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

FORM 10-Q

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

For the quarterly period ended June 30, 2020

OR

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

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.)**
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.

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $1 par value	KWR	New York Stock Exchange

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

Indicate by check mark whether the Registrant has submitted electronically, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files) . Yes ☒ No ☐

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

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	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 ☒

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 June 30, 2020	**17,799,606**

QUAKER CHEMICAL CORPORATION AND CONSOLIDATED SUBSIDIARIES

PART I
FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited).

Quaker Chemical Corporation

Condensed Consolidated Statements of Operations
(Dollars in thousands, except per share data)

	Unaudited			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net sales	$ 286,040	$ 205,869	$ 664,601	$ 417,079
Cost of goods sold (excluding amortization expense - See note 14)	188,654	130,708	433,364	266,151
Gross profit	97,386	75,161	231,237	150,928
Selling, general and administrative expenses	86,667	50,026	185,368	101,481
Indefinite-lived intangible asset impairment	—	—	38,000	—
Restructuring and related charges	486	—	2,202	—
Combination, integration and other acquisition-related expenses	7,995	4,604	15,873	9,087
Operating income (loss)	2,238	20,531	(10,206)	40,360
Other (expense) income, net	(993)	43	(22,168)	(592)
Interest expense, net	(6,811)	(733)	(15,272)	(1,509)
(Loss) income before taxes and equity in net income of associated companies	(5,566)	19,841	(47,646)	38,259
Taxes on (loss) income before equity in net income of associated companies	3,222	4,800	(9,848)	9,729
(Loss) income before equity in net income of associated companies	(8,788)	15,041	(37,798)	28,530
Equity in net income of associated companies	1,066	608	1,732	1,019
Net (loss) income	(7,722)	15,649	(36,066)	29,549
Less: Net income attributable to noncontrolling interest	13	58	50	114
Net (loss) income attributable to Quaker Chemical Corporation	$ (7,735)	$ 15,591	$ (36,116)	$ 29,435
Per share data:				
Net (loss) income attributable to Quaker Chemical Corporation common shareholders – basic	$ (0.43)	$ 1.17	$ (2.03)	$ 2.21
Net (loss) income attributable to Quaker Chemical Corporation common shareholders – diluted	$ (0.43)	$ 1.17	$ (2.03)	$ 2.20
Dividends declared	$ 0.385	$ 0.385	$ 0.770	$ 0.755

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

Quaker Chemical Corporation

Condensed Consolidated Statements of Comprehensive (Loss) Income
(Dollars in thousands)

	Unaudited			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net (loss) income	$ (7,722)	$ 15,649	$ (36,066)	$ 29,549
Other comprehensive income (loss), net of tax				
Currency translation adjustments	10,551	(519)	(44,200)	(951)
Defined benefit retirement plans	213	522	17,170	1,228
Current period change in fair value of derivatives	(111)	—	(4,092)	—
Unrealized gain (loss) on available-for-sale securities	1,608	307	(103)	1,580
Other comprehensive income (loss)	12,261	310	(31,225)	1,857
Comprehensive income (loss)	4,539	15,959	(67,291)	31,406
Less: Comprehensive (income) loss attributable to noncontrolling interest	(14)	(82)	81	(137)
Comprehensive income (loss) attributable to Quaker Chemical Corporation	$ 4,525	$ 15,877	$ (67,210)	$ 31,269

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 June 30, 2020	December 31, 2019
ASSETS		
Current assets		
Cash and cash equivalents	$ 322,497	$ 123,524
Accounts receivable, net	300,027	375,982
Inventories		
Raw materials and supplies	80,331	82,058
Work-in-process and finished goods	93,536	92,892
Prepaid expenses and other current assets	52,847	41,516
Total current assets	849,238	715,972
Property, plant and equipment, at cost	384,960	398,834
Less accumulated depreciation	(196,547)	(185,365)
Property, plant and equipment, net	188,413	213,469
Right of use lease assets	40,517	42,905
Goodwill	604,649	607,205
Other intangible assets, net	1,044,516	1,121,765
Investments in associated companies	87,865	93,822
Deferred tax assets	12,362	14,745
Other non-current assets	43,966	40,433
Total assets	$ 2,871,526	$ 2,850,316
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 38,217	$ 38,332
Accounts and other payables	130,334	170,929
Accrued compensation	22,689	45,620
Accrued restructuring	10,432	18,043
Other current liabilities	81,019	87,010
Total current liabilities	282,691	359,934
Long-term debt	1,070,306	882,437
Long-term lease liabilities	28,908	31,273
Deferred tax liabilities	196,669	211,094
Other non-current liabilities	125,611	123,212
Total liabilities	1,704,185	1,607,950
Commitments and contingencies (Note 19)		
Equity		
Common stock $1 par value; authorized 30,000,000 shares; issued and outstanding 2020 –17,799,606 shares; 2019 – 17,735,162 shares	17,800	17,735
Capital in excess of par value	896,108	888,218
Retained earnings	362,265	412,979
Accumulated other comprehensive loss	(109,264)	(78,170)
Total Quaker shareholders’ equity	1,166,909	1,240,762
Noncontrolling interest	432	1,604
Total equity	1,167,341	1,242,366
Total liabilities and equity	$ 2,871,526	$ 2,850,316

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 Six Months Ended June 30, 2020	Unaudited Six Months Ended June 30, 2019
Cash flows from operating activities		
Net (loss) income	$ (36,066)	$ 29,549
Adjustments to reconcile net income to net cash provided by operating activities:		
Amortization of debt issuance costs	2,375	70
Depreciation and amortization	42,079	9,702
Equity in undistributed earnings of associated companies, net of dividends	3,219	1,658
Acquisition-related fair value adjustments related to inventory	229	—
Deferred compensation, deferred taxes and other, net	(22,033)	(7,141)
Share-based compensation	7,673	1,672
Loss (gain) on disposal of property, plant, equipment and other assets	81	(39)
Insurance settlement realized	(542)	(306)
Indefinite-lived intangible asset impairment	38,000	—
Combination and other acquisition-related expenses, net of payments	1,860	399
Restructuring and related charges	2,202	—
Pension and other postretirement benefits	18,784	(21)
Increase (decrease) in cash from changes in current assets and current liabilities, net of acquisitions:		
Accounts receivable	61,659	(7,893)
Inventories	(3,689)	(257)
Prepaid expenses and other current assets	(2,849)	(2,039)
Change in restructuring liabilities	(9,592)	—
Accounts payable and accrued liabilities	(58,728)	(2,945)
Net cash provided by operating activities	44,662	22,409
Cash flows from investing activities		
Investments in property, plant and equipment	(7,534)	(5,544)
Payments related to acquisitions, net of cash acquired	(3,132)	(500)
Proceeds from disposition of assets	11	70
Insurance settlement interest earned	37	131
Net cash used in investing activities	(10,618)	(5,843)
Cash flows from financing activities		
Payments of long-term debt	(18,702)	—
Borrowings (repayments) on revolving credit facilities, net	205,500	(24,034)
Repayments on other debt, net	(684)	(6)
Dividends paid	(13,662)	(9,868)
Stock options exercised, other	(1,923)	(1,374)
Purchase of noncontrolling interest in affiliates	(1,047)	—
Distributions to noncontrolling affiliate shareholders	(751)	—
Net cash provided by (used in) financing activities	168,731	(35,282)
Effect of foreign exchange rate changes on cash	(4,575)	749
Net increase (decrease) in cash, cash equivalents and restricted cash	198,200	(17,967)
Cash, cash equivalents and restricted cash at the beginning of the period	143,555	124,425
Cash, cash equivalents and restricted cash at the end of the period	$ 341,755	$ 106,458

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

Note 1 – Condensed Financial Information

As used in these Notes to Condensed Consolidated Financial Statements, the terms “Quaker”, “Quaker Houghton”, the “Company”, “we”, and “our” refer to Quaker Chemical Corporation (doing business as Quaker Houghton), its subsidiaries, and associated companies, unless the context otherwise requires. As used in these Notes to Condensed Consolidated Financial Statements, the term Legacy Quaker refers to the Company prior to the closing of its combination with Houghton International, Inc. (“Houghton”) (herein referred to as the “Combination”). 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 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 and six months ended June 30, 2020 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, 2019 (the “2019 Form 10-K”).

Hyper-inflationary economies

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

Based on various indices or index compilations currently being used to monitor inflation in Argentina as well as recent economic instability, effective July 1, 2018, Argentina’s economy was considered hyper-inflationary under U.S. GAAP. As a result, the Company began applying hyper-inflationary accounting with respect to the Company's wholly owned Argentine subsidiary beginning July 1, 2018. In addition, Houghton has an Argentina subsidiary to which hyper-inflationary accounting also is applied. As of, and for the three and six months ended June 30, 2020 and 2019, the Company's Argentine subsidiaries represented less than 1% of the Company’s consolidated total assets and net sales, respectively. During the three and six months ended June 30, 2020, the Company recorded less than $0.1 million and $0.1 million, respectively, of remeasurement losses associated with the applicable currency conversions related to Argentina. Comparatively, during the three and six months ended June 30, 2019, the Company recorded less than $0.1 million of remeasurement gains and $0.2 million of remeasurement losses associated with the applicable currency conversion related to Argentina. These losses were recorded within foreign exchange (losses) gains, net, which is a component of other (expense) income, net, in the Company’s Condensed Consolidated Statements of Operations.

Note 2 – Business Combinations

Houghton

On August 1, 2019, the Company completed the Combination, whereby the Company acquired all of the issued and outstanding shares of Houghton from Gulf Houghton Lubricants, Ltd. and certain other selling shareholders in exchange for a combination of cash and shares of the Company’s common stock in accordance with the Share Purchase Agreement, dated April 4, 2017. Houghton is a leading global provider of specialty chemicals and technical services for metalworking and other industrial applications. The Company believes that combining Quaker’s and Houghton’s products and service offerings will allow Quaker Houghton to better serve its customers in its various end markets.

The Combination was subject to certain regulatory and shareholder approvals. At a shareholder meeting held during 2017, the Company’s shareholders approved the issuance of new shares of the Company’s common stock at closing of the Combination. Also in 2017, the Company received regulatory approvals for the Combination from China and Australia. The Company received regulatory approvals from the European Commission (“EC”) during the second quarter of 2019 and the U.S. Federal Trade Commission (“FTC”) in July 2019. The approvals from the FTC and the EC required the concurrent divestiture of certain steel and aluminum related product lines of Houghton, which were sold by Houghton on August 1, 2019 for approximately $37 million in cash. The final remedy agreed with the EC and the FTC was consistent with the Company’s previous expectation that the total divested product lines would be approximately 3% of the combined company’s net sales.

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

The following table summarizes the fair value of consideration transferred in the Combination:

Cash transferred to Houghton shareholders (a)	$	170,829
Cash paid to extinguish Houghton debt obligations		702,556
Fair value of common stock issued as consideration (b)		789,080
Total fair value of consideration transferred	$	1,662,465

(a) A portion is held in escrow by a third party, subject to indemnification rights that lapse upon the achievement of certain milestones.
(b) Amount was determined based on approximately 4.3 million shares, comprising 24.5% of the common stock of the Company immediately after the closing, and the closing price per share of Quaker Chemical Corporation common stock of $182.27 on August 1, 2019.

The Company accounted for the Combination under the acquisition method of accounting. This method requires the recording of acquired assets, including separately identifiable intangible assets, at their fair value on the acquisition date. Any excess of the purchase price over the estimated fair value of the identifiable net assets acquired is recorded as goodwill. The determination of the estimated fair value of assets acquired, including indefinite and definite-lived intangible assets, requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, customer attrition rates, royalty rates, asset lives and market multiples, among other items. Fair values were determined by management using a variety of methodologies and resources, including external independent valuation experts. The valuation methods included physical appraisals, discounted cash flow analyses, excess earnings, relief from royalty, and other appropriate valuation techniques to determine the fair value of assets acquired and liabilities assumed.

The following table presents the current preliminary estimated fair values of Houghton net assets acquired:

	August 1, 2019 (1)	Measurement Period Adjustments	August 1, 2019 (as adjusted)
Cash and cash equivalents	$ 75,821	$ —	$ 75,821
Accounts receivable, net	178,922	—	178,922
Inventories, net	95,193	—	95,193
Prepaid expenses and other assets	10,652	314	10,966
Property, plant and equipment	115,529	(66)	115,463
Right of use lease assets	10,673	—	10,673
Investments in associated companies	66,447	—	66,447
Other non-current assets	4,710	1,553	6,263
Intangible assets	1,028,400	—	1,028,400
Goodwill	494,915	7,737	502,652
Total assets purchased	2,081,262	9,538	2,090,800
Short-term borrowings, not refinanced at closing	9,297	—	9,297
Accounts payable, accrued expenses and other accrued liabilities	150,078	853	150,931
Deferred tax liabilities	205,082	7,132	212,214
Long-term lease liabilities	6,607	—	6,607
Other non-current liabilities	47,733	1,553	49,286
Total liabilities assumed	418,797	9,538	428,335
Total consideration paid for Houghton	1,662,465	—	1,662,465
Less: cash acquired	75,821	—	75,821
Less: fair value of common stock issued as consideration	789,080	—	789,080
Net cash paid for Houghton	$ 797,564	$ -	$ 797,564

(1) As previously disclosed in the Company's 2019 Form 10-K.

