivative Instruments and Hedging Activities.

Revenue Recognition

All of our revenue is derived from contracts with clients and is reported as revenue in the Consolidated Statements of Operations. Our contracts generally include standard commercial payment terms generally acceptable in each region, and do not include financing with extended payment terms. We have no significant obligations for refunds, warranties, or similar obligations. Our revenue does not include taxes collected from our customers. In certain circumstances we apply the guidance in Accounting Standards Codification Topic 606 - Revenue From Contracts with Customers ("Topic 606") to a portfolio of contracts with similar characteristics. We use estimates and assumptions when accounting for a portfolio that reflect the size and composition of the portfolio of contracts.

A performance obligation is a promise in a contract to transfer a distinct service or good to a client, and is the unit of account under Topic 606. We have contracts with two general groups of performance obligations: those that require us to perform analysis and/or diagnostic tests in our laboratory or at the client's wellsite and those from the sale of tools, diagnostic and equipment products and related services. We recognize revenue at an amount that reflects the consideration expected to be received in exchange for such services or goods as described below by applying the five-step method to: (1) identify the contract(s) with clients; (2) identify the performance obligation(s) in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligation(s) in the contract; and (5) recognize revenue when (or as) we satisfy the performance obligation(s).

Services Revenue: We provide a variety of services to clients in the oil and gas industry. Where services are provided related to the testing and analysis of rock and fluids, we recognize revenue upon the provision of the test results or analysis to the client. For our design, field engineering and completion diagnostic services, we recognize revenue upon the delivery of those services at the well site or delivery of diagnostic data. In the case of our consortia studies, we have multiple performance obligations and revenue is recognized at the point in time when the testing and analysis results on each contributed core are made available to our consortia members. We conduct testing and provide

analysis services in support of our consortia studies recognizing revenue as the testing and analysis results are made available to our consortia members.

Product Sales Revenue: We manufacture equipment that we sell to our clients in the oil and gas industry. Revenue is recognized when title to that equipment passes to the client, which is typically when the product is shipped to the client or picked up by the client at our facilities, as set out in the contract.

For arrangements that include multiple performance obligations, we allocate revenue to each performance obligation based on estimates of the price that we would charge the client for each promised service or product if it were sold on a standalone basis.

To a lesser extent in all of our business segments, we enter into other types of contracts including service arrangements and non-subscription software and licensing agreements. We recognize revenue for these arrangements over time or at a point in time depending on our evaluation of when the client obtains control of the promised services or products.

Prior to our adoption of Topic 606 effective January 1, 2018, we recognized revenue when we determined the following criteria were met: (i) persuasive evidence of an arrangement exists; (ii) delivery has occurred or services have been rendered; (iii) the fee is fixed or determinable; and (iv) collectability is reasonably assured. The adoption of Topic 606 did not result in any material changes to our revenue recognition policies nor to our consolidated financial statements.

Contract Assets and Liabilities

Contract assets and liabilities result due to the timing of revenue recognition, billings and cash collections.

Contract assets include our right to payment for goods and services already transferred to a customer when the right to payment is conditional on something other than the passage of time, for example contracts where we recognize revenue over time but do not have a contractual right to payment until we complete the performance obligations. Contract assets are included in our accounts receivable and are not material as of December 31, 2018.

Contract liabilities consist of advance payments received and billings in excess of revenue recognized. We generally receive up-front payments relating to our consortia studies; we recognize revenue over the life of the study as the testing and analysis results are made available to our consortia members. We record billings in excess of revenue recognized for contracts with a duration less than twelve months as unearned revenue. We classify contract liabilities for contracts with a duration greater than twelve months as current or non-current based on the timing of when we expect to recognize revenue. The current portion of contract liabilities is included in unearned revenue and the non-current portion of contract liabilities is included in long-term contract liabilities in our consolidated balance sheet. The total balance of our contract liabilities at December 31, 2018 and December 31, 2017 was $7.4 million and $6.7 million, respectively.

Disaggregation of Revenue

We contract with clients for service revenue and/or product sales revenue. We present revenue disaggregated by services and product sales in our Consolidated Statements of Operations. For revenue disaggregated by reportable segment, see Note 19 - Segment Reporting.

Foreign Currencies

Our functional currency is the U.S. Dollar ("USD"). All inter-company financing, transactions and cash flows of our subsidiaries are transacted in USD. Our foreign entities remeasure monetary assets and liabilities to USD at year-end exchange rates, while non-monetary items are measured at historical rates. Revenue and expenses are remeasured at the applicable month-end rate, except for depreciation, amortization and certain components of cost of sales, which are measured at historical rates. For the years ended December 31, 2018, 2017 and 2016, we incurred net remeasurement losses of $2.6 million, $1.0 million, and $1.8 million, respectively. These amounts were included in Other (Income) Expense, net in the accompanying Consolidated Statements of Operations.

Pensions and Other Postretirement Benefits

We provide a non-contributory defined benefit pension plan covering substantially all of our Dutch employees ("Dutch Plan") who were hired prior to 2007. As required by current accounting standards, we recognize net periodic pension costs associated with the Dutch plan in income from current operations and recognize the unfunded status of the plan, if any, as a long-term liability. In addition, we recognize as a component of other comprehensive income, the gains or losses and prior service costs or credits that arise during the period but are not recognized as components of net periodic pension cost. The projection of benefit obligation and fair value of plan assets requires the use of assumptions and estimates. Actual results could differ from those estimates. See Note 11 - Pension and Other Postretirement Benefit Plans.

Furthermore, we maintain defined contribution plans for the benefit of eligible employees primarily in Canada, the Netherlands, the United Kingdom and the United States. We expense these contributions in the period the contribution is made.

Non-controlling Interests

We maintain non-controlling interests in several investment ventures and disclose such interests clearly as a portion of equity separate from the parent's equity. The amount of consolidated net income attributable to these non-controlling interests is also clearly presented on the Consolidated Statements of Operations. In addition, when a subsidiary is deconsolidated, any retained non-controlling equity investment in the former subsidiary will be initially measured at fair value and recorded as a gain or loss.

Stock-Based Compensation

We have two stock-based compensation plans, as described in further detail in Note 14 - Stock-Based Compensation. For new awards issued and awards modified, repurchased or canceled, the compensation expense is equal to the fair value of the award at the date of the grant and is recognized in the Consolidated Statements of Operations for those awards earned over the requisite service period of the award.

Earnings Per Share

We compute basic earnings per common share by dividing net income attributable to Core Laboratories N.V. by the weighted average number of common shares outstanding during the period. Diluted earnings per common and potential common share include additional shares in the weighted average share calculations associated with the incremental effect of dilutive restricted stock awards and contingently issuable shares, as determined using the treasury stock method. The following table summarizes the calculation of weighted average common shares outstanding used in the computation of diluted earnings per share for the years ended December 31, 2018, 2017 and 2016 (in thousands):

	2018	2017	2016
Weighted average basic common shares outstanding	44,206	44,153	43,479
Effect of dilutive securities:			
Performance shares	221	69	127
Restricted stock	47	42	64
Weighted average diluted common and potential common shares outstanding	44,474	44,264	43,670

3. CONTRACT ASSETS AND LIABILITIES

The balance of contract assets and contract liabilities consisted of the following at December 31, 2018 and 2017 (in thousands):

	2018	2017
Contract assets		
Current	$1,145	$325
Non-Current	188	—
	$1,333	$325
Contract Liabilities		
Current	$5,963	$2,252
Non-current	1,401	4,442
	$7,364	$6,694

We did not recognize any impairment losses on our receivables and contract assets for the year ended December 31, 2018.

