DRIL-QUIP INC
Form 10-K
February 27, 2015
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(MARK ONE)

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

For the fiscal year ended December 31, 2014

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: 001-13439

Dril-Quip, Inc.

(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of** **incorporation or organization)**	**74-2162088** **(IRS Employer** **Identification No.)**
6401 N. Eldridge Parkway **Houston, Texas** **(Address of principal executive offices)**	**77041** **(Zip code)**

Registrant s telephone number, including area code: (713) 939-7711

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

Title of Each Class	**Name of Each Exchange On Which Registered**
Common Stock, $.01 par value per share	New York Stock Exchange
Rights to Purchase Series A Junior Participating Preferred Stock	New York Stock Exchange

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

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

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

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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of regulations S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements

incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

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

Large accelerated filer x	Accelerated filer ¨
Non-Accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

At June 30, 2014, the aggregate market value of the registrant s Common Stock held by non-affiliates of the registrant was approximately $4,341,800,000 based on the closing price of such stock on such date of $109.24.

At February 20, 2015, the number of shares outstanding of registrant s Common Stock was 38,771,150.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant s Proxy Statement for its 2015 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A are incorporated by reference in Part III of this Form 10-K.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes certain statements that may be deemed to be forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). Statements contained in all parts of this document that are not historical facts are forward-looking statements that involve risks and uncertainties that are beyond the control of Dril-Quip, Inc. (the Company or Dril-Quip). You can identify the Company s forward-looking statements by the words anticipate, estimate, expect, may, project, believe and similar expressions, or by the Company s discussion of strategies or trends. Although the Company believes that the expectations reflected in such forward-looking statements are reasonable, no assurances can be given that these expectations will prove to be correct. These forward-looking statements include the following types of information and statements as they relate to the Company:

- future operating results and cash flow;
- scheduled, budgeted and other future capital expenditures;
- working capital requirements;
- the availability of expected sources of liquidity;
- the introduction into the market of the Company s future products;
- the market for the Company s existing and future products;
- the Company s ability to develop new applications for its technologies;
- the exploration, development and production activities of the Company s customers;
- compliance with present and future environmental regulations and costs associated with environmentally related penalties, capital expenditures, remedial actions and proceedings;
- effects of pending legal proceedings;
- changes in customers future product and service requirements that may not be cost effective or within the Company s capabilities; and

future operations, financial results, business plans and cash needs.

These statements are based on assumptions and analyses in light of the Company s experience and perception of historical trends, current conditions, expected future developments and other factors the Company believes were appropriate in the circumstances when the statements were made. Forward-looking statements by their nature involve substantial risks and uncertainties that could significantly impact expected results, and actual future results could differ materially from those described in such statements. While it is not possible to identify all factors, the Company continues to face many risks and uncertainties. Among the factors that could cause actual future results to differ materially are the risks and uncertainties discussed under Item 1A. Risk Factors in this report and the following:

the volatility of oil and natural gas prices;

the cyclical nature of the oil and gas industry;

uncertainties associated with the United States and worldwide economies;

uncertainties regarding political tensions in the Middle East, Africa and elsewhere;

current and potential governmental regulatory actions in the United States and regulatory actions and political unrest in other countries;

uncertainties regarding future oil and gas exploration and production activities in the U.S. Gulf of Mexico and elsewhere, including new regulations, customs requirements and product testing requirements;

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operating interruptions (including explosions, fires, weather-related incidents, mechanical failure, unscheduled downtime, labor difficulties, transportation interruptions, spills and releases and other environmental risks);

project terminations, suspensions or scope adjustments to contracts reflected in the Company s backlog;

the Company s reliance on product development;

technological developments;

the Company s reliance on third-party technologies;

the Company s dependence on key employees and skilled machinists, fabricators and technical personnel;

the Company s reliance on sources of raw materials;

impact of environmental matters, including future environmental regulations;

competitive products and pricing pressures;

fluctuations in foreign currency;

the ability of the Organization of Petroleum Exporting Countries (OPEC) to set and maintain production levels and pricing;

the Company s reliance on significant customers;

creditworthiness of the Company s customers;

fixed-price contracts;

changes in general economic, market or business conditions;

- access to capital markets;
- negative outcome of litigation, threatened litigation or government proceedings;
- terrorist threats or acts, war and civil disturbances; and
- the interpretation of foreign tax laws with respect to our foreign subsidiaries.

Many of such factors are beyond the Company s ability to control or predict. Any of the factors, or a combination of these factors, could materially affect the Company s future results of operations and the ultimate accuracy of the forward-looking statements. Management cautions against putting undue reliance on forward-looking statements or projecting any future results based on such statements or present or prior earnings levels. Every forward-looking statement speaks only as of the date of the particular statement, and the Company undertakes no obligation to publicly update or revise any forward-looking statement.

PART I

Item 1. *Business*

General

Dril-Quip, Inc., a Delaware corporation (the Company or Dril-Quip), designs, manufactures, sells and services highly engineered offshore drilling and production equipment that is well suited for use in deepwater, harsh environments and severe service applications. The Company s principal products consist of subsea and surface wellheads, subsea and surface production trees, subsea control systems and manifolds, mudline hanger systems, specialty connectors and associated pipe, drilling and production riser systems, liner hangers, wellhead connectors and diverters. Dril-Quip s products are used by major integrated, large independent and foreign

national oil and gas companies in offshore areas throughout the world. Dril-Quip also provides technical advisory assistance on an as-requested basis during installation of its products, as well as rework and reconditioning services for customer-owned Dril-Quip products. In addition, Dril-Quip s customers may rent or purchase running tools from the Company for use in the installation and retrieval of the Company s products.

Dril-Quip has developed its broad line of subsea equipment, surface equipment and offshore rig equipment primarily through its internal product research and development efforts. The Company believes that it has achieved significant market share and brand name recognition with respect to its established products due to the technological capabilities, reliability, cost effectiveness and operational timesaving features of these products.

The Company s operations are organized into three geographic segments Western Hemisphere (including North and South America; headquartered in Houston, Texas), Eastern Hemisphere (including Europe and Africa; headquartered in Aberdeen, Scotland) and Asia-Pacific (including the Pacific Rim, Southeast Asia, Australia, India and the Middle East; headquartered in Singapore). Each of these segments sells similar products and services and the Company has major manufacturing facilities in all three of its headquarter locations as well as in Macae, Brazil. The Company maintains additional facilities for fabrication and/or reconditioning in Australia, Norway, Denmark, Nigeria, China, Egypt, Ghana and Qatar. The Company s manufacturing operations are vertically integrated, allowing it to perform substantially all of its forging, heat treating, machining, fabrication, inspection, assembly and testing at its own facilities. The Company s major subsidiaries are Dril-Quip (Europe) Limited (DQE), located in Aberdeen with branches in Denmark, Norway and Holland; Dril-Quip Asia Pacific PTE Ltd. (DQAP), located in Singapore; Dril-Quip do Brasil LTDA (DQB), located in Macae, Brazil; and DQ Holdings Pty Ltd. (DQH), located in Perth, Australia. Other subsidiaries include Dril-Quip (Ghana) Ltd. located in Takoradi, Ghana, PT DQ Oilfield Services Indonesia located in Jakarta, Indonesia, Dril-Quip (Nigeria) Ltd. located in Port Harcourt, Nigeria, Dril-Quip Egypt for Petroleum Services S.A.E. located in Alexandria, Egypt, Dril-Quip Oilfield Services (Tianjin) Co. Ltd. located in Tianjin, China and Dril-Quip Qatar LLC, located in Doha, Qatar. For additional discussion of our geographic segments, please see Note 11 of Notes to Consolidated Financial Statements.

Dril-Quip markets its products through its offices and sales representatives located in the major international energy markets throughout the world. In 2014, the Company generated approximately 63% of its revenues from foreign sales compared to 67% in 2013 and 74% in 2012.

The Company makes available, free of charge on its website, its Annual Report on Form 10-K and quarterly reports on Form 10-Q (in both HTML and XBRL formats), current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after it electronically files such reports with, or furnishes them to, the Securities and Exchange Commission (SEC). The Company s website address is www.dril-quip.com. Documents and information on the Company s website, or on any other website, are not incorporated by reference into this Form 10-K. Any materials the Company files with the SEC may be read and copied at the SEC s Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information concerning the Public Reference Room may be obtained by calling 1-800-SEC-0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports the Company has filed with the SEC.

The Company also makes available free of charge on its website (www.dril-quip.com/govern.html) its:

Corporate Governance Guidelines,

Code of Business Conduct and Ethical Practices,

Audit Committee Charter,

Nominating and Governance Committee Charter, and

Compensation Committee Charter.

Any stockholder, who so requests, may obtain a printed copy of any of these documents from the Company. Changes in or waivers to our Code of Business Conduct and Ethical Practices involving directors and executive officers of the Company will be posted on its website.

Overview and Industry Outlook

Both the market for offshore drilling and production equipment and services and the Company s business are substantially dependent on the condition of the oil and gas industry and, in particular, the willingness of oil and gas companies to make capital expenditures on exploration, drilling and production operations offshore. The level of capital expenditures has generally been dependent upon the prevailing view of future oil and gas prices, which are influenced by numerous factors affecting the supply and demand for oil and gas, including worldwide economic activity, interest rates and the cost of capital, environmental regulation, tax policies, and the ability of OPEC and other producing nations to set and maintain production levels and prices. The price of crude oil began to drop sharply during the fourth quarter of 2014. In November 2014, OPEC met and decided to continue its 30 million barrel per day production target in an effort to retain its market share. OPEC s December 2014 and January 2015 production averaged 30.24 million barrels per day and 30.37 million barrels per day, respectively. Production at this rate could produce a market oversupply which would cause prices to continue to decline amid softening demand and global economic weakness. Capital expenditures are also dependent on the cost of exploring for and producing oil and gas, the availability, expiration date and price of offshore leases, the discovery rate of new oil and gas reserves in offshore areas and technological advances. Oil and gas prices and the level of offshore drilling and production activity have historically been characterized by significant volatility. Declines in oil and gas prices may adversely affect the willingness of some oil and gas companies to make capital expenditures on exploration, drilling and production operations offshore, which could have an adverse impact on the Company s results of operations, financial position and cash flows.

In 2012, Brent Crude oil prices ranged between $88.69 per barrel and $128.14 per barrel with an average price of $111.57 per barrel and ended the year at $110.80 per barrel. In 2013, Brent Crude oil prices ranged between $96.84 per barrel and $118.90 per barrel with an average price of $108.56 per barrel and ended the year at $109.95 per barrel. In 2014, Brent Crude oil prices ranged between $55.27 per barrel and $115.19 per barrel with an average price of $98.97 per barrel and ended the year at $55.27 per barrel. We expect this decrease to have a significant effect on major integrated, large independent and foreign national oil and gas companies capital expenditure budgets. Many companies have already announced significant reductions in their 2015 capital budget plans.

The Company expects continued volatility in both crude oil and natural gas prices, as well as in the level of drilling and production related activities. Even during periods of high prices for oil and natural gas, companies exploring for oil and gas may cancel or curtail programs, or reduce their levels of capital expenditures for exploration and production, for a variety of reasons. A significant and prolonged decline in hydrocarbon prices would likely have a material adverse effect on the Company s results of operations. See Item 1A. Risk Factors A material or extended decline in expenditures by the oil and gas industry could significantly reduce our revenue and income.

Products and Services

Dril-Quip s revenues are generated from two sources: products and services. Product revenues are derived from the sale of offshore drilling and production equipment. Service revenues are earned when the Company provides technical advisory assistance services for installation of the Company s products, reconditioning services of its customer-owned products and rental of running tools for installation and retrieval of the Company s products. In 2014, the Company derived 83% of its revenues from the sale of its products and 17% of its revenues from services compared to 84% and 16% in 2013 and 83% and 17% in 2012, respectively.

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Products

Dril-Quip designs, manufactures, fabricates, inspects, assembles, tests and markets subsea equipment, surface equipment and offshore rig equipment. The Company s products are used to explore for oil and gas from offshore drilling rigs, such as floating rigs and jack-up rigs, and for drilling and production of oil and gas wells on offshore platforms, tension leg platforms (TLPs), Spars and moored vessels such as FPSOs. TLPs are floating production platforms that are connected to the ocean floor via vertical mooring tethers. A Spar is a floating cylindrical structure approximately six or seven times longer than its diameter and is anchored in place. FPSOs are floating production, storage and offloading monohull moored vessels.

Subsea Equipment. Subsea equipment is used in the drilling and production of offshore oil and gas wells around the world. Included in the subsea equipment product line are subsea wellheads, mudline hanger systems, specialty connectors and associated pipe, production riser systems, subsea production trees, liner hangers, subsea control systems and subsea manifolds.

Subsea wellheads are pressure-containing forged and machined metal housings in which casing hangers are landed and sealed subsea to suspend casing (downhole pipe). As drilling depth increases, successively smaller diameter casing strings are installed, each suspended by an independent casing hanger. Subsea wellheads are utilized when drilling from floating drilling rigs, either semi-submersible or drillship types, and TLPs and Spars. The Company s SS-20 BigBore II-H Subsea Wellhead System is designed to accommodate additional casing strings installed through a conventional marine riser and a subsea blowout preventer.

Mudline hanger systems are used in jack-up drilling operations to support the weight of the various casing strings at the ocean floor while drilling a well. They also provide a method to disconnect the casing strings in an orderly manner at the ocean floor after the well has been drilled, and subsequently reconnect to enable production of the well by either tying it back vertically to a subsequently installed platform or by installing a subsea tree.

Large diameter weld-on *specialty connectors* (threaded or stab type) are used in offshore wells drilled from floating drilling rigs, jack-up rigs, fixed platforms, TLPs and Spars. Specialty connectors join lengths of conductor or large diameter (16-inch or greater) casing. Specialty connectors provide a more rapid connection than other methods of connecting lengths of pipe. Connectors may be sold individually or as an assembly after being welded to sections of Company or customer supplied pipe. Dril-Quip s weld-on specialty connectors are designed to prevent cross threading and provide a quick, convenient method of joining casing joints with structural integrity compatible with casing strength.

Production riser systems are generally designed and manufactured to customer specifications. Production risers provide a vertical conduit from the subsea wellhead to a TLP, Spar or FPSO.

A *subsea production tree* is an assembly composed of valves, a wellhead connector, control equipment and various other components installed on a subsea wellhead or a mudline hanger system and used to control the flow of oil and gas from a producing well. Subsea trees may be either stand alone satellite type or template mounted cluster arrangements. Both types typically produce via flowlines to a central control point located on a platform, TLP, Spar or FPSO. The use of subsea production trees has become an increasingly important method for producing wells located in hard-to-reach deepwater areas or economically marginal fields located in shallower waters. The Company is an established manufacturer of complicated dual-bore production trees, which are used in severe service applications. In addition, Dril-Quip manufactures a patented single bore (SingleBore) subsea completion system which features a hydraulic mechanism instead of a wireline-installed mechanism that allows the operator to plug the tubing hanger annulus remotely from the surface via a hydraulic control line and subsequently unplug it when the well is put on

production. This mechanism eliminates the need for an expensive multibore installation and workover riser, thereby saving both cost and installation time. Dril- Quip s guidelineless subsea production tree is used in ultra-deepwater applications. This tree features remote multiple flowline and control connections, utilizing remotely operated intervention tools. The Company s subsea production trees are generally custom designed and manufactured to customer specifications.

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A *liner hanger* is used to hang-off and seal casing into a previously installed casing string in the well bore, and can provide a means of tying back the liner for production to surface. Dril-Quip has developed a state-of-the-art liner hanger system and has installed its liner hangers in a number of difficult well applications, resulting in improved industry recognition and market opportunities.

A *subsea control system* provides control of subsea trees, manifolds and other ocean floor process equipment. Dril-Quip has developed a variety of subsea control systems, including fiber optic based multiplex control systems that provide real time access to tree functions and tree equipment status. The control system can be packaged for shallow water or deepwater applications. Dril-Quip also manufactures control systems used in the installation, retrieval and workover of production equipment.

A *subsea manifold* is a structure located on the ocean floor consisting of valves, chokes, flowline connections and a control module used to collect and control the flow of oil and gas from subsea wells for delivery to a terminal.

Surface Equipment. Surface equipment is principally used for flow control on offshore production platforms, TLPs and Spars. Included in the Company s surface equipment product line are platform wellheads, platform production trees and riser tensioners. Dril-Quip s development of platform wellheads and platform production trees was facilitated by adaptation of its existing subsea wellhead and tree technology to surface wellheads and trees.

Platform wellheads are pressure-containing forged and machined metal housings in which casing hangers are landed and sealed at the platform deck to suspend casings. The Company emphasizes the use of metal-to-metal sealing wellhead systems with operational time-saving features which can be used in high pressure, high temperature and corrosive drilling and production applications.

After installation of a wellhead, *a platform production tree*, consisting of gate valves, a wellhead connector, controls, tree cap and associated equipment, is installed on the wellhead to control and regulate oil or gas production. Platform production trees are similar to subsea production trees but utilize less complex equipment and more manual, rather than hydraulically activated, valves and connectors. Platform wellheads and platform production trees and associated equipment are designed and manufactured in accordance with customer specifications.

Riser tensioners are used on a floating drilling/production vessel to provide a continuous and reliable upward force on a riser, independent of the movement of the floating vessel.

Offshore Rig Equipment. Offshore rig equipment includes drilling riser systems, wellhead connectors and diverters. The *drilling riser system* consists of (i) lengths of riser pipe and associated riser connectors that secure one to another; (ii) the telescopic joint, which connects the entire drilling riser system to the diverter at the rig and provides a means to compensate for vertical motion of the rig relative to the ocean floor; and (iii) the wellhead connector, which provides a means for remote connection and disconnection of the drilling riser system to and from the blowout preventer stack. The *wellhead connector* provides remote connection/disconnection of the blowout preventer stack, production tree or production riser to/from the wellhead. *Diverters* are used to provide protection from shallow gas blowouts and to divert gases off of the rig during the drilling operation.

Wellhead connectors and drilling riser systems are also used on both TLPs and Spars, which are being installed more frequently in deepwater applications. The principal markets for offshore rig equipment are new rigs, rig upgrades, TLPs and Spars. Drilling risers, wellhead connectors and diverters are generally designed and manufactured to customer specifications.

Certain products of the Company are used in potentially hazardous drilling, completion and production applications that can cause personal injury, product liability and environmental claims. See Item 1A. Risk Factors

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Our business involves numerous operating hazards that may not be covered by insurance. The occurrence of an event not fully covered by insurance could have a material adverse effect on our results of operations, financial position and cash flows.

Services

Services provided by Dril-Quip include technical advisory assistance services, reconditioning of its customer-owned products, and rental of running tools for installation and retrieval of its products. These services are provided from the Company s worldwide locations and represented approximately 17% of revenues in 2014 and 16% in 2013 compared to 17% in 2012.

Technical Advisory Assistance. Dril-Quip does not install products for its customers, but provides technical advisory assistance to the customer, if requested, in the installation of its products. The customer is not obligated to utilize these services and may use its own personnel or a third party to perform these services. Technical advisory assistance services performed by the Company are negotiated and sold separately from the Company s products. These services are not a prerequisite to the sale of the Company s products as its products are fully functional on a stand alone basis. The Company s technicians provide assistance in the onsite installation of the Company s products and are available on a 24-hour call out from the Company s facilities located in Houston, Texas; Aberdeen, Scotland; Singapore; Macae, Brazil; New Orleans, Louisiana; Perth, Australia; Stavanger, Norway; Esbjerg, Denmark; Port Harcourt, Nigeria; Tianjin, China; Alexandria, Egypt; Takoradi, Ghana and Doha, Qatar.

Reconditioning. The Company provides reconditioning of its customer-owned products at its facilities in Houston, Texas; Aberdeen, Scotland; Singapore; Macae, Brazil; Perth, Australia; Stavanger, Norway; Esbjerg, Denmark; Port Harcourt, Nigeria; Tianjin, China; Alexandria, Egypt; Takoradi, Ghana; Balikpapan, Indonesia and Doha, Qatar. The Company does not typically service, repair or recondition its competitors products.

Rental. The Company rents running and installation tools for use in installing its products. These tools are used to install and retrieve the Company s products which are purchased by customers. Rental or purchase of running tools is not a condition of the sale of the Company s products and are contracted for separately from product sales and other services offered by the Company. Running tools are available from Dril-Quip s locations in Houston, Texas; Aberdeen, Scotland; Macae, Brazil; Stavanger, Norway; Esbjerg, Denmark; Beverwijk, Holland; Singapore and Perth, Australia.

Manufacturing

Dril-Quip has major manufacturing facilities in Houston, Texas; Aberdeen, Scotland; Singapore and Macae, Brazil. The Houston facility provides forged and heat treated products to all of its major manufacturing facilities. Dril-Quip maintains its high standards of product quality through the implementation of Advanced Product Quality Planning (APQP) methodologies, as well as through the use of quality control specialists.

The Company s Houston, Aberdeen, Singapore and Macae manufacturing plants are ISO 14001, OHSAS 18001 and ISO 9001:2008 certified. The Houston, Aberdeen and Singapore plants are also licensed to applicable API product specifications. See Item 2. Properties Major Control Manufacturing Facilities. Dril-Quip maintains its high standards of product quality through the use of quality control specialists who work with product manufacturing personnel throughout the manufacturing process by inspecting and documenting equipment as it is processed through the Company s manufacturing facilities. The Company has the capability to manufacture various products from each of its product lines at its major manufacturing facilities and believes that this localized manufacturing capability is essential in order to compete with the Company s major competitors.

The Company s manufacturing processes are vertically integrated, providing capability for the majority of its forging and heat treating and essentially all of its machining, fabrication, inspection, assembly and testing to

be performed in-house. The Company s primary raw material is cast steel ingots, from which it produces steel shaped forgings at its forging and heat treatment facility in Houston, Texas. The Company routinely purchases steel ingots from multiple suppliers on a purchase order basis and does not have any long-term supply contracts. The Company s Houston facility provides forgings and heat treatment for its Houston, Aberdeen, Singapore and Macae facilities. The Company s major competitors depend on outside sources for all or a substantial portion of their forging and heat treatment requirements. The Company has made significant capital investments in developing its vertically integrated manufacturing capability. Prolonged periods of low demand in the market for offshore drilling and production equipment could have a greater effect on the Company than on certain of its competitors that have not made such large capital investments in their facilities.

Dril-Quip s manufacturing facilities utilize state-of-the-art computer numerically controlled (CNC) machine tools and equipment, which contribute to the Company s product quality and timely delivery. The Company has also developed a cost effective, in-house machine tool rebuild capability which produces like new machine upgrades with customized features to enhance the economic manufacture of its specialized products. The Company purchases quality used machine tools as they become available and stores them at its facilities to be rebuilt and upgraded as the need arises. Rebuilding used machine tools allows for greater customization suitable for manufacturing Dril-Quip proprietary product lines. This strategy provides the added advantage of in-house expertise for repairs and maintenance of these machines. A significant portion of the Company s manufacturing capacity growth has been through the rebuild/upgrade of quality used machine tools, including the replacement of outdated control systems with state-of-the-art CNC controls.

Customers

The Company s principal customers are major integrated, large independent and foreign national oil and gas companies. Offshore drilling contractors and engineering and construction companies also represent a portion of the Company s customer base. The Company s customers are generally oil and gas companies that are well-known participants in offshore exploration and production.

The Company is not dependent on any one customer or group of customers. In 2014, the Company s top 15 customers represented approximately 61% of total revenues and Chevron and related companies accounted for approximately 10% of total revenues. In 2013 the Company s top 15 customers represented approximately 64% of total revenues and Petroleo Brasileiro S.A. (Petrobras) accounted for approximately 11% of the Company s total revenues. In 2012, the Company s top 15 customers represented approximately 62% of total revenues and Petrobras accounted for approximately 12% of the Company s total revenues. No other customer accounted for more than 10% of the Company s total revenues in 2014, 2013 or 2012. The number and variety of the Company s products required in a given year by any one customer depends upon the amount of that customer s capital expenditure budget devoted to offshore exploration and production and on the results of competitive bids for major projects. Consequently, a customer that accounts for a significant portion of revenues in one fiscal year may represent an immaterial portion of revenues in subsequent years. While the Company is not dependent on any one customer or group of customers, the loss of one or more of its significant customers could, at least on a short-term basis, have an adverse effect on the Company s results of operations.

Backlog

Backlog consists of firm customer orders of Dril-Quip products for which a purchase order or signed contract has been received, satisfactory credit or financing arrangements exist and delivery is scheduled. Historically, the Company s revenues for a specific period have not been directly related to its backlog as stated at a particular point in time. The Company s product backlog was approximately $1.2 billion at both December 31, 2014 and 2013 and $881 million at

December 31, 2012. The backlog at the end of 2014 and 2013 represents an increase of approximately $319 million, or 36%, from the end of 2012.

The Company expects to fill approximately 60% to 65% of the December 31, 2014 product backlog by December 31, 2015. The remaining backlog at December 31, 2014 consists of longer-term projects which are

being designed and manufactured to customer specifications requiring longer lead times. In August 2012, the Company s Brazilian subsidiary, Dril-Quip do Brasil LTDA, was awarded a four-year contract by Petrobras, Brazil s national oil company. At exchange rates in effect at the signing date (2.04 Brazilian Reis to 1.00 U.S. Dollar), the contract was valued at $650 million, net of Brazilian taxes, if all the equipment under the contract is ordered. The Company cannot provide assurance that Petrobras will order all of the equipment under the contract. Amounts are included in the Company s backlog as purchase orders under the contract are received. Revenues of approximately $69 million have been recognized on this contract through December 31, 2014. As of December 31, 2014, the Company s backlog included $96 million (at the December 31, 2014 exchange rate of 2.67 Brazilian real to 1.00 U.S. dollar) of purchase orders under this Petrobras contract. The Company has not recognized revenue of approximately $9 million as of December 31, 2014 for certain items of equipment that were completed but not yet accepted for delivery by Petrobras. If Petrobras does not ultimately accept these items for delivery or if they refuse to accept these or similar items completed in the future, the Company s results of operations may be adversely affected. See Item 1A. Risk Factors Our backlog is subject to unexpected adjustments and cancellations and is, therefore, an uncertain indicator of our future revenues and earnings.

Marketing and Sales

Dril-Quip markets its products and services throughout the world directly through its sales personnel in two domestic and twenty international locations. In addition, in certain foreign markets the Company utilizes independent sales agents or representatives to enhance its marketing and sales efforts.

Some of the locations in which Dril-Quip has sales agents or representatives are Trinidad, Brazil, Indonesia, Malaysia, China, Saudi Arabia and United Arab Emirates. Although they do not have authority to contractually bind the Company, these representatives market the Company s products in their respective territories in return for sales commissions. The Company advertises its products and services in trade and technical publications targeted to its customer base. The Company also participates in industry conferences and trade shows to enhance industry awareness of its products.

The Company s customers generally order products on a purchase order basis. Orders, other than those considered to be long-term projects, are typically filled within nine to twelve months after receipt of a purchase order, depending on the type of product and whether it is sold out of inventory or requires some customization. Contracts for certain of the Company s larger, more complex products, such as subsea production trees, drilling risers and equipment for TLPs and Spars can take a year or more to complete.

The primary factors influencing a customer s decision to purchase the Company s products are the quality, reliability and reputation of the product, technologically superior features and price. Timely delivery of equipment is also very important to customer operations and the Company maintains an experienced sales coordination staff to help assure such delivery. For large drilling and production system orders, project management teams coordinate customer needs with the Company s engineering, manufacturing and service organizations, as well as with subcontractors and vendors.

A portion of the Company s business consists of designing, manufacturing and selling equipment, as well as offering technical advisory assistance services during installation of the equipment, for major projects pursuant to competitive bids. The number of such projects in any year may fluctuate. The Company s profitability on such projects is critically dependent on making accurate and cost effective bids and performing efficiently in accordance with bid specifications. Various factors can adversely affect the Company s performance on individual projects, with potential material adverse effects on project profitability.

Product Development and Engineering

The technological demands of the oil and gas industry continue to increase as offshore exploration and drilling expand into more hostile environments. Conditions encountered in these environments include water depths in excess of 10,000 feet, well pressures exceeding 15,000 psi (pounds per square inch), well flowing temperatures beyond 350º F (Fahrenheit), and mixed flows of oil, gas and water that may also be highly corrosive and impact material properties.

Since its founding in 1981, Dril-Quip has actively engaged in continuing development efforts to generate new products and improve existing products. When developing new products, the Company typically seeks to design the most technologically advanced version for a particular application to establish its reputation and qualification in that product. Thereafter, the Company leverages its expertise in the more technologically advanced product to produce less costly and complex versions of the product for less demanding applications. The Company also focuses its activities on reducing the overall cost to the customer, which includes not only the initial capital cost but also operating, installation and maintenance costs associated with its products.

In the 1980s, the Company introduced its first product, specialty connectors, as well as mudline suspension systems, template systems and subsea wellheads. In the 1990s, the Company introduced a series of new products, including diverters, wellhead connectors, SingleBore subsea trees, improved severe service dual bore subsea trees, subsea and platform valves, platform wellheads, platform trees, subsea tree workover riser systems, drilling riser systems and TLP and Spar production riser systems. Since 2000, Dril-Quip has introduced multiple new products including liner hangers, subsea control systems, subsea manifolds and riser tensioners.

Dril-Quip s product development work is primarily conducted at its facilities in Houston, Texas and Aberdeen, Scotland. In addition to the work of its product development staff, the Company s application engineering staff provides technical services to customers in connection with the design and sales of its products. The Company s ability to develop new products and maintain technological advantages is important to its future success. See Item 1A. Risk Factors Our business could be adversely affected if we do not develop new products and secure and retain patents related to our products.

The Company believes that the success of its business depends more on the technical competence, creativity and marketing abilities of its employees than on any individual patent, trademark or copyright. Nevertheless, as part of its ongoing product development and manufacturing activities, Dril-Quip s policy has been to seek patents when appropriate on inventions concerning new products and product improvements. All patent rights for products developed by employees are assigned to the Company and almost all of the Company s products have components that are covered by patents.

In 2014, Dril-Quip completed the construction of a high-load horizontal test machine that generates over 20 million ft-lbs of bending and 13 million pounds of tension or compression load to test the strength of a complete subsea wellhead and BOP wellhead connector as a system. The Company delivered its first Offshore Technology Conference (OTC) technical presentation, outlining the results of both its analysis and rigorous testing of the system. The Company believes this project will help the Company s subsea wellhead product line remain an industry leader of subsea wellhead technology. Additionally, the Company utilized this test machine to develop and test several innovations to our specialty connector product family, and the Company is continuing development efforts in our subsea completion systems and capital equipment product lines.

Dril-Quip has numerous U.S. registered trademarks, including Dril-Quip®, Quik-Thread®, Quik-Stab®, Multi-Thread®, MS-15®, SS-15®, SS-10® and SU-90®. The Company has registered its trademarks in the countries where such registration is deemed material.

Although in the aggregate, the Company s patents and trademarks are of considerable importance to the manufacturing and marketing of many of its products, the Company does not consider any single patent or trademark or group of patents or trademarks to be material to its business as a whole, except the Dril-Quip® trademark. The Company also relies on trade secret protection for its confidential and proprietary information. The Company routinely enters into confidentiality agreements with its employees and suppliers. There can be no assurance, however, that others will not independently obtain similar information or otherwise gain access to the Company s trade secrets.

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Competition

Dril-Quip faces significant competition from other manufacturers and suppliers of exploration and production equipment. Several of its primary competitors are diversified multinational companies with substantially larger operating staffs and greater capital resources than those of the Company and which, in many instances, have been engaged in the manufacturing business for a much longer period of time than the Company. The Company competes principally with GE Oil and Gas (formerly Vetco Gray), and the petroleum production equipment segments of OneSubsea (a joint venture of Cameron International Corporation and Schlumberger, Ltd.), FMC Technologies, Inc. and Aker Solutions.

Because of their relative size and diversity of products, several of the Company s competitors have the ability to provide turnkey services for offshore drilling and production applications, which enables them to use their own products to the exclusion of Dril-Quip s products. See Item 1A. Risk Factors We may be unable to successfully compete with other manufacturers of drilling and production equipment. The Company also competes to a lesser extent with a number of other companies in various products. The principal competitive factors in the petroleum drilling and production equipment markets are quality, reliability and reputation of the product, price, technology, service and timely delivery.

Employees

The total number of the Company s employees as of December 31, 2014 was 2,720. Of these, 1,403 were located in the United States. Substantially all of the Company s employees are not covered by collective bargaining agreements, and the Company considers its employee relations to be good.

The Company s operations depend in part on its ability to attract quality employees. While the Company believes that its wage and salary rates are competitive and that its relationship with its labor force is good, a significant increase in the wages and salaries paid by competing employers could result in a reduction of the Company s labor force, increases in the wage and salary rates paid by the Company or both. If either of these events were to occur, in the near-term, the profits realized by the Company from work in progress would be reduced and, in the long-term, the production capacity and profitability of the Company could be diminished and the growth potential of the Company could be impaired. See Item 1A. Risk Factors Loss of our key management or other personnel could adversely impact our business.

Governmental Regulations

Many aspects of the Company s operations are affected by political developments and are subject to both domestic and foreign governmental regulations, including those relating to oilfield operations, the discharge of materials into the environment from our manufacturing or other facilities, health and worker safety aspects of our operations, or otherwise relating to human health and environmental protection. In addition, the Company depends on the demand for its services from the oil and gas industry and, therefore, is affected by changing taxes, price controls and other laws and regulations relating to the oil and gas industry in general, including those specifically directed to offshore operations. The adoption of laws and regulations curtailing exploration and development drilling for oil and gas for economic or other policy reasons could adversely affect the Company s operations by limiting demand for the Company s products. See Item 1A. Risk Factors Our operations and our customers operations are subject to a variety of governmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

In recent years, increased concern has been raised over the protection of the environment. Legislation to regulate emissions of greenhouse gases has been introduced in the U.S. Congress, and there has been a wide-ranging policy debate, both nationally and internationally, regarding the impact of these gases and possible means for their regulation. In addition, efforts have been made and continue to be made in the international community toward the adoption of international treaties or protocols that would address global climate change issues, such as the annual United Nations Climate Change Conferences. In November 2014, the United States

and China agreed to new targets for carbon emissions reductions. Also, the U.S. Environmental Protection Agency (EPA) has undertaken new efforts to collect information regarding greenhouse gas emissions and their effects. Following a finding by the EPA that certain greenhouse gases represent a danger to human health, the EPA has expanded its regulations relating to those emissions and has adopted rules imposing permitting and reporting obligations. The results of the permitting and reporting requirements could lead to further regulation of these greenhouse gases by the EPA. Moreover, specific design and operational standards apply to U.S. outer continental shelf vessels, rigs, platforms, vehicles, structures and equipment. The U.S. Bureau of Safety and Environmental Enforcement (BSEE) regulates the design and operation of well control and other equipment at offshore production sites, among other requirements. BSEE has adopted stricter requirements for subsea drilling production equipment and is proposing new requirements for blowout preventers. In addition, offshore drilling in certain areas has been opposed by environmental groups and, in certain areas, has been restricted. To the extent that new laws or other governmental actions prohibit or restrict offshore drilling or impose additional environmental protection requirements that result in increased costs to the oil and gas industry in general and the offshore drilling industry in particular, the business of the Company could be adversely affected. The Company cannot determine to what extent its future operations and earnings may be affected by new legislation, new regulations or changes in existing regulations. See Item 1A. Risk Factors Our business and our customers businesses are subject to environmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

Our operations are also governed by laws and regulations related to workplace safety and worker health, such as the occupational Safety and Health Act and regulations promulgated thereunder.

Based on the Company s experience to date, the Company does not currently anticipate any material adverse effect on its business or consolidated financial position as a result of future compliance with existing environmental, health and safety laws. However, future events, such as changes in existing laws and regulations or their interpretation, more vigorous enforcement policies of or by regulatory agencies, or stricter or different interpretations of existing laws and regulations, may require additional expenditures by the Company, which may be material.

Executive Officers of the Registrant

Pursuant to Instruction 3 to Item 401(b) of Regulation S-K and General Instruction G(3) to Form 10-K, the following information is included in Part I of this Form 10-K:

The following table sets forth the names, ages (as of February 20, 2015) and positions of the Company s executive officers:

Name	Age	Position
Blake T. DeBerry	55	President, Chief Executive Officer and Director
James A. Gariepy	57	Senior Vice President and Chief Operating Officer
Jerry M. Brooks	63	Vice President Finance and Chief Financial Officer
James C. Webster	45	Vice President, General Counsel and Secretary

Blake T. DeBerry has been President and Chief Executive Officer and a member of the Board of Directors of the Company, since October 2011. Mr. DeBerry was Senior Vice President Sales and Engineering from July 2011 until October 2011, and was Vice President Dril-Quip Asia-Pacific (which covers the Pacific Rim, Asia, Australia, India and the Middle East) from March 2007 to July 2011. He has been an employee of the Company since 1988 and has held a number of management and engineering positions in the Company s domestic and international offices. Mr. DeBerry holds a Bachelor of Science degree in mechanical engineering from Texas Tech University.

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James A. Gariepy is Senior Vice President and Chief Operating Officer, a position he has held since October 2011. Mr. Gariepy was Senior Vice President Manufacturing, Project Management and Service from July 2011 until October 2011, and was Vice President Dril-Quip Europe (which covers Europe, Africa and Northern Eurasia) from March 2007 to July 2011. He has held domestic and international management positions since joining the Company in 2004. Mr. Gariepy holds a Bachelor of Science degree in mechanical engineering from the Lawrence Technological University and an MBA from the University of St. Thomas.