As of June 30, 2020, the allocation of the purchase price for the Combination has not been finalized and the one-year measurement period has not ended. While not currently expected, further adjustments may be necessary as a result of the Company's on-going assessment of additional information related to the fair value of assets acquired and liabilities assumed. Houghton assets acquired and liabilities assumed have been assigned to each of the Company's reportable segments on a specific identification or allocated basis, as applicable. Measurement period adjustments recorded during the first six months of 2020 related primarily to increasing the valuation allowances against the deferred tax assets associated with foreign tax credits acquired as part of the

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

Combination as a result of additional information available used to update the Company's initial estimates of expenses allocated to foreign source income and expected creditable foreign taxes. In addition, measurement period adjustments include the recognition of additional other non-current assets and other non-current liabilities based on additional information obtained regarding certain tax audits and associated rights to indemnification, and certain non-income tax liabilities payable upon closing of the Combination in certain countries.

Combination, integration and other acquisition-related expenses have been and are expected to continue to be significant. The Company incurred total costs of approximately $8.3 million and $16.5 million for the three and six months ended June 30, 2020, respectively, primarily for professional fees related to Houghton integration activities. Comparatively, the Company incurred total costs of $5.5 million and $10.8 million during the three and six months ended June 30, 2019, respectively, primarily for various professional fees and integration planning and regulatory approval. These costs also include $0.3 million and $0.8 million of accelerated depreciation charges during the three and six months ended June 30, 2020, respectively, and $0.9 million and $1.7 million of interest costs to maintain the bank commitment ("ticking fees") for the Combination during the three and six months ended June 30, 2019, respectively. The Company had current liabilities related to the Combination, integration and other acquisition-related activities of $8.6 million and $6.6 million as of June 30, 2020, and December 31, 2019, respectively, primarily recorded within other accrued liabilities on its Condensed Consolidated Balance Sheets.

Norman Hay

On October 1, 2019, the Company completed its acquisition of the operating divisions of Norman Hay plc ("Norman Hay"), a private U.K. company that provides specialty chemicals, operating equipment, and services to industrial end markets. The acquisition adds new technologies in automotive, original equipment manufacturer ("OEM"), and aerospace, as well as engineering expertise which is expected to strengthen the Company's existing equipment solutions platform. The acquired Norman Hay assets and liabilities were assigned to the Global Specialty Businesses reportable segment. The original purchase price was 80.0 million GBP, on a cash-free and debt-free basis, subject to routine and customary post-closing adjustments related to working capital and net indebtedness levels.

The following table presents the preliminary estimated fair values of Norman Hay net assets acquired:

	October 1, 2019 (1)	Measurement Period Adjustments	October 1, 2019 (as adjusted)
Cash and cash equivalents	$ 18,981	$ —	$ 18,981
Accounts receivable, net	15,471	—	15,471
Inventories, net	8,213	(49)	8,164
Prepaid expenses and other assets	4,203	—	4,203
Property, plant and equipment	14,981	—	14,981
Right of use lease assets	10,608	—	10,608
Intangible assets	51,088	—	51,088
Goodwill	29,384	102	29,486
Total assets purchased	152,929	53	152,982
Long-term debt included current portions	485	—	485
Accounts payable, accrued expenses and other accrued liabilities	13,488	(708)	12,780
Deferred tax liabilities	12,746	927	13,673
Long-term lease liabilities	8,594	—	8,594
Total liabilities assumed	35,313	219	35,532
Total consideration paid for Norman Hay	117,616	(166)	117,450
Less: estimated purchase price settlement (2)	3,287	(3,287)	—
Less: cash acquired	18,981	—	18,981
Net cash paid for Norman Hay	$ 95,348	$ 3,121	$ 98,469

(1) As previously disclosed in the Company's 2019 Form 10-K.
(2) The Company finalized its post-closing adjustments for the Norman Hay acquisition and paid approximately 2.5 million GBP during the first quarter of 2020 to settle such adjustments.

As of June 30, 2020, the allocation of the purchase price for Norman Hay has not been finalized and the one-year measurement period has not ended. Further adjustments may be necessary as a result of the Company's on-going assessment of additional information related to the fair value of assets acquired and liabilities assumed.

Other Acquisitions

In May 2020, the Company acquired Tel Nordic ApS ("TEL"), a company that specializes in lubricants and engineering primarily in high pressure aluminum die casting for its Europe, Middle East and Africa ("EMEA") reportable segment. Consideration paid was in the form of a convertible promissory note in the amount of 20.0 million DKK, or approximately $2.9 million, which was subsequently converted into shares of the Company's common stock. An adjustment to the purchase price of approximately 0.4 million DKK, or less than $0.1 million, was made as a result of finalizing a post-closing settlement in the second quarter of 2020. The Company allocated approximately $2.4 million of the purchase price to intangible assets to be amortized over 17 years. In addition, the Company recorded approximately $0.5 million of goodwill, related to expected value not allocated to other acquired assets, none of which will be tax deductible. The allocation of the purchase price of TEL has not been finalized and the one-year measurement period has not ended. Further adjustments may be necessary as a result of the Company's on-going assessment of additional information related to the fair value of assets acquired and liabilities assumed.

In March 2020, the Company acquired the remaining 49% ownership interest in one of its South African affiliates, Quaker Chemical South Africa Limited ("QSA") for 16.7 million ZAR, or approximately $1.0 million, from its joint venture partner PQ Holdings South Africa. QSA is a part of the Company's EMEA reportable segment. As this acquisition was a change in an existing controlling ownership, the Company recorded $0.7 million of excess purchase price over the carrying value of the non-controlling interest in Capital in excess of par value. In 2018 the Company purchased certain formulations and product technology for the mining industry for $1.0 million, with $0.5 million of the purchase price paid at signing and the remaining $0.5 million of the purchase price paid during the first quarter of 2019.

Note 3 – Recently Issued Accounting Standards

Recently Issued Accounting Standards Adopted

The Financial Accounting Standards Board ("FASB") issued Account Standards Update ("ASU") 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting* in March 2020. The amendments provide temporary optional expedients and exceptions for applying GAAP to contract modifications, hedging relationships and other transactions to ease the potential accounting and financial reporting burden associated with transitioning away from reference rates that are expected to be discontinued, including the London Interbank Offered Rate ("LIBOR"). ASU 2020-04 is effective for the Company as of March 12, 2020 and generally can be applied through December 31, 2022. As of June 30, 2020, the expedients provided in ASU 2020-04 do not impact the Company; however, the Company will continue to monitor for potential impacts on its consolidated financial statements.

The FASB issued ASU 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* in August 2018 that clarifies the accounting for implementation costs incurred in a cloud computing arrangement under a service contract. This guidance generally aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement under a service contract with the requirements for capitalizing implementation costs related to internal-use software. The guidance within this accounting standard update is effective for annual periods beginning after December 15, 2019 and should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. Early adoption was permitted. The Company adopted this standard on a prospective basis, effective January 1, 2020. There was no cumulative effect of adoption recorded within retained earnings on January 1, 2020.

The FASB issued ASU 2018-14, *Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans* in August 2018 that modifies certain disclosure requirements for fair value measurements. The guidance removes certain disclosure requirements regarding transfers between levels of the fair value hierarchy as well as certain disclosures related to the valuation processes for certain fair value measurements. Further, the guidance added certain disclosure requirements including unrealized gains and losses and significant unobservable inputs used to develop certain fair value measurements. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2019, and should be applied prospectively in the initial year of adoption or prospectively to all periods presented, depending on the amended disclosure requirement. Early adoption was permitted. The Company adopted this standard on a prospective basis, effective January 1, 2020. ASU 2018-14 addresses disclosures only and will not have an impact on the Company's consolidated financial statements.

The FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* in June 2016 related to the accounting for and disclosure of credit losses. The FASB subsequently issued several additional accounting standard updates which amended and clarified the guidance, but did not materially change the guidance or its applicability to the Company. This accounting guidance introduces a new model for recognizing credit losses on financial instruments, including customer accounts receivable, based on an estimate of current expected credit losses. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2019. Early adoption was permitted. The Company did not early adopt, but did adopt the guidance in this accounting standard update, including all applicable subsequent updates to this accounting guidance, as required, on a modified retrospective basis, effective January 1, 2020. Adoption did not have a material impact to the Company's financial statements as expected. However, as a result of this adoption, the Company recorded a cumulative effect of accounting change that resulted in an increase to its allowance for doubtful accounts of approximately $1.1 million, a decrease to deferred tax liabilities of $0.2 million and a decrease to retained earnings of $0.9 million.

In accordance with this guidance, the Company recognizes an allowance for credit losses reflecting the net amount expected to be collected from its financial assets, primarily trade accounts receivable. This allowance represents the portion of the receivable that the Company does not expect to collect over its contractual life, considering past events and reasonable and supportable forecasts of future economic conditions. The Company's allowance for credit losses on its trade accounts receivable is based on specific collectability facts and circumstances for each outstanding receivable and customer, the aging of outstanding receivables and the associated collection risk the Company estimates for certain past due aging categories, and also, the general risk to all outstanding accounts receivable based on historical amounts determined to be uncollectible.

Recently Issued Accounting Standards Not Yet Adopted

The FASB issued ASU 2020-01, *Investments – Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) –Clarifying the Interactions between Topic 321, Topic 323, and Topic 815* in January 2020 clarifying the interaction among the accounting standards related to equity securities, equity method investments, and certain derivatives. The new guidance, among other things, states that a company should consider observable transactions that require a company to either apply or discontinue the equity method of accounting, for the purposes of applying the fair value measurement alternative immediately before applying or upon discontinuing the equity method. The new guidance also addresses the measurement of certain purchased options and forward contracts used to acquire investments. The guidance within this accounting standard update is effective for annual and interim periods beginning after December 15, 2020 and is to be applied prospectively. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* in December 2019 to simplify the accounting for income taxes. The guidance within this accounting standard update removes certain exceptions, including the exception to the incremental approach for certain intra-period tax allocations, to the requirement to recognize or not recognize certain deferred tax liabilities for equity method investments and foreign subsidiaries, and to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. Further, the guidance simplifies the accounting related to franchise taxes, the step up in tax basis for goodwill, current and deferred tax expense, and codification improvements for income taxes related to employee stock ownership plans. The guidance is effective for annual and interim periods beginning after December 15, 2020. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

The FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement* in August 2018 that modifies certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments in this accounting standard update remove disclosures that are no longer considered cost beneficial, clarify the specific requirements of certain disclosures, and add new disclosure requirements as relevant. The guidance within this accounting standard update is effective for annual periods beginning after December 15, 2020, and should be applied retrospectively to all periods presented. Early adoption is permitted. The Company has not early adopted the guidance and is currently evaluating its implementation.

Note 4 – Business Segments

The Company's operating segments, which are consistent with its reportable segments, reflect the structure of the Company's internal organization, the method by which the Company's resources are allocated and the manner by which the Company and the chief operating decision maker assess its performance. During the third quarter of 2019 and in connection with the Combination, the Company reorganized its executive management team to align with its new business structure, which reflects the method by which the chief operating decision maker of the Company assesses its performance and allocates its resources. The Company's current reportable segment structure includes four segments: (i) Americas; (ii) EMEA; (iii) Asia/Pacific; and (iv) Global Specialty Businesses. The three geographic segments are composed of the net sales and operations in each respective region, excluding net sales and operations managed globally by the Global Specialty Businesses segment, which includes the Company's container, metal finishing, mining, offshore, specialty coatings, specialty grease and Norman Hay businesses. All prior period information for Legacy Quaker has been recast to reflect these four segments as the Company's new reportable segments. Prior to the Company's re-segmentation during the third quarter of 2019, the Company's historical reportable segments were four geographic regions: (i) North America; (ii) EMEA; (iii) Asia/Pacific; and (iv) South America.

Though the Company changed its reportable segments in the third quarter of 2019, the calculation of the reportable segments' measures of earnings remains otherwise generally consistent with past practices. Segment operating earnings for the Company's reportable segments are comprised of net sales less cost of goods sold ("COGS") and selling, general and administrative expenses

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

("SG&A") directly related to the respective segment's product sales. Operating expenses not directly attributable to the net sales of each respective segment are not included in segment operating earnings, such as certain corporate and administrative costs, Combination, integration and other acquisition-related expenses, and restructuring and related charges. Other items not specifically identified with the Company's reportable segments include interest expense, net and other (expense) income, net.

The following table presents information about the performance of the Company's reportable segments for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net sales				
Americas	$ 80,576	$ 71,747	$ 210,472	$ 143,972
EMEA	77,702	49,012	182,541	101,437
Asia/Pacific	68,421	44,801	141,973	90,968
Global Specialty Businesses	59,341	40,309	129,615	80,702
Total net sales	$ 286,040	$ 205,869	$ 664,601	$ 417,079
Segment operating earnings				
Americas	$ 10,303	$ 13,965	$ 39,491	$ 28,304
EMEA	10,245	8,938	28,604	17,731
Asia/Pacific	19,261	12,159	38,802	24,971
Global Specialty Businesses	16,393	10,970	36,953	21,574
Total segment operating earnings	56,202	46,032	143,850	92,580
Combination, integration and other acquisition-related expenses	(7,995)	(4,604)	(15,873)	(9,087)
Restructuring and related charges	(486)	—	(2,202)	—
Indefinite-lived intangible asset impairment	—	—	(38,000)	—
Non-operating and administrative expenses	(32,045)	(19,070)	(70,496)	(39,418)
Depreciation of corporate assets and amortization	(13,438)	(1,827)	(27,485)	(3,715)
Operating income (loss)	2,238	20,531	(10,206)	40,360
Other (expense) income, net	(993)	43	(22,168)	(592)
Interest expense, net	(6,811)	(733)	(15,272)	(1,509)
(Loss) income before taxes and equity in net income of associated companies	$ (5,566)	$ 19,841	$ (47,646)	$ 38,259

Inter-segment revenues for the three and six months ended June 30, 2020 were $2.4 million and $5.3 million for Americas, $5.3 million and $10.8 million for EMEA, $0.1 million and $0.3 million for Asia/Pacific, and $1.0 million and $2.3 million for Global Specialty Businesses, respectively. Inter-segment revenues for the three and six months ended June 30, 2019 were $1.3 million and $2.7 million for Americas, $4.8 million and $10.1 million for EMEA, less than $0.1 million and $0.1 million for Asia/Pacific, and $1.3 million and $2.8 million for Global Specialty Businesses, respectively. However, all inter-segment transactions have been eliminated from each reportable segment's net sales and earnings for all periods presented in the above tables.