Estimate of when contract liabilities will be recognized	
within 12 months	$5,963
within 12 to 24 months	1,247
greater than 24 months	154

4. ACQUISITIONS

In September 2018, we acquired Guardian Global Technologies Ltd., a business providing downhole technologies associated with perforating systems for $49.1 million in cash. These downhole technologies will significantly enhance Core Lab's Production Enhancement operations and its ability to bring new and innovative product offerings to our clients. We have estimated the fair values of tangible assets acquired to be $4.2 million, and intangible assets, including patents, customer-relationship benefits, non-compete agreements and trade secrets to be $3.6 million. We have accounted for this acquisition by allocating the purchase price to the net assets acquired based on their estimated fair values at the date of acquisition which resulted in an increase to goodwill of $41.3 million. We have not finalized the assessment of the fair values of assets acquired and liabilities assumed; estimates of certain assets and liabilities require significant judgments and assumptions, and our estimates of acquisition date fair value will be determined upon finalization of our analysis. The fair value estimates are subject to adjustment during the measurement period subsequent to the acquisition date, not to exceed one year. The acquisition is included in the Production Enhancement business segment.

Acquisition-related costs totaling $0.7 million that were incurred and expensed in the third quarter of 2018 are included in Other (income) expense, net in the accompanying Consolidated Statements of Operations. These costs consisted of various advisory fees, and other direct incremental costs.

The acquisition of this business did not have a material impact on our Consolidated Balance Sheets or Consolidated Statements of Operations.

We had no significant acquisitions during the years ended December 31, 2017 and 2016.

5. INVENTORIES

Inventories consisted of the following at December 31, 2018 and 2017 (in thousands):

	2018	2017
Finished goods	$26,636	$21,668
Parts and materials	13,704	10,613
Work in progress	5,324	1,036
Total inventories	$45,664	$33,317

We include freight costs incurred for shipping inventory to our clients in the Cost of product sales caption in the accompanying Consolidated Statements of Operations.

6. PROPERTY, PLANT AND EQUIPMENT, NET

The components of property, plant and equipment, net were as follows at December 31, 2018 and 2017 (in thousands):

	2018	2017
Land	$11,383	$11,520
Building and	115,875	115,270

leasehold improvements		
Machinery and equipment	272,916	261,723
Total property, plant and equipment	400,174	388,513
Less - accumulated depreciation	(277,257)	(265,415)
Property, plant and equipment, net	$ 122,917	$ 123,098

7. INTANGIBLES, NET

The components of intangibles, net as of December 31, 2018 and 2017 are as follows (in thousands):

	Original life in years	2018 Gross Carrying Value	2018 Accumulated Amortization	2017 Gross Carrying Value	2017 Accumulated Amortization
Acquired trade secrets	2-20	$3,604	$ 2,110	$3,390	$ 1,765
Acquired patents and trademarks	4-15	9,697	3,115	5,406	2,274
Agreements not to compete	2-5	1,149	759	839	782
Acquired trade names	Indefinite	4,588	—	4,582	—
Total intangibles, net		$19,038	$ 5,984	$14,217	$ 4,821

Our estimated amortization expense relating to these intangibles for the next five years is summarized in the following table (in thousands):

2019	$1,322
2020	$1,120
2021	$911
2022	$888
2023	$593

8. GOODWILL

The changes in the carrying amount of goodwill for each reportable segment for the years ended December 31, 2018 and 2017 were as follows (in thousands):

	Reservoir Description	Production Enhancement	Total
Balance at December 31, 2016	$ 99,484	$ 79,560	$179,044
Goodwill acquired during the year	—	—	—
Balance at December	99,484	79,560	179,044

31, 2017			
Goodwill allocated to discontinued operations	—	(915)	(915)
Goodwill acquired during the year	—	41,283	41,283
Balance at December 31, 2018	$ 99,484	$ 119,928	$ 219,412

9. LONG-TERM DEBT, NET

We have no capital lease obligations. Debt at December 31, 2018 and 2017 is summarized in the following table (in thousands):

	2018	2017
Senior Notes	$ 150,000	$ 150,000
Credit Facility	142,000	78,000
Total debt	292,000	228,000
Less: Debt issuance costs	(2,230)	(1,011)
Long-term debt, net	$ 289,770	$ 226,989

In 2011, we issued two series of senior notes with an aggregate principal amount of $150 million ("Senior Notes") in a private placement transaction. Series A consists of $75 million in aggregate principal amount of notes that bear interest at a fixed rate of 4.01% and are due in full on September 30, 2021. Series B consists of $75 million in aggregate principal amount of notes that bear interest at a fixed rate of 4.11% and are due in full on September 30, 2023. Interest on each series of the Senior Notes is payable semi-annually on March 30 and September 30.

On June 19, 2018, we entered into an agreement to amend our revolving credit facility ("Credit Facility"). To appropriately size the facility, the aggregate borrowing commitment was reduced from $400 million to $300 million. The Credit Facility provides an option to increase the commitment under the Credit Facility by an additional $100 million to bring the total

borrowings available to $400 million if certain prescribed conditions are met by the Company. The Credit Facility bears interest at variable rates from LIBOR plus 1.375% to a maximum of LIBOR plus 2%.

Any outstanding balance under the Credit Facility is due June 19, 2023, when the Credit Facility matures. Interest payment terms are variable depending upon the specific type of borrowing under this facility. Our available capacity at any point in time is subject to all terms of the agreements, and is reduced by borrowings outstanding at the time and outstanding letters of credit which totaled $18.0 million at December 31, 2018, resulting in an available borrowing capacity under the Credit Facility of $140.0 million. In addition to those items under the Credit Facility, we had $13.3 million of outstanding letters of credit and performance guarantees and bonds from other sources as of December 31, 2018.

The terms of the Credit Facility and Senior Notes require us to meet certain covenants, including, but not limited to, an interest coverage ratio (consolidated EBITDA divided by interest expense) and a leverage ratio (consolidated net indebtedness divided by consolidated EBITDA), where consolidated EBITDA (as defined in each agreement) and interest expense are calculated using the most recent four fiscal quarters. The Credit Facility has the more restrictive covenants with a minimum interest coverage ratio of 3.0 to 1.0 and a maximum leverage ratio of 2.5 to 1.0. We believe that we are in compliance with all such covenants contained in our credit agreements. Certain of our material, wholly-owned subsidiaries are guarantors or co-borrowers under the Credit Facility and Senior Notes.

In 2014, we entered into two interest rate swap agreements to hedge changes in the variable interest rate on our LIBOR-priced debt. See Note 15 - Derivative Instruments and Hedging Activities for discussion of our derivative instruments.

The estimated fair value of total debt at December 31, 2018 and 2017 approximated the book value of total debt. The fair value was estimated using Level 2 inputs by calculating the sum of the discounted future interest and principal payments through the date of maturity.