Jerry M. Brooks is Vice President Finance and Chief Financial Officer. He has been Vice President since 2007 and Chief Financial Officer since 1999. From 2009 until May 2011, he also served as Secretary of the Company. From 1992 until March 1999, Mr. Brooks served as Chief Accounting Officer. From 1980 to 1991, he held various positions with Chiles Offshore Corporation, most recently as Chief Financial Officer, Secretary and Treasurer. Mr. Brooks holds a BBA in Accounting and a MBA in Finance from the University of Texas at Austin.

James C. Webster is Vice President, General Counsel and Secretary. He joined the Company in February 2011 as Vice President and General Counsel and was elected to the additional position of Secretary in May 2011. From September 2005 until September 2010, he was Vice President, General Counsel and Secretary of M-I SWACO, at the time, a joint venture between Smith International, Inc. and Schlumberger Ltd., and then was an area general counsel for Schlumberger from September 2010 to February 2011 following Schlumberger s acquisition of Smith International. From 1999 to September 2005, he was an associate with, and later a partner in, the law firm of Gardere Wynne Sewell LLP in Houston. Mr. Webster holds an economics degree from the University of Arizona and a joint Law/MBA from Loyola University.

Item 1A. ***Risk Factors***

In this Item 1A. the terms we, our, us, and Dril-Quip used herein refer to Dril-Quip, Inc. and its subsidiaries unless otherwise indicated or as the context so requires.

A material or extended decline in expenditures by the oil and gas industry could significantly reduce our revenue and income.

Our business depends upon the condition of the oil and gas industry and, in particular, the willingness of oil and gas companies to make capital expenditures on exploration, drilling and production operations offshore. The level of capital expenditures is generally dependent on the prevailing view of future oil and gas prices, which are influenced by numerous factors affecting the supply and demand for oil and gas, including:

- worldwide economic activity;
- the level of exploration and production activity;
- interest rates and the cost of capital;
- environmental regulation;

federal, state and foreign policies regarding exploration and development of oil and gas;

the ability of OPEC to set and maintain production levels and pricing;

governmental regulations regarding future oil and gas exploration and production in the U.S. Gulf of Mexico and elsewhere;

the cost of exploring and producing oil and gas;

the cost of developing alternative energy sources;

the availability, expiration date and price of offshore leases in the United States and overseas;

the discovery rate of new oil and gas reserves in offshore areas;

- the success of drilling for oil and gas in unconventional resource plays such as shale formations;
- technological advances; and
- weather conditions.

Oil and gas prices and the level of offshore drilling and production activity have been characterized by significant volatility in recent years. Worldwide military, political and economic events have contributed to oil and natural gas price volatility and are likely to continue to do so in the future. Brent crude oil prices in 2014 ranged from $55.27 per barrel to $115.19 per barrel. Oil prices declined sharply in the fourth quarter of 2014 and ended the year at $55.27 per barrel. Brent crude oil prices in 2013 ranged from $96.84 per barrel to $118.90 per barrel. Brent Crude oil prices in 2012 ranged from $88.69 per barrel to $128.14 per barrel. Brent crude oil prices in 2011 peaked at $126.64 per barrel and ended the year at $108.09 per barrel. We expect continued volatility in both crude oil and natural gas prices, as well as in the level of drilling and production related activities. Even during periods of high prices for oil and natural gas, companies exploring for oil and gas may cancel or curtail programs, seek to renegotiate contract terms, including the price of our products and services, or reduce their levels of capital expenditures for exploration and production for a variety of reasons. These risk are greater during periods of low or declining commodity prices. Continued significant or prolonged declines in hydrocarbon prices have had, and may continue to have, a material adverse effect on our results of operations.

We may not be able to satisfy technical requirements, testing requirements or other specifications under contracts and contract tenders.

Our products are used in deepwater, harsh environments and severe service applications. Our contracts with customers and customer requests for bids typically set forth detailed specifications or technical requirements for our products and services, which may also include extensive testing requirements. We anticipate that such testing requirements will become more common in our contracts. In addition, recent scrutiny of the offshore drilling industry has resulted in more stringent technical specifications for our products and more comprehensive testing requirements for our products to ensure compliance with such specifications. We cannot assure you that our products will be able to satisfy the specifications or that we will be able to perform the full-scale testing necessary to prove that the product specifications are satisfied in future contract bids or under existing contracts, or that the costs of modifications to our products to satisfy the specifications and testing will not adversely affect our results of operations. If our products are unable to satisfy such requirements, or we are unable to perform any required full-scale testing, our customers may cancel their contracts and/or seek new suppliers, and our business, results of operations, cash flows or financial position may be adversely affected.

We rely on technology provided by third parties and our business may be materially adversely affected if we are unable to renew our licensing arrangements with them.

We have existing contracts and may enter into new contracts with customers that require us to use technology or to purchase components from third parties, including some of our competitors. In the ordinary course of our business, we have entered into licensing agreements with some of these third parties for the use of such technology, including a license from a competitor of a technology important to our subsea wellheads. We may not be able to renew our existing licenses or to purchase these components on terms acceptable to us, or at all. If we are unable to use a technology or purchase a component, we may not be able to meet existing contractual commitments without increased costs or modifications or at all. In addition, we may need to stop selling products incorporating that technology or component or to redesign our products, either of which could result in a material adverse effect on our business and

operations.

We may be unable to successfully compete with other manufacturers of drilling and production equipment.

Several of our primary competitors are diversified multinational companies with substantially larger operating staffs and greater capital resources than ours and which have been engaged in the manufacturing

business for a much longer time than us. If these competitors substantially increase the resources they devote to developing and marketing competitive products and services, we may not be able to compete effectively. Similarly, consolidation among our competitors could enhance their product and service offerings and financial resources, further intensifying competition.

The loss of a significant customer could have an adverse impact on our financial results.

Our principal customers are major integrated oil and gas companies, large independent oil and gas companies and foreign national oil and gas companies. Offshore drilling contractors and engineering and construction companies also represent a portion of our customer base. In 2014, our top 15 customers represented approximately 61% of total revenues and Chevron and other related companies accounted for approximately 10% of the Company s total revenues. In 2013, our top 15 customers represented approximately 64% of total revenues, and Petrobras accounted for approximately 11% of our total revenues. In 2012, our top 15 customers represented approximately 62% of total revenues and Petrobras accounted for approximately 12% of our total revenues. While we are not dependent on any one customer or group of customers, the loss of one or more of our significant customers could have an adverse effect on our results of operations, financial position and cash flows.

Our customers industries are undergoing continuing consolidation that may impact our results of operations.

The oil and gas industry is rapidly consolidating and, as a result, some of our largest customers have consolidated and are using their size and purchasing power to seek economies of scale and pricing concessions. This consolidation may result in reduced capital spending by some of our customers or the acquisition of one or more of our primary customers, which may lead to decreased demand for our products and services. We cannot assure you that we will be able to maintain our level of sales to a customer that has consolidated or replace that revenue with increased business activity with other customers. As a result, the acquisition of one or more of our primary customers may have a significant negative impact on our results of operations, financial position or cash flows. We are unable to predict what effect consolidations in the industry may have on price, capital spending by our customers, our selling strategies, our competitive position, our ability to retain customers or our ability to negotiate favorable agreements with our customers.

Increases in the cost of raw materials and energy used in our manufacturing processes could negatively impact our profitability.

Any increases in commodity prices for items such as nickel, molybdenum and heavy metal scrap that are used to make the steel alloys required for our products would result in an increase in our raw material costs. Similarly, any increase in energy costs would increase our product costs. If we are not successful in raising our prices on products to compensate for any increased raw material or energy costs, our margins will be negatively impacted.

We depend on third-party suppliers for timely deliveries of raw materials, and our results of operations could be adversely affected if we are unable to obtain adequate supplies in a timely manner.

Our manufacturing operations depend upon obtaining adequate supplies of raw materials from third parties. The ability of these third parties to deliver raw materials may be affected by events beyond our control. Any interruption in the supply of raw materials needed to manufacture our products could adversely affect our business, results of operations and reputation with our customers.

Conditions in the global financial system may have impacts on our business and financial position that we currently cannot predict.

Uncertainty in the credit markets may negatively impact the ability of our customers to finance purchases of our products and services and could result in a decrease in, or cancellation of, orders included in our backlog or

adversely affect the collectability of our receivables. If the availability of credit to our customers is reduced, they may reduce their drilling and production expenditures, thereby decreasing demand for our products and services, which could have a negative impact on our financial position. Additionally, unsettled conditions could have an impact on our suppliers, causing them to be unable to meet their obligations to us. Although we do not currently anticipate a need to access the credit markets in the short term, a prolonged constriction on future lending by banks or investors could result in higher interest rates on future debt obligations or could restrict our ability to obtain sufficient financing to meet our long-term operational and capital needs.

Our backlog is subject to unexpected adjustments and cancellations and is, therefore, an uncertain indicator of our future revenues and earnings.

The revenues projected in our backlog may not be realized or, if realized, may not result in profits. All of the projects currently included in our backlog are subject to change and/or termination at the option of the customer. In the case of a change or termination, the customer is generally required to pay us for work performed and other costs necessarily incurred as a result of the change or termination.

We can give no assurance that our backlog will remain at current levels. Sales of our products are affected by prices for oil and natural gas, which have fluctuated significantly and may continue to do so in the future. When drilling and production levels are depressed, a customer may no longer need the equipment or services currently under contract or may be able to obtain comparable equipment or services at lower prices. As a result, customers may exercise their termination rights or attempt to renegotiate contract terms. Continued declines in oil and natural gas prices could also reduce new customer orders, possibly causing a decline in our future backlog. If we experience significant project terminations, suspensions or scope adjustments to contracts reflected in our backlog, our financial condition, results of operations and cash flows may be adversely impacted.

Our international operations expose us to instability and changes in economic and political conditions and other risks inherent to international business, which could have a material adverse effect on our results of operations, financial position or cash flows.

We have substantial international operations, with approximately 63%, 67% and 74% of our revenues derived from foreign sales in 2014, 2013 and 2012, respectively. We operate our business and market our products and services in many of the significant oil and gas producing areas in the world and are, therefore, subject to the risks customarily attendant to international operations and investments in foreign countries. Risks associated with our international operations include:

- volatility in general economic, social and political conditions;
- terrorist threats or acts, war and civil disturbances;
- expropriation or nationalization of assets;
- renegotiation or nullification of existing contracts;

- foreign taxation, including changes in laws or interpretations of existing laws;
- assaults on property or personnel;
- restrictive action by local governments;
- foreign and domestic monetary policies;
- limitations on repatriation of earnings;
- travel limitations or operational problems caused by public health threats; and
- changes in currency exchange rates.

Any of these risks could have an adverse effect on our ability to manufacture products abroad or the demand for our products and services in some locations. To date, we have not experienced any significant problems in

foreign countries arising from local government actions or political instability, but there is no assurance that such problems will not arise in the future. Interruption of our international operations could have a material adverse effect on our overall operations.

Our international operations expose us to compliance risks.

Doing business on a worldwide basis exposes us and our subsidiaries to risks inherent in complying with the laws and regulations of a number of different nations, including various anti-bribery laws. We do business and have operations in a number of developing countries that have relatively underdeveloped legal and regulatory systems compared to more developed countries. Several of these countries are generally perceived as presenting a higher than normal risk of corruption, or as having a culture in which requests for improper payments are not discouraged. Maintaining and administering an effective anti-bribery compliance program under the U.S. Foreign Corrupt Practices Act, the United Kingdom s Bribery Act of 2010, and similar statutes of other nations, in these environments presents greater challenges than is the case in more developed countries.

In addition, our import and export activities are governed by unique customs laws and regulations in each of the countries where we operate. The laws and regulations concerning import and export activity, recordkeeping and reporting, import and export control and economic sanctions are complex and subject to frequent change.

The precautions we take to prevent and detect misconduct, fraud or non-compliance with applicable laws and regulations may not be able to prevent such occurrences, and we could face unknown risks or losses. Our failure to comply with applicable laws or regulations or acts of misconduct could subject us to fines, penalties or other sanctions, including debarment from government contracts, seizure of shipments and loss of import and export privileges, which could have a material adverse effect on our business and our results of operations, financial position and cash flows.

We are subject to taxation in many jurisdictions and there are inherent uncertainties in the final determination of our tax liabilities.

As a result of our international operations, we are subject to taxation in many jurisdictions. Therefore, the final determination of our tax liabilities involves the interpretation of the statutes and requirements of taxing authorities worldwide. Foreign income tax returns of foreign subsidiaries and related entities are routinely examined by foreign tax authorities. These tax examinations may result in assessments of additional taxes, interest or penalties. Refer to Item 3. Legal Proceedings regarding tax assessments in Brazil.

Our excess cash is invested in various financial instruments which may subject us to potential losses.

We invest excess cash in various financial instruments including interest bearing accounts, money market mutual funds and funds which invest in U.S. Treasury obligations and repurchase agreements backed by U.S. Treasury obligations. However, changes in the financial markets, including interest rates, as well as the performance of the issuers, can affect the market value of our short-term investments.

We may suffer losses as a result of foreign currency fluctuations and limitations on the ability to repatriate income or capital to the United States.

We conduct a portion of our business in currencies other than the U. S. dollar, and our operations are subject to fluctuations in foreign currency exchange rates. We cannot assure you that we will be able to protect the Company against such fluctuations in the future. Historically, we have not conducted business in countries that limit repatriation

of earnings. However, as we expand our international operations, we may begin operating in countries that have such limitations. Further, we cannot assure you that the countries in which we currently operate will not adopt policies limiting repatriation of earnings in the future.

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Our foreign subsidiaries also hold significant amounts of cash that may be subject to both U.S. income taxes (subject to adjustment for foreign tax credits) and withholding taxes of the applicable foreign country if we dividend that cash to its parent company located in the United States.

Our business involves numerous operating hazards that may not be covered by insurance. The occurrence of an event not fully covered by insurance could have a material adverse effect on our results of operations, financial position and cash flows.

Our products are used in potentially hazardous drilling, completion and production applications that can cause personal injury, product liability and environmental claims. In addition, certain areas where our products are used, including in and near the U.S. Gulf of Mexico, are close to high population areas and subject to hurricanes and other extreme weather conditions on a relatively frequent basis. A catastrophic occurrence at a location where our equipment and/or services are used may expose us to substantial liability for personal injury, wrongful death, product liability, environmental damage or commercial claims. Our general liability insurance program includes an aggregate coverage limit of $200 million for claims with respect to property damage, injury or death and pollution. However, our insurance policies may not cover fines, penalties or costs and expenses related to government-mandated cleanup of pollution. In addition, our insurance does not provide coverage for all liabilities, and we cannot assure you that our insurance coverage will be adequate to cover claims that may arise or that we will be able to maintain adequate insurance at rates we consider reasonable. The occurrence of an event not fully covered by insurance could have a material adverse effect on our results of operations, financial position and cash flows.

We attempt to further limit our liability through contractual indemnification provisions with our customers. We generally seek to enter into contracts for the provision of our products and services that provide for (1) the responsibility of each party to the contract for personal injuries to, or the death of, its employees and damages to its property, (2) cross-indemnification with other contractors providing products and/or services to the other party to the contract with respect to personal injury, death and property damage and (3) the operator being responsible for claims brought by third parties for personal injury, death, property loss or damage relating to pollution or other well control events. We may not be able to successfully obtain favorable contractual provisions, and a failure to do so may increase our risks and costs, which could materially impact our results of operations. In addition, we cannot assure you that any party that is contractually obligated to indemnify us will be financially able to do so.

We may lose money on fixed-price contracts.

A portion of our business consists of the designing, manufacturing and selling of our equipment for major projects pursuant to competitive bids, and is performed on a fixed-price basis. Under these contracts, we are typically responsible for all cost overruns, other than the amount of any cost overruns resulting from requested changes in order specifications. Our actual costs and any gross profit realized on these fixed-price contracts may vary from the estimated amounts on which these contracts were originally based. This may occur for various reasons, including:

- errors in estimates or bidding;
- changes in availability and cost of labor and materials; and
- variations in productivity from our original estimates.

These variations and the risks inherent in our projects may result in reduced profitability or losses on projects. Depending on the size of a project, variations from estimated contract performance could have a material adverse impact on our operating results.

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Our business could be adversely affected if we do not develop new products and secure and retain patents related to our products.

Technology is an important component of our business and growth strategy, and our success as a company depends to a significant extent on the development and implementation of new product designs and improvements. Whether we can continue to develop systems and services and related technologies to meet evolving industry requirements and, if so, at prices acceptable to our customers will be significant factors in determining our ability to compete in the industry in which we operate. Many of our competitors are large multinational companies that may have significantly greater financial resources than we have, and they may be able to devote greater resources to research and development of new systems, services and technologies than we are able to do.

Our ability to compete effectively will also depend on our ability to continue to obtain patents on our proprietary technology and products. Although we do not consider any single patent to be material to our business as a whole, the inability to protect our future innovations through patents could have a material adverse effect.

We may be required to recognize a charge against current earnings because of percentage-of-completion accounting.

Revenues and profits on long-term project contracts are recognized on a percentage-of-completion basis. We calculate the percent complete and apply the percentage to determine revenues earned and the appropriate portion of total estimated costs. Accordingly, purchase order price and cost estimates are reviewed periodically as the work progresses, and adjustments proportionate to the percentage complete are reflected in the period when such estimates are revised. To the extent that these adjustments result in a reduction or elimination of previously reported profits, we would have to recognize a charge against current earnings, which could be significant depending on the size of the project or the adjustment.

Loss of our key management or other personnel could adversely impact our business.

We depend on the services of Blake DeBerry, President and Chief Executive Officer, and James Gariepy, Senior Vice President and Chief Operating Officer. Together, Mr. DeBerry and Mr. Gariepy have over 30 years with the Company and approximately 60 years of relevant industry experience. The loss of either of these officers could have a material adverse effect on our results of operations, financial position and cash flows.

In addition, competition for skilled machinists, fabricators and technical personnel among companies that rely heavily on engineering and technology is intense, and the loss of qualified employees or an inability to attract, retain and motivate additional highly skilled employees required for the operation and expansion of our business could hinder our ability to conduct research activities successfully and develop and produce marketable products and services. A significant increase in the wages paid by competing employers could result in a reduction of our skilled labor force, increase in the wage rates paid by us or both. If either of these events were to occur, in the near-term, the profits realized by us from work in progress would be reduced and, in the long-term, our production capacity and profitability could be diminished and our growth potential could be impaired.

Acquisitions, dispositions and investments may not result in anticipated benefits and may present risks not originally contemplated, which could have a material adverse effect on our financial condition, results of operations and cash flows.

From time to time, we evaluate purchases and sales of assets, businesses or other investments. These transactions may not result in the anticipated realization of savings, creation of efficiencies, offering of new products or services,

generation of cash or income or reduction of risk. In addition, acquisitions may be financed

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by borrowings, requiring us to incur debt, or by the issuance of our common stock. These transactions involve numerous risks, and we cannot ensure that:

- any acquisition would be successfully integrated into our operations and internal controls;
- the due diligence conducted prior to an acquisition would uncover situations that could result in financial or legal exposure;
- the use of cash for acquisitions would not adversely affect our cash available for capital expenditures and other uses;
- any disposition, investment, acquisition or integration would not divert management resources from the operation of our business; or
- any disposition, investment, acquisition or integration would not have a material adverse effect on our financial condition, results of operations or cash flows.

Our operations and our customers operations are subject to a variety of governmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

Our business and our customers businesses may be significantly affected by:

- federal, state, local and foreign laws and other regulations relating to the oilfield operations, worker safety and the protection of the environment;
- changes in these laws and regulations; and
- the level of enforcement of these laws and regulations.

In addition, we depend on the demand for our products and services from the oil and gas industry. This demand is affected by changing taxes, price controls and other laws and regulations relating to the oil and gas industry in general, including those specifically directed to offshore operations. For example, the adoption of laws and regulations curtailing exploration and development drilling for oil and gas for economic or other policy reasons could adversely affect our operations by limiting demand for our products. We cannot determine the extent to which our future operations and earnings may be affected by new legislation, new regulations or changes in existing regulations and enforcement thereof.

Various new regulations intended to improve offshore safety systems and environmental protection have been issued since 2010 that have increased the complexity of the drilling permit process and may limit the opportunity for some operators to continue deepwater drilling in the U.S. Gulf of Mexico, which could adversely affect the Company s

financial operations. Third party challenges to industry operations in the U.S. Gulf of Mexico may also serve to further delay or restrict activities. If the new regulations, policies, operating procedures and possibility of increased legal liability are viewed by our current or future customers as a significant impairment to expected profitability on projects, they could discontinue or curtail their offshore operations, thereby adversely affecting our financial operations by decreasing demand for our products.

Because of our foreign operations and sales, we are also subject to changes in foreign laws and regulations that may encourage or require hiring of local contractors or require foreign contractors to employ citizens of, or purchase supplies from, a particular jurisdiction. If we fail to comply with any applicable law or regulation, our business, results of operations, financial position and cash flows may be adversely affected.

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Our businesses and our customers businesses are subject to environmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

Our operations and the operations of our customers are also subject to federal, state, local and foreign laws and regulations relating to the protection of human health and the environment. These environmental laws and regulations affect the products and services we design, market and sell, as well as the facilities where we manufacture our products. For example, our operations are subject to numerous and complex laws and regulations that, among other things, may regulate the management and disposal of hazardous and non-hazardous wastes; require acquisition of environmental permits related to our operations; restrict the types, quantities and concentrations of various materials that can be released into the environment; limit or prohibit operation activities in certain ecologically sensitive and other protected areas; regulate specific health and safety criteria addressing worker protection; require compliance with operational and equipment standards; impose testing, reporting and record-keeping requirements; and require remedial measures to mitigate pollution from former and ongoing operations. We are required to invest financial and managerial resources to comply with such environmental, health and safety laws and regulations and anticipate that we will continue to be required to do so in the future. In addition, environmental laws and regulations could limit our customers exploration and production activities. These laws and regulations change frequently, which makes it impossible for us to predict their cost or impact on our future operations. For example, legislation to regulate emissions of greenhouse gases has been introduced in the U.S. Congress, and there has been a wide-ranging policy debate, both nationally and internationally, regarding the impact of these gases and possible means for their regulation. In addition, efforts have been made and continue to be made in the international community toward the adoption of international treaties or protocols that would address global climate change issues, such as the annual United Nations Climate Change Conferences. Also, the EPA has undertaken new efforts to collect information regarding greenhouse gas emissions and their effects. Following a finding by the EPA that certain greenhouse gases represent a danger to human health, the EPA has expanded its regulations relating to those emissions and has adopted rules imposing permitting and reporting obligations. The results of the permitting and reporting requirements could lead to further regulation of these greenhouse gases by the EPA. To date, there has been no significant legislative progress in cap and trade proposals or greenhouse gas emission reductions. The adoption of legislation or regulatory programs to reduce greenhouse gas emissions could also increase the cost of consuming, and thereby reduce demand for, the hydrocarbons that our customers produce. Consequently, such legislation or regulatory programs could have an adverse effect on our financial condition and results of operations. It is too early to determine whether, or in what form, further regulatory action regarding greenhouse gas emissions will be adopted or what specific impact a new regulatory action might have on us or our customers. Generally, the anticipated regulatory actions do not appear to affect us in any material respect that is different, or to any materially greater or lesser extent, than other companies that are our competitors. However, our business and prospects could be adversely affected to the extent laws are enacted or modified or other governmental action is taken that prohibits or restricts our customers exploration and production activities or imposes environmental protection requirements that result in increased costs to us or our customers.

Environmental laws may provide for strict liability for damages to natural resources or threats to public health and safety, rendering a party liable for environmental damage without regard to negligence or fault on the part of such party. Sanctions for noncompliance may include revocation of permits, corrective action orders, administrative or civil penalties, and criminal prosecution. Some environmental laws and regulations provide for joint and several strict liability for remediation of spills and releases of hazardous substances. In addition, we may be subject to claims alleging personal injury or property damage as a result of alleged exposure to hazardous substances, as well as damage to natural resources. These laws and regulations also may expose us to liability for the conduct of or conditions caused by others, or for our acts that were in compliance with all applicable laws and regulations at the time such acts were performed. Any of these laws and regulations could result in claims, fines or expenditures that could be material to results of operations, financial position and cash flows.

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Our business could be adversely affected by a failure or breach of our information technology systems.

Our business operations depend on our information technology (IT) systems. Despite our security and back-up measures, our IT systems are vulnerable to computer viruses, natural disasters and other disruptions or failures. The failure of our IT systems to perform as anticipated for any reason or any significant breach of security could disrupt our business and result in numerous adverse consequences, including reduced effectiveness and efficiency of our operations and those of our customers, inappropriate disclosure of confidential information, increased overhead costs, loss of intellectual property and damage to our reputation, which could have a material adverse effect on our business and results of operations. In addition, we may be required to incur significant costs to prevent or respond to damage caused by these disruptions or security breaches in the future.

The market price of our common stock may be volatile.

The trading price of our common stock and the price at which we may sell common stock in the future are subject to large fluctuations in response to any of the following:

- limited trading volume in our common stock;
- quarterly variations in operating results;
- general financial market conditions;
- the prices of natural gas and oil;
- announcements by us and our competitors;
- our liquidity;
- changes in government regulations;
- our ability to raise additional funds;
- our involvement in litigation; and
- other events.

We do not anticipate paying dividends on our common stock in the near future.

We have not paid any dividends in the past and do not intend to pay cash dividends on our common stock in the foreseeable future. Our Board of Directors review this policy on a regular basis in light of our earnings, financial position and market opportunities. We currently intend to retain any earnings for the future operation and development of our business.

Provisions in our corporate documents and Delaware law could delay or prevent a change in control of the Company, even if that change would be beneficial to our stockholders.

The existence of some provisions in our corporate documents and Delaware law could delay or prevent a change in control of our company, even if that change would be beneficial to our stockholders. Our certificate of incorporation and bylaws contain provisions that may make acquiring control of our company difficult, including:

- provisions relating to the classification, nomination and removal of our directors;
- provisions regulating the ability of our stockholders to bring matters for action at annual meetings of our stockholders;
- provisions requiring the approval of the holders of at least 80% of our voting stock for a broad range of business combination transactions with related persons; and
- the authorization given to our Board of Directors to issue and set the terms of preferred stock.

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Our stockholder rights plan could also make it more difficult for a third party to acquire, or could discourage a third party from acquiring, our company or a large block of our common stock. In addition, the Delaware General Corporation Law imposes restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. ***Properties***

Major Manufacturing Facilities

Location	Building Size (Approximate Square Feet)	Land (Approximate Acreage)	Owned or Leased
Houston, Texas			
Hempstead Highway	175,000	12.9	Owned
N. Eldridge Parkway	1,722,000	218.0	Owned
Aberdeen, Scotland	222,800	24.1	Owned
Singapore	293,200	14.4	Leased
Macae, Brazil	169,600	10.6	Owned

Dril-Quip has manufacturing facilities in Houston, Aberdeen, Singapore and Macae. The Houston facility at Eldridge produces in-house a majority of the Company s forging and heat treatment requirements.

Sales, Service and Reconditioning Facilities

Location(1)	Building Size (Approximate Square Feet)	Land (Approximate Acreage)	Activity
New Orleans, Louisiana	2,300		Sales/Service
Beverwijk, Holland	5,200	0.4	Sales/Warehouse
Perth and Welshpool, Australia	28,100	2.9	Sales/Service/Reconditioning/Warehouse
Stavanger, Norway	42,000	6.1	Sales/Service/Reconditioning/Warehouse/Fabrication
Esbjerg, Denmark	19,100	2.6	Sales/Service/Reconditioning/Warehouse
Port Harcourt, Nigeria	6,600	0.1	Service/Reconditioning/Warehouse
Tianjin, China	12,200		Service/Reconditioning/Warehouse

Shekou, China	1,000		Sales
Cairo, Egypt	2,200		Sales
Balikpapan, Indonesia	2,000		Reconditioning
Alexandria, Egypt	5,200	0.6	Service/Reconditioning/Warehouse
Takoradi, Ghana	2,500	0.8	Service/Reconditioning/Warehouse
Doha, Qatar	8,900		Service/Reconditioning/Warehouse

(1) All facilities are leased except Stavanger, Norway, which is owned.

The Company also performs sales, service and reconditioning activities at its facilities in Houston, Aberdeen, Singapore and Macae.

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Item 3. ***Legal Proceedings***

Brazilian Tax Issue

From 2002 to 2007, the Company s Brazilian subsidiary imported goods through the State of Espirito Santo in Brazil and subsequently transferred them to its facility in the State of Rio de Janeiro. During that period, the Company s Brazilian subsidiary paid taxes to the State of Espirito Santo on its imports. Upon the final sale of these goods, the Company s Brazilian subsidiary collected taxes from customers and remitted them to the State of Rio de Janeiro net of the taxes paid on importation of those goods to the State of Espirito Santo in accordance with the Company s understanding of Brazilian tax laws.

In August 2007, the State of Rio de Janeiro served the Company s Brazilian subsidiary with assessments to collect a state tax on the importation of goods through the State of Espirito Santo from 2002 to 2007 claiming that these taxes were due and payable to it under applicable law. The Company settled these assessments with payments to the State of Rio de Janeiro of $12.2 million in March 2010 and $3.9 million in December 2010. Approximately $7.8 million of these settlement payments were attributable to penalties, interest and amounts that had expired under the statute of limitations so that amount was recorded as an expense. The remainder of the settlement payments generated credits (recorded as a prepaid tax) that can be used to offset future state taxes on sales to customers in the State of Rio de Janeiro once certified by the tax authorities under a process that is currently ongoing. When the credits are certified, the Company will have a five-year period in which to utilize them.

In December 2010 and January 2011, the Company s Brazilian subsidiary was served with two additional assessments totaling approximately $13.0 million from the State of Rio de Janeiro to cancel the credits associated with the tax payments to the State of Espirito Santo (Santo Credits) on the importation of goods from July 2005 to October 2007. The Santo Credits are not related to the credits described above. The Company has objected to these assessments on the grounds that they would represent double taxation on the importation of the same goods and that the Company is entitled to the credits under applicable Brazilian law. With regard to the December 2010 assessment, the Company s Brazilian subsidiary has filed an appeal with a State of Rio de Janeiro judicial court to annul the tax assessment following a ruling against the Company by the tax administration s highest council. In connection with that appeal, the Company was required to deposit with the court approximately $3.1 million (at the December 31, 2014 exchange rate of 2.67 Brazilian real to 1.00 U.S. dollar) as the full amount of the assessment with penalties and interest. The Company intends to file a similar appeal in the judicial system if the tax administration s highest council rules against the Company with regard to the January 2011 assessment. The Company believes that these credits are valid and that success in the judicial court process is probable. Based upon this analysis, the Company has not accrued any liability in conjunction with this matter.

Since 2007, the Company s Brazilian subsidiary has paid taxes on the importation of goods directly to the State of Rio de Janeiro and the Company does not expect any similar issues to exist for periods subsequent to 2007.

For a further description of the Company s legal proceedings, see Commitments and Contingencies, Note 9 of Notes to Consolidated Financial Statements. The Company also is involved in a number of legal actions arising in the ordinary course of business. Although no assurance can be given with respect to the ultimate outcome of such legal actions, in the opinion of management, the ultimate liability with respect thereto will not have a material adverse effect on the Company s results of operations, financial position or cash flows.

Item 4. Mine Safety Disclosure

Not applicable.

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PART II

Item 5. ***Market for Registrant s Common Stock, Related Stockholder Matters and Issuer Purchases of Equity Securities***

The Company s Common Stock is publicly traded on the New York Stock Exchange under the symbol DRQ. The following table sets forth the quarterly high and low sales prices of the Common Stock as reported on the New York Stock Exchange for the indicated quarters of fiscal 2014 and 2013.

	Sales Price ($)			
	2014		2013	
Quarter Ended	**High**	**Low**	**High**	**Low**
March 31	$ 112.86	$ 94.99	$ 88.12	$ 73.70
June 30	116.53	99.00	95.44	76.44
September 30	110.23	88.98	115.56	89.97
December 31	$ 93.54	$ 69.38	$ 121.07	$ 104.52

There were approximately 100 stockholders of record of the Company s Common Stock as of December 31, 2014. This number includes the Company s employees and directors that hold shares, but does not include the number of security holders for whom shares are held in a nominee or street name.

The Company has not paid any dividends in the past. The Company currently intends to retain any earnings for the future operation and development of its business and does not currently anticipate paying any dividends in the foreseeable future. The Board of Directors will review this policy on a regular basis in light of the Company s earnings, financial position and market opportunities.

Information concerning securities authorized for issuance under equity compensation plans is included in Note 12 of Notes to Consolidated Financial Statements.

Repurchase of Equity Securities

In June 2012, the Company announced that its Board of Directors authorized a stock repurchase plan under which the Company was authorized to repurchase up to $100 million of its common stock. In the fourth quarter of 2013, the Company repurchased and cancelled 85,840 shares at a total cost of $10 million. In the first half of 2014, the Company repurchased and cancelled 869,699 shares for $90 million. As of May 27, 2014, the Company had repurchased the maximum amount authorized under the stock repurchase plan.

On June 12, 2014, the Company announced that its Board of Directors authorized an additional stock repurchase plan in which the Company was authorized to repurchase up to $100 million of its common stock. In the third quarter of 2014, the Company repurchased and cancelled 512,053 shares at an average price of $98.11 and a total cost of $50.2 million. In the fourth quarter of 2014 the Company repurchased and cancelled 639,550 shares at an average cost of $77.85 for a total cost of $49.8 million. As of December 24, 2014, the Company had repurchased the maximum amount authorized under the stock repurchase plan. Activity for this plan for the three months ended December 31, 2014 is detailed below:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program	Maximum Dollar Value (in millions) of Shares that May Yet Be Purchased Under the Program
October 1-31, 2014		$		$ 49.8
November 1-30, 2014	128,050	87.13	128,050	38.6
December 1-31, 2014	511,500	75.53	511,500	
Total	639,550	$ 77.85	639,550	$

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Item 6. ***Selected Financial Data***

The information set forth below should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements and Notes thereto included elsewhere in this report on Form 10-K.

	Year ended December 31,				
	2014	2013	2012	2011	2010
	(In thousands, except per share amounts)				
Statement of Operations Data:					
Revenues:					
Products	$ 773,205	$ 731,617	$ 610,218	$ 511,650	$ 486,050
Services	157,752	140,755	122,813	89,692	80,201
Total revenues	930,957	872,372	733,031	601,342	566,251
Cost and expenses:					
Cost of sales:					
Products	428,125	436,359	384,513	303,995	272,619
Services	85,402	77,547	67,153	57,853	49,988
Total cost of sales	513,527	513,906	451,666	361,848	322,607
Selling, general and administrative	92,762	94,806	82,218	70,510	61,069
Engineering and product development	45,920	40,115	37,455	34,626	29,202
Special items				4,719	14,660
Operating income	278,748	223,545	161,692	129,639	138,713
Interest income	667	587	462	418	321
Interest expense	(35)	(35)	(32)	(53)	(131)
Income before income taxes	279,380	224,097	162,122	130,004	138,903
Income tax provision	70,668	54,270	42,913	34,737	36,677
Net income	$ 208,712	$ 169,827	$ 119,209	$ 95,267	$ 102,226
Earnings per common share:					
Basic	$ 5.22	$ 4.18	$ 2.96	$ 2.38	$ 2.57
Diluted	$ 5.19	$ 4.16	$ 2.94	$ 2.36	$ 2.55
Weighted average common shares outstanding:					
Basic	39,964	40,648	40,332	40,071	39,828
Diluted	40,190	40,865	40,523	40,322	40,060
Statement of Cash Flows Data:					
Net cash provided by (used in) operating activities	149,313	162,229	(8,159)	$ 101,854	$ 107,160
Net cash used in investing activities	(41,571)	(41,873)	(48,999)	(54,187)	(72,950)
Net cash provided by (used in) financing activities	(186,827)	3,367	12,257	5,098	14,634
Other Data:					
Depreciation and amortization	$ 31,155	$ 29,340	$ 26,224	$ 23,013	$ 20,875
Capital expenditures	42,549	42,633	50,773	56,213	74,815

	December 31,				
	2014	2013	2012	2011	2010
	(In thousands)				
Balance Sheet Data:					
Working capital	$ 928,498	$ 931,563	$ 769,299	$ 648,302	$ 576,920
Total assets	1,449,251	1,396,805	1,249,708	1,094,715	948,551
Total debt				57	326
Total stockholders equity	1,245,192	1,242,018	1,066,432	925,244	828,014

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Item 7. *Management s Discussion and Analysis of Financial Condition and Results of Operations*

The following is management s discussion and analysis of certain significant factors that have affected aspects of the Company s financial position, results of operations, comprehensive income and cash flows during the periods included in the accompanying consolidated financial statements. This discussion should be read in conjunction with the Company s consolidated financial statements and notes thereto presented elsewhere in this Report.

Overview

Dril-Quip designs, manufactures, sells and services highly engineered offshore drilling and production equipment that is well suited for use in deepwater, harsh environments and severe service applications. The Company designs and manufactures subsea equipment, surface equipment and offshore rig equipment for use by major integrated, large independent and foreign national oil and gas companies in offshore areas throughout the world. The Company s principal products consist of subsea and surface wellheads, subsea and surface production trees, subsea control systems and manifolds, mudline hanger systems, specialty connectors and associated pipe, drilling and production riser systems, liner hangers, wellhead connectors and diverters. Dril-Quip also provides technical advisory assistance services on an as-requested basis during installation of its products, as well as rework and reconditioning services for customer-owned Dril-Quip products. In addition, Dril-Quip customers may rent or purchase running tools from the Company for use in the installation and retrieval of the Company s products.

