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

FORM 10-Q

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

For the quarterly period ended March 31, 2018

OR

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

For the transition period from______ to______

Commission file number 001-12019

QUAKER CHEMICAL CORPORATION
(Exact name of Registrant as specified in its charter)

Pennsylvania **(State or other jurisdiction of incorporation or organization)**	**23-0993790** **(I.R.S. Employer Identification No.)**
One Quaker Park, 901 E. Hector Street, Conshohocken, Pennsylvania **(Address of principal executive offices)**	**19428 – 2380** **(Zip Code)**

Registrant's telephone number, including area code: 610-832-4000

Not Applicable
Former name, former address and former fiscal year, if changed since last report.

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 Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes [X] No [ ]

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

Large accelerated filer [X]	Accelerated filer [ ]
Non-accelerated filer [ ] (Do not check if smaller reporting company)	Smaller reporting company [ ]
Emerging growth company [ ]	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Number of Shares of Common Stock Outstanding on March 31, 2018	**13,322,550**

QUAKER CHEMICAL CORPORATION AND CONSOLIDATED SUBSIDIARIES

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PART I
FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited).

Quaker Chemical Corporation

Condensed Consolidated Statements of Income

(Dollars in thousands, except per share data)

	Unaudited	
	Three Months Ended March 31,	
	2018	2017
Net sales	$ 212,055	$ 194,909
Cost of goods sold	136,608	124,022
Gross profit	75,447	70,887
Selling, general and administrative expenses	50,007	48,054
Combination-related expenses	5,209	9,075
Operating income	20,231	13,758
Other expense, net	(369)	(105)
Interest expense	(1,692)	(656)
Interest income	489	523
Income before taxes and equity in net (loss) income of associated companies	18,659	13,520
Taxes on income before equity in net (loss) income of associated companies	5,556	6,865
Income before equity in net (loss) income of associated companies	13,103	6,655
Equity in net (loss) income of associated companies	(316)	959
Net income	12,787	7,614
Less: Net income attributable to noncontrolling interest	55	622
Net income attributable to Quaker Chemical Corporation	$ 12,732	$ 6,992
Per share data:		
Net income attributable to Quaker Chemical Corporation common shareholders – basic	$ 0.96	$ 0.53
Net income attributable to Quaker Chemical Corporation common shareholders – diluted	$ 0.95	$ 0.52
Dividends declared	$ 0.355	$ 0.345

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

Quaker Chemical Corporation

Condensed Consolidated Statements of Comprehensive Income

(Dollars in thousands)

	Unaudited	
	Three Months Ended March 31,	
	2018	2017
Net income	$ 12,787	$ 7,614
Other comprehensive income, net of tax		
Currency translation adjustments	6,859	5,448
Defined benefit retirement plans	84	318
Unrealized (loss) gain on available-for-sale securities	(486)	200
Other comprehensive income	6,457	5,966
Comprehensive income	19,244	13,580
Less: Comprehensive income attributable to noncontrolling interest	(150)	(1,142)
Comprehensive income attributable to Quaker Chemical Corporation	$ 19,094	$ 12,438

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

Quaker Chemical Corporation

Condensed Consolidated Balance Sheets

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

	Unaudited	
	March 31, 2018	December 31, 2017
ASSETS		
Current assets		
Cash and cash equivalents	$ 92,581	$ 89,879
Accounts receivable, net	218,058	208,358
Inventories		
Raw materials and supplies	48,362	44,439
Work-in-process and finished goods	47,934	42,782
Prepaid expenses and other current assets	22,365	21,128
Total current assets	429,300	406,586
Property, plant and equipment, at cost	262,623	255,990
Less accumulated depreciation	(174,791)	(169,286)
Net property, plant and equipment	87,832	86,704
Goodwill	86,708	86,034
Other intangible assets, net	70,872	71,603
Investments in associated companies	25,033	25,690
Non-current deferred tax assets	13,103	15,661
Other assets	31,617	30,049
Total assets	$ 744,465	$ 722,327
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 5,707	$ 5,736
Accounts and other payables	103,525	97,732
Accrued compensation	14,855	22,846
Other current liabilities	33,350	29,384
Total current liabilities	157,437	155,698
Long-term debt	69,648	61,068
Non-current deferred tax liabilities	9,037	9,653
Other non-current liabilities	85,580	87,044
Total liabilities	321,702	313,463
Commitments and contingencies (Note 18)		
Equity		
Common stock, $1 par value; authorized 30,000,000 shares; issued and outstanding 2018 – 13,322,550 shares; 2017 – 13,307,976 shares	13,323	13,308
Capital in excess of par value	93,731	93,528
Retained earnings	373,185	365,182
Accumulated other comprehensive loss	(58,738)	(65,100)
Total Quaker shareholders’ equity	421,501	406,918
Noncontrolling interest	1,262	1,946
Total equity	422,763	408,864
Total liabilities and equity	$ 744,465	$ 722,327

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

Quaker Chemical Corporation

Condensed Consolidated Statements of Cash Flows

(Dollars in thousands)

	Unaudited	
	Three Months Ended March 31,	
	2018	2017
Cash flows from operating activities		
Net income	$ 12,787	$ 7,614
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	3,194	3,157
Amortization	1,853	1,773
Equity in undistributed loss (earnings) of associated companies, net of dividends	511	(829)
Deferred compensation and other, net	428	(696)
Share-based compensation	1,083	1,153
Gain on disposal of property, plant, equipment and other assets	(52)	(15)
Insurance settlement realized	(85)	(240)
Combination-related expenses, net of payments	2,161	8,415
Pension and other postretirement benefits	(2,632)	(2,263)
(Decrease) increase in cash from changes in current assets and current liabilities, net of acquisitions:		
Accounts receivable	(5,827)	(3,813)
Inventories	(7,758)	(8,820)
Prepaid expenses and other current assets	(1,055)	755
Accounts payable and accrued liabilities	(1,862)	2,279
Restructuring liabilities	—	(148)
Net cash provided by operating activities	2,746	8,322
Cash flows from investing activities		
Investments in property, plant and equipment	(3,449)	(2,531)
Payments related to acquisitions, net of cash acquired	(500)	—
Proceeds from disposition of assets	29	15
Insurance settlement interest earned	19	9
Net cash used in investing activities	(3,901)	(2,507)
Cash flows from financing activities		
Proceeds from long-term debt	8,166	—
Repayments of long-term debt	(197)	(474)
Dividends paid	(4,724)	(4,583)
Stock options exercised, other	(866)	(777)
Distributions to noncontrolling affiliate shareholders	(834)	—
Net cash provided by (used in) financing activities	1,545	(5,834)
Effect of foreign exchange rate changes on cash	2,246	1,563
Net increase in cash, cash equivalents and restricted cash	2,636	1,544
Cash, cash equivalents and restricted cash at beginning of period	111,050	110,701
Cash, cash equivalents and restricted cash at end of period	$ 113,686	$ 112,245

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

Note 1 – Condensed Financial Information

The condensed consolidated financial statements included herein are unaudited and have been prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP") for interim financial reporting and the United States Securities and Exchange Commission ("SEC") regulations. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. In the opinion of management, the financial statements reflect all adjustments (consisting only of normal recurring adjustments, except certain material adjustments, as discussed below) which are necessary for a fair statement of the financial position, results of operations and cash flows for the interim periods. The results for the three months ended March 31, 2018 are not necessarily indicative of the results to be expected for the full year. These financial statements should be read in conjunction with the Company's Annual Report filed on Form 10-K for the year ended December 31, 2017.

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 to its Condensed Consolidated Balance Sheet as of December 31, 2017. 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 Condensed Consolidated Statement of Cash Flows for the three months ended March 31, 2017. See Note 3 of Notes to Condensed Consolidated Financial Statements.

Venezuela's economy has been considered hyper inflationary under U.S. GAAP since 2010, at which time the Company's Venezuela equity affiliate, Kelko Quaker Chemical, S.A. ("Kelko Venezuela"), changed its functional currency from the bolivar fuerte ("BsF") to the U.S. dollar. Accordingly, all gains and losses resulting from the remeasurement of Kelko Venezuela's monetary assets and liabilities to published exchange rates are required to be recorded directly to the Condensed Consolidated Statements of Income. The current Venezuelan exchange rate system is a dual exchange rate system, which consists of a protected DIPRO exchange rate, with a rate fixed at 10 BsF per U.S. dollars and, also, a floating exchange rate known as the DICOM. The Company does not believe it has access to the DIPRO and, therefore, believes the DICOM to be the exchange rate system available to Kelko Venezuela. Due to ongoing economic and political instability in Venezuela, the DICOM BsF per U.S. dollar exchange rate significantly declined during the three months ended March 31, 2018, and the Company recorded a currency conversion charge of $0.2 million to remeasure its equity investment in Kelko Venezuela to the current DICOM BsF per U.S. dollar exchange rate. There were no similar charges recorded during the three months ended March 31, 2017. As of March 31, 2018, the Company's equity investment in Kelko Venezuela was less than $0.1 million, valued at the current DICOM exchange rate of approximately 50,000 BsF per U.S. dollar.