10. INCOME TAXES

The components of income before income tax expense for the years ended December 31, 2018, 2017 and 2016 are as follows (in thousands):

	2018	2017	2016
United States	$61,680	$28,632	$6,233
Other countries	43,614	70,602	69,646
Income before income tax expense	$105,294	$99,234	$75,879

The components of income tax expense for the years ended December 31, 2018, 2017 and 2016 are as follows (in thousands):

	2018	2017	2016
Current:			
United States	$13,198	$10,699	$(2,469)
	10,132	9,147	16,640

Other countries			
State and provincial	1,548	725	600
Total current	24,878	20,571	14,771
Deferred:			
United States	(1,340)	(2,948)	1,844
Other countries	1,909	626	(5,845)
State and provincial	—	—	85
Total deferred	569	(2,322)	(3,916)
Income tax expense	$25,447	$18,249	$10,855

The differences in income tax expense computed using the Netherlands statutory income tax rate of 25% in 2018, 2017 and 2016 and our income tax expense as reported in the accompanying Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016 are as follows (in thousands):

	2018	2017	2016
Tax at the Netherlands income tax rate	$26,189	$25,427	$18,652
International earnings taxed at rates other than the Netherlands statutory rate	(14,997)	(12,496)	(16,840)
Non-deductible expenses	4,452	6,645	3,043
Change in valuation allowance	1,513	(1,744)	(899)
State and provincial taxes	1,566	829	600
Adjustments of prior year taxes	2,350	(4,272)	2,412
Adjustments of income tax reserves	(1,613)	1,869	(604)
Foreign exchange	5,936	(1,792)	3,381
Accrued withholding taxes	2,911	3,067	246
Other	(2,860)	716	864
Income tax expense	$25,447	$18,249	$10,855

Deferred tax assets and liabilities result from various temporary differences between the financial statement carrying amount and their tax basis. Deferred tax assets and liabilities as of December 31, 2018 and 2017 are summarized as follows (in thousands):

	2018	2017
Deferred tax assets:		
Net operating loss carry-forwards	$6,300	$7,976
Tax credit carry-forwards	1,154	1,002
Accruals for compensation	7,160	9,399
Accruals for inventory capitalization	1,813	1,909
Unrealized benefit plan loss	3,417	4,006
Unrealized foreign exchange	7,542	5,932
Unearned revenue	2,760	2,649
Other	822	580
Total deferred tax assets	30,968	33,453
Valuation allowance (1)	(9,732)	(8,219)
Net deferred tax assets	21,236	25,234
Deferred tax liabilities:		
Intangibles	(6,025)	(5,939)
Property, plant and equipment	(2,835)	(2,968)
	(3,260)	(4,885)

Accrued interest		
Accruals for compensation	—	(1,501)
Accrued withholding taxes	(886)	(2,191)
Unrealized foreign exchange	(4,043)	(1,995)
Other	(569)	(359)
Total deferred tax liabilities	(17,618)	(19,838)
Net deferred income taxes	$3,618	$5,396

	2018	2017
Long-term deferred tax assets	$11,252	$10,719
Long-term deferred tax liabilities	(7,634)	(5,323)
Total deferred tax assets (liabilities)	$3,618	$5,396

(1) Valuation allowance at 12/31/16 was $10.0 million.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "TCJA") was signed into law reducing the U.S. corporate income tax rate to 21% effective January 1, 2018. During 2018, various proposed regulations were released, providing guidance on identified issues and topics regarding the TCJA. The most impactful changes for the company from the TCJA are

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the deduction limitations for compensation paid to executive officers and the benefit from the foreign derived intangible income regime.

We have not provided for deferred taxes on the unremitted earnings of certain subsidiaries that we consider to be indefinitely reinvested. Should we make a distribution of the unremitted earnings of these subsidiaries, we may be required to record additional taxes. As of December 31, 2018, we consider $237.5 million to be indefinitely reinvested. Repatriation of these earnings would be subject to income and withholding taxes estimated at $25.3 million. There are no restrictions preventing any of our subsidiaries from repatriating earnings, and there are no restrictions or income taxes associated with distributing cash to the parent company through loans or advances.

At December 31, 2018, we had tax net operating loss carry-forwards in various tax jurisdictions of $25.8 million. Although we cannot be certain that these operating loss carry-forwards will be utilized, we anticipate that we will have sufficient taxable income in future years to allow us to fully utilize the carry-forwards that are not subject to a valuation allowance. As of December 31, 2018, if unused, $2.0 million will expire between 2019-2021, $4.6 million will expire between 2022-2024, $13.4 million will expire between 2025-2028 and $0.4 million will expire beyond 2028. The remaining balance of $5.4 million is not subject to expiration. During 2018, less than $0.1 million of net operating loss carry-forwards, which carried a full valuation allowance, expired unused.

We file income tax returns in the U.S. federal jurisdiction, various states and foreign jurisdictions. We are currently undergoing multiple examinations in various jurisdictions, and the years 2001 through 2017 remain open for examination in various tax jurisdictions in which we operate. The ultimate settlement and timing of these additional tax assessments is uncertain but the Company will continue to vigorously defend its return filing position and does not view the assessments as probable at this time.

During 2018, adjustments were made to estimates for uncertain tax positions in certain tax jurisdictions based upon changes in facts and circumstances, resulting in a reduction to the unrecognized tax benefits. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	2018	2017	2016
Unrecognized tax benefits at January 1,	$10,124	$8,557	$9,964
Tax positions, current period	543	3,472	983
Tax positions, prior period	(304)	180	83
Settlements with taxing authorities	(2,207)	(1,154)	(1,657)
Lapse of applicable statute of limitations	(685)	(931)	(816)
Unrecognized tax benefits at December 31,	$7,471	$10,124	$8,557

Changes in our estimate of, or the recognition of, the unrecognized tax benefits shown in the table above would affect our effective tax rate.

Our policy is to record accrued interest and penalties on uncertain tax positions, net of any tax effect, as part of total tax expense for the period. The corresponding liability is carried along with the tax exposure as a non-current payable in Other Long-term Liabilities. For the years ended December 31, 2018, 2017 and 2016, we recognized $0.6 million, $0.6 million and $0.6 million, respectively, in interest and penalties. For the years ended December 31, 2018, 2017 and 2016, we had $3.9 million, $3.3 million and $2.7 million, respectively, accrued for the payment of interest and penalties. Changes in our estimate of unrecognized tax benefits would affect our effective tax rate. As of December 31, 2018, 2017 and 2016 there are $0.6 million, $1.8 million and $1.2 million, respectively, of unrecognized tax benefits that could be resolved within the next twelve months which could have a positive effect on the annual effective tax rate.

11. PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

Defined Benefit Plan

We provide a noncontributory defined benefit pension plan covering substantially all of our Dutch employees ("Dutch Plan") who were hired prior to 2000. This pension benefit is based on years of service and final pay. The benefits earned by the employees are immediately vested. We fund the future obligations of the Dutch Plan by purchasing an insurance contract from a large multi-national insurance company with a five-year maturity. Each year we make annual premium payments to the insurance company (1) to provide for the benefit obligation of the current year of service based on each employee's age, gender

and current salary, and (2) for the changes in the benefit obligation for prior years of service due to changes in participants' salary. We determine the fair value of these plan assets with the assistance of an actuary using observable inputs (Level 2), which approximates the contract value of the investments.

During the year, there was a curtailment of the Dutch Plan for our Dutch employees hired between 2000 and 2007 whose pension benefit was based on years of service and career average pay. These employees have been moved into the Dutch defined contribution plan. However, the unconditional indexation for this group of participants remains as long as they stay in active service for the company. This event resulted in a curtailment gain of $1.2 million as of December 31, 2018.