Note 5 – 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 ("Fluidcare") for various heavy industrial and manufacturing applications throughout its four segments. The Combination increased the Company's addressable metalworking, metals and industrial end markets, including steel, aluminum, aerospace, defense, transportation-OEM, transportation-components, offshore sub-sea energy, architectural aluminum, construction, tube and pipe, can and container, mining, specialty coatings and specialty greases. The Combination also strengthened the product portfolio of the combined Company. The major product lines of Quaker Houghton include metal removal fluids, cleaning fluids, corrosion inhibitors, metal drawing and forming fluids, die cast mold releases, heat treatment and quenchants, metal forging fluids, hydraulic fluids, specialty greases, offshore sub-sea energy control fluids, rolling lubricants, rod and wire drawing fluids and surface treatment chemicals.

A substantial portion of the Company's sales worldwide are made directly through its own employees and its Fluidcare programs, with the balance being handled through distributors and agents. The Company's employees typically visit the plants of customers regularly, work on site, and, through training and experience, identify production needs which can be resolved or otherwise addressed either by adapting the Company's existing products or by applying new formulations developed in its laboratories. The specialty chemical industry comprises many companies similar in size to the Company, as well as companies larger and smaller than Quaker Houghton. The offerings of many of the Company's competitors differ from those of Quaker Houghton; 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 Fluidcare business, 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 the obligation to provide the specified good, has inventory risk before the specified good has been transferred to the customer and has discretion in establishing the prices for the specified goods. The Company transferred third-party products under arrangements recognized on a net reporting basis of $6.2 million and $18.7 million for the three and six months ended June 30, 2020, respectively, and $10.4 million and $20.8 million for the three and six months ended June 30, 2019, respectively.

A significant portion of the Company's revenues are realized from the sale of process fluids and services to manufacturers of steel, aluminum, automobiles, aircraft, industrial equipment, and durable goods, and, therefore, the Company is subject to the same business cycles as those experienced by these manufacturers and their customers. The Company's financial performance is generally correlated to the volume of global production within the industries it serves, rather than discretely related to the financial performance of such industries. Furthermore, steel and aluminum 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 2019 Form 10-K, during 2019, the Company's five largest customers (each composed of multiple subsidiaries or divisions with semiautonomous purchasing authority) accounted for approximately 12% of consolidated net sales, with its largest customer accounting for approximately 6% 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 that 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 obligations 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 providing the service to the customer. The Company recognizes revenue over time as the customer 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 an asset and the Company satisfies a performance obligation by considering when the Company has a right to payment for the asset; the customer has legal title to the asset; the Company has transferred physical possession of the asset; the customer has the significant risks and rewards of ownership of the asset; or the customer has accepted the asset.

The Company typically satisfies its performance obligations and recognizes revenue at a point in time for product sales, generally when products are shipped or delivered to the customer, depending on the terms underlying each arrangement. In circumstances where the Company's products are on consignment, revenue is generally recognized upon usage or consumption by the customer. For any Fluidcare 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 Fluidcare or other service work performed by the Company.

Other Considerations

The Company does not have standard payment terms for all customers; however the Company's general payment terms require customers to pay for products or services provided after the performance obligation is satisfied. The Company does not have significant financing arrangements with its customers. The Company does not have significant amounts of variable consideration in its contracts with customers and where applicable, the Company's estimates of variable consideration are not constrained. The Company records certain third-party license fees in other (expense) income, net, in its Condensed Consolidated Statements of Operations, 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 provides a good or service 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 material contract assets recorded on its Condensed Consolidated Balance Sheets as of June 30, 2020 or December 31, 2019.

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 $3.2 million and $2.2 million of deferred revenue as of June 30, 2020 and December 31, 2019, respectively. During the six months ended June 30, 2020, the Company satisfied all of the associated performance obligations and recognized into revenue the advanced payments received and recorded as of December 31, 2019.

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

Disaggregated Revenue

The Company sells its various industrial process fluids, its specialty chemicals and its technical expertise as a global product portfolio. The Company generally manages and evaluates its performance by segment first, and then by customer industry, rather than by individual product lines. The Company has provided annual net sales information by major product lines that represent approximately 10% or more of consolidated net sales in its 2019 Form 10-K, 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 three of the Company's geographic regions, and in most cases, approximately proportionate to the level of total sales in each region.

The following tables disaggregate the Company's net sales by segment, geographic region, customer industry, and timing of revenue recognized for the three and six months ended June 30, 2020 and 2019. The Company has made certain reclassifications of disaggregated customer industry disclosures for the three and six months ended June 30, 2020 to conform with the Company's current period customer industry segmentation.

	Three Months Ended June 30, 2020			
	Americas	**EMEA**	**Asia/Pacific**	**Consolidated Total**
Customer Industries				
Metals	$ 32,687	$ 24,924	$ 35,416	$ 93,027
Metalworking and other	47,889	52,778	33,005	133,672
	80,576	77,702	68,421	226,699
Global Specialty Businesses	32,294	15,569	11,478	59,341
	$ 112,870	$ 93,271	$ 79,899	$ 286,040
Timing of Revenue Recognized				
Product sales at a point in time	$ 108,644	$ 87,995	$ 78,195	$ 274,834
Services transferred over time	4,226	5,276	1,704	11,206
	$ 112,870	$ 93,271	$ 79,899	$ 286,040

	Three Months Ended June 30, 2019			
	Americas	**EMEA**	**Asia/Pacific**	**Consolidated Total**
Customer Industries				
Metals	$ 39,506	$ 24,485	$ 28,391	$ 92,382
Metalworking and other	32,241	24,527	16,410	73,178
	71,747	49,012	44,801	165,560
Global Specialty Businesses	31,145	4,138	5,026	40,309
	$ 102,892	$ 53,150	$ 49,827	$ 205,869
Timing of Revenue Recognized				
Product sales at a point in time	$ 100,053	$ 53,098	$ 48,406	$ 201,557
Services transferred over time	2,839	52	1,421	4,312
	$ 102,892	$ 53,150	$ 49,827	$ 205,869

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

	Six Months Ended June 30, 2020			
	Americas	**EMEA**	**Asia/Pacific**	**Consolidated Total**
Customer Industries				
Metals	$ 79,360	$ 54,812	$ 77,005	$ 211,177
Metalworking and other	131,112	127,729	64,968	323,809
	210,472	182,541	141,973	534,986
Global Specialty Businesses	76,525	32,174	20,916	129,615
	$ 286,997	$ 214,715	$ 162,889	$ 664,601
Timing of Revenue Recognized				
Product sales at a point in time	$ 277,446	$ 206,418	$ 159,351	$ 643,215
Services transferred over time	9,551	8,297	3,538	21,386
	$ 286,997	$ 214,715	$ 162,889	$ 664,601

	Six Months Ended June 30, 2019			
	Americas	**EMEA**	**Asia/Pacific**	**Consolidated Total**
Customer Industries				
Metals	$ 80,431	$ 49,201	$ 57,604	$ 187,236
Metalworking and other	63,541	52,236	33,364	149,141
	143,972	101,437	90,968	336,377
Global Specialty Businesses	63,315	8,001	9,386	80,702
	$ 207,287	$ 109,438	$ 100,354	$ 417,079
Timing of Revenue Recognized				
Product sales at a point in time	$ 201,600	$ 109,332	$ 97,057	$ 407,989
Services transferred over time	5,687	106	3,297	9,090
	$ 207,287	$ 109,438	$ 100,354	$ 417,079

Note 6 – Leases

The Company determines if an arrangement is a lease at its inception. This determination generally depends on whether the arrangement conveys the right to control the use of an identified fixed asset explicitly or implicitly for a period of time in exchange for consideration. Control of an underlying asset is conveyed if the Company obtains the rights to direct the use of, and obtains substantially all of the economic benefits from the use of, the underlying asset. Lease expense for variable leases and short-term leases is recognized when the obligation is incurred.

The Company has operating leases for certain facilities, vehicles and machinery and equipment with remaining lease terms up to 11 years. In addition, the Company has certain land use leases with remaining lease terms up to 95 years. The lease term for all of the Company's leases includes the non-cancellable period of the lease plus any additional periods covered by an option to extend the lease that the Company is reasonably certain it will exercise. Operating leases are included in right of use lease assets, other current liabilities and long-term lease liabilities on the Condensed Consolidated Balance Sheet. Right of use lease assets and liabilities are recognized at each lease's commencement date based on the present value of its lease payments over its respective lease term. The Company uses the stated borrowing rate for a lease when readily determinable. When a stated borrowing rate is not available in a lease agreement, the Company uses its incremental borrowing rate based on information available at the lease's commencement date to determine the present value of its lease payments. In determining the incremental borrowing rate used to present value each of its leases, the Company considers certain information including fully secured borrowing rates readily available to the Company and its subsidiaries. The Company has immaterial finance leases, which are included in property, plant and equipment, current portion of long-term debt and long-term debt on the Condensed Consolidated Balance Sheet.

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

Operating lease expense is recognized on a straight-line basis over the lease term. Operating lease expense for the three and six months ended June 30, 2020 was $3.5 million and $6.9 million, respectively. Comparatively, operating lease expense for the three and six months ended June 30, 2019 was $1.7 million and $3.5 million, respectively. Short-term lease expense for the three and six months ended June 30, 2020 was $0.4 million and $0.9 million, respectively. Comparatively, short-term lease expense for the three and six months ended June 30, 2019 was $0.2 million and $0.3 million, respectively. The Company has no material variable lease costs or sublease income for the three or six months ended June 30, 2020 and 2019.

Cash paid for operating leases during the six months ended June 30, 2020 and 2019 was $6.8 million and $3.4 million, respectively. The Company recorded new right of use lease assets and associated lease liabilities of $4.1 million during the six months ended June 30, 2020.

Supplemental balance sheet information related to the Company's leases is as follows:

	June 30, 2020	December 31, 2019
Right of use lease assets	$ 40,517	$ 42,905
Other current liabilities	11,085	11,177
Long-term lease liabilities	28,908	31,273
Total operating lease liabilities	$ 39,993	$ 42,450
Weighted average remaining lease term (years)	6.0	6.2
Weighted average discount rate	4.21%	4.21%

Maturities of operating lease liabilities as of June 30, 2020 were as follows:

	June 30, 2020
For the remainder of 2020	$ 6,598
For the year ended December 31, 2021	10,978
For the year ended December 31, 2022	7,435
For the year ended December 31, 2023	5,434
For the year ended December 31, 2024	4,232
For the year ended December 31, 2025 and beyond	11,356
Total lease payments	46,033
Less: imputed interest	(6,040)
Present value of lease liabilities	$ 39,993

Note 7 – Restructuring and Related Activities

As previously disclosed in its 2019 Form 10-K, in the third quarter of 2019, the Company's management approved a global restructuring plan (the "QH Program") as part of its plan to realize certain cost synergies associated with the Combination. The QH Program includes restructuring and associated severance costs to reduce total headcount by approximately 325 people globally and plans for the closure of certain manufacturing and non-manufacturing facilities. The exact timing and total costs associated with the QH Program will depend on a number of factors and is subject to change; however, the Company currently expects reduction in headcount and site closures to continue to occur during 2020 and 2021 under the QH Program and estimates that total costs related to the QH Program will approximate one-times the anticipated cost synergies realized from the QH Program. Employee separation benefits will vary depending on local regulations within certain foreign countries and will include severance and other benefits.

All costs incurred to date relate to severance costs to reduce headcount as well as costs to close certain facilities and are recorded in restructuring and related charges in the Company's Condensed Statements of Operations. As described in Note 4 of Notes to Condensed Consolidated Financial Statements, restructuring and related charges are not included in the Company's calculation of reportable segments' measure of operating earnings and therefore these costs are not reviewed by or recorded to reportable segments.

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

Activity in the Company's accrual for restructuring under the QH Program for the six months ended June 30, 2020 is as follows:

	QH Program
Accrued restructuring as of December 31, 2019	$ 18,043
Restructuring and related charges	2,202
Cash payments	(9,592)
Currency translation adjustments	(221)
Accrued restructuring as of June 30, 2020	$ 10,432

In connection with the plans for closure of certain manufacturing and non-manufacturing facilities, the Company made a decision to make available for sale certain facilities during the second quarter of 2020 resulting in the reclassification of approximately $11.7 million of buildings and land to other current assets as of June 30, 2020.

Note 8 – Share-Based Compensation

The Company recognized the following share-based compensation expense in its Condensed Consolidated Statements of Operations for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Stock options	$ 353	$ 173	$ 785	$ 433
Non-vested restricted stock awards and restricted stock units	1,259	440	2,523	1,138
Non-elective and elective 401(k) matching contribution in stock	1,162	—	1,162	—
Employee stock purchase plan	—	24	—	47
Director stock ownership plan	54	23	94	54
Performance stock units	280	—	280	—
Annual incentive plan	(117)	—	2,829	—
Total share-based compensation expense	$ 2,991	$ 660	$ 7,673	$ 1,672

Share-based compensation expense is recorded in SG&A, except for approximately $0.3 million and $0.8 million for the three and six months ended June 30, 2020, respectively, and less than $0.1 million for the six months ended June 30, 2019, recorded within Combination, integration and other acquisition-related expenses. The increase in total share-based compensation expense for the six months ended June 30, 2020 includes performance stock units, annual incentive plan accruals, and non-elective and elective 401(k) matching contributions in stock as components of share-based compensation beginning in 2020, described further below.