Oil and Gas Prices

Both the market for offshore drilling and production equipment and services and the Company s business are substantially dependent on the condition of the oil and gas industry and, in particular, the willingness of oil and gas companies to make capital expenditures on exploration, drilling and production operations offshore. Oil and gas prices and the level of offshore drilling and production activity have historically been characterized by significant volatility. See Item 1A. Risk Factors A material or extended decline in expenditures by the oil and gas industry could significantly reduce our revenue and income.

According to the Energy Information Administration (EIA) of the U.S. Department of Energy, average Brent Crude oil and natural gas (Henry Hub) closing prices are listed below for periods covered by this report:

	Year ended December 31,		
	2014	**2013**	**2012**
Closing Crude Oil ($/Bbl)	$ 55.27	$ 109.95	$ 110.80
Average Crude Oil ($/Bbl)	98.97	108.56	111.57
Closing Natural Gas ($/per Mcf)	3.24	4.44	3.54
Average Natural Gas ($/per Mcf)	4.51	3.85	2.84

In 2012, Brent Crude oil prices ranged between $88.69 per barrel and $128.14 per barrel with an average price of $111.57 per barrel price. Crude oil ended 2012 at $110.80 per barrel. In 2013, the Brent Crude oil price ranged between a low of $96.84 per barrel and a high of $118.90 per barrel with an average of $108.56 per barrel and ended the year at $109.95 per barrel. In 2014, Brent Crude oil prices ranged between a low of $55.27 per barrel and a high of $115.19 per barrel with an average price of $98.97 per barrel. Brent Crude oil ended the year at $55.27 per barrel.

According to the January 2015 release of the Short-Term Energy Outlook published by the EIA, Brent Crude oil prices are projected to average $57.58 per barrel in 2015 and $75.00 in 2016.

In its January 2015 report, the EIA expects Henry Hub natural gas prices to average $3.55 per Mcf in 2015 and $3.98 per Mcf in 2016. Henry Hub natural gas price was $3.24 per Mcf at the end of December 2014.

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In its January 2015 Oil Market Report, the International Energy Agency projected global oil demand was 92.4 million barrels per day in 2014 rising to an estimated average of 93.3 million barrels per day in 2015.

According to the EIA, between January 1, 2015 and February 2, 2015, the price of Brent Crude oil ranged from $45.13 per barrel to $55.38 per barrel, closing at $51.74 per barrel on February 2, 2015. For the same period, Henry Hub natural gas price ranged from $2.97 per Mcf to $3.42 per Mcf, closing at $2.97 per Mcf on January 27, 2015.

Rig Count

Detailed below is the average contracted offshore rig count for the Company s geographic regions for the years ended December 31, 2014, 2013 and 2012. The rig count data includes floating rigs (semi-submersibles and drillships) and jack-up rigs. The Company has included only these types of rigs as they are the primary end users of the Company s products.

	2014		**2013**		**2012**	
	Floating Rigs	**Jack-up Rigs**	**Floating Rigs**	**Jack-up Rigs**	**Floating Rigs**	**Jack-up Rigs**
Western Hemisphere	125	96	129	89	128	83
Eastern Hemisphere	100	96	94	89	88	83
Asia-Pacific	54	260	50	248	48	220
Total	279	452	273	426	264	386

Source: IHS Petrodata RigBase December 31, 2014, 2013 and 2012

The table above represents rigs under contract and includes rigs currently drilling as well as rigs committed, but not yet drilling. According to IHS-Petrodata RigBase, as of December 31, 2014, there were 66 rigs under contract (48 floating rigs and 18 jack-up rigs) in the U.S. Gulf of Mexico, 63 of which were actively drilling (46 floating rigs and 17 jack-up rigs). As of December 31, 2013, there were 76 rigs under contract in the U.S. Gulf of Mexico (43 floating rigs and 33 jack-up rigs), of which 69 were actively drilling (39 floating rigs and 30 jack-up rigs), and as of December 31, 2012, there were 69 rigs under contract in the U.S. Gulf of Mexico (38 floating rigs and 31 jack-up rigs), of which 65 were actively drilling (34 floating rigs and 31 jack-up rigs).

The global offshore count for rigs under contract dropped 2% from December 2014 to February 2015. Unlike the land rigs, the effects of the decline in oil prices is not expected to significantly affect offshore rig counts for approximately three to six months or more.

The Company believes that the number of rigs (semi-submersibles, drillships and jack-up rigs) under construction impacts its revenues because in certain cases, its customers order some of the Company s products during the construction of such rigs. As a result, an increase in rig construction activity tends to favorably impact the Company s backlog while a decrease in rig construction activity tends to negatively impact the Company s backlog. According to IHS-Petrodata, at the end of 2014, 2013 and 2012, there were 228, 233 and 186 rigs, respectively; under construction and the expected delivery dates for the rigs under construction on February 10, 2015 are as follows:

Total

	Floating Rigs	Jack-Ups	
2015	32	71	103
2016	22	53	75
2017	20	15	35
2018	9		9
After 2018 or unspecified delivery date	6		6
	89	139	228

Regulation

The demand for the Company s products and services is also affected by laws and regulations relating to the oil and gas industry in general, including those specifically directed to offshore operations. The adoption of new laws and regulations, or changes to existing laws or regulations that curtail exploration and development drilling for oil and gas for economic or other policy reasons could adversely affect the Company s operations by limiting demand for its products.

Business Environment

Historically, oil and gas prices and the level of offshore drilling and production activity have been characterized by significant volatility in recent years. Worldwide military, political, economic and other events have contributed to oil and natural gas price volatility and are likely to continue to do so in the future. In 2012 the Brent Crude oil prices ranged between $88.69 per barrel and $128.14 per barrel with an average price of $111.57 per barrel and ended the year at $110.80 per barrel. In 2013 Brent Crude oil prices ranged between $96.84 per barrel and $118.90 per barrel with an average price of $108.56 per barrel and ended the year at $109.95 per barrel. The average price for 2014 was $98.97 per barrel and reached a high of $115.19 per barrel. In the fourth quarter of 2014, Brent Crude oil prices had fallen to a low of $55.27 per barrel. A significant and prolonged decline in hydrocarbon prices would likely have a material adverse effect on the Company s results of operations. The Company expects continued volatility in both crude oil and natural gas prices, as well as in the level of drilling and production related activities. Even during periods of high prices for oil and natural gas, companies exploring for oil and gas may cancel or curtail programs, or reduce their levels of capital expenditures for exploration and production for a variety of reasons.

The Company operates its business and markets its products and services in most of the significant oil and gas producing areas in the world and is, therefore, subject to the risks customarily attendant to international operations and investments in foreign countries. These risks include nationalization, expropriation, war, acts of terrorism and civil disturbance, restrictive action by local governments, limitation on repatriation of earnings, change in foreign tax laws and change in currency exchange rates, any of which could have an adverse effect on either the Company s ability to manufacture its products in its facilities abroad or the demand in certain regions for the Company s products or both. To date, the Company has not experienced any significant problems in foreign countries arising from local government actions or political instability, but there is no assurance that such problems will not arise in the future. Interruption of the Company s international operations could have a material adverse effect on its overall operations. See Item 1A. Risk Factors Our international operations expose us to instability and changes in economic and political conditions and other risks inherent to international business, which could have a material adverse effect on our results of operations, financial position or cash flows.

Revenues. Dril-Quip s revenues are generated from two sources: products and services. Product revenues are derived from the sale of offshore drilling and production equipment. Service revenues are earned when the Company provides technical advisory assistance for installation of the Company s products, reconditioning services and rental of running tools for installation and retrieval of the Company s products. In 2014, the Company derived 83% of its revenues from the sale of its products and 17% of its revenues from services compared to 84% and 16% in 2013 and 83% and 17% in 2012, respectively. Service revenues generally correlate to revenues from product sales because increased product sales typically generate increased demand for technical advisory assistance services during installation and rental of running tools. The Company has substantial international operations, with approximately 63%, 67% and 74% of its revenues derived from foreign sales in 2014, 2013 and 2012, respectively. Substantially all of the Company s domestic revenue relates to operations in the U. S. Gulf of Mexico. Domestic revenue approximated 37%, 33% and 26%, respectively, of the Company s total revenues for 2014, 2013 and 2012.

Product contracts are typically negotiated and sold separately from service contracts. In addition, service contracts are not typically included in the product contracts or related sales orders and are not offered to the customer as a condition of the sale of the Company s products. The demand for products and services is

generally based on world-wide economic conditions in the offshore oil and gas industry, and is not based on a specific relationship between the two types of contracts. Substantially all of the Company s sales are made on a purchase order basis. Purchase orders are subject to change and/or termination at the option of the customer. In case of a change or termination, the customer is required to pay the Company for work performed and other costs necessarily incurred as a result of the change or termination.

Generally, the Company attempts to raise its prices as its costs increase. However, the actual pricing of the Company s products and services is impacted by a number of factors, including global oil prices, competitive pricing pressure, the level of utilized capacity in the oil service sector, maintenance of market share, the introduction of new products and general market conditions.

The Company accounts for larger and more complex projects that have relatively longer manufacturing time frames on a percentage-of-completion basis. During 2014, there were 17 projects that were accounted for using the percentage-of-completion method, which represented approximately 11%, of the Company s total revenues and 13% of the Company s product revenues. During 2013 and 2012, there were 21 projects that were accounted for using the percentage-of-completion method which represented 15% and 20%, respectively of the company s total revenue and 18% and 24% of the Company s product revenues, respectively. This percentage may fluctuate in the future. Revenues accounted for in this manner are generally recognized based upon a calculation of the percentage complete, which is used to determine the revenue earned and the appropriate portion of total estimated cost of sales. Accordingly, price and cost estimates are reviewed periodically as the work progresses, and adjustments proportionate to the percent complete are reflected in the period when such estimates are revised. Losses, if any, are recorded in full in the period they become known. Amounts received from customers in excess of revenues recognized are classified as a current liability. See Item 1A. Risk Factors We may be required to recognize a charge against current earnings because of percentage-of-completion accounting.

The following table sets forth, for the periods indicated, a breakdown of the Company s U.S. Gulf of Mexico products and services revenues:

	Year Ended December 31,		
	2014	2013	2012
	(In millions)		
Revenues:			
Products			
Subsea equipment	$ 233.8	$ 209.7	$ 118.5
Surface equipment	6.5	3.8	0.4
Offshore rig equipment	45.2	16.6	19.7
Total products	285.5	230.1	138.6
Services	56.2	53.6	50.3
Total U.S. Gulf of Mexico revenues	$ 341.7	$ 283.7	$ 188.9

Numerous subsea equipment orders were completed and shipped, contributing to the large increase in subsea equipment revenue for the year ended December 31, 2014 and 2013 as compared to the same period for 2012. The change in offshore rig equipment revenues for 2014 compared to the same period of 2013 resulted primarily from an increase of revenues from projects accounted for under the percentage-of-completion method for offshore rig

equipment projects. For 2014, 2013 and 2012 the Company s U.S. Gulf of Mexico service revenues as a percentage of worldwide revenue was 6.0% and 6.1% and 6.9%, respectively.

Cost of Sales. The principal elements of cost of sales are labor, raw materials and manufacturing overhead. Cost of sales as a percentage of revenues is influenced by the product mix sold in any particular period, costs from projects accounted for under the percentage-of-completion method and market conditions. The Company s costs related to its foreign operations do not significantly differ from its domestic costs.

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Selling, General and Administrative Expenses. Selling, general and administrative expenses include the costs associated with sales and marketing, general corporate overhead, business development expenses, compensation expense, stock-based compensation expense, legal expenses, foreign currency transaction gains and losses and other related administrative functions.

Engineering and Product Development Expenses. Engineering and product development expenses consist of new product development and testing, as well as application engineering related to customized products.

Income Tax Provision. The Company s overall effective income tax rate has historically been lower than the statutory rate primarily due to foreign income tax rate differentials, research and development credits and deductions related to domestic manufacturing activities.

Results of Operations

The following table sets forth, for the periods indicated, certain consolidated statements of income data expressed as a percentage of revenues:

	Year Ended December 31,		
	2014	**2013**	**2012**
Revenues:			
Products	83.1%	83.9%	83.2%
Services	16.9	16.1	16.8
Total revenues	100.0	100.0	100.0
Cost of sales:			
Products:	46.0	50.0	52.5
Services	9.2	8.9	9.1
Total cost of sales	55.2	58.9	61.6
Selling, general and administrative	10.0	10.9	11.2
Engineering and product development	4.9	4.6	5.1
Operating income	29.9	25.6	22.1
Interest income	0.1	0.1	0.1
Interest expense			
Income before income taxes	30.0	25.7	22.2
Income tax provision	7.6	6.2	5.9
Net income	22.4%	19.5%	16.3%

The following table sets forth, for the periods indicated, a breakdown of our products and service revenues:

2014	**2013**	**2012**

	(In millions)		
Revenues:			
Products			
Subsea equipment	$ 684.4	$ 646.5	$ 518.6
Surface equipment	35.2	35.8	38.5
Offshore rig equipment	53.6	49.3	53.1
Total products	773.2	731.6	610.2
Services	157.8	140.8	122.8
Total revenues	$ 931.0	$ 872.4	$ 733.0

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Year Ended December 31, 2014 Compared to Year Ended December 31, 2013

Revenues. Revenues increased by $58.6 million, or approximately 6.7%, to $931.0 million in 2014 from $872.4 million in 2013. Product revenues increased by approximately $41.6 million for the year ended December 31, 2014 compared to the same period in 2013 as a result of increased revenues of $37.9 million in subsea equipment and an increase of $4.3 million in offshore rig equipment, partially offset by decreases of $0.6 million in surface equipment. The increase in subsea equipment revenue was primarily due to increased revenues of $24.1 million in subsea equipment in the U.S. Gulf of Mexico as numerous subsea equipment orders were completed and shipped. Product revenues increased in the Western Hemisphere by $10.2 million, $19.1 million in the Eastern Hemisphere and in Asia-Pacific by $12.3 million. Service revenues increased by approximately $17.0 million resulting from increased service revenues in the Western Hemisphere of $2.2 million, $13.1 million in the Eastern Hemisphere and $1.7 million in Asia-Pacific. The majority of the increases in service revenues related to increased technical advisory assistance services and rental of the Company s running and installation tools.

Cost of Sales. Cost of sales decreased by $0.4 million, or less than 1.0%, to $513.5 million for 2014 from $513.9 million for the same period in 2013. As a percentage of revenues, cost of sales were approximately 55.2% in 2014 and 58.9% in 2013. Cost of sales as a percentage of revenue decreased in 2014 primarily due to pricing increases and changes in the product mix.

Selling, General and Administrative Expenses. For 2014, selling, general and administrative expenses decreased by approximately $2.0 million, or 2.1%, to $92.8 million from $94.8 million in 2013. The decrease in selling, general and administrative expenses was primarily due to foreign currency translation gains of $4.5 million in 2014 as compared to losses of $6.0 million in 2013. The gains were partially offset by an increase in stock-based compensation expense of $11.9 million in 2014 as compared to $8.9 million in 2013. Personnel and related expenses totaled $86.0 million for 2014 as compared to $79.3 million for 2013. Selling, general and administrative expenses as a percentage of revenues were 10.0% in 2014 and 10.9% in 2013.

Engineering and Product Development Expenses. For 2014, engineering and product development expenses increased by approximately $5.8 million, or 14.5%, to $45.9 million from $40.1 million in 2013. The increase was primarily due to additional personnel required to meet the demands of the backlog related to long-term projects. Engineering and product development expenses as a percentage of revenues increased to 4.9% in 2014 from 4.6% in 2013.

Income tax provision. Income tax expense for 2014 was $70.7 million on income before taxes of $279.4 million, resulting in an effective income tax rate of approximately 25.3%. Income tax expense in 2013 was $54.3 million on income before taxes of $224.1 million, resulting in an effective tax rate of approximately 24.2%. The increase in the effective income tax rate reflects the $1.2 million Research and Development tax credit from the American Taxpayer Relief Act of 2012 recognized on the 2012 U.S. income tax return, but not recorded until 2013 for financial statement purposes in accordance with GAAP. Also contributing to the increased tax rate is the difference in income tax rates between the Company s three geographic areas, which have different income tax rates.

Net Income. Net income was approximately $208.7 million in 2014 and $169.8 million in 2013 for the reasons set forth above.

Year ended December 31, 2013 Compared to Year Ended December 31, 2012

Revenues. Revenues increased by $139.4 million, or approximately 19.0%, to $872.4 million in 2013 from $733.0 million in 2012. Product revenues increased by approximately $121.4 million for the year ended December 31, 2013 compared to the same period in 2012 as a result of increased revenues of $127.9 million in subsea equipment, partially

offset by decreases of $2.7 million in surface equipment and $3.8 million in offshore rig equipment. The increase in subsea equipment revenue was primarily due to increased revenues of $91.2 million in subsea equipment in the U.S. Gulf of Mexico as numerous subsea equipment orders were

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completed and shipped. Product revenues increased in the Western Hemisphere by $121.6 million and in Asia-Pacific by $10.1 million, partially offset by a decrease of $10.3 million in the Eastern Hemisphere. Service revenues increased by approximately $18.0 million resulting from increased service revenues in the Western Hemisphere of $3.4 million, $9.4 million in the Eastern Hemisphere and $5.2 million in Asia-Pacific. The majority of the increases in service revenues related to increased technical advisory assistance services and reconditioning of the Company s running and installation tools.

Cost of Sales. Cost of sales increased by $62.2 million, or approximately 13.8%, to $513.9 million for 2013 from $451.7 million for the same period in 2012. As a percentage of revenues, cost of sales were approximately 58.9% in 2013 and 61.6% in 2012. Cost of sales as a percentage of revenue decreased in 2013 primarily due to changes in the product mix and decreases in unabsorbed manufacturing overhead expenses.

Selling, General and Administrative Expenses. For 2013, selling, general and administrative expenses increased by approximately $12.6 million, or 15.3%, to $94.8 million from $82.2 million in 2012. The increase in selling, general and administrative expenses was primarily due to increased personnel and related expenses, foreign currency transaction losses and an increase in stock-based compensation. Personnel and related expenses were higher by $6.1 million in 2013 as compared to 2012. The Company recognized approximately $6.0 million in foreign currency transaction losses during 2013 compared to approximately $5.2 million of losses during 2012. Stock-based compensation expense for 2013 totaled $8.9 million compared to $5.7 million in 2012. Selling, general and administrative expenses as a percentage of revenues were 10.9% in 2013 and 11.2% in 2012.

Engineering and Product Development Expenses. For 2013, engineering and product development expenses increased by approximately $2.6 million, or 6.9%, to $40.1 million from $37.5 million in 2012. The increase was primarily due to additional personnel required to meet the demands of the backlog related to long-term projects. Engineering and product development expenses as a percentage of revenues decreased to 4.6% in 2013 from 5.1% in 2012.

Income tax provision. Income tax expense for 2013 was $54.3 million on income before taxes of $224.1 million, resulting in an effective income tax rate of approximately 24.2%. Income tax expense in 2012 was $42.9 million on income before taxes of $162.1 million, resulting in an effective tax rate of approximately 26.4%. The decrease in the effective income tax rate reflects the $1.2 million Research and Development tax credit from the American Taxpayer Relief Act of 2012 recognized on the 2012 U.S. income tax return, but not recorded until 2013 for financial statement purposes in accordance with GAAP. Also contributing to the decreased tax rate is the difference in income tax rates between the Company s three geographic areas.

Net Income. Net income was approximately $169.8 million in 2013 and $119.2 million in 2012 for the reasons set forth above.

Liquidity and Capital Resources

Cash flows provided by (used in) operations by type of activity were as follows:

	Year ended December 31,		
	2014	**2013**	**2012**
		(In thousands)	
Operating activities	$ 149,313	$ 162,229	$ (8,159)
Investing activities	(41,571)	(41,873)	(48,999)

Financing activities	(186,827)	3,367	12,257
	(79,085)	123,723	(44,901)
Effect of exchange rate changes on cash activities	(6,566)	3,442	3,516
Increase (decrease) in cash and cash equivalents	$ (85,651)	$ 127,165	$ (41,385)

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Statements of cash flows for entities with international operations that are local currency functional exclude the effects of the changes in foreign currency exchange rates that occur during any given year, as these are non-cash changes. As a result, changes reflected in certain accounts on the Consolidated Statements of Cash Flows may not reflect the changes in corresponding accounts on the Consolidated Balance Sheets.

The primary liquidity needs of the Company are (i) to fund capital expenditures to improve and expand facilities and manufacture additional running tools and (ii) to fund working capital. The Company s principal source of funds is cash flows from operations.

Net cash provided by operating activities decreased $12.9 million in 2014 compared to 2013, primarily due to decreases in operating assets and liabilities of $54.4 million, offset by higher net income of $38.9 million and non-cash income adjustments of $2.6 million. Net cash provided by operating activities increased $170.4 million in 2013 compared to 2012, primarily due to higher net income of $50.6 million and non-cash income adjustments of $4.6 million and changes in operating assets and liabilities of $115.2 million in 2013.

Net income increased by $38.9 million to $208.7 million in 2014 from $169.8 million in 2013. Net income increased by $50.6 million to $169.8 million in 2013 from $119.2 million in 2012. The reasons for the changes in net income are set forth in the Results of Operations section above.

The change in operating assets and liabilities of $99.1 million during 2014 primarily reflected an increase in trade receivables of $102.7 million and an increase in inventory of $36.8 million. Trade receivables increased due to the growth of revenues in 2014 and an increase in unbilled revenues of $15.1 million related to long-term projects. Inventory increased due to higher balances in raw materials and finished goods to accommodate the backlog requirements related to long-term projects. Prepaids and other assets increased by $13.2 million mostly due from advances to suppliers related to long-term projects. Accounts payable and accrued expenses were higher by approximately $54.2 million which included an increase of $26.2 million in customer prepayments.

The change in operating assets and liabilities of $44.7 million during 2013 primarily reflected an increase in trade receivables of $17.3 million and an increase in inventory of $10.6 million. Trade receivables increased due to the growth of revenues in 2013, partially offset by a decrease in unbilled receivables. Inventory increased due to higher balances in work in progress to accommodate the backlog requirements related to long-term projects. Prepaids and other assets decreased by $6.2 million. Accounts payable and accrued expenses decreased by approximately $20.2 million.

Capital expenditures by the Company were $42.5 million, $42.6 million and $50.8 million in 2014, 2013 and 2012, respectively. Capital expenditures in 2014, 2013 and 2012 included expanding worldwide manufacturing facilities as well as increased expenditures on machinery and equipment and running tools. The capital expenditures for 2014 were primarily $3.0 million for facilities, $27.0 million for machinery and equipment, $8.3 million for running tools and other expenditures of $4.2 million. Capital expenditures in 2013 were comprised of $7.2 million for facilities, $23.6 million for machinery and equipment, $7.7 million for running tools and other expenditures of $4.1 million. In 2012, capital expenditures were primarily $9.3 million for facilities, $26.9 million for machinery and equipment, $10.5 million for running tools and other expenditures of $4.1 million.

The exercise of stock options generated cash to the Company of $2.8 million, $10.5 million and $10.8 million in 2014, 2013, and 2012 respectively. Under a share repurchase plan approved by its Board of Directors in 2012, the Company repurchased and cancelled 869,699 shares, at a total cost of $90.0 million during 2014. On June 12, 2014 the Company announced that its Board of Directors had authorized another stock repurchase plan under which the Company was authorized to repurchase up to $100 million of its common stock. The Company repurchased 1,151,603

shares under this plan in 2014 for a total of $100.0 million. All repurchased shares were subsequently cancelled during the period.

The following table presents long-term contractual obligations of the Company and the related payments in total and by year as of December 31, 2014:

	Payments due by year						
Contractual Obligations	**2015**	**2016**	**2017**	**2018**	**2019**	**After 2019**	**Total**
	(In millions)						
Operating lease obligations	$ 2.5	$ 1.4	$ 0.7	$ 0.5	$ 0.4	$ 4.6	$ 10.1

In addition to the above, the Company has issued purchase orders in the ordinary course of business for the purchase of goods and services. These purchase orders are enforceable and legally binding. However, none of the Company s purchase obligations call for deliveries of goods or services for time periods in excess of one year.

The Company believes that cash generated from operations plus cash on hand will be sufficient to fund operations, working capital needs and anticipated capital expenditure requirements for the next twelve months. However, any significant future decline in hydrocarbon prices, catastrophic events or significant changes in regulations affecting the Company or its customers could have a material adverse effect on the Company s liquidity. Should market conditions result in unexpected cash requirements, the Company believes that borrowing from commercial lending institutions would be available and adequate to meet such requirements.

Backlog

Backlog consists of firm customer orders of Dril-Quip products for which a purchase order or signed contract has been received, satisfactory credit or financing arrangements exist and delivery is scheduled. Historically, the Company s revenues for a specific period have not been directly related to its backlog as stated at a particular point in time. The Company s product backlog was approximately $1.2 billion at both December 31, 2014 and 2013 and $881 million at December 31, 2012. The backlog at the end of 2014 and 2013 represents an increase of approximately $319 million, or 36%, from the end of 2012.

The Company expects to fill approximately 60% to 65% of the December 31, 2014 product backlog by December 31, 2015. The remaining backlog at December 31, 2014 consists of longer-term projects which are being designed and manufactured to customer specifications requiring longer lead times. In August 2012, the Company s Brazilian subsidiary, Dril-Quip do Brasil LTDA, was awarded a four-year contract by Petrobras, Brazil s national oil company. At exchange rates in effect at the signing date (2.04 Brazilian Reis to 1.00 U.S. Dollar), the contract was valued at $650 million, net of Brazilian taxes, if all the equipment under the contract is ordered. The Company cannot provide assurance that Petrobras will order all of the equipment under the contract. Amounts are included in the Company s backlog as purchase orders under the contract are received. Revenues of approximately $69 million have been recognized on this contract through December 31, 2014. As of December 31, 2014, the Company s backlog included $96 million (at the December 31, 2014 exchange rate of 2.67 Brazilian real to 1.00 U.S. dollar) of purchase orders under this Petrobras contract. The Company has not yet recognized revenue of approximately $9 million as of December 31, 2014 for certain items of equipment that were completed but not accepted for delivery by Petrobras. If Petrobras does not ultimately accept these items for delivery or if they refuse to accept these or similar items completed in the future, the Company s results of operations may be adversely affected. See Item 1A. Risk Factors Our backlog is subject to unexpected adjustments and cancellations and is, therefore, an uncertain indicator of our future revenues and earnings.

Geographic Segments

The Company s operations are organized into three geographic segments Western Hemisphere (including North and South America; headquartered in Houston, Texas), Eastern Hemisphere (including Europe and Africa; headquartered in Aberdeen, Scotland) and Asia-Pacific (including the Pacific Rim, Southeast Asia, Australia, India and the Middle East; headquartered in Singapore). Each of these segments sells similar products and services and the Company has major manufacturing facilities in all three of its headquarter locations as well as in Macae, Brazil.

Revenues for each of these segments are dependent upon the ultimate sale of products and services to the Company s customers. For information on revenues by geographic segment, see Note 11 of Notes to Consolidated Financial Statements. Revenues of the Western Hemisphere are also influenced by its sale of products to the Eastern Hemisphere and Asia-Pacific segments. Accordingly, the operating incomes of each area are closely tied to third-party sales, and the operating income of the Western Hemisphere is also dependent upon its level of intercompany sales.

Currency Risk

Through its subsidiaries, the Company conducts a portion of business in currencies other than the U. S. dollar, principally the British pound sterling and the Brazilian real. The Company generally attempts to minimize its currency exchange risk by seeking international contracts payable in local currency in amounts equal to the Company s estimated operating costs payable in local currency and in U.S. dollars for the balance of the contracts. Because of this strategy, the Company does not anticipate such exposure to be material in the future. The Company had, net of income taxes, transaction gains of $3.4 million in 2014, and transaction losses of $4.6 million and $3.8 million in 2013 and 2012, respectively. There is no assurance that the Company will be able to protect itself against such fluctuations in the future.

Historically, the Company has not conducted business in countries that limit repatriation of earnings. However, as the Company expands its international operations, it may begin operating in countries that have such limitations. Further, there can be no assurance that the countries in which the Company currently operates will not adopt policies limiting repatriation of earnings in the future. The Company also has significant investments in countries other than the United States, principally its manufacturing operations in Scotland, Singapore, Brazil and, to a lesser extent, Norway. The functional currency of these foreign operations is the local currency except for Singapore, where the U.S. dollar is used. Financial statement assets and liabilities in the functional currency are translated at the end of the period exchange rates. Resulting translation adjustments are reflected as a separate component of stockholders equity and have no current effect on earnings or cash flow.

Critical Accounting Policies

The Company s discussion and analysis of its financial condition and results of operations are based on the Company s consolidated financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. The preparation of the consolidated financial statements requires the Company to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. There can be no assurance that actual results will not differ from those estimates. The Company believes the following accounting policies affect its more significant judgments and estimates used in preparation of its consolidated financial statements.

Revenue Recognition.

Product Revenue

The Company recognizes product revenues from two methods:

product revenues recognized under the percentage-of-completion method; and

product revenues from the sale of products that do not qualify for the percentage-of-completion method.

Revenues recognized under the percentage-of-completion method

The Company uses the percentage-of-completion method on long-term contracts that have the following characteristics:

The contracts call for products which are designed to customer specifications;

- The structural designs are unique and require significant engineering and manufacturing efforts generally requiring more than one year in duration;

- The contracts contain specific terms as to milestones, progress billings and delivery dates; and

- Product requirements cannot be filled directly from the Company s standard inventory.

For each project, the Company prepares a detailed analysis of estimated costs, profit margin, completion date and risk factors which include availability of material, production efficiencies and other factors that may impact the project. On a quarterly basis, management reviews the progress of each project, which may result in revisions of previous estimates, including revenue recognition. The Company calculates the percent complete and applies the percentage to determine the revenues earned and the appropriate portion of total estimated costs. Losses, if any, are recorded in full in the period they become known. Historically, the Company s estimates of total costs and costs to complete have approximated actual costs incurred to complete the project.

Under the percentage-of-completion method, billings do not always correlate directly to the revenue recognized. Based upon the terms of the specific contract, billings may be in excess of the revenue recognized, in which case the amounts are included in customer prepayments as a liability on the Consolidated Balance Sheets. Likewise, revenue recognized may exceed customer billings in which case the amounts are reported in trade receivables. Unbilled revenues are expected to be billed and collected within one year. At December 31, 2014 and 2013, receivables included $68.0 million and $52.9 million of unbilled receivables, respectively. During 2014, there were 17 projects representing approximately 11% and 13% of the Company s total revenues and product revenues, respectively, which were accounted for using percentage-of-completion accounting, and 21 projects during 2013 representing approximately 15% of the Company s total revenues and 18% of product revenues, respectively.

Revenues not recognized under the percentage-of-completion method

Revenues from the sale of inventory products, not accounted for under the percentage-of-completion method, are recorded at the time the manufacturing processes are complete and ownership is transferred to the customer.

Service revenue

The Company earns service revenues from three sources:

- technical advisory assistance;

- rental of running tools; and

- rework and reconditioning of customer owned Dril-Quip products.

The Company does not install products for its customers, but it provides technical advisory assistance. At the time of delivery of the product, the customer is not obligated to buy or rent the Company s running tools and the Company is not obligated to perform any subsequent services relating to installation. Technical advisory assistance service revenue is recorded at the time the service is rendered. Service revenues associated with the rental of running and installation

tools are recorded as earned. Rework and reconditioning service revenues are recorded when the refurbishment process is complete.

The Company normally negotiates contracts for products, including those accounted for under the percentage-of-completion method, and services separately. For all product sales, it is the customer s decision as to the timing of the product installation as well as whether Dril-Quip running tools will be purchased or rented. Furthermore, the customer is under no obligation to utilize the Company s technical advisory assistance services. The customer may use a third party or their own personnel.

Inventories. Inventory costs are determined principally by the use of the first-in, first-out (FIFO) costing method and are stated at the lower of cost or market. Company manufactured inventory is valued principally using standard costs, which are calculated based upon direct costs incurred and overhead allocations and approximate actual costs. Inventory purchased from third party vendors is principally valued at the weighted average cost. Periodically, obsolescence reviews are performed on slow-moving inventories and reserves are established based on current assessments about future demands and market conditions. The inventory values have been reduced by a reserve for excess and slow-moving inventories of $34.6 million and $33.2 million as of December 31, 2014 and 2013, respectively. If market conditions are less favorable than those projected by management, additional inventory reserves may be required.

Contingent liabilities. The Company establishes reserves for estimated loss contingencies when the Company believes a loss is probable and the amount of the loss can be reasonably estimated. Revisions to contingent liabilities are reflected in net income in the period in which different or additional facts or information become known or circumstances change that affect the Company s previous assumptions with respect to the likelihood or amount of loss. Reserves for contingent liabilities are based upon the Company s assumptions and estimates regarding the probable outcome of the matter. Should the outcome differ from the Company s assumptions and estimates, revisions to the estimated reserves for contingent liabilities would be required.

Off-Balance Sheet Arrangements

The Company has no derivative instruments and no off-balance sheet hedging or financing arrangements, contracts or operations.

New Accounting Standards

In May 2014, the FASB issued ASU 2014-09 Revenue from Contracts with Customers (Topic 606). The amendment applies a new five-step revenue recognition model to be used in recognizing revenues associated with customer contracts. The amendment requires disclosure sufficient to enable readers of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers, including qualitative and quantitative disclosures, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill the contract. The standard is effective for fiscal years beginning after December 15, 2016, including interim periods within that reporting period. The Company is currently evaluating the new guidance to determine the impact on its consolidated financial statements.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

The Company is currently exposed to certain market risks related to interest rate changes on its short-term investments and fluctuations in foreign exchange rates. The Company does not engage in any material hedging transactions, forward contracts or currency trading which could mitigate the market risks inherent in such transactions. There have been no material changes in market risks for the Company from December 31, 2013.

Foreign Exchange Rate Risk

Through its subsidiaries, the Company conducts a portion of its business in currencies other than the United States dollar, principally the British pound sterling and the Brazilian real. The Company has not experienced significant transaction gains or losses associated with changes in currency exchange rates and does not anticipate such exposure to be material in the future. However, there is no assurance that the Company will be able to protect itself against

currency fluctuations in the future. In periods where the dollar is strong as compared to other currencies, it is possible that foreign sales may experience some decline in profits due to translation. It does not appear the Company s sales have experienced significant profit declines. See Management s Discussion and Analysis of Financial Condition and Results of Operations Currency Risk in Item 7 of this report.

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The Company uses a sensitivity analysis model to measure the potential impact on revenue and net income of a 10% adverse movement of foreign currency exchange rates for the British pound sterling and the Brazilian real against the U.S. dollar over the previous year. Based upon this model, a 10% decrease would have resulted in a decrease in revenues of approximately $37 million and a decrease in net income of approximately $14 million for 2014. There can be no assurance that the exchange rate decrease projected above will materialize as fluctuations in exchange rates are beyond the Company s control.

Item 8. ***Financial Statements and Supplementary Data***

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Management s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) promulgated under the Securities Exchange Act of 1934 as a process designed by, or under the supervision of, the Company s principal executive and principal financial officers and effected by the Company s board of directors, management and other personnel, 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 and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;

- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and

- 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.

Management has designed its internal control over financial reporting 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.

Under the supervision and with the participation of our management, including our principal executive officers and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control Integrated Framework* (2013), our management has concluded that our internal control over financial reporting was effective as of December 31, 2014.

PricewaterhouseCoopers LLP, the independent registered public accounting firm, who audited the consolidated financial statements included in this Annual Report on Form 10-K, has also audited the effectiveness of our internal control over financial reporting, and their report is set forth on page 44.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

Dril-Quip, Inc.

In our opinion, the accompanying consolidated balance sheet as of December 31, 2014 and the related consolidated statements of income, comprehensive income, stockholders equity and cash flows for the year then ended present fairly, in all material respects, the financial position of Dril-Quip, Inc. and its subsidiaries at December 31, 2014, and the results of their operations and their cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company s management is responsible for these financial statements, 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. Our responsibility is to express opinions on these financial statements and on the Company s internal control over financial reporting based on our integrated audit. We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audit of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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 provide a reasonable basis for our opinion.

A company s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) 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/ PricewaterhouseCoopers LLP

Houston, Texas

February 27, 2015

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Report of Independent Registered Public Accounting Firm

Board of Directors and Stockholders

Dril-Quip, Inc.

Houston, Texas

We have audited the accompanying consolidated balance sheet of Dril-Quip, Inc. (the Company) as of December 31, 2013 and the related consolidated statements of income, comprehensive income, stockholders equity, and cash flows for each of the two years in the period ended December 31, 2013. 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 conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Dril-Quip, Inc. at December 31, 2013 and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2013, in conformity with accounting principles generally accepted in the United States of America.

/s/ BDO USA, LLP

Houston, Texas

February 26, 2014

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DRIL-QUIP, INC.