The following table summarizes the change in the projected benefit obligation and the fair value of plan assets for the Dutch Plan for the years ended December 31, 2018 and 2017 (in thousands):

	2018	2017
Projected Benefit Obligation:		
Projected benefit obligation at beginning of year	$63,398	$56,082
Service cost	1,453	1,494
Prior service cost	(157)	—
Interest cost	1,244	1,121
Amendments/curtailments	(1,219)	—
Benefits paid	(1,349)	(1,212)
Administrative expenses	—	(35)
Actuarial (gain) loss, net	(383)	(1,005)
Unrealized (gain) loss on foreign exchange	(2,316)	6,953
Projected benefit obligation at end of year	$60,671	$63,398
Fair Value of Plan Assets:		
Fair value of plan assets at beginning of year	$53,145	$46,134
Increase in plan asset value	2,251	919
Employer contributions	1,282	1,595
Benefits paid	(1,349)	(1,212)
Administrative expenses	(37)	(35)
Unrealized gain (loss) on foreign exchange	(2,019)	5,744
Fair value of plan assets at end of year	$53,273	$53,145
Under-funded status of the plan at end of the year	$(7,398)	$(10,253)
Accumulated Benefit Obligation	$55,863	$56,035

The following actuarial assumptions were used to determine the actuarial present value of our projected benefit obligation and the net periodic pension costs for the Dutch Plan at December 31, 2018 and 2017:

	2018	2017
Weighted average assumed discount rate	1.75%	2.00%
Expected long-term rate of return on plan assets	1.75%	2.00%
Weighted average rate of compensation increase	2.80%	2.90%

The discount rate used to determine our projected benefit obligation at December 31, 2018 was decreased from 2.00% to 1.75%, consistent with a general decrease in interest rates in Europe for AAA-rated long-term Euro government bonds.

Amounts recognized for the Dutch Plan in the Consolidated Balance Sheets at December 31, 2018 and 2017 consist of (in thousands):

	2018	2017
Deferred tax asset	$4,369	$2,564
Other long-term liabilities	7,398	10,253
Accumulated other comprehensive loss	(5,650)	(8,162)

The components of net periodic pension cost for the Dutch Plan under this plan for the years ended December 31, 2018, 2017, and 2016 included (in thousands):

	2018	2017	2016
Service cost	$1,453	$1,494	$1,456
Interest cost	1,244	1,121	1,329
Expected return on plan assets	(1,077)	(950)	(1,117)
Administrative charges	37	—	—
Curtailment	(1,219)	—	—
Prior service cost	(106)	(77)	(81)
Unrecognized net actuarial loss	1,706	440	593
Net periodic pension cost	$2,038	$2,028	$2,180

Plan assets at December 31, 2018 and 2017 consisted of insurance contracts with returns equal to the contractual rate, which are comparable with governmental debt securities. Our expected long-term rate of return assumptions are based on the weighted-average contractual rates for each contract. Dutch law dictates the minimum requirements for pension funding. Our goal is to meet these minimum funding requirements, while our insurance carrier invests to minimize risks associated with future benefit payments.

Our 2019 minimum funding requirements are expected to be $0.8 million. Our estimate of future annual contributions is based on current funding requirements, and we believe these contributions will be sufficient to fund the plan.

Expected benefit payments to eligible participants under this plan for the next five years are as follows (in thousands):

2019	$1,346
2020	$1,407
2021	$1,483
2022	$1,580
2023	$1,612
Succeeding five years	$9,728

Defined Contribution Plans

We maintain defined contribution plans for the benefit of eligible employees primarily in Canada, the Netherlands, the United Kingdom, and the United States. In accordance with the terms of each plan, we and our participating employees contribute up to specified limits and under certain plans, we may make discretionary contributions in accordance with the defined contribution plans. Our primary obligation under these defined contribution plans is limited to paying the annual contributions. For the years ended December 31, 2018, 2017 and 2016, we paid $4.3 million, $4.2 million and $6.1 million, respectively, for our contributions and our additional discretionary contributions to the defined contribution plans.

Vesting in all employer contributions is accelerated upon the death of the participant or a change in control. Employer contributions under the plans are forfeited upon a participant’s termination of employment to the extent they are not vested at that time.

Deferred Compensation Arrangements

We have entered into deferred compensation contracts for certain key employees to provide additional retirement income to the participants. The benefit is determined by the contract for either a fixed amount or by a calculation using years of service or age at retirement along with the average of their base salary for the five years prior to retirement. We are not required to fund this arrangement; however, we have purchased life insurance policies with cash surrender values to assist us in providing the benefits pursuant to these deferred compensation contracts with the actual benefit payments made by Core Laboratories. The

charge to expense for these deferred compensation contracts in 2018, 2017 and 2016 was $1.2 million, $1.4 million and $1.2 million, respectively.

We provide severance compensation to certain current key employees if employment is terminated under certain circumstances, such as following a change in control or for any reason other than upon their death or disability, for “cause” or upon a material breach of a material provision of their employment agreement, as defined in their employment agreements. In addition, there are certain countries where we are legally required to make severance payments to employees when they leave our service. We have accrued for all of these severance payments, but they are not funded.

We have also adopted a non-qualified deferred compensation plan (“Deferred Compensation Plan”) that allows certain highly compensated employees to defer a portion of their salary, commission and bonus, as well as the amount of any reductions in their deferrals under the Deferred Compensation Plan for employees in the United States, due to certain limitations imposed by the U.S. Internal Revenue Code of 1986, as amended (the “Code”). Contributions to the plan are invested in equity and other investment fund assets, and carried on the balance sheet at fair value. The benefits under these contracts are fully vested. Our primary obligation for the Deferred Compensation Plan is limited to our annual contributions. Employer contributions to the Deferred Compensation Plan for the years ended December 31, 2018, 2017 and 2016 were $0.1 million, $0.1 million, and $0.2 million, respectively.

Vesting in all employer contributions is accelerated upon the death of the participant or a change in control. Employer contributions under the plans are forfeited upon a participant's termination of employment to the extent they are not vested at that time.

12. COMMITMENTS AND CONTINGENCIES

We have been and may from time to time be named as a defendant in legal actions that arise in the ordinary course of business. These include, but are not limited to, employment-related claims and contractual disputes or claims for personal injury or property damage which occur in connection with the provision of our services and products. A liability is accrued when a loss is both probable and can be reasonably estimated.

In 1998, we entered into employment agreements with our three senior executive officers that provide for deferred compensation benefits. The present value of the long-term liability recorded and fully reserved for the benefits due upon severing the employment of these employees is $9.0 million at December 31, 2018. Two of these executive officers retired from the Company on December 31, 2018 and the payment of these deferred compensation benefits will begin for both retired participants in 2019.

We do not maintain any off-balance sheet debt or other similar financing arrangements nor have we formed any special purpose entities for the purpose of maintaining off-balance sheet debt.

Scheduled minimum rental commitments under non-cancellable operating leases at December 31, 2018, consist of the following (in thousands):

2019	$16,267
2020	12,572
2021	9,774
2022	7,955
2023	4,938
Thereafter	14,815
Total commitments	$66,321

Operating lease commitments relate primarily to rental of equipment and office space. Rental expense for operating leases, including amounts for short-term leases with nominal future rental commitments, was $20.8 million, $20.9 million and $20.3 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The FASB issued ASU 2016-02 ("Leases"), which introduces the recognition of lease assets and lease liabilities on the balance sheet for all leases with terms longer than 12 months. In addition, the FASB issued ASU 2018-11 ("Targeted Improvements to Leases"), which provides companies with an additional transition method that allows the effects of the adoption of the new standard to be recognized as a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. This new standard is effective for fiscal years beginning after December 15, 2018 and interim periods

within those fiscal years with early adoption permitted. We have evaluated and elected this optional transition method for adoption. Based on our current lease portfolio, we estimate that the adoption of this standard will result in approximately $77 million of additional assets and liabilities being reflected on our Consolidated Balance Sheets upon adoption of this standard on January 1, 2019; however, there will not be a material impact to our Consolidated Statement of Operations or Cash Flows.

13. EQUITY

Common Shares

In 2016, we completed a public offering of 1,475,000 shares of our common stock. The purchase price paid by the underwriter was $116.67 per share. The underwriter exercised in full its option to purchase an additional 221,250 shares of common stock at the public offering price of $116.67 per share bringing the total shares issued from the offering to 1,696,250. The net proceeds from these issuances of common stock were $197.2 million, after deducting underwriting discounts and offering expenses. The proceeds were used to repay a portion of the outstanding borrowings under our Credit Facility.