Stock Options

During the first quarter of 2020, the Company granted stock options under its long-term incentive plan ("LTIP") that are subject only to time-based vesting over a three-year period. For the purposes of determining the fair value of stock option awards, the Company used a Black-Scholes option pricing model and the assumptions set forth in the table below:

Number of options granted	49,115
Dividend yield	0.99 %
Expected volatility	31.57 %
Risk-free interest rate	0.36 %
Expected term (years)	4.0

The fair value of these options is amortized on a straight-line basis over the vesting period. As of June 30, 2020, unrecognized compensation expense related to all stock options granted was $2.2 million, to be recognized over a weighted average remaining period of 2.2 years.

Restricted Stock Awards and Restricted Stock Units

During the six months ended June 30, 2020, the Company granted 27,137 non-vested restricted shares and 5,804 non-vested restricted stock units under its LTIP, subject to time-based vesting, generally over a three-year period. The fair value of these grants 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 June 30, 2020, unrecognized compensation expense related to the non-vested restricted shares was $6.7 million, to be recognized over a weighted average remaining period of 1.9 years, and unrecognized compensation expense related to non-vested restricted stock units was $1.1 million, to be recognized over a weighted average remaining period of 2.3 years.

Performance Stock Units

In March 2020, the Company included performance-dependent stock awards ("PSUs") as a component of its LTIP, which will be settled in a certain number of shares subject to market-based and time-based vesting conditions. The number of fully vested shares that may ultimately be issued as settlement for each award may range from 0% up to 200% of the target award, subject to the achievement of the Company's total shareholder return ("TSR") relative to the performance of the Company's peer group, the S&P Midcap 400 Materials group. The service period required for the PSUs is three years and the TSR measurement period for the PSUs is from January 1, 2020 through December 31, 2022.

Compensation expense for PSUs is measured based on their grant date fair value and is recognized on a straight-line basis over the three-year vesting period. The grant-date fair value of the PSUs was estimated using a Monte Carlo simulation on the grant date and using the following assumptions: (i) a risk-free rate of 0.28%; (ii) an expected term of 3.0 years; and (iii) a three-year daily historical volatility for each of the companies in the peer group, including Quaker Houghton.

As of June 30, 2020, the Company estimates that it will issue approximately 25,500 fully vested shares as of the settlement date of the award based on the conditions of the PSUs and Company's closing stock price on June 30, 2020. As of June 30, 2020, there was approximately $3.1 million of total unrecognized compensation cost related to PSUs which the Company expects to recognize over a weighted-average period of 2.7 years.

Annual Incentive Plan

The Company maintains an Annual Incentive Plan ("AIP"), which may be settled in cash or a certain number of shares subject to performance-based and time-based vesting conditions. It is the Company's current intention to settle the 2020 AIP in shares, and therefore, expense associated with the AIP in 2020 will be recorded as a component of share-based compensation expense. The number of fully vested shares that may ultimately be issued as settlement for each award is subject to the achievement of the Company's performance against certain internal financial and non-financial metrics and approval by the Company's Compensation Committee.

Compensation expense for the AIP is measured based on the estimated total value of the award. The number of shares that will ultimately be issued under the AIP award will be equal to final value of the award converted into a number of shares based on the trading price of the Company's common stock on the date of settlement. As of June 30, 2020, the Company estimates that it will issue approximately 39,000 fully vested shares as of the settlement date of the award based on the conditions of the AIP, the Company's projected performance against its performance metrics and Company's closing stock price on June 30, 2020.

Defined Contribution Plan

The Company has a 401(k) plan with an employer match covering a majority of its U.S. employees. The Company matches 50% of the first 6% of compensation that is contributed to the plan, with a maximum matching contribution of 3% of compensation. Additionally, the plan provides for non-elective nondiscretionary contributions on behalf of participants who have completed one year of service equal to 3% of the eligible participant's compensation. The Company's matching contributions and non-elective contributions may be made in cash or in fully vested shares of the Company's common stock. Beginning in April 2020, the Company began matching both non-elective and elective 401(k) contributions in fully vested shares of its common stock rather than cash. For the three and six months ended June 30, 2020, total contributions were $1.2 million.

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

Note 9 – Pension and Other Postretirement Benefits

The components of net periodic benefit cost for the three and six months ended June 30, 2020 and 2019 are as follows:

	Three Months Ended June 30,				Six Months Ended June 30,			
	Pension Benefits		Other Postretirement Benefits		Pension Benefits		Other Postretirement Benefits	
	2020	2019	2020	2019	2020	2019	2020	2019
Service cost	$ 1,164	$ 978	$ 1	$ 2	$ 2,338	$ 1,963	$ 3	$ 4
Interest cost	1,486	1,105	26	36	3,255	2,216	52	71
Expected return on plan assets	(1,761)	(978)	—	—	(3,720)	(1,962)	—	—
Settlement charge	—	—	—	—	22,667	—	—	—
Actuarial loss amortization	615	773	16	—	1,662	1,549	31	—
Prior service cost amortization	(41)	(41)	—	—	(81)	(83)	—	—
Net periodic benefit cost	$ 1,463	$ 1,837	$ 43	$ 38	$ 26,121	$ 3,683	$ 86	$ 75

In the fourth quarter of 2018, the Company began the process of terminating its Legacy Quaker non-contributory U.S. pension plan (“Legacy Quaker U.S. Pension Plan”). During the third quarter of 2019, the Company received a favorable termination determination letter from the Internal Revenue Service (“I.R.S.”) and amended the Legacy Quaker U.S. Pension Plan to comply with final regulations of the Internal Revenue Code. The Company completed the Legacy Quaker U.S. Pension Plan termination during the first quarter of 2020. In order to terminate the Legacy Quaker U.S. Pension Plan in accordance with I.R.S. and Pension Benefit Guaranty Corporation requirements, the Company was required to fully fund the Legacy Quaker U.S. Pension Plan on a termination basis and the amount necessary to do so was approximately $1.8 million, subject to final true up adjustments. In July 2020, the Company finalized the amount of the liability and related annuity payments and expects to receive a refund in premium of approximately $2 million in August 2020. In addition, the Company recorded a non-cash pension settlement charge at plan termination of approximately $22.7 million. This settlement charge included the immediate recognition into expense of the related unrecognized losses within accumulated other comprehensive (loss) income (“AOCI”) on the balance sheet as of the plan termination date.

Employer Contributions

The Company previously disclosed in its 2019 Form 10-K that it expected to make minimum cash contributions of $10.0 million to its U.S. and foreign pension plans and approximately $0.4 million to its other postretirement benefit plans in 2020. As a result of certain current year pension plan funding relief provided by the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) enacted into law on March 27, 2020, the Company now expects to make minimum cash contributions of $8.0 million to its U.S. and foreign pension plans in 2020. As of June 30, 2020, $4.9 million and $0.2 million of contributions have been made to the Company’s U.S. and foreign pension plans and its other postretirement benefit plans, respectively. This excludes the $1.8 million of additional funding made in the first quarter of 2020, as required, to terminate the Legacy Quaker U.S. Pension Plan, noted above.

Note 10 – Other (Expense) Income, Net

The components of other (expense) income, net, for the three and six months ended June 30, 2020 and 2019 are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Income from third party license fees	$ 208	$ 193	$ 512	$ 413
Foreign exchange losses, net	(2,004)	(144)	(1,183)	(381)
(Loss) gain on fixed asset disposals, net	(83)	30	(81)	39
Non-income tax refunds and other related credits	832	813	2,131	965
Pension and postretirement benefit costs, non-service components	(341)	(895)	(23,866)	(1,791)
Other non-operating income, net	395	46	319	163
Total other (expense) income, net	$ (993)	$ 43	$ (22,168)	$ (592)

Pension and postretirement benefit costs, non-service components during the six months ended June 30, 2020 includes $22.7 million related to the Legacy Quaker U.S. Pension Plan non-cash settlement charge described in Note 9 of Notes to Condensed Consolidated Financial Statements.

Note 11 – Income Taxes and Uncertain Income Tax Positions

The Company's effective tax rate for the three and six months ended June 30, 2020 was an expense of 57.9% and a benefit of 20.7%, respectively, compared to an expense of 24.2% and 25.4%, respectively, for the three and six months ended June 30, 2019. The Company's effective tax rate for the three and six months ended June 30, 2020 was impacted by the tax effect of certain one-time pre-tax costs as well as certain tax charges and benefits in the current period including those related to changes in foreign tax credit valuation allowances, discussed below, tax law changes in foreign jurisdictions, changes in uncertain tax positions, and the tax impact of the Company's termination of its legacy Quaker U.S. Pension Plan. Comparatively, the three and six months ended June 30, 2019 effective tax rates were impacted by certain non-deductible costs associated with the Combination, partially offset by a favorable shift in earnings to entities with lower effective tax rates.

On March 27, 2020, in response to COVID-19 and its detrimental impact to the global economy, the CARES Act was enacted into law, providing a stimulus to the U.S. economy in the form of various individual and business assistance programs as well as temporary changes to existing tax law. The changes include a postponement of certain tax payments, deferral of the employer's portion of the social security tax and certain other payroll-related incentives, and an increase in the interest expense limitation under Section 163(j) of the Internal Revenue Code from 30% to 50% for the 2019 and 2020 tax years. ASC 740 requires the tax effects of changes in tax laws or rates to be recorded in the period of enactment. Under the CARES Act, the Company has the option to use its 2019 adjusted taxable income in determining its interest expense limitation under Section 163(j). While the Company is still considering whether to make this election for 2020, the current year tax provision takes into account this potential election and associated tax benefit, which offsets an increase to the Company's foreign tax credit valuation allowance recognized during the current quarter primarily driven by changes in current year projected taxable income due to the negative impacts from COVID-19. In addition, the Company reviewed its existing deferred tax assets in light of COVID-19 and determined that, at this time, no change in valuation allowance is required except with regard to its foreign tax credits as noted above. While the ultimate impact of COVID-19 on the Company's results of operations is still uncertain, the Company will continue to assess future changes in projected taxable income to determine if they result in additional changes to any of the Company's valuation allowances.

As previously disclosed in its 2019 Form 10-K, the Company had a deferred tax liability of $8.2 million at December 31, 2019, which primarily represents the Company's estimate of non-U.S. taxes it will incur to repatriate certain foreign earnings to the U.S. During the first six months of 2020, the Company made certain adjustments to the deferred tax liability to take into account a tax law change enacted in the first quarter in a certain foreign jurisdiction, the inclusion of other earnings to be repatriated, and the actual repatriation of earnings, resulting in a deferred tax liability of $6.3 million as of June 30, 2020.

As previously disclosed in its 2019 Form 10-K, in conjunction with the Combination, the Company acquired foreign tax credit deferred tax assets of $41.8 million expiring between 2019 and 2028. Foreign tax credits may be carried forward for 10 years. The Company analyzes the expected impact of the utilization of foreign tax credits based on projected U.S. taxable income, overall domestic loss recapture, annual limitations due to the ownership change limitations provided by the Internal Revenue Code, and enacted tax law amongst other factors. As of December 31, 2019, the Company had net realizable foreign tax credits of $32.7 million on its balance sheet expected to be utilized between 2020 and 2026. As of June 30, 2020, the Company had net realizable foreign tax credits of $21.9 million on its balance sheet expected to be utilized between 2020 and 2026. The change in net realizable foreign tax credits during the first six months of 2020 was primarily driven by the Company's update to its initial opening balance sheet estimate with respect to acquired Houghton foreign tax credit deferred tax assets, described in Note 2 of Notes to Condensed Consolidated Financial Statements, as well as approximately $3.7 million of tax expense for the six months ended June 30, 2020 based on revised taxable income projections and changes to the interest expense limitation under the CARES Act amongst other factors.

The Company continues to recognize interest and penalties associated with uncertain tax positions as a component of taxes on (loss) income before equity in net income of associated companies in its Condensed Consolidated Statements of Operations. The Company recognized an expense for interest of $0.6 million and $0.6 million and an expense for penalties of $0.6 million and $0.5 million in its Condensed Consolidated Statement of Operations for the three and six months ended June 30, 2020, respectively. Comparatively, the Company recognized an expense for interest of $0.1 million and $0.2 million and an expense for penalties of less than $0.1 million for both the three and six months ended June 30, 2019, respectively. As of June 30, 2020, the Company had accrued $2.8 million for cumulative interest and $4.0 million for cumulative penalties in its Condensed Consolidated Balance Sheets, compared to $2.3 million for cumulative interest and $3.1 million for cumulative penalties accrued at December 31, 2019.

As of June 30, 2020, the Company's cumulative liability for gross unrecognized tax benefits was $21.1 million, an increase of $2.0 million from the $19.1 million cumulative liability accrued as of December 31, 2019.

During the six months ended June 30, 2020 and 2019, the Company recognized a decrease of $1.5 million and less than $0.1 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.

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

The Company estimates that during the year ending December 31, 2020 it will reduce its cumulative liability for gross unrecognized tax benefits by approximately $2.3 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, 2020.

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 2006, China from 2010, Canada from 2011, the Netherlands and the United Kingdom from 2014, Spain from 2015, Mexico, Germany, and the U.S. from 2016, India from fiscal year beginning April 1, 2017 and ending March 31, 2018, and various U.S. state tax jurisdictions from 2010.