Note 2 – Houghton Combination

On April 4, 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 April 2018, the Company extended the bank commitment for the New Credit Facility through August 4, 2018. In connection with this extension, the Company adjusted slightly the currency mix of the term loan component of the New Credit Facility. As adjusted, the New Credit Facility is now 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 or LIBOR rate plus a margin. The Company currently estimates the annual floating rate cost will be in the 3.50% to 3.75% 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 initially 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% amortization of

the principal balance due in years 1 and 2, 7.5% in year 3, and 10% 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.

In addition, the issuance of the Company's shares at closing of the Combination was subject to approval by Quaker's shareholders under the rules of the New York Stock Exchange. This approval was received at a meeting of the Company's shareholders during the third quarter of 2017. Also, the Combination is subject to regulatory approval in the United States, Europe, China and Australia. The Company received regulatory approval from China and Australia in 2017. Depending on the timing of the remaining regulatory approvals and other customary terms and conditions set forth in the share purchase agreement, the Company currently estimates closing of the Combination will occur over the next few months.

The Company incurred costs of $6.1 million and $9.1 million during the three months ended March 31, 2018 and 2017, respectively, 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 March 31, 2018 and December 31, 2017, the Company had current liabilities related to the Combination of $7.6 million and $5.5 million, respectively, primarily recorded within other current liabilities on its Condensed Consolidated Balance Sheets.

Note 3 – Recently Issued Accounting Standards

The Financial Accounting Standards Board ("FASB") issued an accounting standard update in February 2018 that allows a reclassification from accumulated other comprehensive income ("AOCI") to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act 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 the Tax Cuts and Jobs Act 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 provide 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 is 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 should 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 will require 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 is effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted and the guidance requires 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 12 of Notes to Condensed 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 will allow 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 is effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted and the guidance requires 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 is effective for annual and interim periods beginning after December 15, 2017. Early adoption was permitted, provided that all of the amendments are adopted in the same period. The guidance requires 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. Specifically, the update will require entities that lease assets to recognize the assets and liabilities for the rights and obligations created by those leases on the balance sheet, in most instances. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2018, and should be applied on a modified retrospective basis for the reporting periods presented. Early adoption is permitted, but the Company has not early adopted. As of March 31, 2018, the Company has begun its impact assessment and implementation planning, including taking an inventory of its outstanding leases globally, establishing a cross functional project team and evaluating software solutions that could potentially assist in facilitating the end-to-end leasing process, including adoption of this lease accounting guidance. While the Company's evaluation of this guidance is in the early stages, the Company anticipates adoption of this guidance to have an impact on its balance sheet as it expects the majority of its operating leases will be recorded on its balance sheet by establishing right of use assets and associated lease liabilities.

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 begun a preliminary 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 an adjustment to its Condensed Consolidated Balance Sheet as of December 31, 2017 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. The impact of adoption of the new revenue recognition guidance was immaterial for the three months ended March 31, 2018 and the Company expects the impact to be immaterial on an ongoing basis. See Note 4 of Notes to Condensed Consolidated Financial Statements.

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, Europe, Middle East and Africa ("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 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. Third-party products transferred under arrangements resulting in net reporting totaled $11.6 million and $10.4 million for the three months ended March 31, 2018 and 2017, respectively.

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 financial performance of such industries. Furthermore, steel customers typically have limited manufacturing locations compared to metalworking customers and generally use higher volumes of products at a single location. As previously disclosed in its Annual Report filed on Form 10-K for the year ended December 31, 2017, during 2017 the Company's five largest customers (each composed of multiple subsidiaries or divisions with semiautonomous purchasing authority) accounted for approximately 18% of consolidated net sales, with its largest customer accounting for approximately 8% of 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 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 present 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 during a given period of time.

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 income (expense), net, in its Condensed 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 has 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.

Contract Assets and Liabilities

The Company recognizes a contract asset or receivable on its Condensed 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 Condensed Consolidated Balance Sheets as of March 31, 2018 or December 31, 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 Condensed Consolidated Balance Sheets. The Company had approximately $1.3 million and $1.5 million of deferred revenue as of March 31, 2018 and December 31, 2017, respectively. During the three months ended March 31, 2018 the Company satisfied the associated performance obligations and recognized revenue of $1.5 million related to advance customer payments previously received.

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. The Company has provided annual net sales information for its product lines greater than 10% in its previously filed Form 10-K for the year ended December 31, 2017, and those annual percentages are generally consistent with the current quarter's net sales by product line. 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, approximately proportionate to the level of total sales in each region. The following disaggregates the Company's net sales by region, customer industry, and timing of revenue recognized for the three months ended March 31, 2018:

	Three Months Ended March 31, 2018				
	North America	EMEA	Asia/Pacific	South America	Consolidated Total
Net sales	$ 91,820	$ 62,055	$ 48,777	$ 9,403	$ 212,055
Customer Industries					
Primary metals	$ 41,273	$ 27,317	$ 30,878	$ 5,299	$ 104,767
Metalworking	36,874	31,161	17,573	3,783	89,391
Coatings and other	13,673	3,577	326	321	17,897
	$ 91,820	$ 62,055	$ 48,777	$ 9,403	$ 212,055
Timing of Revenue Recognized					
Product sales at a point in time	$ 88,986	$ 61,999	$ 46,848	$ 9,319	$ 207,152
Services transferred over time	2,834	56	1,929	84	4,903
	$ 91,820	$ 62,055	$ 48,777	$ 9,403	$ 212,055

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 selling, general and administrative expenses ("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 income (expense), net.

The following table presents information about the performance of the Company's reportable operating segments for the three months ended March 31, 2018 and 2017:

	Three Months Ended March 31,	
	2018	**2017**
Net sales		
North America	$ 91,820	$ 87,341
EMEA	62,055	53,927
Asia/Pacific	48,777	45,150
South America	9,403	8,491
Total net sales	$ 212,055	$ 194,909
Operating earnings, excluding indirect operating expenses		
North America	$ 20,365	$ 20,637
EMEA	10,293	9,246
Asia/Pacific	12,142	10,243
South America	635	797
Total operating earnings, excluding indirect operating expenses	43,435	40,923
Combination-related expenses	(5,209)	(9,075)
Indirect operating expenses	(16,142)	(16,317)
Amortization expense	(1,853)	(1,773)
Consolidated operating income	20,231	13,758
Other expense, net	(369)	(105)
Interest expense	(1,692)	(656)
Interest income	489	523
Consolidated income before taxes and equity in net (loss) income of associated companies	$ 18,659	$ 13,520

Inter-segment revenues for the three months ended March 31, 2018 and 2017 were $3.1 million and $2.1 million for North America, $5.6 million and $4.8 million for EMEA, $0.4 million and $0.1 million for Asia/Pacific and $0 and less than $0.1 million 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 above.

Note 6 – Restructuring and Related Activities

As previously disclosed in its Annual Report filed on Form 10-K for the year ended December 31, 2017, in the fourth quarter of 2015 Quaker's management approved a global restructuring plan (the "2015 Program") to reduce its operating costs. The 2015 Program included provisions for the reduction of total headcount of approximately 65 employees globally. 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.

Restructuring activity recognized by reportable operating segment in connection with the 2015 Program during the three months ended March 31, 2017 is as follows:

	North America	**EMEA**	**Total**
Accrued restructuring as of December 31, 2016	$ 196	$ 474	$ 670
Cash payments	(70)	(78)	(148)
Currency translation adjustments	—	8	8
Accrued restructuring as of March 31, 2017	$ 126	$ 404	$ 530

There were no accrued restructuring liabilities as of December 31, 2017 and no associated cash payments or other restructuring activity recognized during the three months ended March 31, 2018.