Treasury Shares

In connection with our initial public offering in September 1995, our shareholders authorized our Management Board to repurchase up to 10% of our issued share capital, the maximum allowed under Dutch law at the time, for a period of 18 months. This authorization was renewed at subsequent annual or special shareholder meetings. At our annual shareholders' meeting on May 24, 2018, our shareholders authorized an extension to repurchase up to 10% of our issued share capital through November 24, 2019. The repurchase of shares in the open market is at the discretion of management pursuant to this shareholder authorization. From the activation of the share repurchase program on October 29, 2002 through December 31, 2018, pursuant to shareholder approvals, we have repurchased 39,618,299 shares for an aggregate purchase price of approximately $1.6 billion, or an average price of $41.57 per share and have canceled 33,475,406 shares with an historical cost of $1.2 billion. At December 31, 2018, we held 479,407 shares in treasury with the authority to repurchase 4,000,218 additional shares under our stock repurchase program. Subsequent to year-end, we have repurchased 35 shares at a total cost of $2.4 thousand.

Dividend Policy

In 2008, Core Laboratories announced the initiation of a cash dividend program. Cash dividends of $0.55 per share were paid each quarter of 2018 and 2017. The declaration and payment of future dividends will be at the discretion of the Supervisory Board of Directors and will depend upon, among other things, future earnings, general financial condition, liquidity, capital requirements, and general business conditions. On January 15, 2019, the Company declared a cash dividend of $0.55 per share of common stock payable February 15, 2019 to shareholders of record on January 25, 2019.

Accumulated Other Comprehensive Income (Loss)

Amounts recognized, net of tax, in Accumulated other comprehensive income (loss) at December 31, 2018 2017 consist of (in thousands):

	2018	2017
Prior service cost	$593	$541
Unrecognized net actuarial loss and foreign exchange	(6,243)	(8,703)
Fair value of derivatives	194	(191)

Total Accumulated other comprehensive (loss)	$(5,456)	$(8,353)

Unrecognized amounts currently recorded to Accumulated other comprehensive income (loss) that are expected to be recognized as components of next year's net pension benefit cost include $44.0 thousand of unrecognized net actuarial loss.

14. STOCK-BASED COMPENSATION

We have granted restricted stock awards under two stock incentive plans: the 2014 Long-Term Incentive Plan and the 2014 Nonemployee Director Stock Incentive Plan. Awards under the following three compensation programs have been granted pursuant to both plans: (1) the Performance Share Award Program ("PSAP"); (2) the Restricted Share Award Program ("RSAP") and (3) the Restricted Share Award Program for Nonemployee Directors (the "Program").

We issue shares from either treasury stock or authorized shares upon the lapsing of vesting restrictions on restricted stock. In 2018, we issued 218,625 shares out of treasury stock relating to the vesting of restricted stock. We do not use cash to settle equity instruments issued under stock-based compensation awards.

2014 Long-Term Incentive Plan

In 2014, the 2007 Long-Term Incentive Plan was amended, restated and renamed as the 2014 Long-Term Incentive Plan (the "Plan"). The primary changes effected by the 2014 amendment and restatement were to (a) extend the period during which awards may be granted under the Plan to May 12, 2024, and (b) increase the number of common shares subject to the Plan by 1,100,000 shares. The Plan, as amended, provides for a maximum of 11,900,000 common shares to be granted to eligible employees. At December 31, 2018, approximately 954,552 shares remained available for the grant of new awards under the Plan. Specifically, we encourage share ownership by awarding various long-term equity incentive awards under the Plan, consisting of the PSAP and RSAP. We believe that widespread common share ownership by key employees is an important means of encouraging superior performance and employee retention. Additionally, our equity-based compensation programs encourage performance and retention by providing additional incentives for executives to further our growth, development and financial success over a longer time horizon by personally benefiting through the ownership of our common shares and/or rights.

Performance Share Award Program

The PSAP allows us to compensate our executive and senior management teams as we meet or exceed our business objectives. The PSAP shares are unvested and may not be sold, assigned, pledged, hedged, margined or otherwise transferred by an award recipient until such time as, and then only to the extent that, the restricted performance shares have vested. In the event of a change in control (as defined in the Plan) prior to the last day of the Performance Period, all of the award recipient's restricted performance shares will vest as of the effective date of such change in control. Subject to continued employment with us, or upon death or disability, PSAP shares vest if we meet or exceed our business objectives.

The company recorded $9.9 million of additional non-cash stock compensation expense in the fourth quarter of 2018 associated with the 2018 and 2017 PSAP awards for certain members of our executive management team. The additional stock compensation expense has been recorded in accordance with FASB ASC Topic 718, "Compensation - Stock Compensation", which states that the period over which stock compensation expense is recognized should not extend beyond the eligible retirement age as defined in each executive's PSAP award agreement. The PSAP awards continue to remain unvested until such time as the performance criteria have been achieved for the designated performance period; however, the executive will not forfeit the right to vest in the awarded shares if they voluntarily retire from the Company after attaining the retirement age as defined in each agreement. Of this additional charge recognized in 2018, $7.9 million should have been recognized in 2017 when the executives reached the defined retirement age. We have concluded this amount is not material to our financial position or results of operations for either 2018 or 2017, and it does not impact our cash flows from operations.

On February 16, 2016, certain executives were awarded rights to receive an aggregate of up to 122,515 common shares if our calculated return on investment capital ("ROIC"), as defined in the PSAP, achieved certain performance

criteria as compared to the Bloomberg Comp Group at the end of the performance period, which ended on December 31, 2018 as the last trading day of 2018. This arrangement was recorded as an equity award that required us to recognize compensation expense totaling $11.7 million over the performance period that began on January 1, 2016, of which $3.9 million was recognized annually in 2018, 2017, and 2016. At December 31, 2018, the Company had the highest ROIC compared to the Bloomberg Comp Group. The Compensation Committee of our Board of Supervisory Directors verified that the performance target criteria had been met at the end of the performance period and 122,515 shares vested. We issued these common shares on December 31, 2018 and, simultaneously, the participants surrendered 38,351 common shares to settle any personal tax liabilities which may result from the award, as permitted by the agreement. We recorded these surrendered shares as treasury stock with an aggregate cost of $2.3 million at $59.66 per share.

On February 14, 2017, certain executives were awarded rights to receive an aggregate of up to 128,112 common shares if our calculated ROIC, as defined in the PSAP, achieves certain performance criteria as compared to the Bloomberg Comp Group at

the end of the performance period, which ends on the last trading day of 2019, December 31, 2019. This arrangement is recorded as an equity award that requires us to recognize compensation expense totaling $14.2 million over the shorter of the 3-year performance period or requisite service period, as determined for each participant individually, of which $8.7 million and $4.7 million has been recognized annually in 2018 and 2017, respectively. The unrecognized compensation expense is expected to be recognized over an estimated amortization period of 12 months.

On February 13, 2018, certain executives were awarded rights to receive an aggregate of up to 162,772 common shares if our calculated ROIC, as defined in the PSAP, achieves certain performance criteria as compared to the Bloomberg Comp Group at the end of the performance period, which ends on the last trading day of 2020, December 31, 2020. This arrangement is recorded as an equity award that requires us to recognize compensation expense totaling $16.2 million over the shorter of the 3-year performance period or requisite service period, as determined for each participant individually, of which $11.4 million has been recognized in 2018. The unrecognized compensation expense is expected to be recognized over an estimated amortization period of 24 months.