CONSOLIDATED STATEMENTS OF INCOME

	Year Ended December 31,		
	2014	2013	2012
	(In thousands, except per share data)		
Revenues:			
Products	$ 773,205	$ 731,617	$ 610,218
Services	157,752	140,755	122,813
Total revenues	930,957	872,372	733,031
Cost and expenses:			
Cost of sales:			
Products	428,125	436,359	384,513
Services	85,402	77,547	67,153
Total cost of sales	513,527	513,906	451,666
Selling, general and administrative	92,762	94,806	82,218
Engineering and product development	45,920	40,115	37,455
Total costs and expenses	652,209	648,827	571,339
Operating income	278,748	223,545	161,692
Interest income	667	587	462
Interest expense	(35)	(35)	(32)
Income before income taxes	279,380	224,097	162,122
Income tax provision	70,668	54,270	42,913
Net income	$ 208,712	$ 169,827	$ 119,209
Earnings per common share:			
Basic	$ 5.22	$ 4.18	$ 2.96
Diluted	$ 5.19	$ 4.16	$ 2.94
Weighted average common shares outstanding:			
Basic	39,964	40,648	40,332
Diluted	40,190	40,865	40,523

The accompanying notes are an integral part of these consolidated financial statements.

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DRIL-QUIP, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2014	2013	2012
	(In thousands)		
Net income	$ 208,712	$ 169,827	$ 119,209
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(30,034)	(6,340)	4,613
Total comprehensive income	$ 178,678	$ 163,487	$ 123,822

The accompanying notes are an integral part of these consolidated financial statements

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DRIL-QUIP, INC.

CONSOLIDATED BALANCE SHEETS

	December 31,	
	2014	2013
	(In thousands)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 298,705	$ 384,356
Trade receivables, net	373,993	279,253
Inventories, net	392,559	368,354
Deferred income taxes	23,569	20,491
Prepaids and other current assets	38,314	28,552
Total current assets	1,127,140	1,081,006
Property, plant and equipment, net	309,525	304,806
Other assets	12,586	10,993
Total assets	$ 1,449,251	$ 1,396,805
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 53,837	$ 45,454
Accrued income taxes	16,903	13,628
Customer prepayments	71,177	45,025
Accrued compensation	21,527	21,556
Other accrued liabilities	35,198	23,780
Total current liabilities	198,642	149,443
Deferred income taxes	5,417	5,344
Total liabilities	204,059	154,787
Commitments and contingencies (Note 9)		
Stockholders equity:		
Preferred stock: 10,000,000 shares authorized at $0.01 par value (none issued)		
Common stock:		
100,000,000 and 50,000,000 shares authorized at $0.01 par value at December 31, 2014 and 2013, 38,932,508 and 40,822,627 issued and outstanding at December 31, 2014 and 2013	388	407
Additional paid-in capital	16,480	191,965
Retained earnings	1,278,528	1,069,816
Accumulated other comprehensive losses	(50,204)	(20,170)

Total stockholders equity	1,245,192	1,242,018
Total liabilities and stockholders equity	$ 1,449,251	$ 1,396,805

The accompanying notes are an integral part of these consolidated financial statements.

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DRIL-QUIP, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2014	2013	2012
	(In thousands)		
Operating activities			
Net income	$ 208,712	$ 169,827	$ 119,209
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Depreciation and amortization	31,155	29,340	26,224
Stock-based compensation expense	11,856	8,900	5,748
Loss (gain) on sale of equipment	(146)	124	239
Deferred income taxes	(3,145)	(1,235)	338
Changes in operating assets and liabilities:			
Trade receivables, net	(102,696)	(17,250)	(81,566)
Inventories, net	(36,814)	(10,562)	(81,884)
Prepaids and other assets	(13,239)	6,161	(8,510)
Excess tax benefits of stock options and awards	(558)	(2,863)	(1,487)
Accounts payable and accrued expenses	54,188	(20,213)	13,530
Net cash provided by (used in) operating activities	149,313	162,229	(8,159)
Investing activities			
Purchase of property, plant and equipment	(42,549)	(42,633)	(50,773)
Proceeds from sale of equipment	978	760	1,774
Net cash used in investing activities	(41,571)	(41,873)	(48,999)
Financing activities			
Repurchase of common stock	(190,234)	(10,002)	
Principal payments on debt			(39)
Proceeds from exercise of stock options	2,849	10,506	10,809
Excess tax benefits of stock options and awards	558	2,863	1,487
Net cash provided by (used in) financing activities	(186,827)	3,367	12,257
Effect of exchange rate changes on cash activities	(6,566)	3,442	3,516
Increase (decrease) in cash and cash equivalents	(85,651)	127,165	(41,385)
Cash and cash equivalents at beginning of year	384,356	257,191	298,576
Cash and cash equivalents at end of year	$ 298,705	$ 384,356	$ 257,191

The accompanying notes are an integral part of these consolidated financial statements.

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DRIL-QUIP, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY

	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total
			(In thousands)		
	$ 402	$ 162,505	$ 780,780	$ (18,443)	$ 925,244
				4,613	4,613
			119,209		119,209
					123,822
	3	10,806			10,809
		5,748			5,748
		809			809
	405	179,868	899,989	(13,830)	1,066,432
				(6,340)	(6,340)
			169,827		169,827
					163,487
	3	10,503			10,506

		8,900	8,900
		2,695	2,695
	(1)	(10,001)	(10,002)

				2020	2021	2022	
	407	191,965		1,069,816			
	$ 36,694	$ 670	$ 24,714	$ 393	$ 270	$ 240	$ 1
	5,230	787	586	526	526	526	
ons	21	8	8	5	-	-	
	31,173	7,068	5,635	4,509	3,523	2,659	
	1,664	1,664	-	-	-	-	
	8,917	1,273	1,273	1,273	1,273	2,386	
stretirement plan ibutions	5,675	5,675	-	-	-	-	
lities (See Note 21 of s to Consolidated Financial Statements)	7,510	-	-	-	-	-	
h obligations	$ 96,884	$ 17,145	$ 32,216	$ 6,706	$ 5,592	$ 5,811	$ 2

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Non-GAAP Measures

Included in this Form 10-K filing are two non-GAAP (unaudited) financial measures: non-GAAP earnings per diluted share and adjusted EBITDA. The Company believes these non-GAAP financial measures provide meaningful supplemental information as they enhance a reader's understanding of the financial performance of the Company, are more indicative of future operating performance of the Company, and facilitate a better comparison among fiscal periods, as the non-GAAP financial measures exclude items that are not considered core to the Company's operations. Non-GAAP results are presented for supplemental informational purposes only and should not be considered a substitute for the financial information presented in accordance with GAAP. The following tables reconcile non-GAAP earnings per diluted share (unaudited) and adjusted EBITDA (unaudited) to their most directly comparable GAAP financial measures:

	For the years ended December 31,		
	2018	**2017**	**2016**
GAAP earnings per diluted share attributable to Quaker Chemical Corporation Common Shareholders	$ 4.45	$ 1.52	$ 4.63
Equity income in a captive insurance company per diluted share (a)	(0.07)	(0.19)	(0.13)
Restructuring credit per diluted share (b)	—	—	(0.02)
Houghton combination-related expenses per diluted share (c)	1.21	1.90	0.11
U.S. Tax Reform charges, net, per diluted share (d)	0.43	1.67	—
U.S. pension plan settlement charge per diluted share (e)	—	0.09	—
Cost streamlining initiative per diluted share (f)	—	0.01	—
Loss on disposal of held-for-sale asset per diluted share (g)	—	0.01	—
Insurance insolvency recovery per diluted share (h)	(0.01)	(0.03)	—
Gain on liquidation of an inactive legal entity per diluted share (i)	(0.03)	—	—
Currency conversion impacts of hyper-inflationary economies per diluted share (j)	0.06	0.03	0.01
Non-GAAP earnings per diluted share (k)	$ 6.04	$ 5.01	$ 4.60

	For the years ended December 31,		
(dollars in thousands unless otherwise noted)	**2018**	**2017**	**2016**
Net income attributable to Quaker Chemical Corporation	$ 59,473	$ 20,278	$ 61,403
Depreciation and amortization	19,714	19,966	19,566
Interest expense (c)	6,158	3,892	2,889
Taxes on income before equity in net income of associated companies (d)	25,050	41,653	23,226
Equity income in a captive insurance company (a)	(966)	(2,547)	(1,688)
Restructuring credit (b)	—	—	(439)
Houghton combination-related expenses (c)	16,051	29,938	1,531
U.S. pension plan settlement charge (e)	—	1,860	—
Cost streamlining initiative (f)	—	286	—
Loss on disposal of held-for-sale asset (g)	—	125	—
Insurance insolvency recovery (h)	(90)	(600)	—
Gain on liquidation of an inactive legal entity (i)	(446)	—	—
Currency conversion impacts of hyper-inflationary economies (j)	664	388	88
Adjusted EBITDA	$ 125,608	$ 115,239	$ 106,576
Adjusted EBITDA margin (%) (l)	14.5%	14.1%	14.3%

(a) Equity income in a captive insurance company represents the after-tax income attributable to the Company's interest in Primex, a captive insurance company. The Company holds a 33% investment in and has significant influence over Primex, and therefore accounts for this interest under the equity method of accounting. The income attributable to Primex is not indicative of the future operating performance of the Company and is not considered core to the Company's operations. See Note 16 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(b) Restructuring credit represents the credit recorded by the Company as part of finalizing a global restructuring program which was initiated in the fourth quarter of 2015. This credit is not indicative of the future operating performance of the Company. See Note 6 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(c) Houghton combination-related expenses include certain legal, environmental, financial, and other advisory and consultant costs incurred in connection with the strategic evaluation of, diligence on, and execution of the definitive agreement to combine with Houghton, as well as regulatory and shareholder approvals and integration planning associated with the pending Combination. These costs are not indicative of the future operating performance of the Company. Certain of these costs were considered non-deductible for the purpose of determining the Company's effective tax rate and, therefore, the earnings per diluted share amount reflects this impact. Also, included in the caption Houghton combination-related expenses for 2018 is a $0.6 million gain on the sale of a held-for-sale asset recorded in Other expense, net, in the Company's Consolidated Statements of Income. In addition, during 2018, the Company incurred approximately $3.5 million of ticking fees to maintain the bank commitment related to the pending Combination. Comparatively, the Company began incurring ticking fees as of September 29, 2017 and recognized $0.9 million during 2017. These interest costs are included in the caption Houghton combination-related expenses in the reconciliation of GAAP earnings per diluted share attributable to Quaker Chemical Corporation common shareholders to Non-GAAP earnings per diluted share above but are included in the caption Interest expense in the reconciliation of Net income attributable to Quaker Chemical Corporation to Adjusted EBITDA above. See Note 2 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(d) U.S. Tax Reform charges, net, represent the tax expense incurred by the Company related to its initial 2017 estimates and subsequent 2018 adjustments to adopt U.S. Tax Reform. The 2017 tax expense includes the Company's estimated impact of the Transition Tax, net of eliminating U.S. federal income taxes on dividends from certain foreign subsidiaries in 2017, as well as the impact of revaluing certain of the Company's U.S. deferred tax balances from 35% to the new 21% U.S. corporate tax rate. The 2018 tax expense includes certain adjustments recorded by the Company as a result of changes to the Company's initial fourth quarter of 2017 estimates. Specifically, the Company has adjusted the initial amount estimated for the one-time charge on the gross deemed repatriation Transition Tax on previously untaxed accumulated and current earnings and profits of certain of the Company's foreign subsidiaries, as well as updated its assertion related to permanent reinvestment of accumulated earning and profits of certain of these foreign subsidiaries. In addition, the Company has adjusted its initial estimate of the impact from certain internal revenue code changes associated with the deductibility of certain executive compensation. All of these adjustments were based on guidance issued during 2018 and 2017 by the IRS, the U.S. Treasury and various state taxing authorities and were the result of specific one-time events that are not indicative of future operating performance of the Company. U.S. Tax Reform charges, net, are included within Taxes on income before equity in net income of associated companies in the reconciliation of Net income attributable to Quaker Chemical Corporation to Adjusted EBITDA. See Note 9 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(e) U.S. pension plan settlement charge represents the expense recorded for the settlement of one of the Company's U.S. pension plans vested terminated participants. This settlement charge represents the immediate recognition into expense of a portion of the unrecognized loss within AOCI on the balance sheet in proportion to the share of the projected benefit obligation that was settled by these payments. This charge was the result of a specific one-time event and is not indicative of the future operating performance of the Company. See Note 20 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(f) Cost streamlining initiative represents expenses associated with certain actions taken to reorganize the Company's corporate staff. Overall, these costs are non-core and are indirect operating expenses that are not attributable to the product sales of any respective reportable operating segment, and, therefore, are not indicative of the future operating performance of the Company.

(g) Loss on disposal of held-for-sale asset represents a one-time charge to write down the value of a held-for-sale asset at the Company's India affiliate to its fair value. This charge was the result of a specific one-time event and is not indicative of the future operating performance of the Company. See Note 8 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(h) Insurance insolvency recovery represents income associated with cash receipts from an insolvent insurance carrier for previously submitted claims by an inactive subsidiary of the Company. This other income is not indicative of the future operating performance of the Company. See Notes 8 and 25 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(i) Gain on liquidation of an inactive legal entity represents the decrease in historical cumulative currency translation adjustments associated with an inactive legal entity which was closed during the third quarter of 2018. These cumulative currency translation adjustments were the result of remeasuring the legal entity's monetary assets and liabilities to the applicable published exchange rates and were a component of AOCI, which was included in total shareholder's equity on the Company's Consolidated Balance Sheets. As required under U.S. GAAP, when a legal entity is liquidated, any amount attributable to that legal entity and accumulated in the currency translation adjustment component of equity is required to be removed from equity and reported as part of the gain or loss on liquidation of the legal entity during the period in which the liquidation occurs. This recognized gain is not indicative of the future operating performance of the Company. See Note 8 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

(j) Currency conversion impacts of hyper-inflationary economies represents the foreign currency remeasurement impacts associated with the Company's Venezuelan and Argentina affiliates whose local economies are designated as hyper-inflationary under U.S. GAAP. An entity which operates within an economy deemed to be hyper-inflationary under U.S. GAAP is required to remeasure its monetary assets and liabilities to the applicable published exchange rates and record the associated gains or losses resulting from the remeasurement directly to the Consolidated Statements of Income. Venezuela's economy has been considered hyper-inflationary under U.S. GAAP since 2010 while Argentina's economy has been considered hyper-inflationary beginning July 1, 2018. The charges incurred related to the immediate recognition of foreign currency remeasurement in the Consolidated Statements of Income associated with these entities are not indicative of the future operating performance of the Company. See Notes 8 and 16 of Notes to Consolidated Financial Statements, which appear in Item 8 of this Report.

(k) Within the Company's calculation of Non-GAAP earnings per diluted share above, each reconciling item includes the impact of any current and deferred income tax expense (benefit) as applicable. The income tax expense (benefit) related to these items was determined utilizing the applicable rates in the taxing jurisdictions in which these adjustments occurred.

(l) The Company calculates Adjusted EBITDA margin as the percentage of Adjusted EBITDA to consolidated net sales.

Operations

Consolidated Operations Review – Comparison of 2018 with 2017

Net sales grew $47.4 million or 6% in 2018, increasing to $867.5 million compared to $820.1 million in 2017. The Company's 2018 net sales benefited from increases in volume of 3%, selling price and product mix of 2%, as well as a positive impact from foreign currency translation of less than 1% or $3.7 million.

Cost of goods sold ("COGS") in 2018 of $555.2 million increased 5% from $528.6 million in 2017. The increase in COGS was primarily due to the increase in product volumes, noted above, the impact of certain raw material cost increases, changes in product mix and the negative impact of foreign currency translation year-over-year.

Gross profit in 2018 increased $20.8 million or 7% compared to 2017, primarily driven by the increase in net sales and product volumes, noted above, as well as a higher gross margin of 36.0% in 2018 compared to 35.5% in 2017. The increase in the Company's gross margin in 2018 was primarily driven by pricing initiatives and the mix of certain products sold which more than offset increases in raw material costs.

SG&A in 2018 increased $9.1 million compared to 2017 due to higher labor-related costs, primarily from annual merit increases and incentive-based compensation due to the Company's strong operating performance, as well as the negative impact from foreign currency translation. These increases year-over-year were partially offset by a first quarter of 2017 cost streamlining initiative described in the Non-GAAP measures section of this Item, above.

During 2018, the Company incurred $16.7 million of costs related to its previously announced pending Combination with Houghton, described in the Non-GAAP measures section of this Item, above. Comparatively, the Company incurred $29.9 million of similar combination-related expenses in 2017 as well as certain due diligence-related costs.

Operating income in 2018 was $87.8 million compared to $62.7 million in 2017. The increase in operating income was due to strong net sales and gross profit increases as well as lower Houghton combination-related expenses, noted above, partially offset by an increase in SG&A not related to the pending Houghton combination.

The Company had other expense, net, of $0.6 million in 2018 compared to $0.7 million in 2017. The decrease in other expense, net, includes both a $1.9 million settlement charge in one of the Company's U.S. pension plans and a $0.1 million loss on the disposal of a held for sale asset in 2017, as well as a 2018 gain of $0.6 million on the sale of a held-for-sale asset. The positive year-over-year impact of these items was partially offset by $0.5 million lower year-over-year cash proceeds received from an insolvent insurance carrier with respect to previously filed recovery claims by an inactive subsidiary of the Company. In addition to all of these items, which are described in the Non-GAAP measures section of this Item, above, the Company also had foreign currency transaction losses in 2018 compared to foreign currency transaction gains in 2017. The Company's 2018 foreign currency transaction losses included both recurring transactional activity as well as foreign currency transaction losses of approximately $0.4 million related to the Company's Argentina subsidiary and a foreign currency transaction gain of approximately $0.4 million related to the liquidation of an inactive legal entity, both of which are described in the Non-GAAP measures section of this Item, above. Lastly, the Company had a decrease in receipts of local municipality-related grants in one of the Company's regions year-over-year.

Interest expense increased $2.3 million year-over-year, primarily due to higher 2018 costs incurred to maintain the bank commitment for the pending Houghton Combination, partially offset by a decrease in interest expense due to lower average outstanding borrowings on the Company's existing credit facility during 2018 compared to 2017. Interest income was $0.4 million lower in 2018 compared to 2017 primarily due to changes in the level of the Company's invested cash in certain regions with higher returns as well as a decrease in interest received on certain tax-related credits year-over-year.

The Company's effective tax rates for 2018 and 2017 were 30.1% and 68.7%, respectively. The Company's elevated 2018 and 2017 effective tax rates were impacted by its initial estimate and subsequent adjustments related to U.S. Tax Reform, as well as certain non-deductible Houghton combination-related expenses in both years, described in the Non-GAAP measures section of this Item, above. Excluding these items in each period, the Company estimates that its 2018 and 2017 effective tax rates would have been approximately 22% and 27%, respectively. The decrease in the Company's effective tax rate year-over-year was primarily due to a shift in earnings to lower tax jurisdictions and a lower U.S. statutory tax rate of 21% in 2018 compared to 35% in 2017. The Company has experienced and expects to continue to experience volatility in its effective tax rates due to several factors, including the timing of tax audits and the expiration of applicable statutes of limitations as they relate to uncertain tax positions, the unpredictability of the timing and amount of certain incentives in various tax jurisdictions, the treatment of certain acquisition-related costs and the timing and amount of certain share-based compensation-related tax benefits, among other factors.

Equity in net income of associated companies ("equity income") decreased $1.5 million in 2018 compared to 2017. The decrease was primarily due to lower earnings from the Company's interest in a captive insurance company in 2018, partially offset by higher currency conversion charges in 2017 related to the Company's hyper-inflationary Venezuelan affiliate, both described in the Non-GAAP measures section of this Item, above.

The Company had a $1.7 million decrease in net income attributable to noncontrolling interest in 2018 compared to 2017, primarily due to the Company's purchase of the remaining interest in its India joint venture during December 2017.

Foreign exchange negatively impacted the Company's 2018 earnings by approximately 1% or $0.08 per diluted share, driven by the negative impact of net foreign currency transaction losses year-over-year, noted above, partially offset by a positive impact from foreign currency translation.

Consolidated Operations Review – Comparison of 2017 with 2016

Net sales in 2017 of $820.1 million increased 10% compared to net sales of $746.7 million in 2016. The $73.4 million increase in net sales was the result of a 6% increase in organic volumes, a 1% or $10.7 million increase from sales attributable to the Company's 2016 acquisition of Lubricor Inc. and its affiliate entities ("Lubricor"), a 2% increase due to changes in selling price and product mix and the positive impact of foreign currency translation of $4.9 million or 1%.

COGS in 2017 of $528.6 million increased 13% from $466.6 million in 2016. The increase in COGS was primarily due to the increase in product volumes, noted above, as well as additional COGS attributed to the Company's 2016 acquisition of Lubricor, the impact of certain raw material cost increases, changes in product mix and the negative impact of foreign currency translation year-over-year.

Gross profit in 2017 increased $11.4 million or 4% compared to 2016, primarily driven by the increase in sales volumes, noted above, partially offset by a lower gross margin of 35.5% in 2017 compared to 37.5% in 2016. The decrease in the Company's gross margin in 2017 was primarily due to higher raw material costs compared to 2016 and a change in the mix of certain products sold.

SG&A in 2017 increased $5.1 million compared to 2016 primarily due to additional SG&A associated with the Company's 2016 Lubricor acquisition, an increase due to the impact of foreign currency translation, higher labor-related costs primarily due to annual compensation increases and incentive compensation, as well as a first quarter of 2017 cost streamlining initiative, described in the Non-GAAP measures section of this Item, above. These increases to SG&A were partially offset by decreases as a result of certain cost savings efforts, including the impact of the 2015 global restructuring program in 2017.

The Company substantially completed the 2015 global restructuring program during 2016 and recognized a restructuring credit of $0.4 million during the fourth quarter of 2016 to update its initial estimates for employee separation costs. There were no comparable restructuring costs or credits during 2017.

During 2017, the Company incurred $29.9 million of costs related to its previously announced Combination with Houghton, described in the Non-GAAP measures section of this Item, above. The Company incurred $1.5 million of similar combination-related expenses in 2016.

Operating income in 2017 was $62.7 million compared to $85.4 million in 2016. The decrease in operating income was primarily due to the higher Houghton combination-related expenses along with slightly higher levels of SG&A not related to the Houghton Combination, which more than offset gross profit increases on strong volume growth, noted above.

The Company had other expense, net, of $0.7 million in 2017 compared to $0.5 million in 2016. The increase in other expense, net, was primarily driven by a second quarter of 2017 U.S. pension plan settlement charge and a fourth quarter of 2017 loss on the disposal of a held-for-sale asset, partially offset by income associated with an insurance insolvency recovery in the fourth quarter of 2017, all of which are described in the Non-GAAP measures section of this Item, above. In addition, the Company had higher foreign currency transaction gains realized in 2017 compared to 2016 and an increase in receipts of local municipality-related grants in one of the Company’s regions year-over-year.

Interest expense increased $1.0 million year-over-year, primarily due to costs incurred to maintain the committed capital for the pending Houghton Combination. Interest income increased $0.5 million in 2017 compared to 2016, primarily due to an increase in the level of the Company’s invested cash in certain regions with higher returns.

The Company's effective tax rates for 2017 and 2016 were 68.7% and 27.6%, respectively. The primary drivers of the increase in the Company's effective tax rate during 2017 were the impact of certain non-deductible Houghton combination-related expenses as well as $22.2 million of charges related to U.S. Tax Reform, described in the Non-GAAP measures section of this Item, above. The Company estimates that its 2017 effective tax rate would have been approximately 27%, without the impact of U.S. Tax Reform and non-deductible Houghton combination-related expenses. These increases to the 2017 effective tax rate were partially offset by the favorable impact of tax benefits for deductions in excess of compensation cost associated with stock option exercises and restricted stock vesting in 2017. In 2016, there were minimal non-deductible Houghton combination-related expenses, no charges similar to those of the 2017 U.S. Tax Reform and no comparable share-based compensation-related tax benefits. Also, in both 2017 and 2016, the Company's mix of foreign earnings in jurisdictions with lower effective tax rates impacted each year's tax expense.

Equity income increased $1.0 million in 2017 compared to 2016. The increase in equity income was primarily due to higher earnings from the Company's interest in a captive insurance company in 2017. In addition, the Company recorded hyper-inflationary accounting currency conversion charges in both 2017 and 2016, respectively, associated with the Company's Venezuela affiliate. The Company's interest in a captive insurance company and the currency conversion charges recorded are described in the Non-GAAP measures section of this Item, above.

The Company had a $0.4 million increase in net income attributable to noncontrolling interest in 2017 compared to 2016, primarily due to an increase in performance from certain consolidated affiliates in the Company's Asia/Pacific region partially offset by the impact of the Company's purchase of the remaining interest in its India joint venture in December 2017.

Foreign exchange in total had minimal impact on the Company's 2017 earnings, as a negative impact from foreign currency translation of less than 1% or $0.01 per diluted share and the Venezuela hyper-inflationary currency conversion charges, noted above, were offset by the positive impact of higher foreign currency transaction gains year-over-year.

Reportable Operating Segment Review – Comparison of 2018 with 2017

The Company sells its industrial process fluids, chemical specialties and technical expertise to a wide range of industries in a global product portfolio throughout its four segments: (i) North America, (ii) EMEA, (iii) Asia/Pacific and (iv) South America.

North America

North America represented approximately 44% of the Company's consolidated net sales in 2018. The segment's net sales were $383.5 million, an increase of $26.9 million or 8% compared to 2017. The increase in net sales was primarily due to higher volumes of 4% and an increase in selling price and product mix of 4%. This reportable segment's operating earnings, excluding indirect expenses, were $88.3 million, an increase of $10.6 million or 14% compared to 2017. The increase in operating earnings year-over-year was the result of higher gross profit on the higher net sales noted above, coupled with an increase in gross margin due to changes in product mix and the impact of pricing initiatives which more than offset raw material cost increases. These increases to the segment's 2018 operating earnings were partially offset by higher SG&A, primarily due to higher labor costs associated with annual merit increases and improved segment performance.

EMEA

EMEA represented approximately 27% of the Company's consolidated net sales in 2018. The segment's net sales were $233.6 million, an increase of $7.4 million or 3% compared to 2017. The increase in net sales was primarily due to the positive impact of foreign currency translation of 4% and increases in selling price and product mix of 3%, partially offset by lower volumes of 4%. The year-over-year volume comparison was impacted by an atypically high sales pattern in EMEA during the first quarter of 2017, a decrease in volume associated with a specific piece of business which the Company stopped selling during the second half of 2018 primarily due to its limited profitability, and a slowing of orders at the end of 2018 due to market challenges in Europe. The foreign exchange impact was primarily due to a strengthening of the euro against the U.S. dollar as this exchange rate averaged 1.18 in 2018 compared to 1.13 in 2017. This reportable segment's operating earnings, excluding indirect expenses, were $36.0 million, an increase of $0.6 million or 2% compared to 2017. The increase in operating earnings year-over-year was the result of higher gross profit on the higher net sales noted above, coupled with an increase in gross margin due to changes in product mix and the impact of pricing initiatives which more than offset raw material cost increases. These increases to the segment's 2018 operating earnings were partially offset by higher SG&A, primarily due to the impact of foreign currency translation as well as higher labor costs associated with annual merit increases.

Asia/Pacific

Asia/Pacific represented approximately 25% of the Company's consolidated net sales in 2018. The segment's net sales were $214.2 million, an increase of $13.1 million or 7% compared to 2017. The increase in net sales was primarily due to higher volumes of 8% partially offset by a decrease in selling price and product mix of 1%. This reportable segment's operating earnings, excluding indirect expenses, were $56.1 million, an increase of $7.7 million or 16% compared to 2017. The increase in operating earnings year-over-year was primarily driven by higher gross profit on the increase in net sales, noted above, coupled with an increase in gross margin due to changes in product mix and, to a lesser extent, a decrease in SG&A due to lower labor expenses.

South America

South America represented approximately 4% of the Company's consolidated net sales in 2018. The segment's net sales were $36.3 million, an increase of $0.1 million or less than 1% compared to 2017. The slight increase in net sales was primarily due to higher volumes of 8% and an increase in selling price and product mix of approximately 7%, offset by the negative impact of foreign currency translation of 15%. The foreign exchange impact was primarily due to a weakening of both the Brazilian real and Argentinian peso against the U.S. dollar as these exchange rates averaged 3.63 and 26.13 in 2018 compared to 3.19 and 16.50 in 2017, respectively. This reportable segment's operating earnings, excluding indirect expenses, were $3.9 million in both 2018 and 2017. This flat year-over-year operating earnings in South America was the result of the slight increase in net sales, noted above, and lower SG&A largely due to foreign currency translation, partially offset by a lower gross margin on raw material changes and impacts due to foreign currency translation.

Reportable Operating Segment Review – Comparison of 2017 with 2016

North America

North America represented approximately 43% of the Company's consolidated net sales in 2017. The segment's net sales were $356.6 million, an increase of $20.4 million or 6% compared to 2016. The increase in net sales was primarily due to higher volumes of 3%, including acquisitions, and an increase in selling price and product mix of 3%. This reportable segment's operating earnings, excluding indirect expenses, were $77.7 million, a decrease of $0.1 million compared to 2016. North America's relatively consistent operating earnings were the net result of a decline in gross margin and higher levels of SG&A, which offset higher gross profit on the increase in net sales, noted above. The decline in gross margin was due to increases in certain raw material costs and changes in product mix. The higher SG&A was primarily due to increases in labor costs primarily associated with annual merit increases and additional SG&A associated with the Lubricor acquisition.

EMEA

EMEA represented approximately 28% of the Company's consolidated net sales in 2017. The segment's net sales were $226.2 million, an increase of $25.3 million or 13% compared to 2016. The increase in net sales was primarily due to higher volumes of 7%, an increase in selling price and product mix of 4% and the positive impact of foreign currency translation of 2%. Included in the 2017 volume increase was an atypically high sales pattern in the first quarter. The foreign exchange impact was primarily due to a strengthening of the euro against the U.S. dollar, as this exchange rate averaged approximately 1.13 in 2017 compared to approximately 1.10 in 2016. This reportable segment's operating earnings, excluding indirect expenses, were $35.4 million, an increase of $1.5 million or 5% compared to 2016. The increase in EMEA's operating earnings was driven by higher gross profit on the increase in net sales, noted above, partially offset by a lower gross margin due to increases in certain raw material costs and product mix and slightly higher SG&A year-over-year due to increases in labor costs primarily associated with annual merit increases and improved segment performance.

Asia/Pacific

Asia/Pacific represented approximately 25% of the Company's consolidated net sales in 2017. The segment's net sales were $201.0 million, an increase of $21.9 million or 12% compared to 2016. The increase in net sales was primarily due to higher volumes of 16% partially offset by a decrease in selling price and product mix of 4% and the negative impact of foreign currency translation of less than 1%. The foreign exchange impact was primarily due to a weakening of the Chinese renminbi against the U.S. dollar, which offset a strengthening of the Indian rupee against the U.S. dollar, year-over-year. These exchange rates averaged 6.75 and 65.1 in 2017 compared to 6.64 and 67.18 in

2016, respectively. This reportable segment's operating earnings, excluding indirect expenses, were $48.3 million, an increase of $2.5 million or 5% compared to 2016. The increase in Asia/Pacific's operating earnings was driven by higher gross profit on the increase in net sales, noted above, partially offset by a lower gross margin due to increases in certain raw material costs and product mix and slightly higher SG&A year-over-year due to increases in labor costs primarily associated with annual merit increases and improved segment performance.

South America

South America represented approximately 4% of the Company's consolidated net sales in 2017. The segment's net sales were $36.2 million, an increase of $5.8 million or 19% compared to 2016. The increase in net sales was primarily due to higher volumes of 6%, an increase in selling price and product mix of 7% and the positive impact of foreign currency translation of 6%. The foreign exchange impact was primarily due to a strengthening of the Brazilian real against the U.S. dollar, which offset a weakening of the Argentinian peso against the U.S. dollar, year-over-year. These exchange rates averaged 3.19 and 16.50 in 2017 compared 3.47 and 14.73 in 2016, respectively. This reportable segment's operating earnings, excluding indirect expenses, were $3.9 million, an increase of $2.5 million or 183% compared to 2016. The increase in South America's operating earnings was driven by higher gross profit on the increase in net sales, as well as a higher gross margin primarily due to pricing initiatives and lower raw material costs. These increases to operating earnings year-over-year were partially offset by slightly higher SG&A due to increases in labor costs primarily associated with annual merit increases and improved segment performance.

Environmental Clean-up Activities

The Company is involved in environmental clean-up activities in connection with an existing plant location and former waste disposal sites. In 1992, the Company identified certain soil and groundwater contamination at AC Products, Inc. ("ACP"), a wholly owned subsidiary. In voluntary coordination with the Santa Ana California Regional Water Quality Board, ACP has been remediating the contamination. In 2007, ACP agreed to operate two groundwater treatment systems, so as to hydraulically contain groundwater contamination emanating from ACP's site until such time as the concentrations of contaminants are below the current Federal maximum contaminant level for four consecutive quarterly sampling events. In 2014, ACP ceased operation at one of its two groundwater treatment systems, as it had met the above condition for closure. As of December 31, 2018, ACP believes it is close to meeting the conditions for closure of the remaining groundwater treatment system but continues to operate this system while in discussions with the relevant authorities and believes that the range of potential-known liabilities associated with the balance of ACP's water remediation program is approximately $0.1 million to $1.0 million. The low and high ends of the range are based on the length of operation of the treatment system as required by the conditions noted above, as determined by groundwater modeling. Notwithstanding the foregoing, the Company cannot be certain that future liabilities in the form of remediation expenses and damages will not be in excess of the high end of the range. See Note 25 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report.

General

See Item 7A of this Report, below, for further discussion of certain quantitative and qualitative disclosures about market risk.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk.***

Quaker is exposed to the impact of interest rates, foreign currency fluctuations, changes in commodity prices, and credit risk.

Interest Rate Risk. Quaker's exposure to changes in interest rates relates primarily to its credit facilities. Interest rates for Quaker's credit facilities are generally based on a base rate or LIBOR plus a spread. Accordingly, if interest rates rise significantly, the cost of debt to Quaker will increase. This can have an adverse effect on Quaker, depending on the extent of Quaker's borrowings throughout a given year. As of December 31, 2018, Quaker had $24.0 million outstanding under its credit facilities at a weighted average borrowing rate of approximately 1.0%. If interest rates had changed by 10%, the Company's interest expense on its credit facilities for the year ended December 31, 2018 would have correspondingly increased or decreased by less than $0.1 million. Quaker's other long-term and short-term debt consists primarily of fixed rate bonds and loans which are not exposed to interest rate fluctuations. The Company has previously used derivative financial instruments primarily for the purposes of hedging exposures to fluctuations in interest rates. The Company did not use any similar instruments in 2018 or 2017 and has not entered into derivative contracts for trading or speculative purposes. See the information included under the caption "Derivatives" in Note 1 of Notes to Consolidated Financial Statements, which appears in Item 8 of this Report and is incorporated herein by reference.

Foreign Exchange Risk. A significant portion of Quaker's revenues and earnings are generated by its foreign operations. These foreign operations also represent a significant portion of Quaker's assets and liabilities. Generally, all of these foreign operations use the local currency as their functional currency. Accordingly, Quaker's financial results are affected by foreign currency fluctuations, particularly between the U.S. dollar and the euro, the Brazilian real, the Mexican peso, the Chinese renminbi and the Indian rupee. Quaker's results can be materially affected depending on the volatility and magnitude of foreign exchange rate changes. If the euro, the Brazilian real, the Mexican peso, the Chinese renminbi and the Indian rupee had all weakened or strengthened by 10% against the U.S. dollar, the Company's 2018 revenues and pre-tax earnings would have correspondingly increased or decreased approximately $44.5 million and $5.5 million, respectively.

The Company generally does not use financial instruments that expose it to significant risk involving foreign currency transactions. However, the size of its non-U.S. activities has a significant impact on reported operating results and the attendant net assets. During the past three years, sales by its non-U.S. subsidiaries accounted for approximately 60% of our consolidated net sales.

In addition, the Company occasionally sources inventory among its worldwide operations. This practice can give rise to foreign exchange risk resulting from the varying cost of inventory to the receiving location, as well as from the revaluation of intercompany balances. The Company primarily mitigates this risk through local sourcing efforts.

Commodity Price Risk. Many of the raw materials used by Quaker are commodity chemicals and derivatives of such, which can experience significant price volatility, and therefore Quaker's earnings can be materially affected by market changes in raw material prices. At times, Quaker has entered into fixed-price purchase contracts to manage this risk. These contracts provide protection to Quaker if the prices for the contracted raw materials rise; however, in certain circumstances, Quaker may not realize the benefit if such prices decline. A gross margin change of one percentage point, would correspondingly have increased or decreased the Company's pre-tax earnings by approximately $8.7 million.

Credit Risk. Quaker establishes allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of Quaker's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances might be required. Downturns in

the overall economic climate may also exacerbate specific customer financial issues. A significant portion of Quaker's revenues is derived from sales to customers in the steel and automotive industries, including some of our larger customers, where bankruptcies have occurred in the past and where companies have experienced past financial difficulties. When a bankruptcy occurs, Quaker must judge the amount of proceeds, if any, that may ultimately be received through the bankruptcy or liquidation process. In addition, as part of its terms of trade, Quaker may custom manufacture products for certain large customers and/or may ship product on a consignment basis. These practices may increase the Company's exposure should a bankruptcy occur and may require a write-down or disposal of certain inventory due to its estimated obsolescence or limited marketability. Customer returns of products or disputes may also result in similar issues related to the realizability of recorded accounts receivable or returned inventory. The Company recorded expense to increase its provision for doubtful accounts by $0.5 million, $0.1 million and $1.4 million for the years ended December 31, 2018, 2017 and 2016, respectively. A change of 10% to the expense recorded to the Company's provision would have increased or decreased the Company's pre-tax earnings by $0.1 million, less than $0.1 million and $0.1 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Item 8. ***Financial Statements and Supplementary Data.***

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Quaker Chemical Corporation:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Quaker Chemical Corporation and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited 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 ("COSO").