Note 7 – Share-Based Compensation

The Company recognized the following share-based compensation expense in SG&A in its Condensed Consolidated Statements of Income for the three months ended March 31, 2018 and 2017:

	Three Months Ended March 31,	
	2018	**2017**
Stock options	$ 252	$ 227
Nonvested stock awards and restricted stock units	775	802
Employee stock purchase plan	22	23
Non-elective and elective 401(k) matching contribution in stock	—	64
Director stock ownership plan	34	37
Total share-based compensation expense	$ 1,083	$ 1,153

During the first quarter of 2018, the Company granted stock options under its long-term incentive plan (“LTIP”) that are subject only to time vesting over a three-year period. For the purposes of determining the fair value of stock option awards, the Company used the Black-Scholes option pricing model and the assumptions set forth in the table below:

Number of options granted	35,842
Dividend yield	1.37 %
Expected volatility	24.73 %
Risk-free interest rate	2.54 %
Expected term (years)	4.0

The fair value of these stocks options is amortized on a straight-line basis over the vesting period. As of March 31, 2018, unrecognized compensation expense related to stock options granted was $2.1 million, to be recognized over a weighted average remaining period of 2.3 years.

During the first quarter of 2018, the Company granted 12,807 nonvested restricted shares and 1,480 nonvested restricted stock units under its LTIP that are generally subject only to time vesting, generally over a three-year period. The fair value of these awards 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 of these awards for expected forfeitures based on historical experience. As of March 31, 2018, unrecognized compensation expense related to the nonvested shares was $3.2 million, to be recognized over a weighted average remaining period of 2.2 years, and unrecognized compensation expense related to nonvested restricted stock units was $0.3 million, to be recognized over a weighted average remaining period of 2.4 years.

Note 8 – Pension and Other Postretirement Benefits

The components of net periodic benefit cost for the three months ended March 31, 2018 and 2017 are as follows:

	Three Months Ended March 31,			
	Pension Benefits		**Other Postretirement Benefits**	
	2018	**2017**	**2018**	**2017**
Service cost	$ 988	$ 918	$ 2	$ 3
Interest cost	1,049	1,008	33	33
Expected return on plan assets	(1,290)	(1,326)	—	—
Actuarial loss amortization	800	869	15	5
Prior service cost amortization	(31)	(23)	—	—
Total net periodic benefit cost	$ 1,516	$ 1,446	$ 50	$ 41

Employer Contributions

The Company previously disclosed in its financial statements for the year ended December 31, 2017, that it expected to make minimum cash contributions of $9.9 million to its pension plans and $0.4 million to its other postretirement benefit plans in 2018. As of March 31, 2018, $3.9 million and $0.1 million of contributions have been made to the Company’s pension plans and its postretirement benefit plans, respectively.

Note 9 – Other Expense, Net

The components of other expense, net for the three months ended March 31, 2018 and 2017 are as follows:

	Three Months Ended March 31,	
	2018	**2017**
Income from third party license fees	$ 250	$ 269
Foreign exchange losses, net	(229)	(214)
Gain on fixed asset disposals, net	52	15
Non-income tax refunds and other related credits	36	294
Pension and postretirement benefit costs, non-service components	(576)	(566)
Other non-operating income	157	131
Other non-operating expense	(59)	(34)
Total other expense, net	$ (369)	$ (105)

Note 10 – Income Taxes and Uncertain Income Tax Positions

The Company's effective tax rate for the three months ended March 31, 2018 was 29.8% compared to 50.8% for the three months ended March 31, 2017. The Company's elevated effective tax rate in the first quarter of 2017 was primarily due to certain non-deductible costs related to the pending Houghton Combination. The Company's effective tax rate in the first quarter of 2018 also included the impact of certain non-deductible combination-related expenses, but to a lesser extent. In addition, the Company's effective tax for the three months ended March 31, 2018 benefited from the decrease in the U.S. statutory tax rate from 35% in the prior year to 21% in the current quarter as a result of the Tax Cuts and Jobs Act ("U.S. Tax Reform"), partially offset by a negative impact from changes in uncertain tax positions quarter-over-quarter.

As previously disclosed in its Annual Report filed on Form 10-K for the year ended December 31, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as U.S. Tax Reform on December 22, 2017. U.S. Tax Reform includes multiple changes to the U.S. tax code with varying effects on the Company's results for the three months ended March 31, 2018. The SEC staff 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. Companies are required to reflect the income tax effects of those aspects of U.S. Tax Reform for which the accounting is complete. To the extent that a company's accounting for certain income tax effects of U.S. Tax Reform are incomplete but the company is able to determine a reasonable estimate, it must record a provisional estimate in its financial statements. The Company has made reasonable interpretations and assumptions with regard to various uncertainties and ambiguities in the application of certain provisions of U.S. Tax Reform. It is possible that the Internal Revenue Service ("IRS") could issue subsequent guidance or take positions on audit that differ from the Company's interpretations and assumptions. The Company currently believes subsequent guidance issued or interpretations made by the IRS will not be materially different from the Company's application of the provisions of U.S. Tax Reform. The Company is continuing to evaluate all of the provisions of U.S. Tax Reform and expects to finalize its assessment during the one-year measurement period provided for by the SEC to complete the accounting for U.S. Tax Reform. During the three months ended March 31, 2018, the Company has not made any significant changes to its initial assessments made during the fourth quarter of 2017.

As of March 31, 2018, the Company's cumulative liability for gross unrecognized tax benefits was $7.8 million. As of December 31, 2017, the Company's cumulative liability for gross unrecognized tax benefits was $6.8 million.

The Company continues to recognize interest and penalties associated with uncertain tax positions as a component of taxes on income before equity in net income of associated companies in its Condensed Consolidated Statements of Income. The Company recognized an expense of $0.1 million for interest and an expense of $0.1 million for penalties in its Condensed Consolidated Statement of Income for the three months ended March 31, 2018, and recognized a credit of $0.2 million for interest and an expense of less than $0.1 million for penalties in its Condensed Consolidated Statement of Income for the three months ended March 31, 2017. As of March 31, 2018, the Company had accrued $0.7 million for cumulative interest and $1.2 million for cumulative penalties in its Condensed Consolidated Balance Sheets, compared to $0.6 million for cumulative interest and $1.0 million for cumulative penalties accrued at December 31, 2017.

During the three months ended March 31, 2018 and 2017, the Company recognized a decrease of less than $0.1 million and $0.4 million, respectively, in its cumulative liability for gross unrecognized tax benefits due to the expiration of the applicable statutes of limitations for certain tax years.

The Company estimates that during the year ending December 31, 2018 it will reduce its cumulative liability for gross unrecognized tax benefits by approximately $1.0 to $1.1 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, 2018.

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 and the United Kingdom from 2012, Spain, China and Mexico from 2013, India from its fiscal year beginning April 1, 2013 and ending March 31, 2014, the United States from 2014, and various domestic state tax jurisdictions from 2008.

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 of the Organization for Economic Co-Operation and Development for all years except 2007. As of March 31, 2018, the Company believes it has adequate reserves, where merited, for uncertain tax positions with respect to these and all other audits.

Note 11 – Earnings Per Share

The following table summarizes earnings per share calculations for the three months ended March 31, 2018 and 2017:

	Three Months Ended March 31,	
	2018	**2017**
Basic earnings per common share		
Net income attributable to Quaker Chemical Corporation	$ 12,732	$ 6,992
Less: income allocated to participating securities	(62)	(55)
Net income available to common shareholders	$ 12,670	$ 6,937
Basic weighted average common shares outstanding	13,245,026	13,176,096
Basic earnings per common share	$ 0.96	$ 0.53
Diluted earnings per common share		
Net income attributable to Quaker Chemical Corporation	$ 12,732	$ 6,992
Less: income allocated to participating securities	(62)	(54)
Net income available to common shareholders	$ 12,670	$ 6,938
Basic weighted average common shares outstanding	13,245,026	13,176,096
Effect of dilutive securities	33,580	44,965
Diluted weighted average common shares outstanding	13,278,606	13,221,061
Diluted earnings per common share	$ 0.95	$ 0.52

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-dilutive shares not included were 2,862 and 3,507 for the three months ended March 31, 2018 and 2017, respectively.

Note 12 – 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 $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. 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.

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

	March 31, 2018	March 31, 2017	December 31, 2017	December 31, 2016
Cash and cash equivalents	$ 92,581	$ 90,593	$ 89,879	$ 88,818
Restricted cash included in other assets	21,105	21,652	21,171	21,883
Cash, cash equivalents and restricted cash	$ 113,686	$ 112,245	$ 111,050	$ 110,701

Note 13 – Goodwill and Other Intangible Assets

The Company completes its annual 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 has recorded no impairment charges in its past.