Restricted Share Award Program

In 2004, the Compensation Committee of our Board of Supervisory Directors approved the RSAP to attract and retain the best employees, and to better align employee interests with those of our shareholders. Under this arrangement we awarded grants totaling 115,618 shares, 101,811 shares, and 104,164 shares in 2018, 2017, and 2016, respectively. Each of these grants has a vesting period of principally six years and vests ratably on an annual basis. There are no performance accelerators for early vesting for these awards. Awards under the RSAP are classified as equity awards and recorded at the grant-date fair value with the compensation expense recognized over the expected life of the award. As of December 31, 2018, there was $27.2 million of unrecognized total stock-based compensation expense relating to non-vested RSAP awards. The unrecognized compensation expense is expected to be recognized over an estimated weighted-average amortization period of 46 months. The grant-date fair value of shares granted was $11.6 million, $9.5 million and $10.0 million in 2018, 2017 and 2016, respectively. We recognized compensation expense of $8.9 million, $9.0 million and $10.5 million in 2018, 2017 and 2016, respectively. The total grant-date fair value, which is the intrinsic value, of the shares vested was $9.0 million, $9.6 million and $9.9 million in 2018, 2017 and 2016, respectively.

2014 Nonemployee Director Stock Incentive Plan

On May 13, 2014, the 2006 Nonemployee Director Stock Option Plan was amended, restated and renamed as the 2014 Nonemployee Director Stock Incentive Plan (the "Director Plan"). The primary change effected by the 2014 amendment was to extend the period during which awards may be granted under the Director Plan to May 12, 2024. The Director Plan provides common shares for grant to our eligible Supervisory Directors. The maximum number of shares available for award under this plan is 1,400,000 common shares. As of December 31, 2018 approximately 537,086 shares remained available for issuance under the Director Plan. Only non-employee Supervisory Directors are eligible for these equity-based awards under the Director Plan.

In 2011, the Compensation Committee of our Board of Supervisory Directors approved the restricted share award program (the "Program") to compensate our non-employee Supervisory Directors. Under this arrangement we awarded grants totaling 8,322 shares, 9,093 shares and 10,680 shares in 2018, 2017, and 2016, respectively. The shares awarded in 2018 and 2017 have a vesting period of one year for each grant; the shares awarded in 2016 have a vesting period of three years. There are no performance accelerators for early vesting for these awards. Awards under the Program are classified as equity awards and recorded at the grant-date fair value with compensation expense recognized over the expected life of the award. As of December 31, 2018, there was $0.3 million of unrecognized stock-based compensation relating to non-vested Program awards. The unrecognized compensation expense is expected to be recognized over an estimated weighted-average amortization period of 3 months. The grant-date fair

value of shares granted was $0.9 million, $1.0 million and $1.1 million in 2018, 2017, and 2016, respectively, and we have recognized compensation expense of $1.4 million, $1.5 million and $0.9 million in 2018, 2017, and 2016, respectively.

Equity Compensation Plan Information

Information about our equity compensation plans as of December 31, 2018 are as follows:

Plan Category	Number of Shares to be Issued upon Vesting	Number of Shares Available for Future Grants
2014 Long-Term Incentive Plan	522,786	954,552
2014 Nonemployee Director Stock Incentive Plan	19,002	537,086

Stock-based Compensation

Non-vested restricted share awards outstanding under both the Plan and the Director Plan as of December 31, 2018 and changes during the year were as follows:

	Number of Shares	Weighted Average Grant Date Fair Value per Share
Non-vested at December 31, 2017	536,750	$ 105.42
Granted	241,988	100.12
Vested	(218,625)	103.61
Forfeited	(18,555)	108.20
Non-vested at December 31, 2018	541,558	$ 103.68

For the years ended December 31, 2018, 2017 and 2016, stock-based compensation expense under both the Plan and the Director Plan recognized in the income statement is as follows (in thousands):

	2018	2017	2016
Cost of product sales and services	$8,648	$8,879	$10,073
General and administrative	25,546	14,063	12,006
Total stock-based compensation expense	$34,194	$22,942	$22,079

In 2018, we recorded additional stock compensation expenses of $9.9 million for retirement eligible employees as discussed in the section "Performance Share Award Program" above.

15. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We are exposed to market risks related to fluctuations in interest rates. To mitigate these risks, we utilize derivative instruments in the form of interest rate swaps. We do not enter into derivative transactions for speculative purposes.

Interest Rate Risk

Series A of our Senior Notes bears interest at a fixed rate of 4.01% and Series B bears interest at a fixed rate of 4.11%. Our Credit Facility bears interest at variable rates from LIBOR plus 1.375% to a maximum of LIBOR plus 2.00%. We

are subject to interest rate risk on the debt in excess of $50 million drawn on our Credit Facility.

In 2014, we entered into two interest rate swap agreements for a total notional amount of $50 million to hedge changes in the variable rate interest expense on $50 million of our existing or replacement LIBOR-priced debt. Under the first swap agreement of $25 million, we have fixed the LIBOR portion of the interest rate at 1.73% through August 29, 2019, and under the second swap agreement of $25 million, we have fixed the LIBOR portion of the interest rate at 2.50% through August 29, 2024. Each swap is measured at fair value and recorded in our consolidated balance sheet as an asset or liability. They are designated and qualify as cash flow hedging instruments and are highly effective. Unrealized losses are deferred to shareholders' equity as a component of accumulated other comprehensive income (loss) and are recognized in income as an increase or decrease to interest expense in the period in which the related cash flows being hedged are recognized in expense.

At December 31, 2018, we had fixed rate debt aggregating $200 million and variable rate debt aggregating $92 million, after taking into account the effect of the swaps.

The fair values of outstanding derivative instruments at December 31, 2018 and 2017 are as follows (in thousands):

	Fair Value of Derivatives		
	2018	2017	Balance Sheet Classification
Derivatives designated as hedges:			
5 yr Interest Rate Swap	$135	$70	Other Assets
10 yr Interest Rate Swap	(70)	(492)	Other (Liabilities)
	$65	$(422)	

The fair value of all outstanding derivatives was determined using a model with inputs that are observable in the market or can be derived from or corroborated by observable data.

The effect of the interest rate swaps on the Consolidated Statements of Operations for the years ended December 31, 2018 and 2017 was as follows (in thousands):

	2018	2017	Income Statement Classification
Derivatives designated as hedges:			
5 yr Interest Rate Swap	$(64)	$165	Interest Expense
10 yr Interest Rate Swap	133	361	Interest Expense
	$69	$526	

16. FINANCIAL INSTRUMENTS

The Company's only financial assets and liabilities which are measured at fair value on a recurring basis relate to certain aspects of the Company's benefit plans and our derivative instruments. We use the market approach to value certain assets and liabilities at fair value using significant other observable inputs (Level 2) with the assistance of a third party specialist. We do not have any assets or liabilities measured at fair value on a recurring basis using quoted prices in an active market (Level 1) or significant unobservable inputs (Level 3). Gains and losses related to the fair value changes in the deferred compensation assets and liabilities are recorded in General and Administrative Expenses in the Consolidated Statements of Operations. Gains and losses related to the fair value of the interest rate swaps are recorded in Other Comprehensive Income. The following table summarizes the fair value balances (in thousands):

	Fair Value Measurement at December 31, 2018			
	Total	Level 1	Level 2	Level 3
Assets:				
Deferred compensation assets (1)	$42,161	$ —	$42,161	$ —
5 year interest rate swap	135	—	135	—
	$42,296	$ —	$42,296	$ —
Liabilities:				
Deferred compensation plan	$33,287	$ —	$33,287	$ —
10 year interest rate swap	70	—	70	—
	$33,357	$ —	$33,357	$ —

	Fair Value Measurement at December 31, 2017			
	Total	Level 1	Level 2	Level 3
Assets:				
Deferred compensation assets (1)	$46,145	$ —	$46,145	$ —
5 year interest rate swap	70	—	70	—
	$46,215	$ —	$46,215	$ —
Liabilities:				
Deferred compensation plan	$37,280	$ —	$37,280	$ —
10 year interest rate swap	492	—	492	—
	$37,772	$ —	$37,772	$ —

(1) Deferred compensation assets consist of the cash surrender value of life insurance policies and are intended to assist in the funding of the deferred compensation arrangements.