In our opinion, the consolidated financial statements referred to above 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 three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also 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 COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) 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/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania

February 28, 2019

We have served as the Company's auditor since at least 1972. We have not been able to determine the specific year we began serving as auditor of the Company.

QUAKER CHEMICAL CORPORATION

CONSOLIDATED STATEMENTS OF INCOME

(Dollars in thousands, except per share data)

	Year Ended December 31,		
	2018	**2017**	**2016**
Net sales	$ 867,520	$ 820,082	$ 746,665
Costs and expenses			
Cost of goods sold	555,206	528,587	466,555
Selling, general and administrative expenses	207,872	198,813	193,665
Restructuring and related activities	—	—	(439)
Combination-related expenses	16,661	29,938	1,531
	779,739	757,338	661,312
Operating income	87,781	62,744	85,353
Other expense, net	(642)	(718)	(492)
Interest expense	(6,158)	(3,892)	(2,889)
Interest income	2,117	2,534	2,037
Income before taxes and equity in net income of associated companies	83,098	60,668	84,009
Taxes on income before equity in net income of associated companies	25,050	41,653	23,226
Income before equity in net income of associated companies	58,048	19,015	60,783
Equity in net income of associated companies	1,763	3,285	2,256
Net income	59,811	22,300	63,039
Less: Net income attributable to noncontrolling interest	338	2,022	1,636
Net income attributable to Quaker Chemical Corporation	$ 59,473	$ 20,278	$ 61,403
Earnings per common share data:			
Net income attributable to Quaker Chemical Corporation Common Shareholders – basic	$ 4.46	$ 1.53	$ 4.64
Net income attributable to Quaker Chemical Corporation Common Shareholders – diluted	$ 4.45	$ 1.52	$ 4.63

The accompanying notes are an integral part of these consolidated financial statements.

QUAKER CHEMICAL CORPORATION

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Dollars in thousands)

	Year Ended December 31,		
	2018	**2017**	**2016**
Net income	$ 59,811	$ 22,300	$ 63,039
Other comprehensive (loss) gain, net of tax			
Currency translation adjustments	(17,519)	21,076	(13,772)
Defined benefit retirement plans			
Net gain (loss) arising during the period, other	1,119	(96)	(2,990)
Amortization of actuarial loss	2,507	2,255	2,155
Amortization of prior service gain	(84)	(84)	(82)
Unrealized (loss) gain on available-for-sale securities	(1,728)	(130)	537
Other comprehensive (loss) gain	(15,705)	23,021	(14,152)
Comprehensive income	44,106	45,321	48,887
Less: Comprehensive income attributable to noncontrolling interest	(248)	(2,736)	(1,575)
Comprehensive income attributable to Quaker Chemical Corporation	$ 43,858	$ 42,585	$ 47,312

The accompanying notes are an integral part of these consolidated financial statements.

QUAKER CHEMICAL CORPORATION

CONSOLIDATED BALANCE SHEETS

(Dollars in thousands, except par value and share amounts)

	December 31, 2018	December 31, 2017
ASSETS		
Current assets		
Cash and cash equivalents	$ 104,147	$ 89,879
Accounts receivable, net	202,139	208,358
Inventories, net	94,090	87,221
Prepaid expenses and other current assets	18,134	21,128
Total current assets	418,510	406,586
Property, plant and equipment, net	83,923	86,704
Goodwill	83,333	86,034
Other intangible assets, net	63,582	71,603
Investments in associated companies	21,316	25,690
Non-current deferred tax assets	6,946	15,460
Other assets	32,055	30,049
Total assets	$ 709,665	$ 722,126
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 670	$ 5,736
Accounts payable	87,819	93,008
Dividends payable	4,935	4,724
Accrued compensation	25,727	22,846
Accrued pension and postretirement benefits	1,211	1,108
Other current liabilities	31,108	27,321
Total current liabilities	151,470	154,743
Long-term debt	35,934	61,068
Non-current deferred tax liabilities	10,003	9,653
Non-current accrued pension and postretirement benefits	32,360	35,548
Other non-current liabilities	43,529	51,496
Total liabilities	273,296	312,508
Commitments and contingencies (Note 25)		
Equity		
Common stock $1 par value; authorized 30,000,000 shares; issued and outstanding		
2018 – 13,338,026 shares; 2017 – 13,307,976 shares	13,338	13,308
Capital in excess of par value	97,304	93,528
Retained earnings	405,125	365,936
Accumulated other comprehensive loss	(80,715)	(65,100)
Total Quaker shareholders' equity	435,052	407,672
Noncontrolling interest	1,317	1,946

Total equity		436,369		409,618
Total liabilities and equity	$	709,665	$	722,126

The accompanying notes are an integral part of these consolidated financial statements.

QUAKER CHEMICAL CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)

	Year Ended December 31,		
	2018	**2017**	**2016**
Cash flows from operating activities			
Net income	$ 59,811	$ 22,300	$ 63,039
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	12,373	12,598	12,557
Amortization	7,341	7,368	7,009
Equity in undistributed earnings of associated companies, net of dividends	2,784	(2,895)	(1,969)
Deferred income taxes	8,197	3,754	5,488
Uncertain tax positions (non-deferred portion)	(89)	(817)	(3,206)
Non-current income taxes payable	(8,181)	15,825	—
Deferred compensation and other, net	2,984	1,074	(424)
Share-based compensation	3,724	4,190	6,349
Restructuring and related activities	—	—	(439)
(Gain) loss on disposal of property, plant and equipment and other assets	(657)	79	(18)
Insurance settlement realized	(1,055)	(762)	(1,023)
Combination-related expenses, net of payments	2,727	4,952	503
Pension and other postretirement benefits	(1,392)	(123)	(3,420)
(Decrease) increase in cash from changes in current assets and current liabilities, net of acquisitions:			
Accounts receivable	(2,822)	(1,941)	(11,705)
Inventories	(10,548)	(6,135)	(1,870)
Prepaid expenses and other current assets	(1,540)	(2,932)	(703)
Accounts payable and accrued liabilities	190	12,381	14,063
Restructuring liabilities	—	(675)	(5,252)
Estimated taxes on income	4,932	(3,479)	(5,226)
Net cash provided by operating activities	78,779	64,762	73,753
Cash flows from investing activities			
Investments in property, plant and equipment	(12,886)	(10,872)	(9,954)
Payments related to acquisitions, net of cash acquired	(500)	(5,363)	(15,024)
Proceeds from disposition of assets	866	1,577	186
Insurance settlement interest earned	162	50	32
Net cash used in investing activities	(12,358)	(14,608)	(24,760)
Cash flows from financing activities			
Repayments of long-term debt	(26,791)	(2,853)	(14,513)
Dividends paid	(19,319)	(18,613)	(17,625)
Stock options exercised, other	82	(1,956)	(811)

Payments for repurchase of common stock	—	—	(5,859)
Excess tax benefit related to stock option exercises	—	—	678
Purchase of noncontrolling interest in affiliates, net	—	(31,787)	—
Distributions to noncontrolling affiliate shareholders	(877)	—	—
Net cash used in financing activities	(46,905)	(55,209)	(38,130)
Effect of foreign exchange rate changes on cash	(6,141)	5,404	(4,089)
Net increase in cash, cash equivalents and restricted cash	13,375	349	6,774
Cash, cash equivalents and restricted cash at the beginning of the period	111,050	110,701	103,927
Cash, cash equivalents and restricted cash at the end of the period	$ 124,425	$ 111,050	$ 110,701
Supplemental cash flow disclosures:			
Cash paid during the year for:			
Income taxes	$ 19,617	$ 21,544	$ 25,043
Interest	2,417	2,767	2,481
Non-cash activities:			
Change in accrued purchases of property, plant and equipment, net	$ 281	$ (240)	$ 363

The accompanying notes are an integral part of these consolidated financial statements.

QUAKER CHEMICAL CORPORATION

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(Dollars in thousands, except per share amounts)

	Common stock	Capital in excess of par value	Retained earnings	Accumulated other comprehensive loss	Noncontrolling interest	Total
Balance as of December 31, 2015	13,288	106,333	326,740	(73,316)	8,198	381,243
Net income	—	—	61,403	—	1,636	63,039
Amounts reported in other comprehensive loss	—	—	—	(14,091)	(61)	(14,152)
Repurchases of common stock	(84)	—	(5,775)	—	—	(5,859)
Dividends ($1.355 per share)	—	—	(17,954)	—	—	(17,954)
Acquisition of noncontrolling interest	—	—	—	—	73	73
Shares issued upon exercise of stock options and other	11	(1,313)	—	—	—	(1,302)
Shares issued for employee stock purchase plan	6	485	—	—	—	491
Equity based compensation plans	57	6,292	—	—	—	6,349
Excess tax benefit from stock option exercises	—	678	—	—	—	678
Balance as of December 31, 2016	13,278	112,475	364,414	(87,407)	9,846	412,606
Net income	—	—	20,278	—	2,022	22,300
Amounts reported in other comprehensive loss	—	—	—	22,307	714	23,021
Dividends ($1.41 per share)	—	—	(18,756)	—	—	(18,756)
Acquisition of noncontrolling interest	—	(21,151)	—	—	(10,636)	(31,787)
Shares issued upon exercise of stock options and other	5	(2,456)	—	—	—	(2,451)
Shares issued for employee stock purchase plan	4	491	—	—	—	495
Equity based compensation plans	21	4,169	—	—	—	4,190
Balance as of December 31, 2017	$ 13,308	$ 93,528	$ 365,936	$ (65,100)	$ 1,946	$ 409,618
Cumulative effect of an accounting change	—	—	(754)	—	—	(754)
Balance as of January 1, 2018	$ 13,308	$ 93,528	$ 365,182	$ (65,100)	$ 1,946	$ 408,864
Net income	—	—	59,473	—	338	59,811
	—	—	—	(15,615)	(90)	(15,705)

Amounts reported in other comprehensive loss						
Dividends ($1.465 per share)	—	—	(19,530)	—	—	(19,530)
Distributions to noncontrolling affiliate						—
shareholders	—	—	—	—	(877)	(877)
Shares issued upon exercise of stock options						
and other	9	(432)	—	—	—	(423)
Shares issued for employee stock purchase plan	3	502	—	—	—	505
Equity based compensation plans	18	3,706	—	—	—	3,724
Balance as of December 31, 2018	$ 13,338	$ 97,304	$ 405,125	$ (80,715)	$ 1,317	$ 436,369

The accompanying notes are an integral part of these consolidated financial statements.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 1 – Significant Accounting Policies

Principles of consolidation: All majority-owned subsidiaries are included in the Company's consolidated financial statements, with appropriate elimination of intercompany balances and transactions. Investments in associated companies (less than majority-owned and in which the Company has significant influence) are accounted for under the equity method. The Company's share of net income or losses in these investments in associated companies is included in the Consolidated Statements of Income. The Company periodically reviews these investments for impairments and, if necessary, would adjust these investments to their fair value when a decline in market value or other impairment indicators are deemed to be other than temporary. See Note 16 of Notes to Consolidated Financial Statements. The Company is not the primary beneficiary of any variable interest entities ("VIEs") and therefore the Company's consolidated financial statements do not include the accounts of any VIEs.

Translation of foreign currency: Assets and liabilities of non-U.S. subsidiaries and associated companies are translated into U.S. dollars at the respective rates of exchange prevailing at the end of the year. Income and expense accounts are translated at average exchange rates prevailing during the year. Translation adjustments resulting from this process are recorded directly in equity as accumulated other comprehensive (loss) income ("AOCI") and will be included as income or expense only upon sale or liquidation of the underlying entity or asset. Generally, all of the Company's non-U.S. subsidiaries use their local currency as their functional currency.

Cash and cash equivalents: The Company invests temporary and excess funds in money market securities and financial instruments having maturities within 90 days. The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. The Company has not experienced losses from the aforementioned investments.

Inventories: Inventories are valued at the lower of cost or net realizable value, and are valued using the first-in, first-out method. See Note 13 of Notes to Consolidated Financial Statements.

Long-lived assets: Property, plant and equipment are stated at cost. Depreciation is computed using the straight-line method on an individual asset basis over the following estimated useful lives: buildings and improvements, 10 to 45 years; and machinery and equipment, 1 to 15 years. The carrying values of long-lived assets are evaluated whenever changes in circumstances or current events indicate the carrying amount of such assets may not be recoverable. An estimate of undiscounted cash flows produced by the asset, or the appropriate group of assets, is compared with the carrying value to determine whether an impairment exists. If necessary, the Company recognizes an impairment loss for the difference between the carrying amount of the assets and their estimated fair value. Fair value is based on current and anticipated future cash flows. Upon sale or other dispositions of long-lived assets, the applicable amounts of asset cost and accumulated depreciation are removed from the accounts and the net amount, less proceeds from disposals, is recorded in the Consolidated Statements of Income. Expenditures for renewals or improvements that increase the estimated useful life or capacity of the assets are capitalized, whereas expenditures for repairs and maintenance are expensed when incurred. See Notes 8 and 14 of Notes to Consolidated Financial Statements.

Capitalized software: The Company capitalizes certain costs in connection with developing or obtaining software for internal use, depending on the associated project. These costs are amortized over a period of 3 to 5 years once the assets are ready for their intended use. In connection with the implementations and upgrades to the Company's global

transaction, consolidation and other related systems, approximately $1.1 million and $1.3 million of net costs were capitalized in property, plant and equipment on the Company's December 31, 2018 and 2017 Consolidated Balance Sheets, respectively.

Goodwill and other intangible assets: The Company records goodwill, definite-lived intangible assets and indefinite-lived intangible assets at fair value at the date of acquisition. Goodwill and indefinite-lived intangible assets are not amortized but tested for impairment at least annually. These tests will be performed more frequently if triggering events indicate potential impairment. Definite-lived intangible assets are amortized over their estimated useful lives, generally for periods ranging from 4 to 20 years. The Company continually evaluates the reasonableness of the useful lives of these assets, consistent with the discussion of long-lived assets, above. See Note 15 of Notes to Consolidated Financial Statements.

Revenue recognition: During the first quarter of 2018, the Company adopted the provisions of the Financial Accounting Standards Board's ("FASB's") revenue recognition guidance which required the Company to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. To do this, the Company applies the five-step model in the FASB's guidance, which requires the Company to: (i) identify the contract with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when, or as, the Company satisfies a performance obligation. The Company adopted the new revenue recognition guidance electing to use a modified retrospective adoption approach applied to those contracts which were not completed as of January 1, 2018. Therefore,

comparative information has not been restated and continues to be accounted for and reported under the historical revenue recognition accounting standards in effect for those periods. Prior to this adoption, the Company recognized revenue in accordance with the terms of the underlying agreements, when title and risk of loss had been transferred, when collectability was reasonably assured, and when pricing was fixed or determinable. This generally occurred when products were shipped or delivered to customers or, for consignment-type arrangements, upon usage by the customer and when services were performed. See Notes 3 and 4 of Notes to Consolidated Financial Statements.

Accounts receivable and allowance for doubtful accounts: Trade accounts receivable subject the Company to credit risk. Trade accounts receivable are recorded at the invoiced amount and generally do not bear interest. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses with its existing accounts receivable. Reserves for customers filing for bankruptcy protection are established based on a percentage of the amount outstanding at the bankruptcy filing date. However, initially establishing a reserve and the amount thereto is dependent on the Company's evaluation of likely proceeds to be received from the bankruptcy process, which could result in the Company recognizing minimal or no reserve at the date of bankruptcy. Large and/or financially distressed customers are generally reserved for on a specific review basis while a general reserve is established for other customers based on historical experience. The Company performs a formal review of its allowance for doubtful accounts quarterly. Account balances are charged off against the allowance when the Company deems it is probable the receivable will not be recovered. The Company does not have any off-balance-sheet credit exposure related to its customers. See Notes 4 and 12 of Notes to Consolidated Financial Statements.

Research and development costs: Research and development costs are expensed as incurred and are included in selling, general and administrative expenses ("SG&A"). Research and development expenses were $24.5 million, $23.9 million and $22.5 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Environmental liabilities and expenditures: Accruals for environmental matters are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. If there is a range of estimated liability and no amount in that range is considered more probable than another, then the Company records the lowest amount in the range in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"). Accrued liabilities are exclusive of claims against third parties and are not discounted. Environmental costs and remediation costs are capitalized if the costs extend the life, increase the capacity or improve safety or efficiency of the property from the date acquired or constructed, and/or mitigate or prevent contamination in the future. See Note 25 of Notes to Consolidated Financial Statements.

Asset retirement obligations: The Company follows the FASB's guidance regarding asset retirement obligations, which addresses the accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated retirement costs. Also, the Company follows the FASB's guidance for conditional asset retirement obligations ("CARO"), which relates to legal obligations to perform an asset retirement activity in which the timing and (or) method of settlement are conditional on a future event that may or may not be within the control of the entity. In accordance with this guidance, the Company records a liability when there is enough information regarding the timing of the CARO to perform a probability-weighted discounted cash flow analysis. As of December 31, 2018 and 2017, the Company had limited exposure to such obligations and had immaterial liabilities recorded for such on its Consolidated Balance Sheets.

Pension and other postretirement benefits: The Company maintains various noncontributory retirement plans, the largest of which is in the U.S., covering a portion of its employees in the U.S. and certain other countries. The plans of the Company's subsidiaries in the Netherlands, the United Kingdom, Mexico and Sweden are subject to the provisions of FASB's guidance regarding employers' accounting for defined benefit pension plans. The plans of the remaining non-U.S. subsidiaries are, for the most part, either fully insured or integrated with the local governments' plans and are not subject to the provisions of the guidance. The guidance requires that employers recognize on a prospective basis the funded status of their defined benefit pension and other postretirement plans on their consolidated balance sheet and, also, recognize as a component of AOCI, net of tax, the gains or losses and prior service costs or credits that arise during the period but are not recognized as components of net periodic benefit cost. In addition, the guidance requires that an employer recognize a settlement charge in their consolidated statement of income when certain events occur, including plan termination or the settlement of certain plan liabilities. A settlement charge represents the immediate recognition into expense of a portion of the unrecognized loss within AOCI on the balance sheet in proportion to the share of the projected benefit obligation that was settled. The Company's U.S. pension plan year ends on November 30 and the measurement date is December 31. The measurement date for the Company's other postretirement benefits plan is December 31.

The Company's global pension investment policies are designed to ensure that pension assets are invested in a manner consistent with meeting the future benefit obligations of the pension plans and maintaining compliance with various laws and regulations including the Employee Retirement Income Security Act of 1974. The Company establishes strategic asset allocation percentage targets and appropriate benchmarks for significant asset classes with the aim of achieving a prudent balance between return and risk.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

The Company's investment horizon is generally long term, and, accordingly, the target asset allocations encompass a long-term perspective of capital markets, expected risk and return and perceived future economic conditions while also considering the profile of plan liabilities. To the extent feasible, the short-term investment portfolio is managed to immunize the short-term obligations, the intermediate portfolio duration is immunized to reduce the risk of volatility in intermediate plan distributions, and the total return portfolio is expected to maximize the long-term real growth of plan assets. The critical investment principles of diversification, assessment of risk and targeting the optimal expected returns for given levels of risk are applied. The Company's investment guidelines prohibit the use of securities such as letter stock and other unregistered securities, commodities or commodity contracts, short sales, margin transactions, private placements (unless specifically addressed by addendum), or any derivatives, options or futures for the purpose of portfolio leveraging.

The target asset allocation is reviewed periodically and is determined based on a long-term projection of capital market outcomes, inflation rates, fixed income yields, returns, volatilities and correlation relationships. The interaction between plan assets and benefit obligations is periodically studied to assist in establishing such strategic asset allocation targets. Asset performance is monitored with an overall expectation that plan assets will meet or exceed benchmark performance over rolling five-year periods. The Company's pension committee, as authorized by the Company's Board of Directors, has discretion to manage the assets within established asset allocation ranges approved by senior management of the Company. As of December 31, 2018, the plan's investments were in compliance with all approved ranges of asset allocations. See Note 20 of Notes to Consolidated Financial Statements.

Comprehensive income (loss): The Company presents other comprehensive income (loss) in its Statements of Comprehensive Income. The Company follows the FASB's guidance regarding the disclosure of reclassifications from AOCI which requires the disclosure of significant amounts reclassified from each component of AOCI, the related tax amounts and the income statement line items affected by such reclassifications. See Note 22 of Notes to Consolidated Financial Statements.

Income taxes and uncertain tax positions: The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for income taxes represents income taxes paid or payable for the current year and the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax bases of the Company's assets and liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. The FASB's guidance regarding accounting for uncertainty in income taxes prescribes the recognition threshold and measurement attributes for financial statement recognition and measurement of tax positions taken or expected to be taken on a tax return. The guidance further requires the determination of whether the benefits of tax positions are probable or more likely than not sustained upon audit based upon the technical merits of the tax position. For tax positions that are determined to be more likely than not sustained upon audit, a company recognizes the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement in the financial statements. For tax positions that are not determined to be more likely than not sustained upon audit, a company does not recognize any portion of the benefit in the financial statements. Additionally, the Company monitors and adjusts for derecognition, classification, and penalties and interest in interim periods, with appropriate disclosure and transition thereto. Also, the amount of interest expense and income related to uncertain tax positions is computed by applying the applicable statutory rate of

interest to the difference between the tax position recognized, including timing differences, and the amount previously taken or expected to be taken in a tax return. The Company's continuing practice is to recognize interest and/or penalties related to income tax matters in income tax expense. Finally, when applicable, the Company nets its liability for unrecognized tax benefits against deferred tax assets related to net operating losses or other tax credit carryforwards that would apply if the uncertain tax position were settled for the presumed amount at the balance sheet date.

Pursuant to the Tax Cuts and Jobs Act ("U.S. Tax Reform"), specifically the one-time tax on deemed repatriation (the "Transition Tax"), the Company has provided for U.S. income tax on its undistributed earnings of non-U.S. subsidiaries, however, the Company is subject to and will incur other taxes, such as withholding taxes and dividend distribution taxes, if these undistributed earnings were ultimately remitted to the U.S. It is the Company's current intention to reinvest its future undistributed earnings of non-U.S. subsidiaries to support working capital needs and certain other growth initiatives. However, in certain cases the Company has and may in the future change its indefinite reinvestment assertion for any or all of these undistributed earnings. In this case, the Company would estimate and record a tax liability and corresponding tax expense for the amount of non-U.S. income taxes it will incur to ultimately remit these earnings to the U.S. See Note 9 of Notes to Consolidated Financial Statements.

Derivatives: The Company is exposed to the impact of changes in interest rates, foreign currency fluctuations, changes in commodity prices and credit risk. The Company is currently not using derivative instruments to mitigate the risks associated with foreign currency fluctuations, changes in commodity prices or credit risk, but has used derivative financial instruments primarily for purposes of hedging exposures to fluctuations in interest rates in the past. If used in the future, the Company will recognize the entire

change in the fair value of the hedging instrument in the same income statement line as the hedged item. The Company currently uses no derivative instruments designated as hedges and, also, has not entered into derivative contracts for trading or speculative purposes.

Fair value measurements: The Company utilizes the FASB's guidance regarding fair value measurements, which establishes a common definition for fair value to be applied to guidance requiring use of fair value, establishes a framework for measuring fair value and expands disclosure about such fair value measurements. Specifically, the guidance utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. See Notes 20 and 24 of Notes to Consolidated Financial Statements. The following is a brief description of those three levels:

- Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.
- Level 3: Unobservable inputs that reflect the reporting entity's own assumptions.

Share-based compensation: The Company applies the FASB's guidance regarding share-based payments, which requires the recognition of the fair value of share-based compensation as a component of expense. The Company has a long-term incentive program ("LTIP") for key employees which provides for the granting of options to purchase stock at prices not less than its market value on the date of the grant. Most options become exercisable between one and three years after the date of the grant for a period of time determined by the Company, but not to exceed seven years from the date of grant. Restricted stock awards and restricted stock units issued under the LTIP program are generally subject to time vesting over a one to four-year period. In addition, as part of the Company's Global Annual Incentive Plan, nonvested shares may be issued to key employees, which generally vest over a two to five-year period. In addition, while the FASB's guidance permits the Company to make an accounting policy election to account for forfeitures as they occur for service condition aspects of certain share-based awards, the Company has decided not to elect this accounting policy and instead has elected to continue utilizing a forfeiture rate assumption. Based on historical experience, the Company has assumed a forfeiture rate of 13% on certain of its nonvested stock awards. The Company will record additional expense if the actual forfeiture rate is lower than estimated and will record a recovery of prior expense if the actual forfeiture is higher than estimated. See Note 7 of Notes to Consolidated Financial Statements.

Earnings per share: The Company follows the FASB's guidance regarding the calculation of earnings per share for nonvested stock awards with rights to non-forfeitable dividends. The guidance requires nonvested stock awards with rights to non-forfeitable dividends to be included as part of the basic weighted average share calculation under the two-class method. See Note 10 of Notes to Consolidated Financial Statements.

Segments: The Company's operating segments reflect the structure of the Company's internal organization, the method by which the Company's resources are allocated and the manner by which the Company assesses its performance. The Company's operating segments are organized by geography as follows: (i) North America, (ii) Europe, Middle East and Africa ("EMEA"), (iii) Asia/Pacific and (iv) South America. The Company's reportable segments are the same as the Company's operating segments. See Note 5 of Notes to Consolidated Financial

Statements.

Hyper-inflationary accounting: Economies that have a cumulative three-year rate of inflation exceeding 100 percent are considered hyper-inflationary in accordance with U.S. GAAP. A legal entity which operates within an economy deemed to be hyper-inflationary is required to remeasure its monetary assets and liabilities to the applicable published exchange rates and record the associated gains or losses resulting from the remeasurement directly to the Consolidated Statements of Income.

Venezuela’s economy has been considered hyper-inflationary under U.S. GAAP since 2010. The Company has a 50-50 joint venture in a Venezuelan affiliate, Kelko Quaker Chemical, S.A (“Kelko Venezuela”). Due to heightened foreign exchange controls, current economic circumstances and other restrictions in Venezuela, during the third quarter of 2018 the Company concluded that it no longer had significant influence over this affiliate. Prior to this determination, the Company historically accounted for this affiliate under the equity method. As of December 31, 2018, the Company has no remaining carrying value for its investment in Kelko Venezuela. See Note 16 of Notes to Consolidated Financial Statements.

Based on various indices or index compilations currently being used to monitor inflation in Argentina as well as recent economic instability, effective July 1, 2018, Argentina’s economy was considered hyper-inflationary under U.S. GAAP. As a result, the Company began applying hyper-inflationary accounting with respect to the Company's wholly owned Argentina subsidiary beginning July 1, 2018. As of, and for the year ended December 31, 2018, the Company's Argentina subsidiary represented less than 1% of the Company’s consolidated total assets and less than 1% of the Company’s consolidated net sales. During the years ended December 31, 2018, 2017 and 2016, the Company recorded $0.7 million, $0.4 million, and $0.1 million, respectively, of hyper-inflationary accounting remeasurement losses associated with the applicable currency conversions related to Venezuela and Argentina.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Business combinations: The Company accounts for business combinations under the acquisition method of accounting. This method requires the recording of acquired assets, including separately identifiable intangible assets and assumed liabilities at their respective acquisition date estimated fair values. Any excess of the purchase price over the estimated fair value of the identifiable net assets acquired is recorded as goodwill. The determination of the estimated fair value of assets acquired and liabilities assumed requires significant estimates and assumptions. Based on the assessment of additional information during the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the estimated fair value of assets acquired and liabilities assumed. See Note 23 of Notes to Consolidated Financial Statements.

Restructuring activities: Restructuring programs consist of employee severance, rationalization of manufacturing or other facilities and other related items. To account for such programs, the Company applies FASB's guidance regarding exit or disposal cost obligations. This guidance requires that a liability for a cost associated with an exit or disposal activity be recognized when the liability is incurred, is estimable, and payment is probable. See Note 6 of Notes to Consolidated Financial Statements.

Reclassifications: Certain information has been reclassified to conform to the current year presentation. During the first quarter of 2018, the Company adopted guidance regarding the accounting for and disclosure of net sales and revenue recognition. The Company's adoption, using the modified retrospective adoption approach, resulted in certain adjustments as of January 1, 2018. In addition, during the first quarter of 2018, the Company adopted an accounting standard update requiring that the statement of cash flows explain both the change in total cash and cash equivalents and also the amounts generally described as restricted cash or restricted cash equivalents. The guidance in this accounting standard update was required to be applied retrospectively which resulted in certain adjustments to the Company's Consolidated Statement of Cash Flows for the year ended December 31, 2017 and 2016. See Notes 3, 4 and 11 of Notes to Consolidated Financial Statements.

Accounting estimates: The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and disclosure of contingencies at the date of the financial statements and the reported amounts of net sales and expenses during the reporting period. Actual results could differ from such estimates.

Note 2 – Houghton Combination

In April 2017, Quaker entered into a share purchase agreement with Gulf Houghton Lubricants, Ltd. to purchase the entire issued and outstanding share capital of Houghton International, Inc. ("Houghton") (herein referred to as "the Combination"). The shares will be bought for aggregate purchase consideration consisting of: (i) $172.5 million in cash; (ii) a number of shares of common stock, $1.00 par value per share, of the Company comprising 24.5% of the common stock outstanding upon the closing of the Combination; and (iii) the Company's assumption of Houghton's net indebtedness as of the closing of the Combination, which was approximately $690 million at signing. At closing, the total aggregate purchase consideration is dependent on the Company's stock price and the level of Houghton's indebtedness.

The Company secured $1.15 billion in commitments from Bank of America Merrill Lynch and Deutsche Bank to fund the Combination and to provide additional liquidity, and has since replaced these commitments with a syndicated bank

agreement ("the New Credit Facility") with a group of lenders for $1.15 billion. The New Credit Facility is contingent upon and will not be effective until the closing of the Combination. During the fourth quarter of 2018, the Company extended the bank commitment for the New Credit Facility through March 15, 2019. The New Credit Facility is comprised of a $400.0 million multicurrency revolver, a $600.0 million USD term loan and a $150.0 million EUR equivalent term loan, each with a five-year term from the date the New Credit Facility becomes effective. The maximum amount available under the New Credit Facility can be increased by $200.0 million at the Company's option if the lenders agree and the Company satisfies certain conditions. Borrowings under the New Credit Facility will bear interest at a base rate, LIBOR rate plus a margin, or Euribor rate plus a margin. The Company currently estimates the annual floating rate cost will be in the 3.75% to 4.0% range based on current market interest rates. The New Credit Facility will be subject to certain financial and other covenants, including covenants that the Company's consolidated net debt to adjusted EBITDA ratio cannot exceed 4.25 to 1 and the Company's consolidated adjusted EBITDA to interest expense ratio cannot be less than 3.0 to 1. Both the USD and EUR equivalent term loans will have quarterly principal amortization during their respective five-year terms, with 5.0% amortization of the principal balance due in years 1 and 2, 7.5% in year 3, and 10.0% in years 4 and 5, with the remaining principal amounts due at maturity. Until closing, the Company will incur certain interest costs paid to maintain the bank commitment ("ticking fees"), which began to accrue on September 29, 2017 and bear an interest rate of 0.30% per annum.

The Company received regulatory approval for the Combination from China and Australia in 2017. In addition, at a shareholder meeting held during 2017, the Company's shareholders overwhelmingly approved the issuance of the new shares of the Company's common stock at closing of the Combination. The European Commission ("EC") conditionally approved the Combination in December 2018, including the remedy proposed by Quaker and Houghton. The Company expects final approval from the EC once the final purchase agreement is in place between Quaker, Houghton, and the buyer of the divested product lines. The Company continues

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

to be in productive discussions with the U.S. Federal Trade Commission ("FTC"), although the process is taking longer than anticipated. Given the time lapse since the Company's initial filing, the FTC requested updated information as part of their approval process late in the fourth quarter of 2018. In addition, the government shutdown in the U.S. during the first quarter of 2019 extended the timeline to receive the final approval. Given current information, the Company estimates that FTC and EC final approval and closing of the combination will occur within the next few months.

The Company incurred costs of $19.5 million, $30.8 million and $1.5 million during the years ended December 31, 2018, 2017 and 2016, respectively, primarily for certain legal, environmental, financial, and other advisory and consultant costs related to due diligence, regulatory and shareholder approvals, integration planning associated with the Combination and ticking fees. As of December 31, 2018 and 2017, the Company had current liabilities related to the Combination of $8.2 million and $5.5 million, respectively, primarily recorded within other current liabilities on its Consolidated Balance Sheets.

Note 3 – Recently Issued Accounting Standards

The FASB issued an accounting standard update in October 2018 to provide guidance on the risks associated with financial assets and liabilities that are permitted to be hedged. The amendments in this update permit use of the Overnight Index Swap ("OIS") rate based on the Secured Overnight Financing Rate (SOFR) as a U.S. benchmark interest rate in addition to the other four rates: interest rates on direct Treasury obligations of the U.S. government (UST), the London Interbank Offered Rate (LIBOR) swap rate, the OIS rate based on the Fed Funds Effective Rate and the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate. The amendments in this update also apply to all entities that elect to apply hedge accounting to benchmark interest rate hedges. The guidance within this accounting standard update is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. The amendments in this update should be adopted on a prospective basis for qualifying new or re-designated hedging relationships entered into on or after the date of adoption. Early adoption is permitted. The Company has elected to early adopt the guidance in this accounting standard update during the fourth quarter of 2018, with no impact to its financial statements. The Company does not currently use any derivative instruments designated as hedges but may choose to in the future.

The FASB issued an accounting standard update in August 2018 that modifies certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments in this accounting standard update remove disclosures that are no longer considered cost beneficial, clarify the specific requirements of certain disclosures, and add new disclosure requirements as relevant. The guidance within this accounting standard update is effective for annual periods beginning after December 15, 2020, and should be applied retrospectively to all periods presented. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued an accounting standard update in August 2018 that clarifies the accounting for implementation costs incurred in a cloud computing arrangement under a service contract. This guidance generally aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement under a service contract with the requirements for capitalizing implementation costs related to internal-use software. The guidance within this accounting standard update is effective for annual periods beginning after December 15, 2019 and should be applied either retrospectively

or prospectively to all implementation costs incurred after the date of adoption. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued an accounting standard update in August 2018 that modifies certain disclosure requirements for fair value measurements. The guidance removes certain disclosure requirements regarding transfers between levels of the fair value hierarchy as well as the valuation processes for certain fair value measurements. Further, the guidance added certain disclosure requirements including unrealized gains and losses and significant unobservable inputs used to develop certain fair value measurements. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2019, and should be applied prospectively in the initial year of adoption or prospectively to all periods presented, depending on the amended disclosure requirement. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued an accounting standard update in June 2018 to simplify the accounting for share-based payment transactions with non-employees of the Company. The guidance within this accounting standard update generally requires that share-based payment transactions for acquiring goods or services from non-employees of the Company be accounted for under the same guidance and model as all other share-based payment transactions, including employees of the Company. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2018. Early adoption is permitted. The Company elected to early adopt the guidance within this accounting standard updated in the second quarter of 2018 with no impact to its financial statements.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

The FASB issued an accounting standard update in February 2018 that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from U.S. Tax Reform enacted in December 2017. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2018, and should be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in U.S. Tax Reform is recognized. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued an accounting standard update in January 2017 to clarify the definition of a business with the objective of adding guidance to assist companies with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The amendments in this accounting standard update provided a more robust framework to use in determining when a set of assets and activities is a business. The guidance within this accounting standard update was effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted in limited circumstances, and the amendments in this accounting standard update were required to be applied prospectively, with no disclosures required at transition. The Company adopted the guidance in the first quarter of 2018, as required, with no impact to its financial statements.

The FASB issued an accounting standard update in November 2016 requiring that the statement of cash flows explain both the change in the total cash and cash equivalents, and also the amounts generally described as restricted cash or restricted cash equivalents. This required amounts generally described as restricted cash or restricted cash equivalents be included with cash and cash equivalents when reconciling the beginning and ending amounts shown on the statement of cash flows. The guidance within this accounting standard update was effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted, and the guidance required application using a retrospective transition method to each period presented when adopted. The Company adopted the guidance in the first quarter of 2018, as required. Adoption of the guidance did not have an impact on the Company's earnings or balance sheet but did result in changes to certain disclosures within the statement of cash flows, including cash flows from investing activities and total cash, cash equivalents and restricted cash. See Note 11 of Notes to Consolidated Financial Statements.

The FASB issued an accounting standard update in October 2016 to improve the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. The provisions in this update allowed an entity to recognize current and deferred income taxes of an intra-entity transfer of an asset other than inventory when the transfer occurs rather than when the asset has been sold to an outside party. The guidance within this accounting standard update was effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted, and the guidance required application on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company adopted the guidance in the first quarter of 2018, as required, with no impact to its financial statements.