Changes in the carrying amount of goodwill for the three months ended March 31, 2018 were as follows:

	North America	EMEA	Asia/Pacific	South America	Total
Balance as of December 31, 2017	$ 47,571	$ 20,504	$ 15,456	$ 2,503	$ 86,034
Currency translation adjustments	16	387	272	(1)	674
Balance as of March 31, 2018	$ 47,587	$ 20,891	$ 15,728	$ 2,502	$ 86,708

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

	Gross Carrying Amount		Accumulated Amortization	
	2018	2017	2018	2017
Customer lists and rights to sell	$ 76,663	$ 76,581	$ 26,626	$ 25,394
Trademarks, formulations and product technology	34,221	33,025	15,007	14,309
Other	6,123	6,114	5,602	5,514
Total definite-lived intangible assets	$ 117,007	$ 115,720	$ 47,235	$ 45,217

The Company recorded $1.9 million and $1.8 million of amortization expense for the three months ended March 31, 2018 and 2017, respectively. Estimated annual aggregate amortization expense for the current year and subsequent five years is as follows:

For the year ended December 31, 2018	$ 7,473
For the year ended December 31, 2019	7,357
For the year ended December 31, 2020	7,065
For the year ended December 31, 2021	6,687
For the year ended December 31, 2022	6,525
For the year ended December 31, 2023	6,295

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

Note 14 – Debt

The Company's primary credit facility ("the Credit Facility") is a $300.0 million syndicated multicurrency credit agreement with a group of lenders which matures in June 2019. 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 net debt to adjusted EBITDA ratio cannot exceed 3.50 to 1. As of March 31, 2018, and December 31, 2017, the Company's net debt to adjusted EBITDA ratio was below 1.0 to 1, and the Company was also in compliance with all of its other covenants. As of March 31, 2018, and December 31, 2017, the Company had total credit facility borrowings of $57.2 million and $48.5 million, primarily under the Credit Facility. The Company's other debt obligations were primarily industrial development bonds and municipality-related loans as of March 31, 2018 and December 31, 2017.

Note 15 – Equity

The following tables present the changes in equity, net of tax, for the three months ended March 31, 2018 and 2017:

	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total
Balance at December 31, 2017	$ 13,308	$ 93,528	$ 365,182	$ (65,100)	$ 1,946	$ 408,864
Net income	—	—	12,732	—	55	12,787
Amounts reported in other comprehensive income	—	—	—	6,362	95	6,457
Dividends ($0.355 per share)	—	—	(4,729)	—	—	(4,729)
Distributions to noncontrolling affiliate	—	—	—	—	(834)	(834)
Share issuance and equity-based compensation plans	15	203	—	—	—	218
Balance at March 31, 2018	$ 13,323	$ 93,731	$ 373,185	$ (58,738)	$ 1,262	$ 422,763
Balance at December 31, 2016	$ 13,278	$ 112,475	$ 364,414	$ (87,407)	$ 9,846	$ 412,606
Net income	—	—	6,992	—	622	7,614
Amounts reported in other comprehensive income	—	—	—	5,446	520	5,966
Dividends ($0.345 per share)	—	—	(4,587)	—	—	(4,587)
Share issuance and equity-based compensation plans	13	363	—	—	—	376
Balance at March 31, 2017	$ 13,291	$ 112,838	$ 366,819	$ (81,961)	$ 10,988	$ 421,975

The following tables show the reclassifications from and resulting balances of AOCI for the three months ended March 31, 2018 and 2017:

	Currency Translation Adjustments	Defined Benefit Pension Plans	Unrealized Gain (Loss) in Available-for-Sale Securities	Total
Balance at December 31, 2017	$ (31,893)	$ (34,093)	$ 886	$ (65,100)
Other comprehensive income (loss) before reclassifications	6,764	(697)	(443)	5,624
Amounts reclassified from AOCI	—	783	(172)	611
Current period other comprehensive income (loss)	6,764	86	(615)	6,235
Related tax amounts	—	(2)	129	127
Net current period other comprehensive income (loss)	6,764	84	(486)	6,362
Balance at March 31, 2018	$ (25,129)	$ (34,009)	$ 400	$ (58,738)
Balance at December 31, 2016	$ (52,255)	$ (36,168)	$ 1,016	$ (87,407)
Other comprehensive income (loss) before reclassifications	4,928	(341)	665	5,252
Amounts reclassified from AOCI	—	850	(360)	490
Current period other comprehensive income	4,928	509	305	5,742
Related tax amounts	—	(191)	(105)	(296)
Net current period other comprehensive income	4,928	318	200	5,446
Balance at March 31, 2017	$ (47,327)	$ (35,850)	$ 1,216	$ (81,961)

Approximately 25% and 75% of the amounts reclassified from AOCI to the Condensed Consolidated Statements of Income for defined benefit retirement plans during the three months ended March 31, 2018 and 2017 were recorded in COGS and SG&A, respectively. See Note 8 of Notes to Condensed 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 (loss) income of associated companies. The amounts reported in other comprehensive income for non-controlling interest are related to currency translation adjustments.

Note 16 – Business Combinations and Asset 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 expected to be paid within the next 12 months and recorded as an other current liability on the Company's Condensed Consolidated Balance Sheet as of March 31, 2018.

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. 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. 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 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. As of December 31, 2017, the allocation of the purchase price for all of the Company's 2016 and 2017 acquisitions were finalized.

The results of operations of the acquired businesses and assets are included in the Condensed Consolidated Statements of Income from their respective acquisition dates. Transaction expenses associated with these acquisitions are included in SG&A in the Company's Condensed 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 17 – Fair Value Measurements

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

		Fair Value Measurements at March 31, 2018 Using Fair Value Hierarchy		
Assets	Total Fair Value	Level 1	Level 2	Level 3
Company-owned life insurance	$ 1,544	$ —	$ 1,544	$ —
Total	$ 1,544	$ —	$ 1,544	$ —

		Fair Value Measurements at December 31, 2017 Using Fair Value Hierarchy		
Assets	Total 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 assets are based on quotes for like instruments with similar credit ratings and terms. The Company did not hold any Level 3 investments as of March 31, 2018 or December 31, 2017, respectively, so related disclosures have not been included.

Note 18 – Commitments and Contingencies

The Company previously disclosed in its Annual Report filed on Form 10-K for the year ended December 31, 2017 that AC Products, Inc. (“ACP”), a wholly owned subsidiary, has been operating a groundwater treatment system to hydraulically contain groundwater contamination emanating from ACP’s site, the principal contaminant of which is perchloroethylene (“PERC”). As of March 31, 2018, ACP believes it is close to meeting the conditions for closure of the groundwater treatment system, but continues to operate this system while in discussions with the relevant authorities. As of March 31, 2018, the Company believes that the range of potential-known liabilities associated with the balance of the 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 determined by groundwater modeling. Costs of operation include the operation and maintenance of the extraction well, groundwater monitoring and program management.

The Company previously disclosed in its Annual Report filed on Form 10-K for the year ended December 31, 2017 that 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. During the three months ended March 31, 2018, there have been no significant changes to the facts or circumstances of this matter previously disclosed, aside from on-going claims, immaterial settlements and routine payments associated with this litigation. 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 $1.9 million (excluding costs of defense).

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 March 31, 2018 and December 31, 2017, respectively, to provide for such anticipated future environmental assessments and remediation costs. 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.

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

Executive Summary

Quaker Chemical Corporation is a leading global provider of process fluids, chemical specialties, and technical expertise to a wide range of industries, including steel, aluminum, automotive, mining, aerospace, tube and pipe, cans, and others. For nearly 100 years, Quaker has helped customers around the world achieve production efficiency, improve product quality, and lower costs through a combination of innovative technology, process knowledge, and customized services. Headquartered in Conshohocken, Pennsylvania USA, Quaker serves businesses worldwide with a network of dedicated and experienced professionals whose mission is to make a difference.