17. OTHER (INCOME) EXPENSE, NET

The components of other (income) expense, net, for the years ended December 31, 2018, 2017 and 2016 are as follows (in thousands):

	2018	2017	2016
Sale of assets	$(1,078)	$(346)	$(618)
Results of non-consolidated subsidiaries	(203)	(332)	(506)
Foreign exchange	2,598	951	1,776
Rents and royalties	(510)	(454)	(420)
Return on pension assets and other pension costs	(644)	(587)	(605)
Acquisition-related costs	623	—	—
Insurance settlement	(707)	—	—
Severance, compensation and	—	1,145	—

other charges			
Other, net	(816)	255	(27)
Total Other (income) expense, net	$(737)	$632	$(400)

Foreign Currency Risk

We operate in a number of international areas which exposes us to foreign currency exchange rate risk. We do not currently hold or issue forward exchange contracts or other derivative instruments for hedging or speculative purposes (a foreign exchange contract is an agreement to exchange different currencies at a given date and at a specified rate). Foreign exchange gains and losses are the result of fluctuations in the USD against foreign currencies and are included in other (income) expense, net in the Consolidated Statements of Operations. We recognized foreign exchange losses in countries where the USD weakened against the local currency and we had net monetary liabilities denominated in the local currency; as well as countries where the USD strengthened against the local currency and we had net monetary assets denominated in the local currency. We recognized foreign exchange gains in countries where the USD strengthened against the local currency and we had net monetary liabilities denominated in the local currency and in countries where the USD weakened against the local currency and we had net monetary assets denominated in the local currency. Foreign exchange gains and losses for the years ended December 31, 2018, 2017 and 2016 are summarized in the following table (in thousands):

(Gains) losses by currency	2018	2017	2016
Angolan Kwanza Spot	$202	$(3)	$408
Australian Dollar	183	12	136
British Pound	158	(92)	807
Canadian Dollar	458	(62)	(130)
Euro	208	1,413	(49)
Indonesian Rupiah	297	80	29
Mexican Peso	141	23	(47)
Turkish Lira	300	32	93
Other currencies, net	651	(452)	529
Total (gain) loss, net	$2,598	$951	$1,776

18 . DISCONTINUED OPERATIONS

In the first quarter of 2018, in a continuing effort to streamline our business and align our business strategy for further integration of services and products, the Company committed to divest the business of our full range of permanent downhole monitoring systems and related services, which had been part of our Production Enhancement segment. We anticipate the sale of this business line will occur by the end of the first quarter of 2019.

The associated results of operations are separately reported as Discontinued Operations for all periods presented on the Consolidated Statements of Operations. Balance sheet items for this discontinued business, including an allocation of goodwill from the Production Enhancement segment, have been reclassified to Other current assets and Other current liabilities in the Consolidated Balance Sheet. Cash flows from this discontinued business are shown in the table below. As such, the results from continuing operations for the Company and segment highlights for Production Enhancement, exclude these discontinued operations.

Selected data for this discontinued business for the years ended December 31, 2018 and 2017 consisted of the following (in thousands):

	2018	2017	2016
Service revenue	$1,462	$1,254	$1,871
Sales revenue	5,708	10,736	2,638
Total revenue	7,170	11,990	4,509
Cost of services, exclusive of depreciation expense shown below	1,163	709	2,168
Cost of product sales, exclusive of depreciation expense shown below	5,696	8,573	2,973
Depreciation and Amortization	115	416	584
Other Expense (income)	72	(180)	56
Operating Income (loss)	124	2,472	(1,272)
Income tax expense	182	361	(107)
Income (loss) from discontinued operations, net of income taxes	$(58)	$2,111	$(1,165)

Selected data for this discontinued business at December 31, 2018 and 2017 consisted of the following (in thousands):

	2018	2017
Current assets	$3,712	$2,549
Non-current assets	1,848	1,048
Total assets	$5,560	$3,597
Current liabilities	$1,633	$221
Non-current liabilities	82	75
Total liabilities	$1,715	$296

Net cash provided by (used in) operating activities of discontinued operations for the years ended December 31, 2018, 2017 and 2016 was $0.2 million, $2.5 million and $(0.6) million, respectively.

19. SEGMENT REPORTING

We operate our business in two reporting segments. These complementary segments provide different services and products and utilize different technologies for improving reservoir performance and increasing oil and gas recovery from new and existing fields: (1) Reservoir Description and (2) Production Enhancement. These business segments provide different services and products and utilize different technologies.

- Reservoir Description: Encompasses the characterization of petroleum reservoir rock, fluid and gas samples to increase production and improve recovery of oil and gas from our clients' reservoirs. We provide laboratory-based analytical and field services to characterize properties of crude oil and petroleum products to the oil and gas industry. We also provide proprietary and joint industry studies based on these types of analyses.
- Production Enhancement: Includes services and products relating to reservoir well completions, perforations, stimulations and production. We provide integrated diagnostic services to evaluate and monitor the effectiveness of well completions and to develop solutions aimed at increasing the effectiveness of enhanced oil recovery projects.

Results for these business segments are presented below. We use the same accounting policies to prepare our business segment results as are used to prepare our Consolidated Financial Statements. All interest and other non-operating income (expense) is attributable to Corporate & Other area and is not allocated to specific business segments. Summarized financial information concerning our segments for the years ended December 31, 2018, 2017 and 2016 is shown in the following table (in thousands):

	Reservoir Description	Production Enhancement	Corporate & Other (1)	Consolidated
December 31, 2018				
Revenues from unaffiliated clients	$ 413,082	$ 287,764	$ —	$ 700,846
Inter-segment revenues	988	378	(1,366)	—
Segment operating income	54,847	63,039	736	118,622
Total assets (at end	315,503	270,832	62,492	648,827

of period)				
Capital expenditures	12,829	8,222	690	21,741
Depreciation and amortization	16,747	4,271	2,069	23,087
December 31, 2017				
Revenues from unaffiliated clients	$ 415,220	$ 232,599	$ —	$ 647,819
Inter-segment revenue	294	1,185	(1,479)	—
Segment operating income (loss)	66,500	43,987	(519)	109,968
Total assets (at end of period)	320,569	206,389	57,854	584,812
Capital expenditures	10,406	6,819	1,550	18,775
Depreciation and amortization	17,972	4,435	2,117	24,524

December 31, 2016				
Revenue from unaffiliated clients	$426,205	$164,027	$ —	$590,232
Inter-segment revenue	784	877	(1,661)	—
Segment operating income	78,881	8,470	100	87,451
Total assets (at end of period)	316,801	195,104	61,147	573,052
Capital expenditures	8,220	2,298	838	11,356
Depreciation and amortization	18,494	5,856	2,522	26,872

(1) "Corporate and other" represents those items that are not directly relating to a particular segment and eliminations.

We are a Netherlands company and we derive our revenue from services and product sales to clients primarily in the oil and gas industry. No single client accounted for 10% or more of revenue in any of the periods presented.