The FASB issued an accounting standard update in August 2016 to standardize how certain transactions are classified in the statement of cash flows. Specific transactions covered by the accounting standard update include debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate and bank owned life insurance policies, distributions received from equity method investments and beneficial interest in securitization transactions. The guidance within this accounting standard update was

effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted, provided that all of the amendments were adopted in the same period. The guidance required application using a retrospective transition method. The Company adopted the guidance in the first quarter of 2018 as required, with no impact to its financial statements.

The FASB issued an accounting standard update in February 2016 regarding the accounting and disclosure for leases. During 2018, the FASB issued a series of accounting standard updates to clarify and expand on the original 2016 implementation guidance, including providing an accounting policy election for lessors, certain targeted improvements around comparative reporting requirements and accounting for lease and non-lease components by lessors as well as other technical corrections and improvements. The amendments in these 2018 updates did not change the core principles of the guidance previously issued in February 2016. The guidance within all of the leasing accounting standard updates are effective for annual and interim periods beginning after December 15, 2018, and should be applied on a modified retrospective basis, applying the transition requirements either (a) at the beginning of the earliest period presented in the financial statements in the year of adoption (January 1, 2017) or (b) in the period of adoption (January 1, 2019). Early adoption is permitted, but the Company has not early adopted. The Company will adopt the guidance in the first quarter of 2019, as required, using a modified retrospective transition approach. The Company will apply the transition requirements in the period of adoption (as of January 1, 2019), as permitted. As such the Company will neither restate comparative periods for the effects of this lease accounting guidance or provide the disclosures requirements for comparative periods. The Company anticipates electing to apply certain of the permitted practical expedients within the new lease accounting

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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guidance, and the Company also anticipates making certain accounting policy elections as a result of adopting the new lease accounting guidance.

As of December 31, 2018, the Company has substantially completed its implementation planning and its impact assessment related to the new lease accounting guidance. Work performed to date includes developing a detailed project plan, identifying and establishing a cross-functional implementation team and developing pre-adoption internal controls. In addition, the Company gathered an inventory of the Company's explicit outstanding leases globally, performed certain review procedures to ensure completeness of its lease population and abstracted critical lease information from the lease population for inclusion within the Company's leasing software. Also, the Company has begun preliminary considerations for how the new lease accounting guidance may impact Houghton, as it pertains to the potential Combination. The Company has calculated a preliminary transition adjustment which will be finalized and reflected in the Company's financial statements starting after the effective date of January 1, 2019. While the Company's implementation of this lease accounting guidance is still on-going, the Company anticipates adoption of this guidance will have a material impact on its balance sheet as it expects the majority of its leases will be recorded on its balance sheet by establishing right of use assets and associated lease liabilities. Based on all current available information, the Company estimates that its right of use assets and associated lease liabilities will be approximately $20 million to $30 million as of January 1, 2019.

The FASB issued an accounting standard update in May 2014 regarding the accounting for and disclosure of revenue recognition. Specifically, the update outlined a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers, which will be common to both U.S. GAAP and International Financial Reporting Standards. The guidance was effective for annual and interim periods beginning after December 15, 2016, and allowed for full retrospective adoption of prior period data or a modified retrospective adoption. Early adoption was not permitted. In August 2015, the FASB issued an accounting standard update to delay the effective date of the new revenue standard by one year, or, in other words, to be effective for annual and interim periods beginning after December 15, 2017. Entities were permitted to adopt the new revenue standard early but not before the original effective date. During 2016 and 2017, the FASB issued a series of accounting standard updates to clarify and expand on the implementation guidance, including principal versus agent considerations, identification of performance obligations, licensing, other technical corrections and adding certain practical expedients. The amendments in these 2016 and 2017 updates did not change the core principles of the guidance previously issued in May 2014.

As part of the Company's impact assessment for the implementation of the new revenue recognition guidance, the Company reviewed its historical accounting policies and practices to identify potential differences with the requirements of the new revenue recognition standard as it related to the Company's contracts and sales arrangements. In addition, the impact assessment and work performed included global and cross functional interviews and questionnaires, sales agreement and other sales document reviews, as well as technical considerations for the Company's future transactional accounting, financial reporting and disclosure requirements. The Company has also progressed its assessment of how the new revenue recognition guidance may impact Houghton, as it pertains to the pending Combination.

The Company adopted the guidance in the first quarter of 2018 as required, electing to use a modified retrospective adoption approach applied to those contracts which were not completed as of January 1, 2018. Comparative information has not been restated and continues to be reported under the accounting standards in effect for those

periods. In addition, the Company elected to apply certain of the permitted practical expedients within the revenue recognition guidance and make certain accounting policy elections including those related to significant financing components, sales taxes and shipping and handling activities. Adoption of the revenue recognition guidance did not have a material impact on the Company's reported earnings or cash flows, however, adoption did increase the amount and level of disclosures concerning the Company's net sales and did result in one adjustment to the Company's balance sheet. As a result of the Company's impact assessment and adoption using the modified retrospective adoption approach, the Company recorded a cumulative effect of an accounting change as of January 1, 2018 to adjust the Company's estimate of variable consideration relating to customers' expected rights to return product. This adjustment resulted in an increase to other current liabilities of $1.0 million, an increase to non-current deferred tax assets of $0.2 million and a decrease to retained earnings of $0.8 million. There were no other impacts recorded as a result of adopting the revenue recognition guidance in 2018 or prior years and the Company expects the impact to be immaterial on an ongoing basis. See Note 4 and 18 of Notes to Consolidated Financial Statements.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 4 – Net Sales and Revenue Recognition

Business Description

The Company develops, produces, and markets a broad range of formulated chemical specialty products and offers chemical management services ("CMS") for various heavy industrial and manufacturing applications in a global portfolio throughout its four regions: North America, EMEA, Asia/Pacific and South America. The major product lines in the Company's global portfolio include: (i) rolling lubricants (used by manufacturers of steel in the hot and cold rolling of steel and by manufacturers of aluminum in the hot rolling of aluminum); (ii) machining and grinding compounds (used by metalworking customers in cutting, shaping, and grinding metal parts which require special treatment to enable them to tolerate the manufacturing process, achieve closer tolerance, and improve tool life); (iii) corrosion preventives (used by steel and metalworking customers to protect metal during manufacture, storage, and shipment); (iv) hydraulic fluids (used by steel, metalworking, and other customers to operate hydraulic equipment); (v) specialty greases (used in automotive and aerospace production processes and applications, the manufacturing of steel, and various other applications); and (vi) metal finishing compounds (used to prepare metal surfaces for special treatments such as galvanizing and tin plating and to prepare metal for further processing).

A substantial portion of the Company's sales worldwide are made directly through its own employees and its CMS programs, with the balance being handled through distributors and agents. The Company's employees visit the plants of customers regularly, work on site, and, through training and experience, identify production needs which can be resolved or alleviated either by adapting the Company's existing products or by applying new formulations developed in its laboratories. The chemical specialty industry comprises many companies of similar size as well as companies larger and smaller than Quaker. The offerings of many of the Company's competitors differ from those of Quaker; some offer a broad portfolio of fluids, including general lubricants, while others have a more specialized product range. All competitors provide different levels of technical services to individual customers. Competition in the industry is based primarily on the ability to provide products that meet the needs of the customer, render technical services and laboratory assistance to the customer and, to a lesser extent, on price.

As part of the Company's CMS, certain third-party product sales to customers are managed by the Company. Where the Company acts as a principal, revenues are recognized on a gross reporting basis at the selling price negotiated with its customers. Where the Company acts as an agent, revenue is generally recognized on a net reporting basis at the amount of the administrative fee earned by the Company for ordering the goods. In determining whether the Company is acting as a principal or an agent in each arrangement, the Company considers whether it is primarily responsible for fulfilling the promise to provide the specified good, has inventory risk before the specified good has been transferred to the customer and has discretion in establishing the prices for the specified goods. The Company transferred third-party products under arrangements resulting in net reporting of $47.1 million, $44.5 million and $43.5 million for the years ended December 31, 2018, 2017 and 2016.

A significant portion of the Company's revenues are realized from the sale of process fluids and services to manufacturers of steel, automobiles, aircraft, appliances, and durable goods, and, therefore, the Company is subject to the same business cycles as those experienced by these manufacturers and their customers. The Company's financial performance is generally correlated to the volume of global production within the industries it serves, rather than discretely related to the financial performance of such industries. Furthermore, steel customers typically have limited

manufacturing locations compared to other metalworking customers and generally use higher volumes of products at a single location. During the year ended December 31, 2018, the Company's five largest customers accounted for approximately 17% of its consolidated net sales with the largest customer accounting for approximately 8% of the Company's consolidated net sales.

Revenue Recognition Model

The Company applies the FASB's guidance on revenue recognition which requires the Company to recognize revenue in an amount that reflects the consideration to which the Company expects to be entitled in exchange for goods or services transferred to its customers. To do this, the Company applies the five-step model in the FASB's guidance, which requires the Company to: (i) identify the contract with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when, or as, the Company satisfies a performance obligation.

The Company identifies a contract with a customer when a sales agreement indicates approval and commitment of the parties; identifies the rights of the parties; identifies the payment terms; has commercial substance; and it is probable that the Company will collect the consideration to which it will be entitled in exchange for the goods or services that will be transferred to the customer. In most instances, the Company's contract with a customer is the customer's purchase order. For certain customers, the Company may also enter into a sales agreement which outlines a framework of terms and conditions which apply to all future and subsequent purchase orders for that customer. In these situations, the Company's contract with the customer is both the sales agreement as well as

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

the specific customer purchase order. Because the Company's contract with a customer is typically for a single transaction or customer purchase order, the duration of the contract is almost always one year or less. As a result, the Company has elected to apply certain practical expedients and omit certain disclosures of remaining performance obligations for contracts which have an initial term of one year or less as permitted by the FASB.

The Company identifies a performance obligation in a contract for each promised good or service that is separately identifiable from other promises in the contract and for which the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer. The Company determines the transaction price as the amount of consideration it expects to be entitled to in exchange for fulfilling the performance obligations, including the effects of any variable consideration, significant financing elements, amounts payable to the customer or noncash consideration. For any contracts that have more than one performance obligation, the Company allocates the transaction price to each performance obligation in an amount that depicts the amount of consideration to which the Company expects to be entitled in exchange for satisfying each performance obligation.

In accordance with the last step of the FASB's guidance, the Company recognizes revenue when, or as, it satisfies the performance obligation in a contract by transferring control of a promised good or service to the customer. The Company recognizes revenue over time whenever the customer simultaneously receives and consumes the benefits provided by the Company's performance; the Company's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or the Company's performance does not create an asset with an alternative use to the entity, and the entity has an enforceable right to payment, including a profit margin, for performance completed to date. For performance obligations not satisfied over time, the Company determines the point in time at which a customer obtains control of a promised asset and the Company satisfies a performance obligation by considering when the Company has a right to payment for the asset; the customer has legal title to the asset; the Company has transferred physical possession of the asset; the customer has the significant risks and rewards of ownership of the asset; or the customer has accepted the asset.

The Company typically satisfies its performance obligations and recognizes revenue at a point in time for product sales, generally when products are shipped or delivered to the customer, depending on the terms underlying each arrangement. In circumstances where the Company's products are on consignment, revenue is generally recognized upon usage or consumption by the customer. For any CMS or other services provided by the Company to the customer, the Company typically satisfies its performance obligations and recognizes revenue over time, as the promised services are performed. The Company uses input methods to recognize revenue over time related to these services, including labor costs and time incurred. The Company believes that these input methods represent the most indicative measure of the CMS or other service work performed by the Company.

Other Considerations

The Company does not have standard payment terms for all customers globally, however the Company's general payment terms require customers to pay for products or services provided after the performance obligation is satisfied. The Company does not have significant financing arrangements with its customers. The Company does not have significant amounts of variable consideration in its contracts with customers and where applicable, the Company's estimates of variable consideration are not constrained. The Company records certain third-party license fees in other expense, net, in its Consolidated Statement of Income, which generally include sales-based royalties in

exchange for the license of intellectual property. These license fees are recognized in accordance with their agreed-upon terms and when performance obligations are satisfied, which is generally when the third party has a subsequent sale.

Practical Expedients and Accounting Policy Elections

The Company made certain accounting policy elections and elected to use certain practical expedients as permitted by the FASB in applying the guidance on revenue recognition. It is the Company’s policy to not adjust the promised amount of consideration for the effects of a significant financing component as the Company expects, at contract inception, that the period between when the Company transfers a promised good or service to the customer and when the customer pays for that good or service will be one year or less. In addition, it is the Company’s policy to expense costs to obtain a contract as incurred when the expected period of benefit, and therefore the amortization period, is one year or less. It is also the Company’s accounting policy to exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by the entity from a customer, including sales, use, value added, excise and various other taxes. Lastly, the Company has elected to account for shipping and handling activities that occur after the customer has obtained control of a good as a fulfilment cost rather than an additional promised service.

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(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Contract Assets and Liabilities

The Company recognizes a contract asset or receivable on its Consolidated Balance Sheet when the Company performs a service or transfers a good in advance of receiving consideration. A receivable is the Company's right to consideration that is unconditional and only the passage of time is required before payment of that consideration is due. A contract asset is the Company's right to consideration in exchange for goods or services that the Company has transferred to a customer. The Company had no contract assets recorded on its Consolidated Balance Sheets as of December 31, 2018 or 2017.

A contract liability is recognized when the Company receives consideration, or if it has the unconditional right to receive consideration, in advance of performance. A contract liability is the Company's obligation to transfer goods or services to a customer for which the Company has received consideration, or a specified amount of consideration is due, from the customer. The Company's contract liabilities primarily represent deferred revenue recorded for customer payments received by the Company prior to the Company satisfying the associated performance obligation. Deferred revenues are presented within other current liabilities in the Company's Consolidated Balance Sheets. The Company had approximately $1.3 million and $1.5 million of deferred revenue as of December 31, 2018 and 2017, respectively. During the year ended December 31, 2018, the Company satisfied all of the associated performance obligations and recognized into revenue the advance customer payments received and recorded as of December 31, 2017.

Disaggregated Revenue

The Company sells its various industrial process fluids, its chemical specialties and its technical expertise as a global product portfolio. The Company generally manages and evaluates its performance by geography first, and then by customer industry, rather than by individual product lines. Also, net sales of each of the Company's major product lines are generally spread throughout all four of the Company's regions, and, in most cases, are relatively proportionate to the level of total sales in each region.

The following tables present disaggregated information regarding the Company's net sales, first by product lines that represent approximately 10% of consolidated net sales for any of the years ended December 31, 2018, 2017 and 2016, and followed then by a disaggregation of the Company's net sales by region, customer industry, and timing of revenue recognized for the year ended December 31, 2018.

	2018	**2017**	**2016**
Rolling lubricants	16.9%	17.8%	19.0%
Machining and grinding compounds	16.1%	15.8%	14.9%
Corrosion preventives	11.6%	11.4%	11.8%
Hydraulic fluids	11.4%	11.6%	12.0%
Specialty greases	9.7%	10.0%	10.1%

	2018		
North		**South**	**Consolidated**

	America	EMEA	Asia/Pacific	America	Total
Net sales	$ 383,471	$ 233,597	$ 214,157	$ 36,295	$ 867,520
Customer Industries					
Primary metals	$ 156,906	$ 102,417	$ 134,395	$ 19,818	$ 413,536
Metalworking	167,829	116,076	74,867	14,827	373,599
Coatings and other	58,736	15,104	4,895	1,650	80,385
	$ 383,471	$ 233,597	$ 214,157	$ 36,295	$ 867,520
Timing of Revenue Recognized					
Product sales at a point in time	$ 372,392	$ 233,372	$ 206,112	$ 36,010	$ 847,886
Services transferred over time	11,079	225	8,045	285	19,634
	$ 383,471	$ 233,597	$ 214,157	$ 36,295	$ 867,520

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 5 – Business Segments

The Company's reportable operating segments are organized by geography as follows: (i) North America, (ii) EMEA, (iii) Asia/Pacific and (iv) South America. Operating earnings, excluding indirect operating expenses, for the Company's reportable operating segments is comprised of revenues less cost of goods sold ("COGS") and SG&A directly related to the respective region's product sales. The indirect operating expenses consist of SG&A not directly attributable to the product sales of each respective reportable operating segment. Other items not specifically identified with the Company's reportable operating segments include interest expense, interest income, license fees from non-consolidated affiliates, amortization expense and other expense, net.

The following tables present information about the performance of the Company's reportable operating segments for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Net sales			
North America	$ 383,471	$ 356,598	$ 336,174
EMEA	233,597	226,243	200,917
Asia/Pacific	214,157	201,008	179,131
South America	36,295	36,233	30,443
Total net sales	$ 867,520	$ 820,082	$ 746,665

	2018	2017	2016
Operating earnings, excluding indirect operating expenses			
North America	$ 88,276	$ 77,694	$ 77,833
EMEA	35,970	35,350	33,810
Asia/Pacific	56,056	48,342	45,866
South America	3,881	3,927	1,386
Total operating earnings, excluding indirect operating expenses	184,183	165,313	158,895
Non-operating charges	(72,223)	(65,142)	(65,316)
Restructuring and related activities	—	—	439
Combination-related expenses	(16,661)	(29,938)	(1,531)
Depreciation of corporate assets and amortization	(7,518)	(7,489)	(7,134)
Operating income	87,781	62,744	85,353
Other expense, net	(642)	(718)	(492)
Interest expense	(6,158)	(3,892)	(2,889)
Interest income	2,117	2,534	2,037
Income before taxes and equity in net income of associated companies	$ 83,098	$ 60,668	$ 84,009

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(Dollars in thousands, except share and per share amounts, unless otherwise stated)

The following tables present information regarding the Company's reportable operating segments' assets and long-lived assets as of December 31, 2018, 2017 and 2016:

	2018	2017	2016
Segment assets			
North America (including Corporate)	$ 317,934	$ 324,260	$ 321,404
EMEA	157,111	177,267	147,021
Asia/Pacific	212,545	196,891	200,218
South America	22,075	23,708	23,385
Total segment assets	$ 709,665	$ 722,126	$ 692,028

	2018	2017	2016
Segment long-lived assets			
North America (including Corporate)	$ 84,876	$ 88,818	$ 86,775
EMEA	26,239	28,507	25,630
Asia/Pacific	23,650	22,427	22,040
South America	2,529	2,691	2,858
Total segment long-lived assets	$ 137,294	$ 142,443	$ 137,303

The following tables present information regarding the Company's reportable operating segments' capital expenditures and depreciation for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Capital expenditures			
North America (including Corporate)	$ 4,574	$ 3,919	$ 2,918
EMEA	2,081	3,936	3,263
Asia/Pacific	6,059	2,458	3,269
South America	172	559	504
Total segment capital expenditures	$ 12,886	$ 10,872	$ 9,954

	2018	2017	2016
Depreciation			
North America	$ 5,770	$ 5,791	$ 5,672
EMEA	3,434	3,368	3,323
Asia/Pacific	2,552	2,669	2,765
South America	440	649	672
Total segment depreciation	$ 12,196	$ 12,477	$ 12,432

During the years ended December 31, 2018, 2017 and 2016, the North America segment had approximately $50.8 million, $49.2 million and $35.8 million of net sales, respectively, which were attributable to non-U.S. operations. As of December 31, 2018, 2017 and 2016, the North America segment had approximately $4.5 million, $4.9 million and

$4.9 million of long-lived assets, respectively, which were attributable to non-U.S. operations.

Inter-segment revenue for the years ended December 31, 2018, 2017 and 2016 was $9.7 million, $9.4 million and $8.3 million for North America, $22.0 million, $22.0 million and $18.1 million for EMEA, $0.5 million, $0.4 million and $0.7 million for Asia/Pacific and less than $0.1 million for the years ended December 31, 2018, 2017 and 2016 for South America, respectively. However, all inter-segment transactions have been eliminated from each reportable operating segment's net sales and earnings for all periods presented in the above tables.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 6 – Restructuring and Related Activities

In response to weak economic conditions and market declines in many regions, Quaker's management approved a global restructuring plan (the "2015 Program") in the fourth quarter of 2015 to reduce its operating costs. The 2015 Program included provisions for the reduction of total headcount by approximately 65 employees globally. The Company substantially completed all of the initiatives under the 2015 Program in 2016 and settlement of these charges occurred primarily in 2016 as well. During the fourth quarter of 2016, the Company recognized a restructuring credit of $0.4 million in connection with the 2015 Program, due to customary and routine adjustments to initial estimates for employee separation costs. The Company completed all of the remaining initiatives under the 2015 Program during the first half of 2017 and does not expect to incur further restructuring charges under this program.

There were no accrued restructuring liabilities as of December 31, 2017 and no associated cash payments or other restructuring activity during the year ended December 31, 2018. Restructuring activity recognized in each reportable operating segment in connection with the 2015 Program during the years ended December 31, 2017 and 2016 is as follows:

	North America	EMEA	Asia/Pacific	South America	Total
Accrued restructuring as of December 31, 2015	$ 1,867	$ 4,265	$ 135	$ 36	$ 6,303
Restructuring credits	—	(439)	—	—	(439)
Cash payments	(1,671)	(3,404)	(138)	(39)	(5,252)
Currency translation adjustments	—	52	3	3	58
Accrued restructuring as of December 31, 2016	196	474	—	—	670
Restructuring charges and adjustments	(126)	126	—	—	—
Cash payments	(70)	(605)	—	—	(675)
Currency translation adjustments	—	5	—	—	5
Accrued restructuring as of December 31, 2017	$ —	$ —	$ —	$ —	$ —

Note 7 – Share-Based Compensation

The Company recognized the following share-based compensation expense in SG&A in its Consolidated Statements of Income for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Stock options	$ 1,053	$ 958	$ 848
Nonvested restricted stock awards and restricted stock units	2,459	2,935	3,121
Employee stock purchase plan	89	88	87
Non-elective and elective 401(k) matching contribution in stock	—	72	2,124

Director stock ownership plan		123		137		169
Total share-based compensation expense	$	3,724	$	4,190	$	6,349

During the first quarter of 2017, the Company began matching non-elective and elective 401(k) contributions in cash rather than stock. Also, the Company's estimated tax payable as of December 31, 2016, was sufficient to fully recognize $0.7 million of excess tax benefits related to stock option exercises as cash inflows from financing activities in its Consolidated Statements of Cash Flows.

Stock option activity under all plans is as follows:

	Number of Options	Weighted Average Exercise Price (per option)	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Options outstanding as of January 1, 2018	111,255	$ 97.71		
Options granted	35,842	151.75		
Options exercised	(25,025)	83.96		
Options outstanding as of December 31, 2018	122,072	$ 116.39	5.0	$ 7,185
Options expected to vest after December 31, 2018	86,635	$ 125.48	5.3	$ 4,312
Options exercisable as of December 31, 2018	35,437	$ 94.17	4.2	$ 2,873

The total intrinsic value of options exercised during the years ended December 31, 2018, 2017 and 2016 was approximately $2.0 million, $3.4 million and $2.9 million, respectively. Intrinsic value is calculated as the difference between the current market price of the underlying security and the strike price of a related option.

A summary of the Company's outstanding stock options as of December 31, 2018 is as follows:

Range of Exercise Prices	Number of Options Outstanding	Weighted Average Remaining Contractual Term (years)	Weighted Average Exercise Price (per option)	Number of Options Exercisable	Weighted Average Exercise Price (per option)
$ 50.01 - $ 60.00	874	1.2	58.26	874	58.26
$ 60.01 - $ 70.00	—	—	—	—	—
$ 70.01 - $ 80.00	42,272	4.1	72.19	19,791	72.26
$ 80.01 - $ 90.00	2,797	3.2	87.30	2,797	87.30
$ 90.01 - $ 130.00	—	—	—	—	—
$ 130.01 - $ 140.00	40,287	5.2	134.60	11,975	134.60
$ 140.01 - $ 150.00	—	—	—	—	—
$ 150.01 - $ 160.00	35,842	6.2	151.75	—	—
	122,072	5.0	116.39	35,437	94.17

As of December 31, 2018, unrecognized compensation expense related to options granted in 2018, 2017 and 2016 was $0.8 million, $0.4 million and less than $0.1 million, respectively, to be recognized over a weighted average period of 1.8 years.

The Company granted stock options under its LTIP plan that are subject only to time vesting over a three-year period in the first quarters of 2018, 2017, 2016 and 2015. For the purposes of determining the fair value of stock option awards, the Company uses the Black-Scholes option pricing model and the assumptions set forth in the table below:

	2018	2017	2016	2015

Number of stock options granted	35,842		42,477		67,444		38,698	
Dividend yield	1.37	%	1.49	%	1.49	%	1.55	%
Expected volatility	24.73	%	25.52	%	28.39	%	36.32	%
Risk-free interest rate	2.54	%	1.67	%	1.08	%	1.22	%
Expected term (years)	4.0		4.0		4.0		4.0	

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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These awards are being amortized on a straight-line basis over the respective vesting period of each award. The compensation expense recorded on each award during the years ended December 31, 2018, 2017 and 2016, respectively, is as follows:

	2018	2017	2016
2018 Stock option awards	$ 310	$ —	$ —
2017 Stock option awards	$ 367	$ 308	$ —
2016 Stock option awards	$ 332	$ 332	$ 282
2015 Stock option awards	$ 44	$ 276	$ 276

Activity of nonvested restricted stock awards granted under the Company's LTIP plan is shown below:

	Number of Shares	Weighted Average Grant Date Fair Value (per share)
Nonvested awards, December 31, 2017	72,164	$ 91.03
Granted	16,166	$ 152.38
Vested	(34,954)	$ 87.08
Forfeited	(591)	$ 121.43
Nonvested awards, December 31, 2018	52,785	$ 112.09

The fair value of the nonvested stock is based on the trading price of the Company's common stock on the date of grant. The Company adjusts the grant date fair value for expected forfeitures based on historical experience for similar awards. As of December 31, 2018, unrecognized compensation expense related to these awards was $2.1 million, to be recognized over a weighted average remaining period of 1.7 years.

Activity of nonvested restricted stock units granted under the Company's LTIP plan is shown below:

	Number of Units	Weighted Average Grant Date Fair Value (per unit)
Nonvested awards, December 31, 2017	4,277	$ 95.53
Granted	1,549	$ 153.84
Vested	(1,176)	$ 87.30
Nonvested awards, December 31, 2018	4,650	$ 117.03

The fair value of the nonvested restricted stock units is based on the trading price of the Company's common stock on the date of grant. The Company adjusts the grant date fair value for expected forfeitures based on historical experience for similar awards. As of December 31, 2018, unrecognized compensation expense related to these awards was $0.2 million, to be recognized over a weighted average remaining period of 1.8 years.

Employee Stock Purchase Plan

In 2000, the Board adopted an Employee Stock Purchase Plan ("ESPP") whereby employees may purchase Company stock through a payroll deduction plan. Purchases are made from the plan and credited to each participant's account at the end of each month (the "Investment Date"). The purchase price of the stock is 85% of the fair market value on the Investment Date. The plan is compensatory, and the 15% discount is expensed on the Investment Date. All employees, including officers, are eligible to participate in this plan. A participant may withdraw all uninvested payment balances credited to a participant's account at any time. An employee whose stock ownership of the Company exceeds five percent of the outstanding common stock is not eligible to participate in this plan.

2013 Director Stock Ownership Plan

In 2013, the Company adopted the 2013 Director Stock Ownership Plan (the "Plan"), to encourage the Directors to increase their investment in the Company, which was approved at the Company's May 2013 shareholders' meeting. The Plan authorizes the issuance of up to 75,000 shares of Quaker common stock in accordance with the terms of the Plan in payment of all or a portion of the annual cash retainer payable to each of the Company's non-employee directors in 2013 and subsequent years during the term of the Plan. Under the Plan, each director who, on May 1 of the applicable calendar year, owns less than 400% of the annual cash retainer for the applicable calendar year, divided by the average of the closing price of a share of Quaker Common Stock as reported by the composite tape of the New York Stock Exchange for the previous calendar year (the "Threshold Amount"), is required to receive 75% of the annual cash retainer in Quaker common stock and 25% of the retainer in cash, unless the director elects to receive a greater percentage of Quaker common stock, up to 100% of the annual cash retainer for the applicable year. Each director who owns more than the Threshold Amount may elect to receive common stock in payment of a percentage (up to 100%) of the annual cash retainer. The annual retainer is $0.1 million and the retainer payment date is June 1.

Note 8 – Other Expense, net

Other expense, net, for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	2017	2016
Income from third party license fees	$ 862	$ 861	$ 978
Foreign exchange (losses) gains, net	(807)	891	172
Gain (loss) on fixed asset disposals, net	657	(79)	50
Non-income tax refunds and other related credits	668	1,015	398
Pension and postretirement benefit costs, non-service components	(2,285)	(4,234)	(2,302)
Insurance insolvency recovery	90	600	—
Other non-operating income	425	380	338
Other non-operating expense	(252)	(152)	(126)
Total other expense, net	$ (642)	$ (718)	$ (492)

Foreign exchange (losses) gains, net, during the year ended December 31, 2018 include both a foreign currency transaction loss of approximately $0.4 million related to hyper-inflationary accounting for the Company's Argentina subsidiary effective July 1, 2018 and a foreign currency transaction gain of approximately $0.4 million related to the liquidation of an inactive legal entity. In addition, gain (loss) on fixed asset disposals, net, during the year ended December 31, 2018 and 2017 includes a $0.6 million gain and a $0.1 million loss, respectively, on the sale of held-for-sale assets in each period. Pension and postretirement benefit costs, non-service components during the year ended December 31, 2017 includes a $1.9 million pension settlement charge. See Note 20 of Notes to Consolidated Financial Statements. Insurance insolvency recovery during the years ended December 31, 2018 and 2017 represents cash proceeds from an insolvent insurance carrier with respect to a previously filed recovery claim by an inactive subsidiary of the Company.

Note 9 – Taxes on Income

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as U.S. Tax Reform. U.S. Tax Reform included multiple changes to the U.S. tax code with varying effects on the Company's 2017 results, including, but not limited to, (i) a revaluation of the Company's U.S. deferred tax assets and liabilities based upon the reduction of the U.S. federal statutory corporate income tax rate from 35% to 21% and (ii) implementation of a new system of taxation for non-U.S. earnings which eliminates U.S. federal income taxes on dividends from certain foreign subsidiaries and imposes a one-time transition tax on the deemed repatriation of undistributed earnings of certain foreign subsidiaries that is payable over eight years. U.S. Tax Reform also made changes to the U.S. tax code that have impacted 2018 and will impact future years, including, but not limited to, (i) reduction of the U.S. federal statutory corporate tax rate; (ii) elimination of the corporate alternative minimum tax; (iii) the creation of the base erosion anti-abuse tax, a new minimum tax; (iv) a general elimination of U.S. federal income taxes on dividends from foreign subsidiaries; (v) a new provision designed to tax global intangible low-taxed income ("GILTI"), which allows for the possibility of using foreign tax credits and a deduction of up to 50 percent to offset the income tax liability (subject to some limitations); (vi) a new limitation on deductible interest expense; (vii) the repeal of the U.S. production activity deduction; (viii) limitations on the deductibility of certain executive compensation; (ix) limitations on the use of foreign tax credits to reduce the U.S. income tax liability; (x) a reduction in the dividends received deduction from 70% to 50% (in the case of less-than-20%-owned subsidiaries) and from 80% to 65% (in the case of less-than-80%-owned subsidiaries); and (xi) limitations on net operating losses generated after December 31, 2017 to 80 percent of taxable income.

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Also, in 2017, the Securities and Exchange Commission issued guidance on accounting for the tax effects of U.S. Tax Reform and provided a one-year measurement period for companies to complete the accounting. The Company's initial analysis of the impact of U.S. Tax Reform resulted in an incremental tax expense of $22.2 million recorded during the fourth quarter of 2017. U.S. Tax Reform reduced the U.S. federal statutory corporate tax rate from 35% to 21% effective January 1, 2018. Consequently, the Company recorded a decrease in U.S. net deferred tax assets of approximately $4.5 million with a corresponding net adjustment to deferred income tax expense during the fourth quarter of 2017. This initial estimate was not adjusted during 2018. The Transition Tax is a tax on previously untaxed accumulated and current earnings and profits of certain of the Company's foreign subsidiaries as of either the November 2, 2017 or December 31, 2017 measurement date provided within U.S. Tax Reform. The Company made a reasonable estimate of its Transition Tax and recorded a gross provisional Transition Tax obligation during the fourth quarter of 2017 of $18.4 million, or $17.8 million, net of the impact of eliminating U.S. Federal income taxes on dividends from certain foreign subsidiaries received during 2017.

Subsequent to numerous temporary regulations, notices, and other formal guidance published by the Internal Revenue Service ("IRS"), U.S. Treasury, and various state taxing authorities in 2018, the Company completed its accounting for the tax effects of U.S. Tax Reform as of December 22, 2018 and refined the total incremental tax expense related to U.S. Tax Reform to approximately $28.0 million. Based on proposed regulations published by the U.S. federal and state taxing authorities, the Company recorded a $2.5 million tax benefit to adjust its net Transition Tax to $15.3 million. The Company elected to pay its Transition Tax in installments over eight years as provided for in U.S. Tax Reform. In addition, the Company recorded deferred income tax expense of $0.3 million in 2018 related to the deductibility of certain executive compensation based on formal guidance issued by the IRS in 2018. As a result of the impacts from U.S. Tax Reform, the Company re-evaluated its global cash strategy resulting in a change to its indefinite reinvestment assertion attributable to a portion of its undistributed foreign earnings and recognized a deferred tax liability and corresponding deferred tax expense of $7.9 million, which primarily represents the Company's estimate of the non-U.S. income taxes the Company will incur to ultimately remit those earnings to the U.S. The Company's reinvestment assertions are further explained below.

Taxes on income before equity in net income of associated companies for the years ended December 31, 2018, 2017 and 2016 are as follows:

		2018	2017	2016
Current:				
	Federal	$ 6,583	$ 21,265	$ 4,680
	State	(1,844)	2,529	518
	Foreign	12,114	14,105	12,540
		16,853	37,899	17,738
Deferred:				
	Federal	7,859	6,889	4,601
	State	(173)	(36)	104
	Foreign	511	(3,099)	783
Total		$ 25,050	$ 41,653	$ 23,226

The components of earnings before income taxes for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	2017	2016
U.S.	$ 27,387	$ 10,468	$ 31,175
Foreign	55,711	50,200	52,834
Total	$ 83,098	$ 60,668	$ 84,009

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Total deferred tax assets and liabilities are composed of the following as of December 31, 2018 and 2017:

	2018	2017
Retirement benefits	$ 3,532	$ 5,472
Allowance for doubtful accounts	1,160	1,134
Insurance and litigation reserves	396	497
Postretirement benefits	896	1,056
Supplemental retirement benefits	2,862	2,679
Performance incentives	4,347	3,779
Equity-based compensation	753	1,071
Insurance settlement	4,374	4,581
Operating loss carryforward	8,434	8,602
Foreign tax credit and other credits	1,929	3,043
Uncertain tax positions	(400)	(410)
Other	2,645	2,816
	30,928	34,320
Valuation allowance	(7,520)	(7,401)
Total deferred tax assets, net	$ 23,408	$ 26,919
Depreciation	4,049	4,444
Foreign pension and other	1,062	1,295
Amortization and other	13,497	15,373
Unremitted Earnings	7,857	—
Total deferred tax liabilities	$ 26,465	$ 21,112

The following are the changes in the Company's deferred tax asset valuation allowance for the years ended December 31, 2018, 2017 and 2016:

	Balance at Beginning of Period	Additional Valuation Allowance	Allowance Utilization and Other	Effect of Exchange Rate Changes	Balance at End of Period
Valuation Allowance					
Year ended December 31, 2018	$ 7,401	$ 650	$ (471)	$ (60)	$ 7,520
Year ended December 31, 2017	$ 6,344	$ 1,127	$ (61)	$ (9)	$ 7,401
Year ended December 31, 2016	$ 6,259	$ 294	$ (187)	$ (22)	$ 6,344

The Company's net deferred tax assets and liabilities are classified in the Consolidated Balance Sheets as of December 31, 2018 and 2017 as follows:

	2018	2017
Non-current deferred tax assets	$ 6,946	$ 15,460
Non-current deferred tax liabilities	10,003	9,653
Net deferred tax (liability) asset	$ (3,057)	$ 5,807

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

The following is a reconciliation of income taxes at the Federal statutory rate with income taxes recorded by the Company for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Income tax provision at the Federal statutory tax rate	$ 17,458	$ 21,229	$ 29,403
Unremitted Earnings	7,857	—	—
Transition Tax	(3,118)	18,388	—
Revaluation of U.S. deferred tax assets and liabilities	—	4,470	—
Global intangible low taxed income	1,211	—	—
Foreign derived intangible income	(1,034)	—	—
Non-deductible acquisition expenses	1,019	4,779	696
Share-based compensation	259	(1,419)	—
Differences in tax rates on foreign earnings and remittances	1,081	(2,663)	(2,862)
Foreign dividends	—	—	2,939
Excess foreign tax credit utilization	—	(2,761)	(5,493)
Research and development activities credit utilization	(230)	(235)	(238)
Uncertain tax positions	(79)	(651)	(833)
U.S. domestic production activities deduction	—	(1,155)	(875)
State income tax provisions, net	196	569	357
Non-deductible entertainment and business meals expense	415	248	238
Miscellaneous items, net	15	854	(106)
Taxes on income before equity in net income of associated companies	$ 25,050	$ 41,653	$ 23,226

As of December 31, 2018, the Company had a net deferred tax liability of $2.0 million in the U.S. In addition, the Company has foreign tax loss carryforwards of $6.6 million of which none will expire through 2023, and $0.6 million expires thereafter. The remaining foreign tax losses have no expiration dates. A partial valuation allowance has been established with respect to the tax benefit of these losses for $0.4 million.