The Company had a solid operating performance in the first quarter of 2018 as continued sales growth due to the positive impacts from increases in volume, selling price and product mix, and the Company's discipline in managing its selling, general and administrative expenses ("SG&A") offset a lower gross margin quarter-over-quarter. Specifically, net sales increased 9% to $212.1 million in the first quarter of 2018 compared to $194.9 million in the first quarter of 2017, which includes the increase in volume and the benefit from selling price and product mix mentioned above, as well as a 6% positive impact from foreign currency translation. Driven by the increase in net sales, the Company's gross profit increased 6% quarter-over-quarter despite a lower gross margin of 35.6% in the first quarter of 2018 compared to 36.4% in the first quarter of 2017, primarily due to higher raw material costs quarter-over-quarter and a change in the mix of certain products sold. In addition, the current quarter's operating income benefited from the Company's ability to maintain a relatively consistent level of SG&A on its net sales increase. During the first quarter of 2018, the Company incurred $6.1 million or $0.38 per diluted share of costs associated with the Company's previously announced pending combination with Houghton International, Inc. ("Houghton") (herein referred to as "the Combination"), which includes $0.9 million of interest costs ("ticking fees") to maintain the bank commitment to fund the Combination, compared to $9.1 million, or $0.69 per diluted share of costs during the first quarter of 2017. Including these combination-related costs, the Company's first quarter of 2018 net income and earnings per diluted share were $12.7 million and $0.95, respectively, compared to net income of $7.0 million and earnings per diluted share of $0.52 in the first quarter of 2017. Excluding combination-related expenses and other non-core items, the Company's solid current quarter operating performance, coupled with a lower effective tax rate as a result of U.S. Tax Reform, drove non-GAAP earnings per diluted share up 17% to $1.38 in the first quarter of 2018 compared to $1.18 in the prior year quarter, and an adjusted EBITDA increase of 9% to a record $30.8 million in the first quarter of 2018 compared to $28.2 million in the prior year quarter. The current quarter reported and non-GAAP earnings per diluted share benefited from the positive impact of foreign currency translation on earnings of approximately 5% or $0.07 per diluted share.

From a regional perspective, the Company's first quarter of 2018 operating performance was highlighted by continued market share gains and volume growth in the majority of its regions and the positive impact of foreign exchange in its three largest regions. Net sales in North America, Europe, Middle East and Africa ("EMEA") and South America benefited from selling price increases implemented to help offset rising raw material costs that have continued into 2018. The quarter-over-quarter volume decrease in the Company's EMEA region resulted from an atypical sales pattern in the first quarter of 2017. A benefit across all of the Company's regions was a continued discipline in managing its SG&A which helped offset lower gross margins compared to the prior year in the majority of the Company's regions. The combination of these drivers resulted in operating earnings growth in EMEA and Asia/Pacific, while operating earnings in North America and South America decreased slightly due primarily to lower gross margins. See the Reportable Operating Segments Review, in the Operations section of this Item, below.

The Company generated net operating cash flows of $2.7 million in the first quarter of 2018 compared to $8.3 million in the first quarter of 2017, primarily due to a higher level of cash invested in its working capital during the first quarter of 2018 to support the increase in its net sales. The key drivers of the Company's operating cash flow and working capital are further discussed in the Company's Liquidity and Capital Resources section of this Item, below.

Overall, the Company is pleased to begin 2018 with another solid quarter. The Company continued to deliver solid operating performance and benefited from the impact of foreign currency translation on both its net sales and earnings. Specifically, the Company began to see gross margin improvement when compared to the fourth quarter of 2017 as the benefit of recent selling price initiatives more than offset raw material costs that continued to rise during the first quarter of 2018. In addition, continued market share gains contributed to the volume growth quarter-over-quarter despite an atypical sales pattern in EMEA during the first quarter of 2017. Also, the Company showed continued discipline in managing its SG&A which helped to offset a lower gross margin in the first quarter of 2018 as compared to the first quarter of 2017. This operating performance drove a 9% increase in adjusted EBITDA and, coupled with a lower effective tax rate, resulted in a 17% increase in non-GAAP earnings per diluted share compared to the first quarter of 2017.

Looking forward to the remainder of 2018, the Company currently expects that the closing of the Combination will occur over the next few months, once regulatory approvals in the U.S. and Europe are received and other customary closing conditions are satisfied. During April 2018, the Company successfully extended its bank commitment to fund the Combination to August 4, 2018. As previously disclosed, the Combination will approximately double the Company's annual sales and adjusted EBITDA, not including

estimated synergies which are expected to meet or exceed $45 million once fully achieved by the third year. Depending upon the exact timing of the Combination's close, the Company anticipates it will realize a portion of the Houghton sales and adjusted EBITDA in 2018.

For Quaker's current business, the Company continues to forecast growth in its volumes and further leverage in its SG&A and remains optimistic that its gross margin will trend upward over the next few quarters and be around 36% in 2018. The Company expects that market share gains, on-going discipline in managing SG&A and the benefits of past acquisitions will continue to help offset its gross margin and other market challenges. Overall, the Company remains confident in its future and expects 2018 to be another good year for both the current Quaker business and the combined new company post-closing of the Combination.

Liquidity and Capital Resources

At March 31, 2018, Quaker had cash, cash equivalents and restricted cash of $113.7 million, including $21.1 million of restricted cash. Total cash, cash equivalents and restricted cash was $111.1 million at December 31, 2017, which included $21.2 million of restricted cash. The inclusion of restricted cash in total cash on the Company's Condensed Consolidated Statements of Cash Flows is the result of a change in presentation required by the Financial Accounting Standards Board. See Note 3 of Notes to Condensed Consolidated Financial Statements. The approximate $2.6 million increase in cash, cash equivalents and restricted cash was the net result of $2.7 million of cash provided by operating activities, $1.5 million of cash provided by financing activities and a $2.2 million positive impact due to the effect of foreign currency translation on cash, partially offset by $3.9 million of cash used in investing activities.

Net cash flows provided by operating activities were $2.7 million in the first three months of 2018 compared to $8.3 million in the first three months of 2017. The $5.6 million decrease in net cash flows provided by operating activities was primarily the result of higher cash invested in the Company's working capital to support its net sales increase. Specifically, the increase in cash invested in working capital was due to higher levels of accounts receivable associated with the timing of the Company's increased net sales quarter-over-quarter, lower receipts on accounts receivable due to an uncommon significant collection from a certain customer during the fourth quarter of 2017, and higher cash outflows from accounts payable and accrued liabilities, primarily due to the timing of working capital management. The Company's operating cash flows for both the first three months of 2018 and 2017, respectively, were also impacted by the timing and amount of combination-related expenses and associated cash payments, described below. Finally, the three months ended March 31, 2017 included restructuring payments made as part of the Company's global restructuring program initiated in the fourth quarter of 2015 and completed during the first half of 2017, described below.

Net cash flows used in investing activities increased from $2.5 million in the first three months of 2017 to $3.9 million in the first three months of 2018. This increase in cash outflows was primarily due to higher additions to property, plant and equipment primarily due to higher expenditures for several small projects, as well as an increase in spending related to a new manufacturing facility in India that is expected to be completed during 2018. In addition, during the first three months of 2018 the Company paid $0.5 million for certain formulations and product technology in the mining industry for its North America reportable operating segment. In accordance with the terms of the agreement, an additional $0.5 million of the purchase price is expected to be paid within the next 12 months. There were no similar cash outflows related to acquisitions during the first three months of 2017.

Net cash flows provided by financing activities were $1.5 million in the first three months of 2018 compared to cash used in financing activities of $5.8 million in the first three months of 2017. The approximate $7.4 million increase in net cash inflows was primarily due to proceeds from long-term debt, net of repayments, of $8.0 million in the first three months of 2018 compared to repayments of long-term debt of $0.5 million in the first three months of 2017. In addition, the Company paid a $4.7 million cash dividend during the first quarter of 2018, compared to a $4.6 million dividend in the prior year quarter. Finally, during the first three months of 2018, one of the Company's less than 100% owned consolidated affiliates made a distribution to the noncontrolling affiliate shareholder of approximately $0.8 million. There were no similar distributions during the first three months of 2017.

The Company's primary credit facility ("the Credit Facility") is a $300.0 million syndicated multicurrency credit agreement with a group of lenders, which matures in June 2019. 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 net debt to adjusted EBITDA ratio cannot exceed 3.50 to 1. As of March 31, 2018 and December 31, 2017, the Company's net debt to adjusted EBITDA ratio was below 1.0 to 1, and the Company was also in compliance with all of its other covenants. As of March 31, 2018 and December 31, 2017, the Company had total credit facility borrowings of $57.2 million and $48.5 million, primarily under the Credit Facility. The Company's other debt obligations were primarily industrial development bonds and municipality-related loans as of March 31, 2018 and December 31, 2017.

Quaker's management approved a global restructuring plan in the fourth quarter of 2015 (the "2015 Program") to reduce its operating costs. The Company completed all of the initiatives under the 2015 Program during the first half of 2017. The Company has not incurred costs in 2018 and does not expect to incur further restructuring charges under this program. During the three months ended March 31, 2017, the company incurred $0.1 million of cash payments utilizing operating cash flows for the settlement of these restructuring liabilities.