We attribute service revenue to the country in which the service was performed rather than where the reservoir or project is located while we attribute product sales revenue to the country where the product was shipped as we feel this gives a clearer view of our operations. We do, however, have significant levels of service revenue performed and recorded in the U.S. that are sourced from projects on non-U.S. oilfields. The following table shows a summary of our U.S. and non-U.S. operations for the years ended or at December 31, 2018, 2017 and 2016 (in thousands):

GEOGRAPHIC INFORMATION	United States	Canada	Other Countries (1) (2)	Consolidated
December 31, 2018				
Revenue	$324,073	$34,633	$342,140	$ 700,846
Property, plant and equipment, net	65,073	9,567	48,277	122,917
December 31, 2017				
Revenue	$283,969	$30,131	$333,719	$ 647,819
Property, plant and equipment, net	63,812	9,725	49,561	123,098
December 31, 2016				
Revenue	$224,642	$20,537	$345,053	$ 590,232

Property, plant and equipment, net	71,388	10,497	47,997	129,882

(1) Revenue earned in other countries, including the Netherlands, was not individually greater than 10% of our consolidated revenue in 2018, 2017 or 2016.

(2) Property, plant and equipment, net in other countries, including the Netherlands, were not individually greater than 10% of our consolidated fixed assets in 2018, 2017 or 2016.

The following table shows the breakdown between services and product sales for the years ended December 31, 2018, 2017 and 2016 (in thousands):

SEGMENT BREAKDOWN BETWEEN SERVICES / PRODUCT SALES	2018	2017	2016
Reservoir Description Services	$387,098	$393,742	$400,034
Production Enhancement Services	99,722	86,522	68,354
Total Revenue - Services	$486,820	$480,264	$468,388
Reservoir Description Product sales	$25,984	$21,478	$26,171
Production Enhancement Product sales	188,042	146,077	95,673
Total Revenue Product sales	$214,026	$167,555	$121,844
Total Revenue	$700,846	$647,819	$590,232

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20. UNAUDITED SELECTED QUARTERLY RESULTS OF OPERATIONS

Summarized below is our unaudited quarterly financial data for the quarters during the years ended December 31, 2018 and 2017 (in thousands, except per share data):

	Quarter ended 2018			
	December 31	September 30	June 30	March 31
Services and product sales revenue	$173,207	$182,146	$175,475	$170,018
Cost of services and product sales	125,694	128,179	123,773	119,318
Other operating expenses (3)	29,535	19,088	18,253	18,384
Operating income	17,978	34,879	33,449	32,316
Interest expense	3,634	3,278	3,296	3,120
Income before income tax expense	14,344	31,601	30,153	29,196
Income tax expense	5,750	9,404	5,020	5,273
Net income from continuing operations	8,594	22,197	25,133	23,923
Net income (loss) from discontinued operations	408	208	(328)	(346)
Net income	9,002	22,405	24,805	23,577
Net income	167	(7)	53	50

(loss) attributable to non-controlling interest				
Net income attributable to Core Laboratories N.V.	$8,835	$22,412	$24,752	$23,527
Per share information:				
Basic earnings per share (1) (2)	$0.20	$0.51	$0.56	$0.53
Diluted earnings per share (1) (2)	$0.20	$0.50	$0.56	$0.53
Weighted average common shares outstanding:				
Basic	44,226	44,216	44,203	44,179
Diluted	44,401	44,591	44,493	44,463

	Quarter ended 2017			
	December 31	September 30	June 30	March 31
Services and product sales revenue	$170,111	$162,887	$158,212	$156,609
Cost of services and product sales	119,942	118,361	113,635	113,021
	17,764	17,857	17,222	20,049

Other operating expenses				
Operating income	32,405	26,669	27,355	23,539
Interest expense	2,717	2,707	2,692	2,618
Income before income tax expense	29,688	23,962	24,663	20,921
Income tax expense	8,016	3,595	3,709	2,929
Net income from continuing operations	21,672	20,367	20,954	17,992
Net income (loss) from discontinued operations	(20)	686	1,755	(310)
Net income	21,652	21,053	22,709	17,682
Net income (loss) attributable to non-controlling interest	(39)	(33)	19	24
Net income attributable to Core Laboratories N.V.	$21,691	$21,086	$22,690	$17,658
Per share information:				
Basic earnings per share (1)	$0.49	$0.48	$0.51	$0.40

(2)				
Diluted earnings per share (1) (2)	$0.49	$0.48	$0.51	$0.40
Weighted average common shares outstanding:				
Basic	44,147	44,141	44,164	44,159
Diluted	44,276	44,332	44,374	44,347

(1) Basic earnings per share and Diluted earnings per share are based on Net income attributable to Core Laboratories N.V.

(2) The sum of the individual quarterly earnings per share amounts may not agree with the year-to-date earnings per share amounts as each quarterly computation is based on the weighted average number of common shares outstanding during that period.

(3) Fourth quarter of 2018 includes charges of $9.9 million of additional stock compensation expenses. See Note 14.

CORE LABORATORIES N.V.

Schedule II - Valuation and Qualifying Account
(In thousands)

	Balance at Beginning of Period	Additions Charged to / Recovered from Expense	Write-offs	Other (1)	Balance at End of Period
Year ended December 31, 2018 Reserve for doubtful accounts	$ 2,590	$ 605	$ (560)	$ 15	$ 2,650
Year ended December 31, 2017 Reserve for doubtful accounts	$ 3,139	$ (202)	$ (428)	$ 81	$ 2,590
Year ended December 31, 2016 Reserve for doubtful accounts	$ 4,136	$ (18)	$ (999)	$ 20	$ 3,139

(1) Comprised primarily of differences due to changes in exchange rate.

Exhibit 21.1

Significant Subsidiaries of the Registrant at December 31, 2018

Name	Legal Seat	Ownership %
Core Laboratories Australia PTY LTD	Perth, Australia	100%
Core Laboratories Canada Ltd.	Alberta, Canada	100%
Core Laboratories International B.V.	Amsterdam, The Netherlands	100%
Core Laboratories LP	Delaware, United States	100%
Core Laboratories Malaysia SDN BHD	Kuala Lumpur, Malaysia	100%
Core Laboratories Sales B.V.	Rotterdam, The Netherlands	100%
Core Laboratories (U.K.) Limited	London, United Kingdom	100%
Owen Oil Tools LP	Delaware, United States	100%
Core Lab de Mexico S.A. de C.V.	Mexico City, Mexico	100%
Saybolt Belgium N.V.	Antwerp, Belgium	100%
Saybolt LP	Delaware, United States	100%
Saybolt Nederland B.V.	Rotterdam, The Netherlands	100%
Saybolt (Singapore) PTE LTD	Singapore, Singapore	100%
Stim-Lab, Inc.	Oklahoma, United States	100%
JSC Petroleum Analysts	Moscow, Russian Federation	100%

Pursuant to Item 601(b)(21)(ii) of Regulation S-K, the names of other subsidiaries are omitted because, considered in the aggregate, they would not constitute a significant subsidiary as of the end of the year covered by this report.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Core Laboratories N.V.:

We consent to the incorporation by reference in the registration statements on Form S-3 (No. 333-211291) and Form S-8 (Nos. 333-73772 and 333-73774) of Core Laboratories N.V. of our reports dated February 11, 2019, with respect to the consolidated balance sheets of Core Laboratories N.V. as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes and financial statement schedule II (collectively, the “consolidated financial statements”), and the effectiveness of internal control over financial reporting as of December 31, 2018, which reports appear in the December 31, 2018 annual report on Form 10-K of Core Laboratories N.V.

/s/ KPMG LLP
Houston, Texas
February 11, 2019

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