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 2015. The Company has filed for competent authority relief related to these assessments under the Mutual Agreement Procedures ("MAP") of the Organization for Economic Co-Operation and Development ("OECD") for all years except 2007. During the second quarter of 2020, the Company received notification that the Italian and Dutch competent authorities reached an agreement as part of the MAP involving tax years 2008 through 2015. The Company has tentatively agreed to the reduced tax assessments and has recorded $1.4 million of additional reserves for uncertain tax positions for the open tax years that is consistent with the tentative agreement reached involving tax years 2008 through 2015. As of June 30, 2020, the Company believes it has adequate reserves for uncertain tax positions with respect to this matter.

Houghton Italia, S.r.l is also currently involved in a corporate income tax audit with the Italian tax authorities covering tax years 2014 through 2018. As part of the purchase accounting related to the Combination, the Company has established a $5.4 million reserve for uncertain tax positions relating to this audit. These amounts relate to the 2014 to 2018 audit periods as well as the seven-month period in 2019 prior to the Combination. Since these amounts relate to tax periods prior to the Combination, the Company has submitted an indemnification claim against funds held in escrow by Houghton's former owners for certain tax liabilities arising pre-Combination. As a result, a corresponding $5.4 million indemnification receivable has also been established through purchase accounting that would offset the $5.4 million in tax liabilities booked through purchase accounting. As of June 30, 2020, the Company believes it has adequate reserves for uncertain tax positions.

Note 12 – Earnings Per Share

The following table summarizes earnings per share calculations for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Basic (loss) earnings per common share				
Net (loss) income attributable to Quaker Chemical Corporation	$ (7,735)	$ 15,591	$ (36,116)	$ 29,435
Less: loss (income) allocated to participating securities	37	(34)	146	(81)
Net (loss) income available to common shareholders	$ (7,698)	$ 15,557	$ (35,970)	$ 29,354
Basic weighted average common shares outstanding	17,697,496	13,304,248	17,685,010	13,297,953
Basic (loss) earnings per common share	$ (0.43)	$ 1.17	$ (2.03)	$ 2.21
Diluted (loss) earnings per common share				
Net (loss) income attributable to Quaker Chemical Corporation	$ (7,735)	$ 15,591	$ (36,116)	$ 29,435
Less: loss (income) allocated to participating securities	37	(34)	146	(81)
Net (loss) income available to common shareholders	$ (7,698)	$ 15,557	$ (35,970)	$ 29,354
Basic weighted average common shares outstanding	17,697,496	13,304,248	17,685,010	13,297,953
Effect of dilutive securities	—	48,007	—	47,362
Diluted weighted average common shares outstanding	17,697,496	13,352,255	17,685,010	13,345,315
Diluted (loss) earnings per common share	$ (0.43)	$ 1.17	$ (2.03)	$ 2.20

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

During the third quarter of 2019, the Company issued approximately 4.3 million shares of common stock, comprising 24.5% of the common stock of the Company immediately after the closing, as a component of the consideration transferred in the Combination. Certain stock options and restricted stock units are not included in the diluted (loss) earnings per share calculation because the effect would have been anti-dilutive. All of the Company's potentially dilutive shares for the three and six months ended June 30, 2020 are anti-dilutive and not included in the dilutive (loss) earnings per share calculation because of the Company's net loss for the periods. Comparatively, there were no anti-dilutive shares for the three and six months ended June 30, 2019.

Note 13 – Restricted Cash

The Company has restricted cash recorded in other assets related to proceeds from an inactive subsidiary of the Company which previously executed separate settlement and release agreements with two of its insurance carriers for an original total value of $35.0 million. The proceeds of both settlements are restricted and can only be used to pay claims and costs of defense associated with the subsidiary's asbestos litigation. The proceeds of the settlement and release agreements have been deposited into interest bearing accounts that earned less than $0.1 million in the six months ended June 30, 2020, compared to $0.1 in the six months ended June 30, 2019. The interest was offset by $0.5 million of payments during the six months ended June 30, 2020, compared to $0.3 million of payments in the six months ended June 30, 2019. 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 June 30, 2020 and 2019, and December 31, 2019 and 2018:

	June 30,		December 31,	
	2020	2019	2019	2018
Cash and cash equivalents	$ 322,497	$ 86,355	$ 123,524	$ 104,147
Restricted cash included in other current assets	85	—	353	—
Restricted cash included in other assets	19,173	20,103	19,678	20,278
Cash, cash equivalents and restricted cash	$ 341,755	$ 106,458	$ 143,555	$ 124,425

Note 14 – Goodwill and Other Intangible Assets

Changes in the carrying amount of goodwill for the six months ended June 30, 2020 were as follows:

	Americas	EMEA	Asia/Pacific	Global Specialty Businesses	Total
Balance as of December 31, 2019	$ 216,385	$ 133,018	$ 141,727	$ 116,075	$ 607,205
Goodwill acquired	—	531	—	—	531
Currency translation and other adjustments	(4,569)	(3,256)	5,940	(1,202)	(3,087)
Balance as of June 30, 2020	$ 211,816	$ 130,293	$ 147,667	$ 114,873	$ 604,649

Other adjustments in the table above include updates to the Company's allocation of the Houghton purchase price and associated goodwill to each of the Company's reportable segments during the first six months of 2020.

Gross carrying amounts and accumulated amortization for definite-lived intangible assets as of June 30, 2020 and December 31, 2019 were as follows:

	Gross Carrying Amount		Accumulated Amortization	
	2020	2019	2020	2019
Customer lists and rights to sell	$ 781,188	$ 792,362	$ 72,803	$ 49,932
Trademarks, formulations and product technology	155,924	157,049	25,475	21,299
Other	6,266	6,261	5,684	5,776
Total definite-lived intangible assets	$ 943,378	$ 955,672	$ 103,962	$ 77,007

The Company amortizes definite-lived intangible assets on a straight-line basis over their useful lives. The Company recorded $13.7 million and $27.7 million of amortization expense for the three and six months ended June 30, 2020, respectively. Comparatively, the Company recorded $1.8 million and $3.6 million of amortization expense for the three and six months ended June 30, 2019, respectively.

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

Estimated annual aggregate amortization expense for the current year and subsequent five years is as follows:

For the year ended December 31, 2020	$	55,145
For the year ended December 31, 2021		54,885
For the year ended December 31, 2022		54,732
For the year ended December 31, 2023		54,515
For the year ended December 31, 2024		54,089
For the year ended December 31, 2025		53,418

Goodwill and intangible assets that have indefinite lives are not amortized and are required to be assessed at least annually for impairment. The Company completes its annual goodwill and indefinite-lived intangible asset impairment test during the fourth quarter of each year. The Company continuously evaluates if triggering events indicate a possible impairment in one or more of its reporting units or indefinite-lived or long-lived assets.

As of March 31, 2020, the Company evaluated the initial impact of COVID-19 on the Company's operations, and the volatility and uncertainty in the economic outlook as a result of COVID-19 to determine if they indicated it was more likely than not that the carrying value of any of the Company's reporting units or indefinite-lived or long-lived assets was not recoverable. The Company concluded that the impact of COVID-19 did not represent a triggering event as of March 31, 2020 with regards to the Company's reporting units or indefinite-lived and long-lived assets, except for the Company's Houghton and Fluidcare trademark and tradename indefinite-lived intangible assets.

The determination of estimated fair value of the Houghton and Fluidcare trademark and tradename indefinite-lived assets was based on a relief from royalty valuation method which requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to the weighted average cost of capital ("WACC") as well as projected net sales. In the first quarter of 2020, as a result of the impact of COVID-19 driving a decrease in projected legacy Houghton net sales in the current year and the impact of the current year decline on projected future legacy Houghton net sales as well as an increase in the WACC assumption utilized in the quantitative impairment assessment, the Company concluded that the estimated fair values of the Houghton and Fluidcare trademark and tradename intangible assets were less than their carrying values. As a result, an impairment charge of $38.0 million to write down the carrying values of these intangible assets to their estimated fair values was recorded in the first quarter of 2020. The Company's estimate of fair value and the carrying value of these Houghton and Fluidcare trademark and tradename indefinite-lived intangible assets as of June 30, 2020 was $204.0 million. Comparatively, these indefinite-lived intangible assets totaled $242.0 million as of December 31, 2019. In addition, the Company has other indefinite-lived intangible assets totaling $1.1 million as of both June 30, 2020 and December 31, 2019.

As of June 30, 2020, the Company continued to evaluate the on-going impact of COVID-19 on the Company's operations, and the volatility and uncertainty in the economic outlook as a result of COVID-19, to determine if this indicated it was more likely than not that the carrying value of any of the Company's reporting units or indefinite-lived or long-lived intangible assets were not recoverable. The Company concluded that the impact of COVID-19 did not represent a triggering event as of June 30, 2020 with regards to any of the Company's reporting units or indefinite-lived and long-lived intangible assets.

While the Company concluded that the impact of COVID-19 did not represent a triggering event as of June 30, 2020 for any of its other long-lived or indefinite-lived assets or reporting units, the Company will continue to evaluate the impact of COVID-19 on the Company's current and projected results. If the current economic conditions worsen or projections of the timeline for recovery are significantly extended, then the Company may conclude in the future that the impact from COVID-19 requires the need to perform further interim quantitative impairment tests, which could result in additional impairment charges in the future.

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

Note 15 – Debt

Debt as of June 30, 2020 and December 31, 2019 includes the following:

	As of June 30, 2020		As of December 31, 2019	
	Interest Rate	Outstanding Balance	Interest Rate	Outstanding Balance
Credit Facilities:				
Revolver	1.67%	$ 376,676	3.20%	$ 171,169
U.S. Term Loan	2.10%	585,000	3.20%	600,000
EURO Term Loan	1.50%	147,584	1.50%	151,188
Industrial development bonds	5.26%	10,000	5.26%	10,000
Bank lines of credit and other debt obligations	Various	1,910	Various	2,608
Total debt		$ 1,121,170		$ 934,965
Less: debt issuance costs		(12,647)		(14,196)
Less: short-term and current portion of long-term debts		(38,217)		(38,332)
Total long-term debt		$ 1,070,306		$ 882,437

Credit facilities

The Company's primary credit facility (as amended, the "New Credit Facility") is comprised of a $400.0 million multicurrency revolver (the "Revolver"), a $600.0 million term loan (the "U.S. Term Loan"), each with the Company as borrower, and a $150.0 million (as of August 1, 2019) Euro equivalent term loan (the "EURO Term Loan" and together with the "U.S. Term Loan", the "Term Loans") with Quaker Chemical B.V., a Dutch subsidiary of the Company as borrower, each with a five-year term maturing in August 2024. Subject to the consent of the administrative agent and certain other conditions, the Company may designate additional borrowers. The maximum amount available under the New Credit Facility can be increased by up to $300.0 million at the Company's request if there are lenders who agree to accept additional commitments and the Company has satisfied certain other conditions. Borrowings under the New Credit Facility bear interest at a base rate or LIBOR plus an applicable margin based upon the Company's consolidated net leverage ratio. There are LIBOR replacement provisions that contemplate a further amendment if and when LIBOR ceases to be reported. The interest rate incurred on the outstanding borrowings under the New Credit Facility during the six months ended June 30, 2020 was approximately 2.5%. In addition to paying interest on outstanding principal under the New Credit Facility, the Company is required to pay a commitment fee ranging from 0.2% to 0.3% depending on the Company's leverage ratio to the lenders under the Revolver in respect of the unutilized commitments thereunder. The Company has unused capacity under the Revolver of approximately $15 million, net of bank letters of credit of approximately $8 million, as of June 30, 2020, as the Company drew down most of the available capacity under the Revolver in the second half of March 2020 as a precautionary measure due to the uncertainty of the impact of COVID-19 on the Company as well as on the U.S. capital markets and bank liquidity, among other potential effects.

The New Credit Facility is subject to certain financial and other covenants. The Company's initial consolidated net debt to consolidated adjusted EBITDA ratio cannot exceed 4.25 to 1, with step downs in the permitted ratio over the course of the New Credit Facility. The Company's consolidated adjusted EBITDA to interest expense ratio cannot be less than 3.0 to 1. The New Credit Facility also prohibits the payment of cash dividends if the Company is in default or if the amount of the dividend paid annually exceeds the greater of $50.0 million and 20% of consolidated adjusted EBITDA unless the ratio of consolidated net debt to consolidated adjusted EBITDA is less than 2.0 to 1, in which case there is no such limitation on amount. As of June 30, 2020 and December 31, 2019, the Company was in compliance with all of the New Credit Facility covenants. The Term Loans have quarterly principal amortization during their respective five-year maturities, with 5.0% amortization of the principal balance due in years 1 and 2, 7.5% in year 3, and 10.0% in years 4 and 5, with the remaining principal amount due at maturity. During the six months ended June 30, 2020, the Company made two quarterly amortization payments related to the Term Loans totaling $18.7 million. The New Credit Facility is guaranteed by certain of the Company's domestic subsidiaries and is secured by first priority liens on substantially all of the assets of the Company and the domestic subsidiary guarantors, subject to certain customary exclusions. The obligations of the Dutch borrower are guaranteed only by certain foreign subsidiaries on an unsecured basis.

The New Credit Facility requires the Company to deliver to the administrative agent and each lender the audited consolidated financial statements of the Company for each fiscal year in a prescribed period of time. On March 17, 2020, the Company, the administrative agent, and all parties to the New Credit Facility entered into an amendment (the "Amendment") which allowed the Company to deliver the annual audited consolidated financial statements for the year ended December 31, 2019 to the bank group no later than April 16, 2020 as compared to the initial deadline of March 17, 2020. The Company delivered its 2019 audited consolidated financial statements to the administrative agent and each lender on March 20, 2020 in compliance with the Amendment.