On April 4, 2017, Quaker entered into a share purchase agreement with Gulf Houghton Lubricants, Ltd. to purchase the entire issued and outstanding share capital of Houghton. 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. See Note 2 to Condensed Consolidated Financial Statements.

In connection with the Combination, the Company secured $1.15 billion in commitments from Bank of America Merrill Lynch and Deutsche Bank to fund the purchase consideration and 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 April 2018, the Company extended the bank commitment through August 4, 2018. In connection with this extension, the Company adjusted slightly the currency mix of the term loan component of the New Credit Facility. As adjusted, the New Credit Facility is now 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 or LIBOR rate plus a margin, and the Company currently estimates the annual floating rate cost will be in the 3.50% to 3.75% 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 initially 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% amortization of the principal balance due in years 1 and 2, 7.5% in year 3, and 10% 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. The ticking fees bear an interest rate of 0.30% per annum.

The Company incurred $6.1 million of combination-related expenses during the first quarter of 2018, which includes $0.9 million of ticking fees, described in the Non-GAAP measures section of this Item below, and made cash payments of $3.9 million related to these costs. Comparatively, during the first quarter of 2017, combination-related expenses totaled $9.1 million and cash payments made were $0.7 million. During 2018, the Company currently estimates it will incur additional expenses and have associated cash outflows of approximately $25 to $30 million through closing of the Combination for similar combination-related expenses, including cash payments for bank fees which we expect to capitalize. In addition, post-closing of the combination, the Company expects it will incur significant additional costs and make associated cash payments to integrate the Company and Houghton and to begin realizing the Combination's total anticipated cost synergies, which we currently estimate to meet or exceed $45 million. The timing and an accurate range of these additional costs and cash payments post-closing are not estimable at this time. However, based on market precedent, the Company currently projects these costs and cash payments to approximate one times anticipated synergies, and the Company expects them to be incurred over a three-year period post-close.

The Company received regulatory approval for the Combination from China and Australia in 2017. In addition, at a shareholder meeting held during the third quarter of 2017, the Company's shareholders approved the issuance of the new shares of the Company's common stock at closing of the Combination. Currently, the closing of the Combination is expected over the next few months, and is contingent upon customary closing conditions and the remaining regulatory approvals in the United States and Europe. Given these contingencies and the overall timing of the Combination, the Company has not recorded any estimated costs for additional expenses that the Company expects, but had yet to incur as of March 31, 2018, related to the Combination.

As of March 31, 2018, the Company's gross liability for uncertain tax positions, including interest and penalties, was $9.7 million. The Company cannot determine a reliable estimate of the timing of cash flows by period related to its uncertain tax position liability. However, should the entire liability be paid, the amount of the payment may be reduced by up to $5.0 million as a result of offsetting benefits in other tax jurisdictions.

The Company believes it is capable of supporting its operating requirements and funding its business objectives, including but not limited to, payments of dividends to shareholders, costs related to the Combination, pension plan contributions, capital expenditures, other business opportunities and other potential contingencies, through internally generated funds supplemented with debt or equity as needed.

Non-GAAP Measures

Included in this Form 10-Q 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 (unaudited) financial measures:

	Three Months Ended March 31,	
	2018	**2017**
GAAP earnings per diluted share attributable to Quaker Chemical Corporation common shareholders	$ 0.95	$ 0.52
Equity loss (income) in a captive insurance company per diluted share (a)	0.03	(0.04)
Houghton combination-related expenses per diluted share (b)	0.38	0.69
Cost streamlining initiative per diluted share (c)	—	0.01
Currency conversion impact of the Venezuelan bolivar fuerte per diluted share (d)	0.02	—
Non-GAAP earnings per diluted share (e)	$ 1.38	$ 1.18

	Three Months Ended March 31,	
	2018	**2017**
Net income attributable to Quaker Chemical Corporation	$ 12,732	$ 6,992
Depreciation and amortization	5,047	4,930
Interest expense (b)	1,692	656
Taxes on income before equity in net income of associated companies	5,556	6,865
Equity loss (income) in a captive insurance company (a)	372	(592)
Houghton combination-related expenses (b)	5,209	9,075
Cost streamlining initiative (c)	—	286
Currency conversion impact of the Venezuelan bolivar fuerte (d)	218	—
Adjusted EBITDA	$ 30,826	$ 28,212
Adjusted EBITDA margin (%) (f)	14.5%	14.5%

(a) Equity loss (income) in a captive insurance company represents the after-tax loss (income) attributable to the Company's interest in Primex, Ltd. ("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.

(b) 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 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. In addition, during the three months ended March 31, 2018, the Company incurred $0.9 million of ticking fees to maintain the bank commitment related to the pending Combination. 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 Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(c) 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.

(d) Currency conversion impact of the Venezuelan bolivar fuerte represents losses incurred at the Company's Venezuelan affiliate as a result of changes in Venezuela's foreign exchange markets and controls leading to specific devaluations of the Venezuelan bolivar fuerte which are not indicative of the future operating performance of the Company.

(e) 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.

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

Operations

Consolidated Operations Review – Comparison of the First Quarter of 2018 with the First Quarter of 2017

Net sales grew approximately $17.2 million or 9% in the first quarter of 2018, increasing to $212.1 million compared to $194.9 million in the first quarter of 2017. The Company's first quarter of 2018 net sales benefited from increases in volume as well as selling price and product mix of 1% and 2%, respectively, and a positive impact from foreign currency translation of $11.0 million or 6%.

Costs of goods sold ("COGS") in the first quarter of 2018 of $136.6 million increased 10% from $124.0 million in the first quarter of 2017. The increase in COGS was primarily due to the impact of foreign currency translation, the increase in product volumes, noted above, and the impact of product mix and certain raw material cost increases quarter-over-quarter.

Gross profit in the first quarter of 2018 increased $4.6 million or 6% from the first quarter of 2017. The increase in gross profit was primarily due to the increase in net sales, noted above, partially offset by a lower gross margin of 35.6% in the first quarter of 2018 compared to 36.4% in the first quarter of 2017. The decrease in the Company's first quarter of 2018 gross margin was primarily due to higher raw material costs compared to the first quarter of 2017 and changes in the mix of certain products sold.

SG&A in the first quarter of 2018 increased $2.0 million compared to the first quarter of 2017 primarily due to the impact of foreign currency translation. In addition, SG&A increased slightly on higher labor-related costs primarily due to annual merit increases, which were offset by decreases due to the Company's continued discipline in managing its SG&A. In addition, the first quarter of 2017 SG&A included a $0.3 million charge for a cost streamlining initiative, described in the Non-GAAP measures section of this Item, above.

During the first quarter of 2018, the Company incurred $5.2 million of costs related to the pending Combination with Houghton, described in the Non-GAAP measures section of this Item, above. The Company incurred $9.1 million of costs related to the Combination in the first quarter of 2017.

Operating income in the first quarter of 2018 was $20.2 million compared to $13.8 million in the first quarter of 2017. The increase in operating income was due to solid net sales and gross profit increases as well as lower Houghton combination-related expenses, noted above, which offset a slight increase in SG&A not related to the Houghton combination.

The Company had other expense, net, of $0.4 million and $0.1 million in the first quarter of 2018 and 2017, respectively. The $0.3 million increase in other expense, net, was primarily driven by a change in the timing of local municipality-related grants received in one of the Company's regions quarter-over-quarter.

Interest expense increased $1.0 million in the first quarter of 2018 compared to the first quarter of 2017, primarily due to current quarter costs incurred to maintain the bank commitment for the pending Houghton Combination. Interest income was consistent at $0.5 million in both the first quarters of 2018 and 2017.

The Company's effective tax rates for the first quarters of 2018 and 2017 were 29.8% and 50.8%, respectively. Both the Company's first quarters of 2018 and 2017 effective tax rates include the impact of Houghton combination-related expenses, noted above, certain of which were considered non-deductible for the purpose of determining the Company's effective tax rate. Excluding these non-deductible costs, the Company's first quarters of 2018 and 2017 effective tax rates would have been approximately 26% and 28%, respectively. This decrease quarter-over-quarter was primarily due to the decrease in the U.S. statutory tax rate from 35% in the prior year to 21% in the current quarter which was partially offset by a negative impact from changes in uncertain tax positions quarter-over-quarter. 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 (loss) income of associated companies decreased $1.3 million in the first quarter of 2018 compared to the first quarter of 2017. The decrease was primarily due to a loss from the Company's interest in a captive insurance company in the current quarter compared to income in the prior year, as well as a currency conversion charge recorded at the Company's Venezuela affiliate during the first quarter of 2018. These items are further described in the Non-GAAP Measures section of this Item, above.