Pursuant to U.S. Tax Reform, specifically the Transition Tax, the Company has recorded a charge for U.S. income taxes on its undistributed earnings of non-U.S. subsidiaries; however, the Company could be subject to other taxes, such as withholding taxes and dividend distribution taxes if these undistributed earnings are ultimately remitted to the U.S. As a result of the impacts from U.S. Tax reform, the Company re-evaluated its global cash strategy, resulting in a change to its indefinite reinvestment assertion attributable to a portion of its undistributed foreign earnings, and recognized a deferred tax liability and corresponding deferred tax expense of $7.9 million as of December 31, 2018, which primarily represents the Company's estimate of the non-U.S. taxes the Company will incur to ultimately remit these earnings to the U.S. It is the Company's current intention to reinvest its additional undistributed earnings of non-U.S. subsidiaries to support working capital needs and certain other growth initiatives. The amount of such undistributed earnings at December 31, 2018 was approximately $210.0 million. Any tax liability which might result from ultimate remittance of these earnings is expected to be substantially offset by foreign tax credits (subject to certain limitations). It is currently impractical to estimate any such incremental tax expense.

As of December 31, 2018, the Company's cumulative liability for gross unrecognized tax benefits was $7.1 million. The Company had accrued approximately $0.8 million for cumulative penalties and $0.6 million for cumulative interest as of December 31, 2018. As of December 31, 2017, the Company's cumulative liability for gross

unrecognized tax benefits was $6.8 million. The Company had accrued approximately $1.0 million for cumulative penalties and $0.6 million for cumulative interest as of December 31, 2017.

The Company continues to recognize interest and penalties associated with uncertain tax positions as a component of tax expense on income before equity in net income of associated companies in its Consolidated Statements of Income. The Company recognized a credit of $0.2 million for penalties and an expense of $0.1 million for interest (net of expirations and settlements) in its Consolidated Statement of Income for the year ended December 31, 2018, a credit of $0.7 million for penalties and a credit of $0.2 million for interest (net of expirations and settlements) in its Consolidated Statement of Income for the year ended December 31, 2017, and a credit of $0.2 million for penalties and a credit of $0.7 million for interest (net of expirations and settlements) in its Consolidated Statement of Income for the year ended December 31, 2016.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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The Company estimates that during the year ending December 31, 2019, it will reduce its cumulative liability for gross unrecognized tax benefits by approximately $0.9 million due to the expiration of the statute of limitations with regard to certain tax positions. This estimated reduction in the cumulative liability for unrecognized tax benefits does not consider any increase in liability for unrecognized tax benefits with regard to existing tax positions or any increase in cumulative liability for unrecognized tax benefits with regard to new tax positions for the year ending December 31, 2019. A reconciliation of the beginning and ending amounts of unrecognized tax benefits for the years ended December 31, 2018, 2017 and 2016, respectively, is as follows:

	2018	2017	2016
Unrecognized tax benefits as of January 1	$ 6,761	$ 6,240	$ 11,032
Decrease in unrecognized tax benefits taken in prior periods	(183)	(308)	(869)
Increase in unrecognized tax benefits taken in current period	2,023	2,347	1,921
Decrease in unrecognized tax benefits due to lapse of statute of limitations	(1,292)	(2,116)	(5,744)
(Decrease) increase due to foreign exchange rates	(259)	598	(100)
Unrecognized tax benefits as of December 31	$ 7,050	$ 6,761	$ 6,240

The amount of unrecognized tax benefits above that, if recognized, would impact the Company's tax expense and effective tax rate is $2.2 million, $2.2 million and $1.8 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The Company and its subsidiaries are subject to U.S. Federal income tax, as well as the income tax of various state and foreign tax jurisdictions. Tax years that remain subject to examination by major tax jurisdictions include Brazil from 2000, Italy from 2007, the Netherlands from 2012, the United Kingdom and Mexico from 2013, Spain and China from 2014, India from fiscal year beginning April 1, 2016 and ending March 31, 2017, the U.S. from 2015, and various U.S. state tax jurisdictions from 2009.

As previously reported, the Italian tax authorities have assessed additional tax due from the Company's subsidiary, Quaker Italia S.r.l., relating to the tax years 2007 through 2013. The Company has filed for competent authority relief from these assessments under the Mutual Agreement Procedures ("MAP") of the Organization for Economic Co-Operation and Development for all years except 2007. During the second quarter of 2018, the Italian tax authorities assessed additional tax due from Quaker Italia, S.r.l., relating to the tax years 2014 and 2015. The Company met with the Italian tax authorities in the fourth quarter of 2018 to discuss these assessments and no resolution was agreed upon, so the Company filed an appeal with the first level of tax court in Italy. If the appeal is not successful in materially reducing the assessed tax, then the Company will further evaluate its options including potentially filing for competent authority relief from these assessments under MAP, consistent with the Company's previous filings for 2008 through 2013. As of December 31, 2018, the Company believes it has adequate reserves for uncertain tax positions with respect to these and all other audits.

Note 10 – Earnings Per Share

The following table summarizes earnings per share calculations for the years ended December 31, 2018, 2017 and 2016:

2018	2017	2016

Basic earnings per common share						
Net income attributable to Quaker Chemical Corporation	$	59,473	$	20,278	$	61,403
Less: income allocated to participating securities		(253)		(137)		(515)
Net income available to common shareholders	$	59,220	$	20,141	$	60,888
Basic weighted average common shares outstanding		13,268,047		13,204,872		13,136,138
Basic earnings per common share	$	4.46	$	1.53	$	4.64
Diluted earnings per common share						
Net income attributable to Quaker Chemical Corporation	$	59,473	$	20,278	$	61,403
Less: income allocated to participating securities		(252)		(137)		(514)
Net income available to common shareholders	$	59,221	$	20,141	$	60,889
Basic weighted average common shares outstanding		13,268,047		13,204,872		13,136,138
Effect of dilutive securities		36,685		41,074		24,331
Diluted weighted average common shares outstanding		13,304,732		13,245,946		13,160,469
Diluted earnings per common share	$	4.45	$	1.52	$	4.63

Certain stock options and restricted stock units are not included in the diluted earnings per share calculation since the effect would have been anti-dilutive. The calculated amount of anti-diluted shares not included were 1,808 in 2018, 3,671 in 2017 and 678 in 2016.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 11 – Restricted Cash

The Company has restricted cash recorded in Other assets related to proceeds from an inactive subsidiary of the Company which previously executed separate settlement and release agreements with two of its insurance carriers for an original total value of $35.0 million. The proceeds of both settlements are restricted and can only be used to pay claims and costs of defense associated with the subsidiary's asbestos litigation. The proceeds of the settlement and release agreements have been deposited into interest bearing accounts which earned $0.2 million and less than $0.1 million in the years ended December 31, 2018 and 2017, respectively, offset by $1.1 million and $0.8 million of net payments in 2018 and 2017, respectively. Due to the restricted nature of the proceeds, a corresponding deferred credit was established in Other non-current liabilities for an equal and offsetting amount, and will remain until the restrictions lapse or the funds are exhausted via payments of claims and costs of defense. See also Notes 17, 21 and 25 of Notes to Consolidated Financial Statements.

The following table provides a reconciliation of cash, cash equivalents and restricted cash as December 31, 2018, 2017, 2016 and 2015:

	2018	2017	2016	2015
Cash and cash equivalents	$ 104,147	$ 89,879	$ 88,818	$ 81,053
Restricted cash included in other assets	20,278	21,171	21,883	22,874
Cash, cash equivalents and restricted cash	$ 124,425	$ 111,050	$ 110,701	$ 103,927

Note 12 – Accounts Receivable and Allowance for Doubtful Accounts

As of December 31, 2018 and 2017, the Company had gross trade accounts receivable totaling $207.3 million and $213.8 million with trade accounts receivable greater than 90 days past due of $13.2 million and $15.2 million, respectively. The following are changes in the allowance for doubtful accounts during the years ended December 31, 2018, 2017 and 2016:

	Balance at Beginning of Period	Changes to Costs and Expenses	Write-Offs Charged to Allowance	Exchange Rate Changes and Other Adjustments	Balance at End of Period
Allowance for Doubtful Accounts					
Year ended December 31, 2018	$ 5,457	$ 493	$ (295)	$ (468)	$ 5,187
Year ended December 31, 2017	$ 7,220	$ 137	$ (2,206)	$ 306	$ 5,457
Year ended December 31, 2016	$ 7,818	$ 1,375	$ (1,949)	$ (24)	$ 7,220

Included in exchange rate changes and other adjustments for the year ended December 31, 2018 is a reclassification of $0.3 million to Other assets related to certain customer receivables due greater than a year. There were no similar

adjustments in 2017 or 2016. Included in write-offs charged to allowance during the years ended December 31, 2017 and 2016 were outstanding receivables related to certain prior year customer bankruptcies, which the Company previously reserved for, but settled during 2017 and 2016, respectively. Included in December 31, 2016 is an allowance for doubtful accounts of less than $0.1 million acquired in 2017 business acquisitions. There were no similar adjustments in 2018 or 2017.

Note 13 – Inventories

Inventories, net, as of December 31, 2018 and 2017 were as follows:

		2018		2017
Raw materials and supplies	$	48,134	$	44,439
Work in process, finished goods and reserves		45,956		42,782
Total inventories, net	$	94,090	$	87,221

Note 14 – Property, Plant and Equipment

Property, plant and equipment as of December 31, 2018 and 2017 were as follows:

	2018	2017
Land	$ 10,170	$ 10,635
Building and improvements	84,980	87,111
Machinery and equipment	151,180	153,312
Construction in progress	7,907	4,932
Property, Plant and Equipment, at cost	254,237	255,990
Less accumulated depreciation	(170,314)	(169,286)
Total Property, Plant and Equipment, net	$ 83,923	$ 86,704

As of December 31, 2018, property, plant and equipment include less than $0.1 million of a capital lease asset and future minimum lease payments in the Company’s Asia/Pacific segment.

Note 15 – Goodwill and Other Intangible Assets

The Company completes its annual goodwill impairment test during the fourth quarter of each year, or more frequently if triggering events indicate a possible impairment in one or more of its reporting units. The Company continually evaluates financial performance, economic conditions and other relevant developments in assessing if an interim period impairment test for one or more of its reporting units is necessary. The Company completed its annual impairment assessment during the fourth quarter of 2018 and no impairment charge was warranted. In addition, the Company has recorded no impairment charges in its past.

Changes in the carrying amount of goodwill for the years ended December 31, 2018 and 2017 were as follows:

	North America	EMEA	Asia/Pacific	South America	Total
Balance as of December 31, 2016	$ 45,490	$ 18,189	$ 14,566	$ 2,559	$ 80,804
Goodwill additions	1,832	—	—	—	1,832
Currency translation adjustments	249	2,315	890	(56)	3,398
Balance as of December 31, 2017	47,571	20,504	15,456	2,503	86,034
Currency translation adjustments	(268)	(1,169)	(869)	(395)	(2,701)
Balance as of December 31, 2018	$ 47,303	$ 19,335	$ 14,587	$ 2,108	$ 83,333

Gross carrying amounts and accumulated amortization for definite-lived intangible assets as of December 31, 2018 and 2017 were as follows:

	Gross Carrying Amount		Accumulated Amortization	
	2018	2017	2018	2017
Customer lists and rights to sell	$ 74,989	$ 76,581	$ 29,587	$ 25,394
Trademarks, formulations and product technology	33,275	33,025	16,469	14,309
Other	5,840	6,114	5,566	5,514

Total definite-lived intangible assets	$	114,104	$	115,720	$	51,622	$	45,217

The Company recorded $7.3 million, $7.4 million and $7.0 million of amortization expense during the years ended December 31, 2018, 2017 and 2016, respectively. Estimated annual aggregate amortization expense for the subsequent five years is as follows:

For the year ended December 31, 2019	$	7,160
For the year ended December 31, 2020		6,879
For the year ended December 31, 2021		6,529
For the year ended December 31, 2022		6,374
For the year ended December 31, 2023		6,155

The Company has two indefinite-lived intangible assets totaling $1.1 million for trademarks as of December 31, 2018 and 2017.

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Note 16 – Investments in Associated Companies

As of December 31, 2018, the Company held a 50% investment in and had significant influence over Nippon Quaker Chemical, Ltd. (Japan) and Kelko Quaker Chemical, S.A. (Panama) and held a 33% investment in and had significant influence over Primex, Ltd. (Barbados). The carrying amount of the Company's equity investments as of December 31, 2018 was $21.3 million, which includes its investments of $14.7 million in Primex, Ltd. (Barbados); $6.2 million in Nippon Quaker Chemical, Ltd. (Japan); and $0.4 million in Kelko Quaker Chemical, S.A. (Panama).

The Company has a 50-50 joint venture in a Venezuelan affiliate, Kelko Venezuela. Due to heightened foreign exchange controls, current economic circumstances and other restrictions in Venezuela, during the third quarter of 2018 the Company concluded that it no longer had significant influence over this affiliate. Prior to this determination, the Company historically accounted for this affiliate under the equity method. As of December 31, 2018, the Company has no remaining carrying value for its investment in Kelko Venezuela.

Summarized financial information of Nippon Quaker Chemical, Ltd. (Japan) and Kelko Quaker Chemical, S.A. (Panama) for 2018 and Nippon Quaker Chemical, Ltd. (Japan), Kelko Quaker Chemical, S.A. (Panama) and Kelko Quaker Chemical, S.A. (Venezuela) for 2017 and 2016, in the aggregate, is as follows:

	As of December 31,	
	2018	2017
Current assets	$ 43,581	$ 37,683
Noncurrent assets	990	936
Current liabilities	29,632	24,858
Noncurrent liabilities	1,685	1,457

	Year Ended December 31,		
	2018	2017	2016
Net sales	$ 43,875	$ 42,555	$ 41,448
Gross margin	12,983	13,440	13,082
Income before income taxes	2,494	2,900	2,289
Net income	1,874	1,471	1,210

Summarized financial information of Primex, Ltd. is as follows:

	As of December 31,	
	2018	2017
Total assets	$ 103,705	$ 120,154
Total liabilities	53,049	54,258

	Year Ended December 31,		
	2018	2017	2016
Revenue	$ 5,841	$ 14,042	$ 5,632

Income before income taxes	3,688	11,705	5,622
Net income	2,954	7,788	5,148

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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Note 17 – Other Assets

Other assets as of December 31, 2018 and 2017 were as follows:

	2018	2017
Restricted insurance settlement	$ 20,278	$ 21,171
Uncertain tax positions	4,861	4,543
Supplemental retirement income program	1,491	1,594
Pension assets	3,656	1,184
Other	1,769	1,557
Total other assets	$ 32,055	$ 30,049

As of December 31, 2018 and 2017, one of the Company's U.S. pension plan's fair value of plan assets exceeded its gross benefit obligation and was therefore over-funded, which is represented by the line Pension assets in the table above. See also Note 20 of Notes to Consolidated Financial Statements.

Note 18 – Other Current Liabilities

Other current liabilities as of December 31, 2018 and 2017 were as follows:

	2018	2017
Non-income taxes	$ 8,462	$ 9,196
Accrued interest	4,340	884
Professional fees	3,831	5,019
Selling expenses	3,582	2,846
Freight	2,188	1,780
Customer advances and sales return reserves	2,187	1,507
Current income taxes payable	1,358	841
Legal	1,067	1,169
Accrued rent and facilities	763	775
Other	3,330	3,304
Total other current liabilities	$ 31,108	$ 27,321

Note 19 – Debt

Debt as of December 31, 2018 and 2017 includes the following:

	2018	2017
Credit facilities	$ 24,034	$ 48,514
Industrial development bonds	10,000	15,000
Municipality-related loans	2,549	3,290
Other debt obligations (including capital leases)	21	—
Total debt	36,604	66,804
Current portion of long-term debt	(670)	(5,736)
Long-term debt	$ 35,934	$ 61,068

Credit facilities

The Company’s primary credit facility (“the Credit Facility”) is a $300.0 million syndicated multicurrency credit agreement with a group of lenders. The maximum amount available under the Credit Facility can be increased to $400.0 million at the Company’s option if the lenders agree and the Company satisfies certain conditions. Borrowings under the Credit Facility generally bear interest at a base rate or LIBOR rate plus a margin. The Credit Facility has certain financial and other covenants, with the key financial covenant requiring that the Company’s consolidated total debt to adjusted EBITDA ratio cannot exceed 3.50 to 1. As of December 31, 2018 and 2017, the Company’s consolidated total debt to adjusted EBITDA ratio was below 1.0 to 1, and the Company was also in compliance with all of its other covenants. During the fourth quarter of 2018, the Credit Facility was amended and restated to extend the maturity date to March 15, 2020. As of December 31, 2018 and 2017, the Company had total credit facility borrowings of $24.0 million and $48.5 million, primarily under the Credit Facility, at weighted average borrowing rates of 1.00% and 1.88%, respectively.

Industrial development bonds

As of December 31, 2018 and 2017, the Company had a fixed rate, industrial development authority bond for $10.0 million due in 2028 and bearing interest at a rate of 5.26%. As of December 31, 2017, the Company also had a $5.0 million industrial development authority bond bearing interest at a rate of 5.60%, which matured and was paid off during the fourth quarter of 2018. These bonds have similar covenants to the Credit Facility, noted above.

Municipality-related loans

As part of a past expansion project at the Company's Middletown, Ohio facility, it agreed to a low interest rate $3.5 million loan with the Ohio Department of Development. Principal repayment on this loan began in September 2010 with its final maturity being in February 2021. The current interest rate of 2% will rise to 3% beginning March 2019 until final maturity. As of December 31, 2018 and 2017, there was $0.8 million and $1.1 million, respectively, outstanding on this loan.

The Company's Verkol S.A.U. ("Verkol") subsidiary has certain loans issued by the local government which are either interest-free or bear interest at a subsidized rate. These loans mature periodically, with the last maturity occurring in 2028. The Company records these loans at fair value based on market interest rates on the date of acquisition and continues to measure the loans at amortized cost, recognizing the implicit interest incurred. As of December 31, 2018 and 2017, there was $1.8 million and $2.2 million, respectively, outstanding for these loans.

During the next five years, payments on the Company's debt are due as follows:

2019	$	670
2020		24,730
2021		398
2022		270
2023		240

As of December 31, 2018 and 2017, the amounts at which the Company's debt is recorded are not materially different from their fair market value.

QUAKER CHEMICAL CORPORATION

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(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 20 – Pension and Other Postretirement Benefits

The following table shows the Company's plans' funded status reconciled with amounts reported in the Consolidated Balance Sheets as of December 31, 2018 and 2017:

	Pension Benefits						Other Post Retiremen Benefits	
		2018			2017		2018	20
Change in benefit obligation	**Foreign**	**U.S.**	**Total**	**Foreign**	**U.S.**	**Total**	**U.S.**	**U.**
Gross benefit obligation at beginning of year	$ 118,352	$ 62,977	$ 181,329	$ 103,491	$ 67,254	$ 170,745	$ 4,729	$ 4
Service cost	3,426	383	3,809	3,219	337	3,556	7	
Interest cost	2,254	1,847	4,101	2,066	1,932	3,998	130	
Employee contributions	73	—	73	68	—	68	—	
Plan settlements	(10)	—	(10)	—	(4,341)	(4,341)	—	
Benefits paid	(1,639)	(4,330)	(5,969)	(2,503)	(4,031)	(6,534)	(317)	(
Plan expenses and premiums paid	(161)	—	(161)	(210)	—	(210)	—	
Actuarial (gain) loss	(5,561)	(2,143)	(7,704)	(1,164)	1,826	662	(443)	
Translation differences and other	(5,418)	—	(5,418)	13,385	—	13,385	—	
Gross benefit obligation at end of year	$ 111,316	$ 58,734	$ 170,050	$ 118,352	$ 62,977	$ 181,329	$ 4,106	$ 4
Change in plan assets								
Fair value of plan assets at year beginning of year	$ 98,622	$ 51,964	$ 150,586	$ 86,844	$ 49,197	$ 136,041	$ —	$
Actual return on plan assets	(2,670)	457	(2,213)	116	6,865	6,981	—	
Employer contributions	5,269	1,574	6,843	2,867	4,574	7,441	317	
Employee contributions	73	—	73	68	—	68	—	
Plan settlements	(10)	—	(10)	—	(4,341)	(4,341)	—	
Benefits paid	(1,639)	(4,330)	(5,969)	(2,503)	(4,031)	(6,534)	(317)	(
Plan expenses and premiums paid	(161)	(250)	(411)	(210)	(300)	(510)	—	
Translation differences	(4,658)	—	(4,658)	11,440	—	11,440	—	
Fair value of plan assets at end of year	$ 94,826	$ 49,415	$ 144,241	$ 98,622	$ 51,964	$ 150,586	$ —	$
Net benefit obligation recognized	$ (16,490)	$ (9,319)	$ (25,809)	$ (19,730)	$ (11,013)	$ (30,743)	$ (4,106)	$ (4,
Amounts recognized in the balance sheet consist of:								
Non-current assets	$ —	$ 3,656	$ 3,656	$ —	$ 1,184	$ 1,184	$ —	$
Current liabilities	(206)	(559)	(765)	(89)	(560)	(649)	(446)	(
Non-current liabilities	(16,284)	(12,416)	(28,700)	(19,641)	(11,637)	(31,278)	(3,660)	(4,
Net benefit obligation recognized	$ (16,490)	$ (9,319)	$ (25,809)	$ (19,730)	$ (11,013)	$ (30,743)	$ (4,106)	$ (4,
Amounts not yet reflected in net periodic benefit costs and included in accumulated other comprehensive loss:								

Prior service credit (cost)	$ 1,497	$ —	$ 1,497	$ 1,744	$ (59)	$ 1,685	$ —	$
Accumulated loss	(20,089)	(25,310)	(45,399)	(22,598)	(27,133)	(49,731)	(338)	(8
AOCI	(18,592)	(25,310)	(43,902)	(20,854)	(27,192)	(48,046)	(338)	(8
Cumulative employer contributions in excess of or (below) net periodic benefit cost	2,102	15,991	18,093	1,124	16,179	17,303	(3,768)	(3,9
Net benefit obligation recognized	$ (16,490)	$ (9,319)	$ (25,809)	$ (19,730)	$ (11,013)	$ (30,743)	$ (4,106)	$ (4,7

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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The accumulated benefit obligation for all defined benefit pension plans was $165.3 million ($57.6 million U.S. and $107.7 million Foreign) and $176.3 million ($62.2 million U.S. and approximately $114.1 million Foreign) as of December 31, 2018 and 2017, respectively.

Information for pension plans with an accumulated benefit obligation in excess of plan assets:

	2018			2017		
	Foreign	U.S.	Total	Foreign	U.S.	Total
Projected benefit obligation	$ 111,316	$ 12,975	$ 124,291	$ 118,352	$ 12,197	$ 130,549
Accumulated benefit obligation	107,685	11,808	119,493	114,069	11,456	125,525
Fair value of plan assets	94,826	—	94,826	98,622	—	98,622

Information for pension plans with a projected benefit obligation in excess of plan assets:

	2018			2017		
	Foreign	U.S.	Total	Foreign	U.S.	Total
Projected benefit obligation	$ 111,316	$ 12,975	$ 124,291	$ 118,352	$ 12,197	$ 130,549
Fair value of plan assets	94,826	—	94,826	98,622	—	98,622

Components of net periodic benefit costs – pension plans:

	2018			2017		
	Foreign	U.S.	Total	Foreign	U.S.	Total
Service cost	$ 3,426	$ 383	$ 3,809	$ 3,219	$ 337	$ 3,556
Interest cost	2,254	1,847	4,101	2,066	1,932	3,998
Expected return on plan assets	(2,228)	(2,803)	(5,031)	(1,994)	(3,067)	(5,061)
Settlement loss	2	—	2	—	1,946	1,946
Actuarial loss amortization	881	2,276	3,157	862	2,396	3,258
Prior service (credit) cost amortization	(175)	59	(116)	(167)	63	(104)
Net periodic benefit cost	$ 4,160	$ 1,762	$ 5,922	$ 3,986	$ 3,607	$ 7,593

	2016		
	Foreign	U.S.	Total
Service cost	$ 2,378	$ 298	$ 2,676
Interest cost	2,314	2,114	4,428
Expected return on plan assets	(2,026)	(3,316)	(5,342)
Actuarial loss amortization	839	2,336	3,175
Prior service (credit) cost amortization	(164)	63	(101)
Net periodic benefit cost	$ 3,341	$ 1,495	$ 4,836

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Other changes recognized in other comprehensive income – pension plans:

	2018			2017		
	Foreign	U.S.	Total	Foreign	U.S.	Total
Net (gain) loss arising during the period	$ (663)	$ 453	$ (210)	$ 715	$ (1,672)	$ (957)
Recognition of amortization in net periodic benefit cost						
Prior service credit (cost)	175	(59)	116	167	(63)	104
Actuarial loss	(883)	(2,276)	(3,159)	(862)	(4,342)	(5,204)
Effect of exchange rates on amounts included in AOCI	(890)	—	(890)	2,308	—	2,308
Total recognized in other comprehensive (income) loss	(2,261)	(1,882)	(4,143)	2,328	(6,077)	(3,749)
Total recognized in net periodic benefit cost and other comprehensive loss (income)	$ 1,899	$ (120)	$ 1,779	$ 6,314	$ (2,470)	$ 3,844

	2016		
	Foreign	U.S.	Total
Net gain arising during period	$ 2,401	$ 3,576	$ 5,977
Recognition of amortization in net periodic benefit			
Prior service credit (cost)	164	(63)	101
Actuarial loss	(839)	(2,336)	(3,175)
Effect of exchange rates on amounts included in AOCI	(1,347)	—	(1,347)
Total recognized in other comprehensive loss	379	1,177	1,556
Total recognized in net periodic benefit cost and other comprehensive loss	$ 3,720	$ 2,672	$ 6,392

Components of net periodic benefit costs – other postretirement plan:

	2018	2017	2016
Service cost	$ 7	$ 8	$ 10
Interest cost	130	144	142
Actuarial loss amortization	42	54	—
Net periodic benefit costs	$ 179	$ 206	$ 152

Other changes recognized in other comprehensive income – other postretirement benefit plans:

	2018	2017	2016
Net (gain) loss arising during period	$ (443)	$ 295	$ (401)
Amortization of actuarial loss in net periodic			

benefit costs	(42)	(54)	—
Total recognized in other comprehensive (income) loss	(485)	241	(401)
Total recognized in net periodic benefit cost and other comprehensive (income) loss	$ (306)	$ 447	$ (249)

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Estimated amounts that will be amortized from accumulated other comprehensive loss over the next fiscal year:

	Pension Plans			Other Post-Retirement Benefits
	Foreign	U.S.	Total	
Actuarial loss	$ 769	$ 2,330	$ 3,099	$ —
Prior service credit	(169)	—	(169)	—
	$ 600	$ 2,330	$ 2,930	$ —

Weighted-average assumptions used to determine benefit obligations as of December 31, 2018 and 2017:

	Pension Benefits		Other Postretirement Benefits	
	2018	2017	2018	2017
U.S. Plans:				
Discount rate	4.07 %	3.44 %	4.03 %	3.39 %
Rate of compensation increase	3.63 %	3.63 %	N/A	N/A
Foreign Plans:				
Discount rate	2.47 %	2.31 %	N/A	N/A
Rate of compensation increase	2.89 %	2.89 %	N/A	N/A

Weighted-average assumptions used to determine net periodic benefit costs for the years ended December 31, 2018 and 2017:

	Pension Benefits		Other Postretirement Benefits	
	2018	2017	2018	2017
U.S. Plans:				
Discount rate	3.44 %	3.88 %	3.39 %	3.73 %
Expected long-term return on plan assets	5.95 %	7.00 %	N/A	N/A
Rate of compensation increase	3.63 %	3.63 %	N/A	N/A
Foreign Plans:				
Discount rate	2.33 %	2.17 %	N/A	N/A
Expected long-term return on plan assets	2.22 %	2.12 %	N/A	N/A
Rate of compensation increase	2.89 %	2.48 %	N/A	N/A

The long-term rates of return on assets were selected from within the reasonable range of rates determined by (a) historical real returns for the asset classes covered by the investment policy and (b) projections of inflation over the long-term period during which benefits are payable to plan participants. See Note 1 of Notes to Consolidated Financial Statements for further information.

Assumed health care cost trend rates as of December 31, 2018 and 2017:

	2018	2017
Health care cost trend rate for next year	6.20 %	6.40 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate	2037	2037

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Assumed health care cost trend rates could have a significant effect on the amounts reported for the health care plans. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

	1% Point Increase	1% Point Decrease
Effect on total service and interest cost	$ 11	$ (9)
Effect on postretirement benefit obligations	299	(311)

Plan Assets and Fair Value

The Company's pension plan target asset allocation and the weighted-average asset allocations as of December 31, 2018 and 2017 by asset category were as follows:

Asset Category	**Target**	**2018**	**2017**
U.S. Plans			
Equity securities	10%	9%	59%
Debt securities	89%	90%	40%
Other	1%	1%	1%
Total	100%	100%	100%
Foreign Plans			
Equity securities and other	24%	24%	25%
Debt securities	76%	76%	75%
Total	100%	100%	100%

During the year ended December 31, 2018, the Company elected to adjust its U.S. Plans' asset allocation along a glide path based on the funded status of the U.S. Plan. As funded status improved, the assets were allocated more heavily to debt securities with lengthened duration to match projected liability movements.

As of December 31, 2018 and 2017, "Other" consisted principally of cash and cash equivalents (approximately 1% of plan assets in each respective period).

The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy, where applicable:

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and money market funds and are classified as Level 1 investments.

Common Stock

Common stock is valued based on quoted market prices on an exchange in an active market and is classified as Level 1 investments.

Commingled Funds

Investments in the U.S. pension plan and foreign pension plan commingled funds represent pooled institutional investments, including primarily collective investment trusts. These commingled funds are not available on an exchange or in an active market and these investments are valued using their net asset value ("NAV"), which is generally based on the underlying asset values of the pooled investments held in the trusts.

As of December 31, 2018, the U.S. pension plan commingled funds included approximately 10 percent of investments in equity securities and 90 percent of investments in fixed income securities. As of December 31, 2018, foreign pension plan commingled funds included approximately 30 percent of investments in equity securities, 60 percent of investments in fixed income securities, and 10 percent of other non-related investments, primarily real estate.

Pooled Separate Accounts

Investments in the U.S. pension plan pooled separate accounts consist of insurance annuity contracts and are valued based on the reported unit value at year end. Units of the pooled separate account are not traded on an exchange or in an active market and these investments are valued using their NAV.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Insurance Contract

Investments in the foreign pension plan insurance contract are valued at the highest value available for the Company at year end, either the reported cash surrender value of the contract or the vested benefit obligation. Both the cash surrender value and the vested benefit obligation are determined based on unobservable inputs, which are contractually or actuarially determined, regarding returns, fees, the present value of the future cash flows of the contract and benefit obligations. The contract is classified as a Level 3 investment.

Diversified Equity Securities - Registered Investment Companies

Investments in the foreign pension plans diversified equity securities of registered investment companies are based upon the quoted redemption value of shares in the fund owned by the plan at year end. The shares of the fund are not available on an exchange or in an active market; however, the fair value is determined based on the underlying investments in the fund as traded on an exchange in an active market and are classified as Level 2 investments.

Fixed Income – Foreign Registered Investment Companies

Investments in the foreign pension plans fixed income securities of foreign registered investment companies are based upon the quoted redemption value of shares in the fund owned by the plan at year end. The shares of the fund are not available on an exchange or in an active market; however, the fair value is determined based on the underlying investments in the fund as traded on an exchange in an active market and are classified as Level 2 investments.

Real Estate

The foreign pension plan's investment in real estate consists of an investment in a property fund. The fund's underlying investments consist of real property, which are valued using unobservable inputs. The property fund is classified as a Level 3 investment.

As of December 31, 2018 and 2017, the U.S. and foreign plans' investments measured at fair value on a recurring basis were as follows:

		Fair Value Measurements at December 31, 2018 Using Fair Value Hierarchy		
U.S. Pension Assets	**Total Fair Value**	**Level 1**	**Level 2**	**Level 3**
Cash and cash equivalents	$ 450	$ 450	$ —	$ —
Subtotal U.S. pension plan assets in fair value hierarchy	$ 450	$ 450	$ —	$ —
Commingled funds measured at NAV	48,965			
Total U.S. pension plan assets	$ 49,415			
Foreign Pension Assets				
Cash and cash equivalents	$ 209	$ 209	$ —	$ —
Insurance contract	79,873	—	—	79,873

Diversified equity securities - registered investment companies		7,701		—		7,701		—
Fixed income - foreign registered investment companies		2,658		—		2,658		—
Real estate - registered investment companies		2,382		—		—		2,382
Sub-total of foreign pension assets in fair value hierarchy	$	92,823	$	209	$	10,359	$	82,255
Commingled funds measured at NAV		2,003						
Total foreign pension assets	$	94,826						
Total pension assets in fair value hierarchy	$	93,273	$	659	$	10,359	$	82,255
Total pension assets measured at NAV		50,968						
Total pension assets	$	144,241						

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

	Total	Fair Value Measurements at December 31, 2017 Using Fair Value Hierarchy		
U.S. Pension Assets	**Fair Value**	**Level 1**	**Level 2**	**Level 3**
Cash and cash equivalents	$ 449	$ 449	$ —	$ —
Small capitalization common stock	1,508	1,508	—	—
Subtotal U.S. pension plan assets in fair value hierarchy	$ 1,957	$ 1,957	$ —	$ —
Commingled funds measured at NAV	48,527			
Pooled separate accounts measured at NAV	1,480			
Total U.S. pension plan assets	$ 51,964			
Foreign Pension Assets				
Cash and cash equivalents	$ 26	$ 26	$ —	$ —
Insurance contract	82,092	—	—	82,092
Diversified equity securities - registered investment companies	9,002	—	9,002	—
Fixed income - foreign registered investment companies	2,951	—	2,951	—
Real estate - registered investment companies	2,428	—	—	2,428
Subtotal foreign pension assets in fair value hierarchy	$ 96,499	$ 26	$ 11,953	$ 84,520
Commingled funds measured at NAV	2,123			
Total foreign pension plan assets	$ 98,622			
Total pension assets in fair value hierarchy	$ 98,456	$ 1,983	$ 11,953	$ 84,520
Total pension assets measured at NAV	52,130			
Total pension assets	$ 150,586			

Certain investments that are measured at fair value using the NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented for these investments in the preceding tables are intended to permit reconciliation of the fair value hierarchies to the line items presented in the statements of net assets available for benefits.

Changes in the fair value of the foreign plans' Level 3 investments during the years ended December 31, 2018 and 2017 were as follows:

	Insurance Contract	Real Estate Fund	Total
Balance as of December 31, 2016	$ 72,778	$ 2,041	$ 74,819
Purchases	2,350	—	2,350
Settlements	(1,661)	—	(1,661)
Unrealized (losses) gains	(1,425)	188	(1,237)
Currency translation adjustment	10,050	199	10,249
Balance as of December 31, 2017	82,092	2,428	84,520
Purchases	4,707	—	4,707

Settlements		(1,399)		—		(1,399)
Unrealized (losses) gains		(1,817)		94		(1,723)
Currency translation adjustment		(3,710)		(140)		(3,850)
Balance as of December 31, 2018	$	79,873	$	2,382	$	82,255

U.S. pension assets include Company common stock in the amount of $1.5 million (3% of total U.S. plan assets) as of December 31, 2017. There was no Company common stock held in U.S. pension assets as of December 31, 2018.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

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During the second quarter of 2017, the Company's primary noncontributory U.S. pension plan (the "U.S. Pension Plan") offered a cash settlement to its vested terminated participants, which allowed them to receive the value of their pension benefits as a single lump sum payment. As payments from the U.S. Pension Plan for this cash out offering exceeded the service and interest cost components of the U.S. Pension Plan expense for the year ended December 31, 2017, the Company recorded a settlement charge of approximately $1.9 million. This settlement charge represented the immediate recognition into expense of a portion of the unrecognized loss within AOCI on the balance sheet in proportion to the share of the projected benefit obligation that was settled by these payments. The gross pension benefit obligation was reduced by approximately $4.0 million as a result of these payments. The settlement charge was recognized through other expense, net, on the Company's Consolidated Statements of Income.

In the fourth quarter of 2018, the Company began the process of terminating the U.S. Pension Plan after receiving Board of Director approval to do so. Prior to December 31, 2005, the U.S. Pension Plan covered substantially all employees of the Company's U.S. subsidiary who had at least one year of eligible service and had attained age 21. Effective December 31, 2005, the U.S. Pension Plan was amended to freeze benefit accruals with respect to participants who were not part of a collective bargaining unit and effective after November 30, 2013, the U.S. Pension Plan was further amended to freeze benefit accruals for the remaining members of a collective bargaining unit. U.S. Pension Plan participants will have their benefits either converted into a lump sum cash payment or an annuity contract placed with an insurance carrier. The U.S. Pension Plan is fully-funded on a U.S. GAAP basis. In order to terminate the plan in accordance with IRS and pension benefit guaranty corporation requirements, the Company will be required to fully fund the plan on a termination basis and will commit to contribute the additional assets necessary, if any, to do so. The amount necessary to do so is not yet known but is currently estimated to be between $0 and $10 million. In addition, the Company expects to record a pension settlement charge at plan termination. This settlement charge will include the immediate recognition into expense of the unrecognized losses within AOCI on the balance sheet as of the plan termination date. The Company does not have a current estimate for this future settlement charge, however, the gross AOCI related to this plan was approximately $19 million as of December 31, 2018. The Company currently estimates that the U.S. Pension Plan termination will be completed during 2020.