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

The New Credit Facility required the Company to fix its variable interest rates on at least 20% of its total Term Loans. In order to satisfy this requirement as well as to manage the Company's exposure to variable interest rate risk associated with the New Credit Facility, in November 2019, the Company entered into $170.0 million notional amounts of three-year interest rate swaps at a base rate of 1.64% plus an applicable margin as provided in the New Credit Facility, based on the Company's consolidated net leverage ratio. At the time the Company entered into the swaps, and as of June 30, 2020, this aggregate rate was 3.1%. See Note 18 of Notes to Condensed Consolidated Financial Statements.

The Company capitalized $23.7 million of certain third-party debt issuance costs in connection with executing the New Credit Facility. Approximately $15.5 million of the capitalized costs were attributed to the Term Loans and recorded as a direct reduction of long-term debt on the Company's Condensed Consolidated Balance Sheet. Approximately $8.3 million of the capitalized costs were attributed to the Revolver and recorded within other assets on the Company's Condensed Consolidated Balance Sheet. These capitalized costs are being amortized into interest expense over the five-year term of the New Credit Facility. As of June 30, 2020 and December 31, 2019, the Company had $12.6 million and $14.2 million, respectively, of debt issuance costs recorded as a reduction of long-term debt. As of June 30, 2020 and December 31, 2019, the Company had $6.7 million and $7.6 million, respectively, of debt issuance costs recorded within other assets.

Industrial development bonds

As of June 30, 2020 and December 31, 2019, the Company had fixed rate, industrial development authority bonds totaling $10.0 million in principal amount due in 2028. These bonds have similar covenants to the New Credit Facility noted above.

Bank lines of credit and other debt obligations

The Company has certain unsecured bank lines of credit and discounting facilities in one of its foreign subsidiaries, which are not collateralized. The Company's other debt obligations primarily consist of certain domestic and foreign low interest rate or interest-free municipality-related loans, local credit facilities of certain foreign subsidiaries and capital lease obligations. Total unused capacity under these arrangements as of June 30, 2020 was approximately $37 million.

In addition to the bank letters of credit described in the "Credit facilities" subsection above, the Company's only other off-balance sheet arrangements include certain financial and other guarantees. The Company's total bank letters of credit and guarantees outstanding as of June 30, 2020 were approximately $14 million.

For the three and six months ended June 30, 2020, the Company incurred the following debt related expenses included within Interest expense, net, in the Condensed Consolidated Statements of Operations:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Interest expense	$ 5,951	$ 1,255	$ 13,663	$ 2,427
Amortization of debt issuance costs	1,188	28	2,375	70
Total	$ 7,139	$ 1,283	$ 16,038	$ 2,497

Based on the variable interest rates associated with the New Credit Facility, as of June 30, 2020 and December 31, 2019, the amounts at which the Company's total debt were recorded are not materially different from their fair market value.

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

Note 16 – Equity

The following tables present the changes in equity, net of tax, for the three and six months ended June 30, 2020 and 2019:

	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total
Balance at March 31, 2020	$ 17,752	$ 888,533	$ 376,853	$ (121,524)	$ 418	$ 1,162,032
Net (loss) income	—	—	(7,735)	—	13	(7,722)
Amounts reported in other comprehensive income	—	—	—	12,260	1	12,261
Dividends ($0.385 per share)	—	—	(6,853)	—	—	(6,853)
Share issuance and equity-based compensation plans	48	7,575	—	—	—	7,623
Balance at June 30, 2020	$ 17,800	$ 896,108	$ 362,265	$ (109,264)	$ 432	$ 1,167,341
Balance at March 31, 2019	$ 13,334	$ 96,832	$ 413,992	$ (79,167)	$ 1,372	$ 446,363
Net income	—	—	15,591	—	58	15,649
Amounts reported in other comprehensive income	—	—	—	286	24	310
Dividends ($0.385 per share)	—	—	(5,135)	—	—	(5,135)
Share issuance and equity-based compensation plans	4	770	—	—	—	774
Balance at June 30, 2019	$ 13,338	$ 97,602	$ 424,448	$ (78,881)	$ 1,454	$ 457,961

The retained earnings and total equity amounts included in the table above as of March 31, 2020 reflect certain immaterial adjustments made in the second quarter of 2020 to the Company's cumulative effect of an accounting change effective January 1, 2020. See Note 3 of Notes to Condensed Financial Statements.

Quaker Chemical Corporation
Notes to Condensed Consolidated Financial Statements - Continued
(Dollars in thousands, except share and per share amounts, unless otherwise stated)
(Unaudited)

	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total
Balance at December 31, 2019	$ 17,735	$ 888,218	$ 412,979	$ (78,170)	$ 1,604	$ 1,242,366
Cumulative effect of an accounting change	—	—	(911)	—	—	(911)
Balance at January 1, 2020	17,735	888,218	412,068	(78,170)	1,604	1,241,455
Net (loss) income	—	—	(36,116)	—	50	(36,066)
Amounts reported in other comprehensive loss	—	—	—	(31,094)	(131)	(31,225)
Dividends ($0.770 per share)	—	—	(13,687)	—	—	(13,687)
Acquisition of noncontrolling interest	—	(707)	—	—	(340)	(1,047)
Distribution to noncontrolling interest affiliate shareholders	—	—	—	—	(751)	(751)
Share issuance and equity-based compensation plans	65	8,597	—	—	—	8,662
Balance at June 30, 2020	$ 17,800	$ 896,108	$ 362,265	$ (109,264)	$ 432	$ 1,167,341
Balance at December 31, 2018	$ 13,338	$ 97,304	$ 405,125	$ (80,715)	$ 1,317	$ 436,369
Cumulative effect of an accounting change	—	—	(44)	—	—	(44)
Balance at January 1, 2019	13,338	97,304	405,081	(80,715)	1,317	436,325
Net income	—	—	29,435	—	114	29,549
Amounts reported in other comprehensive income	—	—	—	1,834	23	1,857
Dividends ($0.755 per share)	—	—	(10,068)	—	—	(10,068)
Share issuance and equity-based compensation plans	—	298	—	—	—	298
Balance at June 30, 2019	$ 13,338	$ 97,602	$ 424,448	$ (78,881)	$ 1,454	$ 457,961

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

The following tables show the reclassifications from and resulting balances of AOCI for the three and six months ended June 30, 2020 and 2019:

	Currency Translation Adjustments	Defined Benefit Pension Plans	Unrealized (Loss) Gain in Available-for-Sale Securities	Derivative Instruments	Total
Balance at March 31, 2020	$ (99,187)	$ (17,576)	$ (460)	$ (4,301)	$ (121,524)
Other comprehensive income (loss) before reclassifications	10,550	(336)	2,128	(144)	12,198
Amounts reclassified from AOCI	—	600	(93)	—	507
Current period other comprehensive income (loss)	10,550	264	2,035	(144)	12,705
Related tax amounts	—	(51)	(427)	33	(445)
Net current period other comprehensive income (loss)	10,550	213	1,608	(111)	12,260
Balance at June 30, 2020	$ (88,637)	$ (17,363)	$ 1,148	(4,412)	$ (109,264)
Balance at March 31, 2019	$ (49,753)	$ (29,845)	$ 431	$ —	$ (79,167)
Other comprehensive (loss) income before reclassifications	(543)	(79)	432	—	(190)
Amounts reclassified from AOCI	—	732	(43)	—	689
Current period other comprehensive (loss) income	(543)	653	389	—	499
Related tax amounts	—	(131)	(82)	—	(213)
Net current period other comprehensive (loss) income	(543)	522	307	—	286
Balance at June 30, 2019	$ (50,296)	$ (29,323)	$ 738	$ —	$ (78,881)

	Currency Translation Adjustments	Defined Benefit Pension Plans	Unrealized Gain (Loss) in Available-for-Sale Securities	Derivative Instruments	Total
Balance at December 31, 2019	$ (44,568)	$ (34,533)	$ 1,251	$ (320)	$ (78,170)
Other comprehensive (loss) income before reclassifications	(44,069)	492	(8)	(5,315)	(48,900)
Amounts reclassified from AOCI	—	24,966	(125)	—	24,841
Current period other comprehensive (loss) income	(44,069)	25,458	(133)	(5,315)	(24,059)
Related tax amounts	—	(8,288)	30	1,223	(7,035)
Net current period other comprehensive (loss) income	(44,069)	17,170	(103)	(4,092)	(31,094)
Balance at June 30, 2020	$ (88,637)	$ (17,363)	$ 1,148	$ (4,412)	$ (109,264)
Balance at December 31, 2018	$ (49,322)	$ (30,551)	$ (842)	$ —	$ (80,715)
Other comprehensive (loss) income before reclassifications	(974)	81	2,139	—	1,246
Amounts reclassified from AOCI	—	1,465	(139)	—	1,326
Current period other comprehensive (loss) income	(974)	1,546	2,000	—	2,572
Related tax amounts	—	(318)	(420)	—	(738)
Net current period other comprehensive (loss) income	(974)	1,228	1,580	—	1,834
Balance at June 30, 2019	$ (50,296)	$ (29,323)	$ 738	$ —	$ (78,881)

All reclassifications related to unrealized gain (loss) in available-for-sale securities relate to the Company's equity interest in a captive insurance company and are recorded in equity in net income of associated companies. The amounts reported in other comprehensive income for non-controlling interest are related to currency translation adjustments.

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

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:

Assets	Total Fair Value	Fair Value Measurements at June 30, 2020 Using Fair Value Hierarchy Level 1	Level 2	Level 3
Company-owned life insurance	$ 1,711	$ —	$ 1,711	$ —
Total	$ 1,711	$ —	$ 1,711	$ —

Assets	Total Fair Value	Fair Value Measurements at December 31, 2019 Using Fair Value Hierarchy Level 1	Level 2	Level 3
Company-owned life insurance	$ 1,782	$ —	$ 1,782	$ —
Total	$ 1,782	$ —	$ 1,782	$ —

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 June 30, 2020 or December 31, 2019, respectively, so related disclosures have not been included.

Note 18 – Hedging Activities

As previously disclosed in its 2019 Form 10-K, in order to satisfy certain requirements of the New Credit Facility as well as to manage the Company's exposure to variable interest rate risk associated with the New Credit Facility, in November 2019, the Company entered into $170.0 million notional amounts of three-year interest rate swaps. See Note 15 of Notes to Condensed Consolidated Financial Statements. These interest rate swaps are designated as cash flow hedges and, as such, the contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective and reclassified to interest expense in the period during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur. The Company has previously used derivative financial instruments primarily for the purposes of hedging exposures to fluctuations in interest rates. The Company did not utilize derivatives designated as cash flow hedges during the three and six months ended June 30, 2019.

The balance sheet classification and fair values of the Company's derivative instruments, which are Level 2 measurements, are as follows:

	Condensed Consolidated Balance Sheet Location	Fair Value June 30, 2020	Fair Value December 31, 2019
Derivatives designated as cash flow hedges:			
Interest rate swaps	Other non-current liabilities	$ 5,730	$ 415
		$ 5,730	$ 415

The following table presents the net unrealized loss deferred to AOCI:

		June 30, 2020	December 31, 2019
Derivatives designated as cash flow hedges:			
Interest rate swaps	AOCI	$ 4,412	$ 320
		$ 4,412	$ 320

The following table presents the net gain reclassified from AOCI to earnings:

		Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Amount and location of expense reclassified from AOCI into Expense (Effective Portion)	Interest expense, net	$ (483)	$ —	$ (465)	$ —

Interest rate swaps are entered into with a limited number of counterparties, each of which allows for net settlement of all contracts through a single payment in a single currency in the event of a default on or termination of any one contract. As such, in accordance with the Company's accounting policy, these derivative instruments are recorded on a net basis within the Condensed Consolidated Balance Sheets.

Note 19 – Commitments and Contingencies

The Company previously disclosed in its 2019 Form 10-K 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. As of June 30, 2020, 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 June 30, 2020, 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 2019 Form 10-K 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 and six months ended June 30, 2020, there have been no significant changes to the facts or circumstances of this previously disclosed matter, aside from on-going claims 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 $0.5 million (excluding costs of defense).

The Company previously disclosed in its 2019 Form 10-K that as a result of the closing of the Combination, the Company is now party to Houghton environmental matters related to certain domestic and foreign properties currently or previously owned. These environmental matters primarily require the Company to perform long-term monitoring as well as operating and maintenance at each of the applicable sites. During the three and six months ended June 30, 2020, there have been no significant changes to the facts or circumstances of these previously disclosed matters, aside from on-going monitoring and maintenance activities and routine payments associated with each of the sites. The Company continually evaluates its obligations related to such matters, and based on historical costs incurred and projected costs to be incurred over the next 28 years, has estimated the present value range of costs for all of the Houghton environmental matters, on a discounted basis, to be between approximately $5 million and $6 million as of June 30, 2020, for which $5.8 million was accrued within other accrued liabilities and other non-current liabilities on the Company's Condensed Consolidated Balance Sheet as of June 30, 2020. Comparatively, as of December 31, 2019, the Company had $6.6 million accrued for with respect to these matters.

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 $0.1 million and $0.2 million were accrued as of June 30, 2020 and December 31, 2019, 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. In addition, the Company has an immaterial amount of contractual purchase obligations.