Net income attributable to noncontrolling interest decreased $0.6 million in the first quarter of 2018 compared to the first quarter of 2017, primarily due to the Company's purchase of the remaining interest in its India joint venture in December 2017.

Foreign currency translation positively impacted the Company's first quarter of 2018 earnings by approximately 5% or $0.07 per diluted share.

Reportable Operating Segments Review - Comparison of the First Quarter of 2018 with the First Quarter of 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 43% of the Company's consolidated net sales in the first quarter of 2018. The segment's net sales were $91.8 million, an increase of $4.5 million or 5% compared to the first quarter of 2017. The increase in net sales was primarily due to an increase in selling price and product mix of approximately 3%, higher volumes of 1% and the positive impact of foreign currency translation of 1%. The foreign exchange impact was primarily due to a strengthening of the Mexican peso against the U.S. dollar, as this exchange rate averaged 18.72 in the first quarter of 2018 compared to 20.30 in the first quarter of 2017. This segment's operating earnings, excluding indirect expenses, were $20.4 million, a decrease of approximately $0.3 million compared to the first quarter of 2017. The decrease in operating earnings was the result of a decline in gross margin and slightly higher levels of SG&A which offset higher gross profit on the increase in net sales, noted above. The decline in gross margin quarter-over-quarter 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-related costs primarily associated with annual merit increases as well as the impact of foreign currency translation.

EMEA

EMEA represented approximately 29% of the Company's consolidated net sales in the first quarter of 2018. The segment's net sales were $62.1 million, an increase of approximately $8.1 million or 15% compared to the first quarter of 2017. The increase in net sales was primarily due to the positive impact of foreign currency translation of 15% and an increase in selling price and product mix of 6%, partially offset by lower volumes of 6%. The decrease in volume quarter-over-quarter was primarily attributable to an atypical sales pattern in EMEA during the first quarter of 2017. The foreign exchange impact was primarily due to a strengthening of the euro against the U.S. dollar, as this exchange rate averaged 1.23 in the first quarter of 2018 compared to 1.07 in the first quarter of 2017. This segment's operating earnings, excluding indirect expenses, were $10.3 million, an increase of approximately $1.0 million or 11% compared to the first quarter of 2017. The increase in operating earnings was mainly driven by higher gross profit on the increased net sales, noted above, partially offset by an increase in SG&A. Gross margin in the first quarter of 2018 was relatively consistent compared to the prior year quarter. The increase in SG&A quarter-over-quarter was primarily due to the impact of foreign currency translation as well as an increase in labor-related costs primarily associated with annual merit increases as well as improved segment performance.

Asia/Pacific

Asia/Pacific represented approximately 23% of the Company's consolidated net sales in the first quarter of 2018. The segment's net sales were $48.8 million, an increase of $3.6 million or 8% compared to the first quarter of 2017. The increase in net sales was primarily due to higher volumes of 7% and the positive impact of foreign currency translation of 6%, partially offset by a decrease in selling price and product mix of 5%. The foreign exchange impact was primarily due to the strengthening of the Chinese renminbi against the U.S. dollar, as this exchange rate averaged 6.36 in the first quarter of 2018 compared to 6.89 in the first quarter of 2017. This segment's operating earnings, excluding indirect expenses, were $12.1 million, an increase of $1.9 million or 19% compared to the first quarter of 2017. The increase in operating earnings was primarily driven by an increase in gross profit on the increased net sales, noted above, on relatively consistent levels of SG&A quarter-over-quarter. Gross margin in the first quarter of 2018 increased slightly compared to the first quarter of 2017 attributed primarily to product mix.

South America

South America represented approximately 5% of the Company's consolidated net sales in the first quarter of 2018. The segment's net sales were $9.4 million, an increase of $0.9 million or 11% compared to the first quarter of 2017. The increase in net sales was primarily due to higher volumes of 13% and an increase in selling price and product mix of 5%, partially offset by the negative impact of foreign currency translation of approximately 7%. The foreign exchange impact was primarily due to the weakening of both the Brazilian real and Argentine peso against the U.S. dollar, as these exchange rates averaged approximately 3.24 and 19.66 in the first quarter of 2018, respectively, compared to 3.14 and 15.66 in the first quarter of 2017, respectively. This segment's operating earnings, excluding indirect expenses, were $0.6 million, a decrease of $0.2 million compared to the first quarter of 2017. The decrease in operating earnings was primarily due to lower gross profit driven by a decline in gross margin quarter-over-quarter as a result of higher raw material costs and changes in product mix. SG&A was relatively consistent quarter-over-quarter.

Factors That May Affect Our Future Results

(Cautionary Statements Under the Private Securities Litigation Reform Act of 1995)

Certain information included in this Report and other materials filed or to be filed by Quaker with the SEC (as well as information included in oral statements or other written statements made or to be made by us) contain or may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements can be identified by the fact that they do not relate strictly to historical or current facts. We have based these forward-looking statements on our current expectations about future events. These forward-looking statements include statements with respect to our beliefs, plans, objectives, goals, expectations, anticipations, intentions, financial condition, results of operations, future performance, and business, including:

- statements relating to our business strategy;
- our current and future results and plans; and
- statements that include the words "may," "could," "should," "would," "believe," "expect," "anticipate," "estimate," "intend," "plan" or similar expressions.

Such statements include information relating to current and future business activities, operational matters, capital spending, and financing sources. From time to time, forward-looking statements are also included in Quaker's other periodic reports on Forms 10-K, 10-Q and 8-K, press releases, and other materials released to, or statements made to, the public.

Any or all of the forward-looking statements in this Report and in any other public statements we make may turn out to be wrong. This can occur as a result of inaccurate assumptions or as a consequence of known or unknown risks and uncertainties. Many factors discussed in this Report will be important in determining our future performance. Consequently, actual results may differ materially from those that might be anticipated from our forward-looking statements.

We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. However, any further disclosures made on related subjects in Quaker's subsequent reports on Forms 10-K, 10-Q, 8-K and other related filings should be consulted. Our forward-looking statements are subject to risks, uncertainties and assumptions about us and our operations that are subject to change based on various important factors, some of which are beyond our control. A major risk is that the demand for the Company's products and services is largely derived from the demand for our customers' products, which subjects the Company to uncertainties related to downturns in a customer's business and unanticipated customer production shutdowns. Other major risks and uncertainties include, but are not limited to, significant increases in raw material costs, customer financial stability, worldwide economic and political conditions, foreign currency fluctuations, significant changes in applicable tax rates and regulations, future terrorist attacks and other acts of violence. Furthermore, the Company is subject to the same business cycles as those experienced by steel, automobile, aircraft, appliance, and durable goods manufacturers. These risks, uncertainties, and possible inaccurate assumptions relevant to our business could cause our actual results to differ materially from expected and historical results. Other factors beyond those discussed in this Report, could also adversely affect us including, but not limited to, the following related to the Combination:

- the risk that a required regulatory approval will not be obtained or is subject to conditions that are not anticipated or acceptable to us;
- the potential that regulatory authorities may require that we make divestitures in connection with the Combination of a greater amount than we anticipated, which would result in a smaller than anticipated combined business;
- the risk that a closing condition to the Combination may not be satisfied in a timely manner;
- risks associated with the financing of the Combination;
- the occurrence of any event, change or other circumstance that could give rise to the termination of the share purchase agreement;
- potential adverse effects on Quaker Chemical's business, properties or operations caused by the implementation of the Combination;
- Quaker Chemical's ability to promptly, efficiently and effectively integrate the operations of Houghton and Quaker Chemical;
- risks related to each company's distraction from ongoing business operations due to the Combination; and,
- the outcome of any legal proceedings that may be instituted against the companies related to the Combination.

Therefore, we caution you not to place undue reliance on our forward-looking statements. For more information regarding these risks and uncertainties as well as certain additional risks that we face, you should refer to the Risk Factors detailed in Item 1A of our Form 10-K for the year ended December 31, 2017, as well as the proxy statement the Company filed on July 31, 2017 and in our quarterly and other reports filed from time to time with the SEC. This discussion is provided as permitted by the Private Securities Litigation Reform Act of 1995.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We have evaluated the information required under this Item that was disclosed in Part II, Item 7A, of our Annual Report on Form 10-K for the year ended December 31, 2017, and we believe there has been no material change to that information.

Item 4. Controls and Procedures.

Evaluation 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.