Cash Flows

Contributions

The Company expects to make minimum cash contributions of approximately $5.2 million to its pension plans (approximately $0.5 million U.S. and $4.7 million Foreign) and approximately $0.4 million to its other postretirement benefit plan in 2019.

Estimated Future Benefit Payments

Excluding any impact related to the U.S. Pension Plan termination process noted above, the following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

	Pension Benefits			Other Post-Retirement Benefits
	Foreign	U.S.	Total	

2019	$ 2,240	$ 4,515	$ 6,755	$ 446
2020	2,443	4,286	6,729	422
2021	3,166	4,220	7,386	393
2022	3,124	4,237	7,361	367
2023	3,336	4,860	8,196	349
2024 to 2028	19,212	22,107	41,319	1,380

The Company maintains a plan under which supplemental retirement benefits are provided to certain officers. Benefits payable under the plan are based on a combination of years of service and existing postretirement benefits. Included in total pension costs are charges of $1.6 million, $1.4 million and $0.9 million for the years ended December 31, 2018, 2017 and 2016, respectively, representing the annual accrued benefits under this plan.

Defined Contribution Plan

The Company has a 401(k) plan with an employer match covering a majority of its U.S. employees. The plan allows for and the Company previously paid a nonelective contribution on behalf of participants who have completed one year of service equal to 3% of the eligible participants' compensation in the form of Company common stock. During the first quarter of 2017, the Company began matching both non-elective and elective 401(k) contributions in cash, rather than stock. Total Company contributions were $3.1 million, $2.9 million and $2.7 million for the years ended December 31, 2018, 2017 and 2016, respectively.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 21 – Other Non-Current Liabilities

Other non-current liabilities as of December 31, 2018 and 2017 were as follows:

	2018	2017
Restricted insurance settlement	$ 20,278	$ 21,171
Non-current income taxes payable	7,644	15,825
Uncertain tax positions (includes interest and penalties)	8,097	7,970
Deferred and other long-term compensation	6,886	5,905
Other	624	625
Total other non-current liabilities	$ 43,529	$ 51,496

Note 22 – Equity and Accumulated Other Comprehensive Loss

In May 2015, the Company's Board of Directors authorized a share repurchase program for the repurchase of up to $100.0 million of Quaker Chemical Corporation common stock (the "2015 Share Repurchase Program"). The 2015 Share Repurchase Program has no expiration date. The 2015 Share Repurchase Program provides a framework of conditions under which management can repurchase shares of the Company's common stock. These purchases may be made in the open market or in private and negotiated transactions and will be in accordance with applicable laws, rules and regulations.

In connection with the 2015 Share Repurchase Program, the Company acquired 83,879 shares of common stock for $5.9 million, during the year ended December 31, 2016. There were no share repurchases under the 2015 Share Repurchase Program during the years ended December 31, 2018 and 2017. The Company has elected not to hold treasury shares and therefore has retired the shares as they are repurchased. It is the Company's accounting policy to record the excess paid over par value as a reduction in retained earnings for all shares repurchased.

The Company has 30,000,000 shares of common stock authorized with a par value of $1, and 13,338,026 and 13,307,976 shares issued and outstanding as of December 31, 2018 and 2017, respectively. The change in shares issued and outstanding during 2018 was primarily related to 17,596 shares issued for equity-based compensation plans, 3,574 shares issued for the ESPP and 8,880 shares issued for the exercise of stock options and other employee and director-related share activity.

The Company is authorized to issue 10,000,000 shares of preferred stock with $1 par value, subject to approval by the Board of Directors. The Board of Directors may designate one or more series of preferred stock and the number of shares, rights, preferences, and limitations of each series. As of December 31, 2018, no preferred stock had been issued.

The following table shows the reclassifications from and resulting balances of AOCI for the years ended December 31, 2018, 2017 and 2016:

	Currency Translation Adjustments	Defined Benefit Pension Plans	Unrealized Gain (Loss) in Available-for-Sale Securities	Total
Balance as of December 31, 2015	$ (38,544)	$ (35,251)	$ 479	$ (73,316)
Other comprehensive (loss) income before reclassifications	(13,711)	(4,229)	834	(17,106)
Amounts reclassified from AOCI	—	3,075	(17)	3,058
Related tax amounts	—	237	(280)	(43)
Balance as of December 31, 2016	(52,255)	(36,168)	1,016	(87,407)
Other comprehensive income (loss) before reclassifications	20,362	(1,646)	2,299	21,015
Amounts reclassified from AOCI	—	5,154	(2,494)	2,660
Related tax amounts	—	(1,433)	65	(1,368)
Balance as of December 31, 2017	(31,893)	(34,093)	886	(65,100)
Other comprehensive (loss) income before reclassifications	(17,429)	1,543	(2,622)	(18,508)
Amounts reclassified from AOCI	—	3,085	435	3,520
Related tax amounts	—	(1,086)	459	(627)
Balance as of December 31, 2018	$ (49,322)	$ (30,551)	$ (842)	$ (80,715)

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Approximately 30% and 70% of the amounts reclassified from AOCI to the Consolidated Statements of Income for defined benefit retirement plans during the years ended December 31, 2018, 2017 and 2016 were recorded in COGS and SG&A, respectively. See Note 20 of Notes to Consolidated Financial Statements for further information. All reclassifications related to unrealized gain (loss) in available-for-sale securities relate to the Company's equity interest in a captive insurance company and are recorded in equity in net income of associated companies. The amounts reported on the Consolidated Statements of Changes in Equity for non-controlling interest are related to currency translation adjustments.

Note 23 – Business Acquisitions

In March 2018, the Company purchased certain formulations and product technology for the mining industry for its North America reportable operating segment for $1.0 million. The Company allocated the entire purchase price to intangible assets representing formulations and product technology, to be amortized over 10 years. In accordance with the terms of the agreement, $0.5 million of the purchase price was paid at signing, with the remaining $0.5 million of the purchase price being paid during the first quarter of 2019. As of December 31, 2018, the remaining $0.5 million was recorded in Other current liabilities on the Company's Consolidated Balance Sheet.

In December 2017, the Company acquired the remaining 45% ownership interest in its India affiliate, Quaker Chemical India Private Limited ("QCIL") for 2,025.0 million INR, or approximately $31.8 million. QCIL is a part of the Company's Asia/Pacific reportable operating segment. As this acquisition was a change in an existing controlling ownership, the Company recorded $21.2 million of excess purchase price over the carrying value of the noncontrolling interest in Capital in excess of par value. In May 2017, the Company acquired assets associated with a business that markets, sells and manufactures certain metalworking fluids for its North America reportable operating segment for 7.3 million CAD, or approximately $5.4 million. As of December 31, 2018, the allocation of the purchase price for all of the Company's 2017 acquisitions have been finalized.

In November 2016, the Company acquired Lubricor Inc. and its affiliated entities ("Lubricor"), a metalworking fluids manufacturer headquartered in Waterloo, Ontario for its North America reportable operating segment for 16.0 million CAD, or approximately $12.0 million. During the first quarter of 2017, the Company identified and recorded an adjustment of less than $0.1 million to the allocation of the purchase price for the Lubricor acquisition. The adjustment was the result of finalizing a post-closing settlement based on the Company's assessment of additional information related to assets acquired and liabilities assumed. In May 2016, the Company acquired assets of a business that is associated with dust control products for the mining industry for its North America reportable operating segment for $1.9 million. As of December 31, 2017, the allocation of the purchase price for all of the Company's 2016 acquisitions have been finalized.

In July 2015, the Company acquired Verkol, a leading specialty grease and other lubricants manufacturer based in northern Spain, included in its EMEA reportable operating segment, for 37.7 million EUR, or approximately $41.4 million. This includes a post-closing adjustment of 1.3 million EUR, or approximately $1.4 million that was accrued as of December 31, 2015 and paid during the first quarter of 2016.

The results of operations of the acquired businesses and assets are included in the Consolidated Statements of Income from their respective acquisition dates. Transaction expenses associated with these acquisitions are included in

SG&A in the Company's Consolidated Statements of Income. Certain pro forma and other information is not presented, as the operations of the acquired businesses are not material to the overall operations of the Company for the periods presented.

Note 24 – Fair Value Measures

The Company has valued its company-owned life insurance policies at fair value. These assets are subject to fair value measurement as follows:

	Total	Fair Value Measurements at December 31, 2018 Using Fair Value Hierarchy		
Assets	Fair Value	Level 1	Level 2	Level 3
Company-owned life insurance	$ 1,491	$ —	$ 1,491	$ —
Total	$ 1,491	$ —	$ 1,491	$ —

	Total	Fair Value Measurements at December 31, 2017 Using Fair Value Hierarchy		
Assets	Fair Value	Level 1	Level 2	Level 3
Company-owned life insurance	$ 1,594	$ —	$ 1,594	$ —
Total	$ 1,594	$ —	$ 1,594	$ —

The fair values of Company-owned life insurance are based on quotes for like instruments with similar credit ratings and terms. The Company did not have liabilities subject to fair value measurement and did not hold Level 3 investments as of December 31, 2018 or 2017, respectively, so related disclosures have not been included.

Note 25 – Commitments and Contingencies

In 1992, the Company identified certain soil and groundwater contamination at AC Products, Inc. (“ACP”), a wholly owned subsidiary. In voluntary coordination with the Santa Ana California Regional Water Quality Board, ACP has been remediating the contamination, the principal contaminant of which is perchloroethylene (“PERC”). In 2004, the Orange County Water District (“OCWD”) filed a civil complaint against ACP and other parties seeking to recover compensatory and other damages related to the investigation and remediation of the contamination in the groundwater. Pursuant to a settlement agreement with OCWD, ACP agreed, among other things, to operate the two groundwater treatment systems to hydraulically contain groundwater contamination emanating from ACP’s site until the concentrations of PERC released by ACP fell below the current Federal maximum contaminant level for four consecutive quarterly sampling events. In 2014, ACP ceased operation at one of its two groundwater treatment systems, as it had met the above condition for closure. As of December 31, 2018, ACP believes it is close to meeting the conditions for closure of the remaining groundwater treatment system but continues to operate this system while in discussions with the relevant authorities.

As of December 31, 2018, the Company believes that the range of potential-known liabilities associated with the balance of ACP water remediation program is approximately $0.1 million to $1.0 million. The low and high ends of the range are based on the length of operation of the treatment system as required by the conditions noted above, as determined by groundwater modeling. Costs of operation include the operation and maintenance of the extraction well, groundwater monitoring and program management.

The Company believes, although there can be no assurance regarding the outcome of other unrelated environmental matters, that it has made adequate accruals for costs associated with other environmental problems of which it is aware. Approximately $0.2 million was accrued as of December 31, 2018 and 2017, respectively, to provide for such anticipated future environmental assessments and remediation costs.

An inactive subsidiary of the Company that was acquired in 1978 sold certain products containing asbestos, primarily on an installed basis, and is among the defendants in numerous lawsuits alleging injury due to exposure to asbestos. The subsidiary discontinued operations in 1991 and has no remaining assets other than proceeds received from insurance settlements. To date, the overwhelming majority of these claims have been disposed of without payment and there have been no adverse judgments against the subsidiary. Based on a continued analysis of the existing and anticipated future claims against this subsidiary, it is currently projected that the subsidiary's total liability over the next 50 years for these claims is approximately $1.7 million (excluding costs of defense). Although the Company has also been named as a defendant in certain of these cases, no claims have been actively pursued against the Company, and the Company has not contributed to the defense or settlement of any of these cases pursued against the subsidiary. These cases were handled by the subsidiary's primary and excess insurers who had agreed in 1997 to pay all defense costs and be responsible for all damages assessed against the subsidiary arising out of existing and future asbestos claims up to the aggregate limits of their policies. A significant portion of this primary insurance coverage was provided by an insurer that is insolvent, and the other primary insurers asserted that the aggregate limits of their policies had been exhausted. The subsidiary challenged the applicability of these limits to the claims being brought against the subsidiary. In response, two of the three carriers entered into separate settlement and release agreements with the subsidiary in 2005 and 2007 for $15.0 million and $20.0 million, respectively. The proceeds of both settlements are restricted and can only be used to pay claims and costs of defense associated with the subsidiary's asbestos litigation.

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

In 2007, the subsidiary and the remaining primary insurance carrier entered into a Claim Handling and Funding Agreement, under which the carrier is paying 27% of defense and indemnity costs incurred by or on behalf of the subsidiary in connection with asbestos bodily injury claims. The agreement continues until terminated and can only be terminated by either party by providing a minimum of two years prior written notice. As of December 31, 2018, no notice of termination has been given under this agreement. At the end of the term of the agreement, the subsidiary may choose to again pursue its claim against this insurer regarding the application of the policy limits. The Company believes that, if the coverage issues under the primary policies with the remaining carrier are resolved adversely to the subsidiary and all settlement proceeds were used, the subsidiary may have limited additional coverage from a state guarantee fund established following the insolvency of one of the subsidiary's primary insurers. Nevertheless, liabilities in respect of claims may exceed the assets and coverage available to the subsidiary.

If the subsidiary's assets and insurance coverage were to be exhausted, claimants of the subsidiary may actively pursue claims against the Company because of the parent-subsidiary relationship. The Company does not believe that such claims would have merit or that the Company would be held to have liability for any unsatisfied obligations of the subsidiary as a result of such claims. After evaluating the nature of the claims filed against the subsidiary and the small number of such claims that have resulted in any payment, the potential availability of additional insurance coverage at the subsidiary level, the additional availability of the Company's own insurance and the Company's strong defenses to claims that it should be held responsible for the subsidiary's obligations because of the parent-subsidiary relationship, the Company believes it is not probable that the Company will incur losses. The Company has been successful to date having any claims naming it dismissed during initial proceedings. Since the Company may be in this stage of litigation for some time, it is not possible to estimate additional losses or range of loss, if any.

The Company is party to other litigation which management currently believes will not have a material adverse effect on the Company's results of operations, cash flows or financial condition.

The Company leases certain manufacturing and office facilities and equipment under non-cancelable operating leases with various terms from 1 to 15 years expiring in 2027. Rent expense for the years ended December 31, 2018, 2017 and 2016 was $7.2 million, $6.4 million, and $5.6 million, respectively.

The Company's minimum rental commitments under operating leases as of December 31, 2018 for future years were approximately:

2019	$	7,068
2020		5,635
2021		4,509
2022		3,523
2023		2,659
2024 and beyond		7,779

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

Note 26 – Quarterly Results (unaudited)

	First Quarter (1)	Second Quarter (2)	Third Quarter (3)	Fourth Quarter (4)
2018				
Net sales	$ 212,055	$ 221,962	$ 222,022	$ 211,481
Gross profit	75,447	80,937	81,093	74,838
Operating income	20,231	22,563	24,919	20,068
Net income attributable to Quaker Chemical Corporation	12,732	19,246	19,690	7,805
Net income attributable to Quaker Chemical Corporation Common Shareholders - Basic (5)	$ 0.96	$ 1.44	$ 1.48	$ 0.59
Net income attributable to Quaker Chemical Corporation Common Shareholders - Diluted (5)	$ 0.95	$ 1.44	$ 1.47	$ 0.58
2017				
Net sales	$ 194,909	$ 201,183	$ 212,918	$ 211,072
Gross profit	70,887	71,835	74,776	73,997
Operating income	13,758	17,903	14,009	17,074
Net income (loss) attributable to Quaker Chemical Corporation	6,992	11,906	11,142	(9,762)
Net income (loss) attributable to Quaker Chemical Corporation Common Shareholders - Basic (5)	$ 0.53	$ 0.90	$ 0.84	$ (0.73)
Net income (loss) attributable to Quaker Chemical Corporation Common Shareholders - Diluted (5)	$ 0.52	$ 0.89	$ 0.83	$ (0.73)

(1) Net income attributable to Quaker Chemical Corporation for both the first quarters of 2018 and 2017 includes a loss of $0.4 million and earnings of $0.6 million, respectively, from the Company's equity interest in a captive insurance company. Net income attributable to Quaker Chemical Corporation for both the first quarters of 2018 and 2017 includes Houghton combination-related expenses of $6.1 million and $9.1 million, respectively. Net income attributable to Quaker Chemical Corporation for the first quarter of 2018 includes a currency conversion charge of $0.2 million related to the impacts of hyper-inflationary accounting at the Company's 50% owned affiliate in Venezuela. Net income attributable to Quaker Chemical Corporation for the first quarter of 2017 also includes $0.3 million of cost streamlining expenses associated with certain actions taken to reorganize the Company's corporate staff.

(2) Net income attributable to Quaker Chemical Corporation for both the second quarters of 2018 and 2017 includes earnings from the Company's equity interest in a captive insurance company of $1.0 million and $0.4 million,

respectively. Net income attributable to Quaker Chemical Corporation for both the second quarters of 2018 and 2017 includes Houghton combination-related expenses of $4.5 million and $4.3 million, respectively. Net income attributable to Quaker Chemical Corporation for both the second quarters of 2018 and 2017 includes currency conversion charges of less than $0.1 million and $0.3 million, respectively, related to the impacts of hyper-inflationary accounting at the Company's 50% owned affiliate in Venezuela. Net income attributable to Quaker Chemical Corporation for the second quarter of 2018 includes a tax adjustment of $1.2 million related to U.S. Tax Reform. Net income attributable to Quaker Chemical Corporation for the second quarter of 2017 includes a $1.9 million charge for the Company's U.S. pension plan settlement of its vested terminated participants.

(3) Net income attributable to Quaker Chemical Corporation for both the third quarters of 2018 and 2017 includes earnings from the Company's equity interest in a captive insurance company of $0.4 million, respectively, in both periods. Net income attributable to Quaker Chemical Corporation for both the third quarters of 2018 and 2017 includes Houghton combination-related expenses of $3.8 million and $9.7 million, respectively. Net income attributable to Quaker Chemical Corporation for both the third quarters of 2018 and 2017 includes currency conversion charges of $0.5 million and less than $0.1 million, respectively, related to the impacts of hyper-inflationary accounting at the Company's 50% owned affiliate in Venezuela and wholly owned Argentina subsidiary. Net income attributable to Quaker Chemical Corporation for the third quarter of 2018 also includes a $0.4 million foreign currency transaction gain related to the liquidation of an inactive legal entity and a tax adjustment of $1.1 million related to U.S. Tax Reform.

(4) Net income (loss) attributable to Quaker Chemical Corporation for both the fourth quarters of 2018 and 2017 includes a loss of $0.1 million and earnings of $1.1 million, respectively, from the Company's equity interest in a captive insurance company. Net income (loss) attributable to Quaker Chemical Corporation for both the fourth quarters of 2018 and 2017 includes Houghton

QUAKER CHEMICAL CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

(Dollars in thousands, except share and per share amounts, unless otherwise stated)

combination-related expenses of $5.1 million and $7.7 million, respectively. Net income (loss) attributable to Quaker Chemical Corporation for both the fourth quarters of 2018 and 2017 includes other income of $0.1 million and $0.6 million, respectively, related to cash proceeds from an insolvent insurance carrier with respect to previously filed recovery claims by an inactive subsidiary of the Company. Net income (loss) attributable to Quaker Chemical Corporation for both the fourth quarters of 2018 and 2017 includes currency conversion impacts related to hyper-inflationary accounting, with the 2017 impact of a charge of $0.1 million at the Company's 50% owned affiliate in Venezuela and the 2018 impact of income of less than $0.1 million at the Company's wholly owned Argentina subsidiary. Net income (loss) attributable to Quaker Chemical Corporation for both the fourth quarters of 2018 and 2017 includes charges of $8.1 million and $22.2 million, respectively, related to U.S. Tax Reform. Net income (loss) attributable to Quaker Chemical Corporation for the fourth quarter of 2017 also includes a charge of $0.1 million related to a loss on disposal of a held-for-sale asset.

(5) Basic and diluted per share amounts of net income (loss) attributable to Quaker Chemical Corporation common shareholders for all four quarters above may not total to the full year amounts presented in the Company's consolidated financial statements for the years ended December 31, 2018 and 2017, respectively, due to rounding.

Item 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.***

Not Applicable.

Item 9A. ***Controls and Procedures.***

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), our management, including our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, our principal executive officer and our principal financial officer have concluded that as of the end of the period covered by this report our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) were effective.

Management's Report on Internal Control over Financial Reporting

The management of Quaker is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) promulgated under the Exchange Act. 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, with the participation of our principal executive officer and principal financial officer, assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework (2013)*. Based on its assessment, Quaker's management has concluded that as of December 31, 2018, the Company's internal control over financial reporting is effective based on those criteria.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in "Item 8. Financial Statements and Supplementary Data."

Changes in Internal Controls Over Financial Reporting

As required by Rule 13a-15(d) under the Exchange Act, our management, including our principal executive officer and principal financial officer, has evaluated our internal control over financial reporting to determine whether any changes to our internal control over financial reporting occurred during the fourth quarter of the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, no such changes to our internal control over financial reporting occurred during the fourth quarter of the year ended December 31, 2018.

Item 9B. ***Other Information.***

Following mutually agreeable discussions with Mr. Jeffry Benoliel (Vice President and Global Leader of Metalworking, Can and Mining) during 2017, it was decided that as part of the Company's integration planning for its combination with Houghton International, Inc., Mr. Benoliel's current position would be restructured. After subsequent discussions, Mr. Benoliel has chosen to leave the Company effective March 1, 2019. Mr. Benoliel will receive severance and other benefits that will be substantially similar to those he would have received in connection with a termination of employment following a change in control of the Company pursuant to his existing Change in Control Agreement with the Company, dated November 19, 2008 (the "Agreement"). Separately, the amounts due to Mr. Benoliel under his existing supplemental retirement income program will be paid in accordance with the terms of that program. As contemplated by the Agreement, payment to Mr. Benoliel of severance and other benefits is subject to his execution and non-revocation of a Release in a form satisfactory to the Company. For additional information, see "Severance and Change in Control Benefits" and "Potential Payments Upon Termination or Change in Control", in the Company's definitive proxy statement on Schedule 14A filed with the Securities and Exchange Commission on March 29, 2018.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

Incorporated by reference is (i) the information beginning with and including the caption "Proposal 1—Election of Directors and Nominee Biographies" in Quaker's definitive Proxy Statement relating to the 2019 Annual Meeting of Shareholders, to be filed with the Securities and Exchange Commission no later than 120 days after the close of its fiscal year ended December 31, 2018 (the "2019 Proxy Statement") to, but not including, the sub-caption "Governance Committee Procedures for Selecting Director Nominees ," (ii) the information appearing in Item 4(a) of this Report, (iii) the information in the 2019 Proxy Statement beginning with and including the caption, "Section 16(a) Beneficial Ownership Reporting Compliance" to, but not including, the caption "Certain Relationships and Related Transactions," (iv) the information in the 2019 Proxy Statement beginning with and including the sub-caption "Code of Conduct" to, but not including, the caption "Compensation Committee Interlocks and Insider Participation," and (v) the information in the 2019 Proxy Statement beginning with and including the sub-caption "Shareholder Nominations and Recommendations" to, but not including, the sub-caption "Board Oversight of Risk."

Item 11. ***Executive Compensation.***

Incorporated by reference is (i) the information in the 2019 Proxy Statement beginning with and including the caption "Compensation Committee Interlocks and Insider Participation" to, but not including the caption "Proposal 2 – Approval of an Amendment to the Company's Articles of Incorporation, as amended" and (ii) the information in the 2019 Proxy Statement beginning with and including the caption "Executive Compensation" to, but not including, the caption, "Stock Ownership of Certain Beneficial Owners and Management."

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

Incorporated by reference is the information in the 2019 Proxy Statement beginning with and including the caption "Stock Ownership of Certain Beneficial Owners and Management" to, but not including, the caption "Section 16(a) Beneficial Ownership Reporting Compliance."

Equity Compensation Plans

The following table sets forth certain information relating to the Company's equity compensation plans as of December 31, 2018. Each number of securities reflected in the table is a reference to shares of Quaker common stock.

Equity Compensation Plan Information

	Number of securities to be issued upon exercise of	Weighted-average exercise price of	Number of securities remaining available for future issuance under

Plan Category	outstanding options, warrants and rights (a)		outstanding options, warrants and rights (b)	equity compensation plans (excluding securities reflected in column (a)) (c)	
Equity compensation plans approved by security holders	122,072	$	116.39	851,949	(1)
Equity compensation plans not approved by security holders	—		—	—	
Total	122,072	$	116.39	851,949	(1)

(1) As of December 31, 2018, 304,900 of these shares were available for issuance as restricted stock awards under the Company's 2001 Global Annual Incentive Plan, 479,892 shares were available for issuance upon the exercise of stock options and/or as restricted stock awards and/or restricted stock unit awards under the Company's 2016 Long-Term Performance Incentive Plan, and 67,157 shares were available for issuance under the 2013 Director Stock Ownership Plan.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence.***

Incorporated by reference is (i) the information in the 2019 Proxy Statement beginning with and including the caption "Certain Relationships and Related Transactions" to, but not including, the caption "Proposal 2—Ratification of Appointment of Independent Registered Public Accounting Firm," (ii) the information in the 2019 Proxy Statement beginning with and including the sub-caption "Director Independence" to, but not including, the sub-caption "Governance Committee Procedures for Selecting Director Nominees," and (iii) the information in the 2019 Proxy Statement beginning with and including the caption "Meetings and Committees of the Board" to, but not including, the caption "Compensation Committee Interlocks and Insider Participation."

Item 14. ***Principal Accountant Fees and Services.***

Incorporated by reference is the information in the 2019 Proxy Statement beginning with and including the sub-caption "Audit Fees" to, but not including, the statement recommending a vote for ratification of the appointment of PricewaterhouseCoopers LLP as the Company's independent registered public accounting firm for the year ending December 31, 2019.

PART IV

Item 15. *Exhibits and Financial Statement Schedules.*

(a) Exhibits and Financial Statement Schedules

1. Financial Statements and Supplementary Data

Financial Statements:

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2. Financial Statement Schedules

All schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto. Financial statements of 50% or less owned companies have been omitted because none of the companies meets the criteria requiring inclusion of such statements.

3. Exhibits - filed pursuant to, and numbered in accordance with Item 601 of Regulation S-K (all of which are under Commission File number 001-12019, except as otherwise noted):

3(i)(a) — Articles of Incorporation (as amended through July 31, 2013). Incorporated by reference to Exhibit 3.1 as filed by Registrant with Form 8-K filed on July 31, 2013.

3(i)(b) — Articles of Amendment dated September 7, 2017, to the Articles of Incorporation. Incorporated by reference to Exhibit 3.1 as filed by Registrant with Form 8-K filed on September 11, 2017.

3(ii) — By-laws (as amended and restated, effective May 6, 2015). Incorporated by reference to Exhibit 3.2 as filed by Registrant with Form 8-K filed on May 8, 2015.

10.1 — Settlement Agreement and Release between Registrant, an inactive subsidiary of the Registrant, and Hartford Accident and Indemnity Company dated December 12, 2005. Incorporated by reference to Exhibit 10 (nnn) as filed by the Registrant with Form 10-K for the year 2005.

10.2 —	Employment Agreement by and between L. Willem Platzer and Quaker Chemical B.V., a Netherlands corporation and a subsidiary of Registrant, dated August 21, 2006. Incorporated by reference to Exhibit 10 as filed by the Registrant with Form 8-K filed on August 22, 2006. *
10.3 —	Settlement Agreement and Release between Registrant, an inactive subsidiary of Registrant and Federal Insurance Company dated March 26, 2007. Incorporated by reference to Exhibit 10(zzz) as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2007.
10.4 —	Change in Control Agreement by and between Registrant and L. Willem Platzer dated April 2, 2007, effective January 1, 2007. Incorporated by reference to Exhibit 10(aaaa) as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2007. *
10.5 —	Change in Control Agreement by and between Registrant and Jan F. Nieman dated June 27, 2007, effective January 1, 2007. Incorporated by reference to Exhibit 10(cccc) as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2007. *

10.6 —	Claim Handling and Funding Agreement between SB Decking, Inc., an inactive subsidiary of Registrant, and Employers Insurance Company of Wausau dated September 25, 2007. Incorporated by reference to Exhibit 10(ffff) as filed by the Registrant with Form 10-Q for the quarter ended September 30, 2007.
10.7 —	Settlement Agreement and Mutual Release entered into between AC Products, Inc., wholly owned subsidiary of Registrant, and Orange County Water District, effective November 8, 2007. Incorporated by reference to Exhibit 10.47 as filed by the Registrant with Form 10-K for the year ended 2007.
10.8 —	Financing Agreement by and among Butler County Port Authority and Registrant and Brown Brothers Harriman & Co. dated May 15, 2008. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2008.
10.9 —	Employment Agreement by and between Registrant and Michael F. Barry dated July 1, 2008. Incorporated by reference to Exhibit 10.5 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2008. *
10.10 —	Change in Control Agreement by and between Registrant and Michael F. Barry dated July 1, 2008. Incorporated by reference to Exhibit 10.6 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2008. *
10.11 —	Butler County Port Authority Industrial Development Revenue Bond dated May 15, 2008. Incorporated by reference to Exhibit 10.7 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2008.
10.12 —	Memorandum of Employment by and between Registrant and Joseph F. Matrange dated September 30, 2008. Incorporated by reference to Exhibit 10.48 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.13 —	Memorandum of Employment by and between Registrant and D. Jeffry Benoliel dated October 1, 2008. Incorporated by reference to Exhibit 10.49 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.14 —	Change in Control Agreement by and between Registrant and D. Jeffry Benoliel dated November 19, 2008, effective January 1, 2008. Incorporated by reference to Exhibit 10.54 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.15 —	Change in Control Agreement by and between Registrant and Joseph F. Matrange dated November 19, 2008, effective October 1, 2008. Incorporated by reference to Exhibit 10.55 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.16 —	Change in Control Agreement by and between Registrant and Ronald S. Ettinger dated November 19, 2008, effective October 1, 2008. Incorporated by reference

	to Exhibit 10.56 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.17 —	Supplemental Retirement Income Program (as amended and restated effective January 1, 2008), approved November 19, 2008. Incorporated by reference to Exhibit 10.58 as filed by the Registrant with Form 10-K for the year ended 2008. *
10.18 —	Memorandum of Employment by and between Registrant and Joseph Berquist dated April 1, 2010. Incorporated by reference to Exhibit 10.2 as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2010. *
10.19 —	Change in Control Agreement by and between Registrant and Joseph Berquist dated April 1, 2010. Incorporated by reference to Exhibit 10.3 as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2010. *
10.20 —	Employment Agreement by and between Dieter Laininger and Quaker Chemical B.V., a subsidiary of the registrant, dated June 1, 2011, effective June 15, 2011. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2011. *
10.21 —	Change in Control Agreement by and between Registrant and Dieter Laininger dated May 31, 2011, effective June 15, 2011. Incorporated by reference to Exhibit 10.2 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2011. *

10.22 — 2011 Long-Term Performance Incentive Plan. Incorporated by reference to Appendix C to the Registrant's definitive proxy statement filed on March 31, 2011. *

10.23 — Form of Restricted Stock Unit Agreement for executive officers and other employees under Registrant's 2011 Long-Term Performance Incentive Plan. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2012. *

10.24 — Expatriate Agreement by and between the Registrant and Adrian Steeples, dated January 29, 2013, effective July 1, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2013. *

10.25 — 2013 Director Stock Ownership Plan as approved May 8, 2013. Incorporated by reference to Appendix B to the Registrant's definitive proxy statement filed on March 28, 2013. *

10.26 — Amended and Restated Multicurrency Credit Agreement by and between Registrant and Bank of America, N.A. and certain other lenders dated June 14, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2013.

10.27 — Memorandum of Employment and Addendum by and between Registrant and Jan F. Nieman, effective August 1, 2013. Incorporated by reference to Exhibit 10.2 as filed by the Registrant with Form 10-Q for the quarter ended June 30, 2013. *

10.28 — Expatriate Agreement by and between the Registrant and Dieter Laininger, dated and effective February 27, 2014. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 10-Q for the quarter ended March 31, 2014. *

10.29 — Memorandum of Employment by and between Registrant and Mary Dean Hall, dated and effective November 30, 2015. Incorporated by reference to Exhibit 10.60 as filed by the Registrant with Form 10-K for the year ended 2015. *

10.30 — Change in control agreement by and between Registrant and Mary Dean Hall, dated and effective November 30, 2015. Incorporated by reference to Exhibit 10.61 as filed by the Registrant with Form 10-K for the year ended 2015. *

10.31 — Retirement Savings Plan, as amended and restated effective January 1, 2016. Incorporated by reference to Exhibit 10.62 as filed by the Registrant with Form 10-K for the year ended 2015. *

10.32 — Global Annual Incentive Plan (as amended and restated effective February 24, 2016). Incorporated by reference to Appendix B to the Registrant's definitive proxy statement filed on March 28, 2016. *

10.33 — 2016 Long-Term Performance Incentive Plan. Incorporated by reference to Appendix C to the Registrant's definitive proxy statement filed on March 28, 2016. *

10.34 — Form of Restricted Stock Award Agreement for executive officers and other employees under Registrant's 2016 Long-Term Performance Incentive Plan. Incorporated by reference to Exhibit 10.3 as filed by Registrant with Form 8-K filed on May 6, 2016. *

10.35 — Form of Restricted Stock Unit Agreement for executive officers and other employees under Registrant's 2016 Long-Term Performance Incentive Plan. Incorporated by reference to Exhibit 10.4 as filed by Registrant with Form 8-K filed on May 6, 2016. *

10.36 — Share Purchase Agreement, dated April 4, 2017, by and among Quaker Chemical Corporation, a Pennsylvania corporation, Gulf Houghton Lubricants, Ltd., an exempted company incorporated under the laws of the Cayman Islands, Global Houghton Ltd., an exempted company incorporated under the laws of the Cayman Islands, and certain members of the management of Global Houghton Ltd. and Gulf Houghton Lubricants, Ltd., as agent for the Sellers. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on April 5, 2017. **

10.37 — Senior Secured Credit Facilities Commitment Letter, dated April 4, 2017, by and among Quaker Chemical Corporation, Bank of America, N.A., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank AG New York Branch and Deutsche Bank Securities Inc. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on April 7, 2017.

10.38— Amendment No. 1, dated as of May 23, 2017, to the Amended and Restated Multicurrency Credit Agreement, dated as of June 14, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on May 25, 2017.

10.39— Amendment No. 2, dated as of May 29, 2018, to the Amended and Restated Multicurrency Credit Agreement, dated as of June 14, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on May 30, 2018.

10.40— Amendment No. 3, dated as of August 1, 2018, to the Amended and Restated Multicurrency Credit Agreement, dated as of June 14, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on August 3, 2018.

10.41— Amendment No. 4, dated as of December 14, 2018, to the Amended and Restated Multicurrency Credit Agreement, dated as of June 14, 2013. Incorporated by reference to Exhibit 10.1 as filed by the Registrant with Form 8-K, filed on December 18, 2018.

21 — Subsidiaries and Affiliates of the Registrant

23 — Consent of Independent Registered Public Accounting Firm

31.1 — Certification of Chief Executive Officer of the Company pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.

31.2 — Certification of Chief Financial Officer of the Company pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.

32.1 — Certification of Michael F. Barry pursuant to 18 U.S.C. Section 1350.

32.2 — Certification of Mary Dean Hall pursuant to 18 U.S.C. Section 1350.

101.INS — XBRL Instance Document

101.SCH— XBRL Extension Schema Document

101.CAL— XBRL Calculation Linkbase Document

101.DEF — XBRL Definition Linkbase Document

101.LAB— XBRL Label Linkbase Document

101.PRE— XBRL Presentation Linkbase Document

Item 16. ***Form 10-K Summary.***

The Company has elected not to include a Form 10-K summary under this Item 16.

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.

QUAKER CHEMICAL CORPORATION
Registrant

By: /s/ MICHAEL F. BARRY

Michael F. Barry

Chairman of the Board, Chief Executive Officer and President

Date: February 28, 2019

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 and on the dates indicated.

Signatures	Capacity	Date
/s/ MICHAEL F. BARRY **Michael F. Barry** **Chairman of the Board, Chief Executive Officer and President**	Principal Executive Officer and Director	February 28, 2019
/s/ MARY DEAN HALL **Mary Dean Hall** **Vice President, Chief Financial Officer and Treasurer**	Principal Financial Officer	February 28, 2019
/s/ SHANE W. HOSTETTER **Shane W. Hostetter** **Global Controller**	Principal Accounting Officer	February 28, 2019
/s/ DONALD R. CALDWELL	Director	February 28, 2019

Donald R. Caldwell		
/s/ ROBERT E. CHAPPELL **Robert E. Chappell**	Director	February 28, 2019
/s/ MARK A. DOUGLAS **Mark A. Douglas**	Director	February 28, 2019
/s/ JEFFRY D. FRISBY **Jeffry D. Frisby**	Director	February 28, 2019
/s/ WILLIAM H. OSBORNE **William H. Osborne**	Director	February 28, 2019
/s/ ROBERT H. ROCK **Robert H. Rock**	Director	February 28, 2019
/s/ FAY WEST **Fay West**	Director	February 28, 2019