Note 20 – COVID-19 Global Pandemic

In early 2020, a global outbreak of COVID-19 occurred initially in China and then across all locations where the Company does business, and which is continuing into the second half of the year. In March 2020, the World Health Organization formally identified the COVID-19 outbreak as a pandemic. In an effort to halt the outbreak of COVID-19, the governments of impacted countries, including but not limited to the United States, the European Union, and China, have taken various actions to reduce its spread, including travel restrictions, shutdowns of businesses deemed nonessential, and stay-at-home or similar orders. This outbreak and associated measures to reduce its spread have caused significant disruptions to the operations of the Company and its suppliers and customers. The disruptions and negative impact to the Company include significant volume declines and lower net sales first at its China subsidiaries in the first quarter of 2020 and subsequently, particularly beginning in the second half of March and into the second quarter, at many of its other sites globally as the global economy slowed significantly in response to the pandemic. Management continues to monitor the impact that the COVID-19 pandemic is having on the Company, the overall specialty chemical industry, and the economies and markets in which the Company operates.

Further, management continues to evaluate how COVID-19-related circumstances, such as remote work arrangements, have affected financial reporting processes, internal control over financial reporting, and disclosure controls and procedures. While the circumstances have presented and are expected to continue to present challenges, at this time, management does not believe that COVID-19 has had a material impact on financial reporting processes, internal controls over financial reporting, and disclosure controls and procedures.

The full extent of the COVID-19 pandemic related business and travel restrictions and changes to business and consumer behavior intended to reduce its spread are uncertain as of the date of this Report as COVID-19 and the responses of governmental authorities continue to rapidly evolve globally. The Company cannot reasonably estimate the magnitude of the effects these conditions will have on the Company's operations as they are subject to significant uncertainties relating to the ultimate geographic spread of the virus, the incidence and severity of the disease, the duration or recurrence of the outbreak, the length of the travel restrictions and business closures imposed by governments of impacted countries, and the economic response by governments of impacted countries.

To the extent that the Company's customers and suppliers continue to be significantly and adversely impacted by COVID-19, this could reduce the availability, or result in delays, of materials or supplies to or from the Company, which in turn could significantly interrupt the Company's business operations. Such impacts could grow and become more significant to the Company's operations and the Company's liquidity or financial position. Therefore, given the speed and frequency of continuously evolving developments with respect to this pandemic, the Company cannot reasonably estimate the magnitude or the full extent to which COVID-19 may impact the Company's results of operations, liquidity or financial position.

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

As used in this Report, the terms "Quaker Houghton", the "Company", "we" and "our" refer to Quaker Chemical Corporation (doing business as Quaker Houghton), its subsidiaries, and associated companies, unless the context otherwise requires. As used in this Report, the term Legacy Quaker refers to the Company prior to closing its combination with Houghton International, Inc. ("Houghton") (herein referred to as the "Combination") on August 1, 2019. Throughout this Quarterly Report on Form 10-Q (the "Report"), all figures presented, unless otherwise stated, reflect the results of operations of the combined company for the three and six months ended June 30, 2020 and Legacy Quaker for the three and six months ended June 30, 2019.

Executive Summary

Quaker Houghton is a global leader in industrial process fluids. With a presence around the world, including operations in over 25 countries, our customers include thousands of the world's most advanced and specialized steel, aluminum, automotive, aerospace, offshore, can, mining, and metalworking companies. Our high-performing, innovative and sustainable solutions are backed by best-in-class technology, deep process knowledge, and customized services. Quaker Houghton is headquartered in Conshohocken, Pennsylvania, located near Philadelphia in the United States.

The Company's second quarter of 2020 performance was dramatically affected by the COVID-19 pandemic and its impact on the global economy, including most of the Company's end customers. However, the second quarter of 2020 performance was also relatively consistent with the Company's guidance as of the end of the first quarter. Net sales of $286.0 million in the second quarter of 2020 increased 39% compared to $205.9 million in the second quarter of 2019, due primarily to the inclusion of $142.5 million of Houghton and Norman Hay plc ("Norman Hay") net sales. Excluding Houghton and Norman Hay net sales, the Company's net sales would have declined approximately 30% quarter-over-quarter, primarily driven by a decrease in sales volumes of approximately 27% due to the impacts of COVID-19 and a negative impact from foreign exchange of 4%. The Company's gross profit and selling, general and administrative expenses ("SG&A") also increased due to the inclusion of Houghton and Norman Hay quarter-over-quarter, but both were also negatively impacted by foreign exchange and benefited by the realization of cost savings associated with the Combination as well as the impact of lower SG&A due to the sales decline and further cost saving measures put in place to help offset the impacts of COVID-19.

The Company reported a second quarter of 2020 net loss of $7.7 million or $0.43 per diluted share compared to second quarter of 2019 net income of $15.6 million or $1.17 per diluted share. The second quarter of 2020 net loss was primarily driven by the negative impact of COVID-19. Excluding costs associated with the Combination and other non-core items in each period, the Company's non-GAAP earnings per diluted share were $0.21 in the second quarter of 2020 compared to $1.56 in the prior year second quarter. Prior year second quarter earnings per share do not reflect the additional 4.3 million shares issued as part of the consideration for the Combination. The Company's adjusted EBITDA increased to $32.1 million in the second quarter of 2020 compared to $31.4 million in the prior year quarter primarily due to the Combination, the inclusion of Norman Hay and the benefits of cost savings realized from the Combination, which were largely offset by the current quarter negative impacts of COVID-19 and foreign exchange. See the Non-GAAP Measures section of this Item below, as well as other items discussed in the Company's Consolidated Operations Review in the Operations section of this Item, below.

During the third quarter of 2019 and in connection with the Combination, the Company established a new reportable segment structure that consists of four segments: (i) Americas; (ii) Europe, Middle East and Africa ("EMEA"); (iii) Asia/Pacific; and (iv) Global Specialty Businesses. The Company's 2020 operating performance by reportable segment reflected the positive impact of Houghton's performance in all of its segments and Norman Hay in its Global Specialty Businesses segment. Without the inclusion of Houghton and Norman Hay, net sales would have been lower in all segments compared to the prior year, primarily driven by declines in volume due to the negative impacts of COVID-19 on the Company's end markets and negative foreign currency translation in all segments due to a stronger U.S. dollar quarter-over-quarter. As reported, segment operating earnings were higher in most segments compared to 2019 which also reflects the inclusion of Houghton and Norman Hay partially offset by the negative impacts of COVID-19 and the impact of fixed manufacturing costs on dramatically lower volumes compared to the Company's normal production levels. Additional details of each segment's operating performance are further discussed in the Company's reportable segments review, in the Operations section of this Item, below.

The Company had net operating cash flow of approximately $24.5 million in the second quarter of 2020 compared $22.4 million in the second quarter of 2019, resulting in an 99% increase in its current year-to-date net operating cash flow to $44.7 million compared to $22.4 million in the first six months of 2019. The increase in net operating cash flow year-over-year was driven by the inclusion of Houghton and Norman Hay earnings as well as changes in cash flows related to working capital. 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's second quarter results were significantly impacted by the global economic slowdown due to COVID-19, but the performance was largely consistent with the Company's expectations in light of the COVID-19 pandemic. The Company saw significant volume declines across the globe due to the impact of COVID-19, certain domestic volume weakness due to the declines in the aerospace industry and foreign exchange headwinds due to a stronger U.S. dollar. Despite these impacts, the Company was able to generate significant cash flow, continue to pay its regular dividends, pay down its debt and continue to execute its integration plans for the Combination.

The current global economic slowdown and other impacts due to COVID-19 pose an unprecedented challenge, but the Company expects to successfully navigate this downturn as the Company has demonstrated the ability, now and in the past, to respond quickly to changing market conditions. The Company also expects to maintain sufficient liquidity and compliance with debt covenants despite these difficult economic times. The Company expects that its integration synergies and additional cost savings actions as well as continuing share gain in the marketplace will help the Company during these challenging times, and, coupled with the benefit of a projected gradual rebound in demand in the Company's end markets, will help drive significant adjusted EBITDA growth in 2021 and 2022.

Impact of COVID-19

In early 2020, the global outbreak of COVID-19 negatively impacted all locations where the Company does business. Although the Company has now experienced a full quarter reflecting the impacts of COVID-19, the full extent of the outbreak and related business impacts still remain uncertain and, therefore, the full extent to which COVID-19 may impact the Company's results of operations or financial condition is uncertain. This outbreak has significantly disrupted the operations of the Company and its suppliers and customers. The Company has experienced significant volume declines and lower net sales as further described in this section, first at its China subsidiaries in the first quarter of 2020 and subsequently, particularly beginning in the second half of March and into the second quarter, throughout the rest of the business due to the global economic slowdown brought on by COVID-19. Management continues to monitor the impact that the COVID-19 pandemic is having on the Company, the overall specialty chemical industry and the economies and markets in which the Company operates.

Given the speed and frequency of the continuously evolving developments with respect to this pandemic, the Company cannot, as of the date of this Report, reasonably estimate the magnitude or the full extent of the impact to its future results of operations or to the ability of it or its customers to resume more normal operations, even as certain restrictions are lifted. A prolonged outbreak or resurgence and period of continued restrictions on day-to-day life and business operations would likely result in volume declines and lower net sales for the later periods of 2020, as compared to the prior year. To the extent that the Company's customers and suppliers continue to be significantly and adversely impacted by COVID-19, this could reduce the availability, or result in delays, of materials or supplies to or from the Company, which in turn could significantly interrupt the Company's business operations. Given this ongoing uncertainty, the Company anticipates that its future results of operations, including the results for the remainder of 2020, could be significantly adversely impacted by COVID-19.

Further, management continues to evaluate how COVID-19-related circumstances, such as remote work arrangements, have affected financial reporting processes and systems, internal control over financial reporting, and disclosure controls and procedures. While the circumstances have presented and are expected to continue to present challenges, at this time, management does not believe that COVID-19 has had a material impact on financial reporting processes, internal controls over financial reporting, and disclosure controls and procedures. For additional information regarding the potential impact of COVID-19, see Item 1A of Part II of this Report.

The Company's top priority is, and especially during this pandemic remains, to protect the health and safety of its employees and customers, while working to ensure business continuity to meet customers' needs:

- *Our People* – The Company has taken steps to protect the health and wellbeing of its people in affected areas through various actions, including enabling work at home where needed and possible, and employing social distancing standards, implementing travel restrictions where applicable, enhancing onsite hygiene practices, and instituting visitation restrictions at the Company's facilities. The Company does not expect that it will incur material expenses implementing health and safety policies for employees, contractors, and customers.

- *Our Operations* – Currently, all of the Company's 34 production facilities worldwide are open and operating and are deemed as essential businesses in the jurisdictions where they are operating. The Company believes it has been able to meet the needs of all its customers across the globe despite the current economic challenges.

- *Our Business Conditions* – The Company's second quarter of 2020 results were consistent with expectations. Demand decreased as many customers reduced production levels, and in some cases, temporarily shut down their facilities during the second quarter of 2020. All four of the Company's reportable segments showed significant declines in volumes and net sales due to COVID-19 with the Americas being the most impacted and Asia/Pacific being the least impacted. April and May were the worst months of the quarter as many customers globally were shut down or operating at reduced rates, especially in the automotive sector. In June, the Company began to see net sales increase in all reportable segments. The Company currently expects that the impact from COVID-19 in the second quarter of 2020 will be the most severe and expects a gradual quarterly improvement sequentially throughout the remainder of the year, subject to the effective containment of the virus and its effects. However, it remains highly uncertain as to how long the global pandemic and related economic challenges will last and when and to what extent our customers' businesses will recover.

- *Our Actions* – The Company has taken actions to conserve cash and reduce costs. Some of the actions taken include eliminating all discretionary expenditures, delaying or freezing salary increases where legally permitted, reducing executives' salaries, lowering targeted capital expenditures by approximately 30%, and accelerating and fine-tuning the Company's integration plan. These initiatives have been designed and implemented so that the Company can successfully manage through this challenging situation while continuing to protect the health of its employees, meet customers' needs, maintain the Company's long-term competitive advantages and above-market growth, and enable it to continue to effectively integrate with Houghton. While the Company has taken a number of actions to protect our workforce, to continue to serve our customers with excellence and to conserve cash and reduce costs, which have been effective thus far, further actions to respond to the pandemic and its effects may be necessary as conditions continue to evolve.

Liquidity and Capital Resources

At June 30, 2020, the Company had cash, cash equivalents and restricted cash of $341.8 million, including $19.3 million of restricted cash. Total cash, cash equivalents and restricted cash was $143.6 million at December 31, 2019, which included $20.0 million of restricted cash. The $198.2 million increase in cash, cash equivalents and restricted cash was the net result of $168.7 million of cash provided by financing activities and $44.7 million of cash provided by operating activities, partially offset by $10.6 million of cash used in investing activities and a $4.6 million negative impact due to the effect of foreign currency translation on cash.

Net cash flows provided by operating activities were $44.7 million in the first six months of 2020 compared to $22.4 million in the first six months of 2019. The Company's current year operating cash flow increase was largely due to the inclusion of Houghton and Norman Hay earnings, which were not included in the prior year, as well as slightly lower outflows related to working capital in the current quarter largely due to the decline in sales due to the impact of COVID-19 including its impact on working capital levels. The Company had higher cash dividends received from its associated companies year-over-year, including $5.0 million received from the Company's joint venture in Korea in the first quarter of 2020.

Net cash flows used in investing activities were $10.6 million in the first six months of 2020 compared to $5.8 million in the first six months of 2019. This increase in cash outflows was driven by higher investments in property, plant and equipment due to the inclusion of Houghton and Norman Hay expenditures in 2020 including higher capital expenditures related to integrating the companies during the six months ended June 30, 2020. Also, in the current year, the Company finalized its post-closing adjustment related to Norman Hay for approximately $3.2 million, whereas the Company had a prior year payment of $0.5 million to finalize the acquisition of certain formulations and product technology in the mining industry.