Changes in internal control 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 quarter ended March 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 quarter ended March 31, 2018.

PART II.
OTHER INFORMATION

Items 1A, 3, 4 and 5 of Part II are inapplicable and have been omitted.

Item 1. Legal Proceedings.

Incorporated by reference is the information in Note 18 of the Notes to the Condensed Consolidated Financial Statements in Part I, Item 1, of this Report.

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

The following table sets forth information concerning shares of the Company's common stock acquired by the Company during the period covered by this report:

Period	(a) Total Number of Shares Purchased (1)	(b) Average Price Paid Per Share (2)	(c) Total Number of Shares Purchased as part of Publicly Announced Plans or Programs	(d) Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs (3)
January 1 - January 31	**1,414**	**$ 155.54**	**—**	**$ 86,065,026**
February 1 - February 28	**4,861**	**$ 151.28**	**—**	**$ 86,065,026**
March 1 - March 31	**6,615**	**$ 152.80**	**—**	**$ 86,065,026**
Total	**12,890**	**$ 152.53**	**—**	**$ 86,065,026**

(1) All of these shares were acquired from employees upon their surrender of Quaker shares in payment of the exercise price of employee stock options exercised or for the payment of taxes upon exercise of employee stock options or the vesting of restricted stock.

(2) The price paid for shares acquired from employees pursuant to employee benefit and share-based compensation plans, is, in each case, based on the closing price of the Company's common stock on the date of exercise or vesting, as specified by the plan pursuant to which the applicable option or restricted stock was granted.

(3) On May 6, 2015, the Board of Directors of the Company approved, and the Company announced, a new share repurchase program, pursuant to which the Company is authorized to repurchase up to $100,000,000 of Quaker Chemical Corporation common stock (the "2015 Share Repurchase Program"). The 2015 Share Repurchase Program, which replaced the Company's other share repurchase plans then in effect, has no expiration date. There were no shares acquired by the Company pursuant to the 2015 Share Repurchase Program during the quarter ended March 31, 2018.

Item 6. Exhibits.

(a) Exhibits

10.1	–	Amendment to Commitment Letter and Arranger Fee Letter for Senior Secured Credit Facilities, dated April 4, 2018, 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.
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 Chief Executive Officer of the Company Pursuant to 18 U.S. C. Section 1350
32.2	–	Certification of Chief Financial Officer of the Company 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

****

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

QUAKER CHEMICAL CORPORATION
(Registrant)

/s/ Mary Dean Hall

Date: April 30, 2018

Mary Dean Hall, Vice President, Chief Financial Officer and Treasurer (officer duly authorized on behalf of, and principal financial officer of, the Registrant)

Bank of America, N.A.
Merrill Lynch, Pierce,
Fenner & Smith Incorporated
214 North Tryon Street
Charlotte, North Carolina 28255

Deutsche Bank AG New York Branch
Deutsche Bank Securities Inc.
60 Wall Street
New York, New York 10005

April 4, 2018

Quaker Chemical Corporation
One Quaker Park, 901 E. Hector Street
Conshohocken, PA 19428-2380

Attention: Ms. Mary Dean Hall, Chief Financial Officer and Treasurer

Project Helios
Amendment to Commitment Letter and Arranger Fee Letter for $1.15 Billion Senior Secured Credit Facilities

Ladies and Gentlemen:

Reference is hereby made to that certain Commitment Letter (as amended, restated, supplemented, extended or otherwise modified, the "***Commitment Letter***"; capitalized terms used herein but not defined herein shall have the meaning given such terms in the Commitment Letter) dated as of April 4, 2017 by and among Quaker Chemical Corporation ("***you***" or the "***Company***"), Bank of America, N.A. ("***Bank of America***"), Merrill Lynch, Pierce, Fenner & Smith Incorporated (or any of its designated affiliates, "***MLPFS***"), Deutsche Bank AG New York Branch ("***DBNY***") and Deutsche Bank Securities Inc. ("***DBSI***" and together with MLPFS, Bank of America and DBNY, collectively, "***we***" and "***us***" or the "***Commitment Parties***") regarding the arrangement and syndication of senior secured credit facilities in an aggregate principal amount of $1,150,000,000 for the Company and certain of its subsidiaries and the Arranger Fee Letter referred to in the Commitment Letter (the "***Arranger Fee Letter***").

Each of the Commitment Parties and the Company agrees to amend:

(a) the last paragraph of the Commitment Letter by extending the outside date that all commitments and undertakings of the Commitment Parties thereunder will expire, to be the earliest of (i) August 4, 2018, unless the Closing Date occurs on or prior thereto, (ii) the closing of the Acquisition without the use of the Senior Credit Facilities, (iii) the date you or any of your affiliates announce, or inform in writing any Commitment Party, that the Acquisition is not proceeding and (iv) the date the Purchase Agreement terminates by its terms without the consummation of the Acquisition;

(b) Section 4 of the Arranger Fee Letter relating to the Alternate Transaction Fee by replacing references in such section to "within 12 months after the date hereof" with references to "prior to August 4, 2018" in lieu thereof;

(c) Paragraph 1 of Exhibit A to the Commitment Letter shall be replaced with the following paragraph:

"1. The (a) Company will obtain (i) a $600 million aggregate principal amount senior secured term loan facility in U.S. dollars described in Exhibit B to the Commitment Letter (the "***U.S. Dollar Term Loan Facility***"), and (ii) a $400 million aggregate principal amount revolving credit facility described in Exhibit B to the Commitment Letter (the ***"Revolving Credit Facility***"), and (b) Dutch Borrower will obtain a senior secured term loan facility in Euros in an aggregate principal amount equal to an equivalent of $150 million, as further described in Exhibit B to the Commitment Letter (the "***Euro Term Loan Facility***" and, collectively with the U.S. Dollar Term Loan Facility, the "***Term Loan Facilities***" and the Term Loan Facilities collectively with the Revolving Credit Facility, the "***Senior Credit Facilities***")."; and

(d) Exhibit B to the Commitment Letter shall be replaced with that certain Credit Agreement executed by Bank of America as Administrative Agent, the Company and the other parties thereto and placed into escrow on or about June 30, 2017 (with such changes thereto as may be agree to by the parties thereto, the "Escrowed Agreement"); and all references to "Exhibit B" or the "Term Sheet" shall instead be a reference to the Escrowed Agreement.

The amendment provided herein is granted for the limited purposes set forth herein. None of the terms or conditions of this amendment letter may be changed, modified, waived or canceled, except by writing signed by the parties hereto specifying such change, modification, waiver or cancellation.

This amendment letter shall be governed by, and construed in accordance with, the laws of the State of New York.

We are pleased to have the opportunity to work with you in connection with the important financing.

Very truly yours,

BANK OF AMERICA, N.A.

By: /s/ Kevin Dobosz

Name: Kevin Dobosz
Title: Senior Vice President

MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED

By: /s/ David B. Stith

Name: David B. Stith
Title: Managing Director

DEUTSCHE BANK AG NEW YORK BRANCH

By: /s/ Alvin Varughese

Name: Alvin Varughese
Title: Director

By: /s/ Michael Busam

Name: Michael Busam
Title: Director

DEUTSCHE BANK SECURITIES INC.

By: /s/ Alvin Varughese

Name: Alvin Varughese
Title: Director

By: /s/ Michael Busam

Name: Michael Busam
Title: Director

ACCEPTED AND AGREED TO
AS OF THE DATE FIRST ABOVE WRITTEN:

QUAKER CHEMICAL CORPORATION

By: /s/ Mary Dean Hall

Name: Mary Dean Hall
Title: VP, CFO & Treasurer

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER OF THE COMPANY PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, Michael F. Barry, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quaker Chemical Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 30, 2018

/s/ Michael F. Barry
Michael F. Barry
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER OF THE COMPANY PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, Mary Dean Hall, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quaker Chemical Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 30, 2018

/s/ Mary Dean Hall
Mary Dean Hall
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned hereby certifies that the Form 10-Q Quarterly Report of Quaker Chemical Corporation (the “Company”) for the quarterly period ended March 31, 2018 filed with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 30, 2018

/s/ Michael F. Barry

Michael F. Barry
Chief Executive Officer of Quaker Chemical Corporation

EXHIBIT 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned hereby certifies that the Form 10-Q Quarterly Report of Quaker Chemical Corporation (the "Company") for the quarterly period ended March 31, 2018 filed with the Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 30, 2018

/s/ Mary Dean Hall
Mary Dean Hall
Chief Financial Officer of Quaker Chemical Corporation