Net cash flows provided by financing activities were $168.7 million in the first six months of 2020 compared to cash used in financing activities of $35.3 million in the first six months of 2019. The $204.0 million increase in net cash flows was due primarily to additional borrowings of $205.5 million on the Company's revolving credit facility in the current year compared to payments of $24.0 million in the prior year. As a precautionary measure in response to the economic uncertainty related to COVID-19, the Company drew down most of the available liquidity on its revolving credit facility during the second half of March 2020, which drove the large change in borrowings compared to the prior year. This increase in borrowings was partially offset by $18.7 million of scheduled repayments under the Company's term loan agreement. In addition, the Company paid $13.7 million of cash dividends during the first six months of 2020, a $3.8 million or 38% increase in cash dividends compared to the prior year, primarily due to the approximately 4.3 million shares issued at closing of the Combination, as well as the prior year cash dividend per share increase initiated in May 2019. Finally, during the first six months of 2020, the Company used $1.0 million to purchase the remaining noncontrolling interest in its South Africa affiliate. Prior to this buyout, the Company's South Africa affiliate made a distribution to the prior noncontrolling affiliate shareholder of approximately $0.8 million in the first six months of 2020. There were no similar noncontrolling interest activities in the first six months of 2019.

As previously disclosed in its Annual Report on Form 10-K for the year ended December 31, 2019 (the "2019 Form 10-K"), on August 1, 2019, the Company completed the Combination, whereby the Company acquired all of the issued and outstanding shares of Houghton from Gulf Houghton Lubricants, Ltd. in accordance with the Share Purchase Agreement dated April 4, 2017. The final purchase consideration was comprised of: (i) $170.8 million in cash; (ii) the issuance of approximately 4.3 million shares of common stock of the Company with par value of $1.00, comprising 24.5% of the common stock of the Company at closing; and (iii) the Company's refinancing of $702.6 million of Houghton's indebtedness at closing. Cash acquired in the Combination was $75.8 million. Prior to the Combination, the Company secured commitments from certain banks for a new credit facility (as amended, the "New Credit Facility"). Concurrent with the closing of the Combination on August 1, 2019, the New Credit Facility became effective, replacing the Company's previous credit facility. See Note 2 and Note 15 of Notes to Condensed Consolidated Financial Statements.

As of June 30, 2020, the Company had New Credit Facility borrowings outstanding of $1,109.3 million. As of December 31, 2019, the Company had New Credit Facility borrowings outstanding of $922.4 million. The Company has unused capacity under the Revolver of approximately $15 million, net of bank letters of credit of approximately $8 million, as of June 30, 2020. As mentioned above, the Company drew down most of the available capacity on the Revolver in the second half of March 2020 as a precautionary measure in response to the economic uncertainty related to COVID-19. The Company's other debt obligations are primarily industrial development bonds, bank lines of credit and municipality-related loans, which totaled $11.9 million as of June 30, 2020 and $12.6 million as of December 31, 2019, respectively. Total unused capacity under these arrangements as of June 30, 2020 was approximately $37 million. The Company's total net debt as of June 30, 2020 was $798.7 million. As of June 30, 2020 and December 31, 2019, the Company was in compliance with all of the New Credit Facility covenants.

The New Credit Facility required the Company to fix its variable interest rates on at least 20% of its total Term Loans. In order to satisfy this requirement as well as to manage the Company's exposure to variable interest rate risk associated with the New Credit Facility, in November 2019, the Company entered into $170.0 million notional amounts of three-year interest rate swaps at a base rate of 1.64% plus an applicable margin as provided in the New Credit Facility, based on the Company's consolidated net leverage ratio. At the time the Company entered into the swaps, and as of June 30, 2020, this aggregate rate was 3.1%.

The Company expects to realize Combination cost synergies on a pro forma combined company basis of $53 million in 2020, $65 million in 2021 and $75 million in 2022. The Company estimates that it realized approximately $22 million of cost savings during the first six months of 2020 on a combined company pro forma basis, increasing its cumulative synergies realized in the eleven months since closing of the Combination to approximately $29 million.

The Company expects to incur additional costs and make associated cash payments to integrate Quaker and Houghton and continue realizing the Combination's total anticipated cost synergies. The Company expects cash payments, including those pursuant to the QH Program, described below, but excluding incremental capital expenditures related to the Combination, will generally approximate one-times its total anticipated cost synergies. The Company expects to incur these costs over a three-year period post-close, with a significant portion of these costs incurred or expected to be incurred in 2019 and the current year. The Company incurred $16.5 million of total Combination, integration and other acquisition-related expenses in the first six months of 2020, including $0.8 million of accelerated depreciation, described in the Non-GAAP measures of this Item below. The Company had aggregate net cash outflows of approximately $13.8 million related to the Combination, integration and other acquisition-related expenses during the first six months of 2020. Comparatively, during the first six months of 2019, the Company incurred $10.8 million of total Combination, integration and other acquisition-related expenses, including $1.7 million of ticking fees, described in the Non-GAAP Measures of this Item below, and aggregate net cash outflows related to these costs were $10.4 million.

Quaker Houghton's management approved, and the Company initiated, a global restructuring plan (the "QH Program") in the third quarter of 2019 as part of its planned cost synergies associated with the Combination. The QH Program includes restructuring and associated severance costs to reduce total headcount by approximately 325 people globally and plans for the closure of certain manufacturing and non-manufacturing facilities. In connection with the plans for closure of certain manufacturing and non-manufacturing facilities, the Company made a decision to make available for sale certain facilities during the second quarter of 2020 resulting in the reclassification of approximately $11.7 million of buildings and land to other current assets as of June 30, 2020. The Company expects to receive amounts in excess of net book value for the properties held for sale. Additionally, as a result of the QH Program, the Company recognized $2.2 million of restructuring and related charges in the first six months of 2020. The exact timing and total costs associated with the QH Program will depend on a number of factors and is subject to change; however, the Company currently expects reduction in headcount and site closures will continue to occur during 2020 and 2021 under the QH Program and estimates that total costs related to the QH Program will approximate one-times the anticipated cost synergies realized under this program. The Company made cash payments related to the settlement of restructuring liabilities under the QH Program during the first six months of 2020 of approximately $9.6 million.

In the fourth quarter of 2018, the Company began the process of terminating its non-contributory U.S. pension plan ("the Legacy Quaker U.S. Pension Plan"). The Company completed the Legacy Quaker U.S. Pension Plan termination during the first quarter of 2020. In order to terminate the Legacy Quaker U.S. Pension Plan in accordance with I.R.S. and Pension Benefit Guaranty Corporation requirements, the Company was required to fully fund the Legacy Quaker U.S. Pension Plan on a termination basis and the amount necessary to do so was approximately $1.8 million, subject to final true up adjustments. In July 2020, the Company finalized the amount of liability and related annuity payments and expects to receive a refund in premium of approximately $2 million in August 2020. In addition, the Company recorded a non-cash pension settlement charge at plan termination of approximately $22.7 million.

As of June 30, 2020, the Company's gross liability for uncertain tax positions, including interest and penalties, was $28.0 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 $8.0 million as a result of offsetting benefits in other tax jurisdictions.

The Company believes that its existing cash, anticipated cash flows from operations and available additional liquidity will be sufficient to support its operating requirements and fund its business objectives for at least the next twelve months, including but not limited to, payments of dividends to shareholders, costs related to the Combination and integration, pension plan contributions, capital expenditures, other business opportunities and other potential contingencies. The Company's liquidity is affected by many factors, some based on normal operations of our business and others related to the impact of the pandemic on our business and on global economic conditions as well as industry uncertainties, which we cannot predict. We also cannot predict economic conditions and industry downturns or the timing, strength or duration of recoveries. We may seek, as we believe appropriate, additional debt or equity financing which would provide capital for corporate purposes, working capital funding, additional liquidity needs or to fund future growth opportunities, including possible acquisitions and investments. The timing and amount of potential capital requirements cannot be determined at this time and will depend on a number of factors, including the actual and projected demand for our products, specialty chemical industry conditions, competitive factors, and the condition of financial markets, among others.

Critical Accounting Policies and Estimates

The Company's critical accounting policies and estimates, as set forth in its 2019 Form 10-K remain materially consistent. However, due to the current impact as well as the volatility and uncertainty in the economic outlook as a result of COVID-19, the Company re-evaluated certain of its estimates, most notably its estimates and assumptions with regards to goodwill and other intangible assets during the first quarter of 2020.

Goodwill and other intangible assets: The Company accounts for business combinations under the acquisition method of accounting. This method requires the recording of acquired assets, including separately identifiable intangible assets, at their acquisition date fair values. Any excess of the purchase price over the estimated fair value of the identifiable net assets acquired is recorded as goodwill. The determination of the estimated fair value of assets acquired requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, royalty rates, asset lives and market multiples, among other items. When necessary, the Company consults with external advisors to help determine fair value. For non-observable market values, the Company may determine fair value using acceptable valuation principles, including the excess earnings, relief from royalty, lost profit or cost methods.

The Company amortizes definite-lived intangible assets on a straight-line basis over their useful lives. Goodwill and intangible assets that have indefinite lives are not amortized and are required to be assessed at least annually for impairment. The Company completes its annual goodwill and indefinite-lived intangible asset impairment test during the fourth quarter of each year. The Company continuously evaluates if triggering events indicate a possible impairment in one or more of its indefinite-lived or long-lived assets.

As of March 31, 2020, the Company evaluated the initial impact of COVID-19 on the Company's operations, as well as the volatility and uncertainty in the economic outlook as a result of COVID-19, to determine if this indicated it was more likely than not that the carrying value of any of the Company's indefinite-lived or long-lived assets was not recoverable. While the impact of COVID-19 has already had a negative effect on the Company's operations and was expected to significantly impact the Company's full year 2020 results, in evaluating if a triggering event was present for one or more of the Company indefinite-lived or long-lived assets, the Company also considered the carrying value and estimated fair value for each asset, as well as the Company's expected impact from COVID-19 on each specific asset. The Company concluded that the impact of COVID-19 did not represent a triggering event as of March 31, 2020 with regards to the Company's indefinite-lived and long-lived assets, except for the Company's Houghton and Fluidcare trademark and tradename indefinite-lived intangible assets.

Given the relatively short period of time between the fair value determination for the acquired Houghton and Fluidcare trademark and tradename indefinite-lived intangible assets as of the closing of the Combination on August 1, 2019, and the 2019 annual impairment testing date of October 1, the Company's 2019 annual impairment assessment concluded that the $242.0 million carrying value of acquired Houghton and Fluidcare indefinite-lived intangible assets generally approximated fair value, with excess fair value of less than 5%. Because of the previously concluded relatively narrow gap between fair value and carrying value, the Company concluded in the first quarter of 2020 that the expected current year impact from COVID-19 on the Company's net sales represented a triggering event. As a result of the conclusion, the Company completed an interim quantitative indefinite-lived intangible asset impairment assessment as of March 31, 2020.

The determination of estimated fair value of the Houghton and Fluidcare trademark and tradename indefinite-lived assets was based on a relief from royalty valuation method which requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to the weighted average cost of capital ("WACC") as well as projected net sales. In completing the interim quantitative impairment assessment as of March 31, 2020, the Company used a WACC assumption of approximately 10% as well as current year forecasted net sales and management's estimates with respect to future net sales growth rates specific to legacy Houghton's net sales. As a result of an increase in the WACC assumption as of March 31, 2020, compared to the prior year fourth quarter annual impairment assessment, and the significant current year decline in projected legacy Houghton net sales due to the impact of COVID-19, the Company concluded that the estimated fair values of these intangible assets were less than their carrying values and that an impairment charge to write down their carrying values to their estimated fair values was warranted. This resulted in a first quarter of 2020 non-cash impairment charge of $38.0 million for these indefinite-lived intangible assets. The Company performed a qualitative assessment over these indefinite-lived intangible assets as of June 30, 2020 and concluded that no further impairment indicators existed. The book value of these assets as of June 30, 2020 was $204.0 million.

As of June 30, 2020, the Company continued to evaluate the on-going impact of COVID-19 on the Company's operations, and the volatility and uncertainty in the economic outlook as a result of COVID-19 to determine if again this indicated it was more likely than not that the carrying value of any of the Company's reporting units or indefinite-lived or long-lived assets was not recoverable. The Company concluded that the impact of COVID-19 did not represent a triggering event as of June 30, 2020 with regards to any of the Company's reporting units or indefinite-lived and long-lived assets. If the current economic conditions worsen or projections of the timeline for recovery are significantly extended, then the Company may conclude in the future that the impact from COVID-19 requires the need to perform further interim quantitative impairment tests, which could result in additional impairment charges in the future.

Non-GAAP Measures

The information in this Report includes non-GAAP (unaudited) financial information that includes EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP operating income, non-GAAP operating margin, non-GAAP net income and non-GAAP earnings per diluted share. 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 indicative of future operating performance of the Company, and facilitate a comparison among fiscal periods, as the non-GAAP financial measures exclude items that are not considered indicative of future operating performance or 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 Company presents EBITDA which is calculated as net (loss) income attributable to the Company before depreciation and amortization, interest expense, net, and taxes on (loss) income before equity in net income of associated companies. The Company also presents adjusted EBITDA which is calculated as EBITDA plus or minus certain items that are not considered indicative of future operating performance or not considered core to the Company's operations. In addition, the Company presents non-GAAP operating income which is calculated as operating income (loss) plus or minus certain items that are not considered indicative of future operating performance or not considered core to the Company's operations. Adjusted EBITDA margin and non-GAAP operating margin are calculated as the percentage of adjusted EBITDA and non-GAAP operating income to consolidated net sales, respectively. The Company believes these non-GAAP measures provide transparent and useful information and are widely used by analysts, investors, and competitors in our industry as well as by management in assessing the operating performance of the Company on a consistent basis.

Additionally, the Company presents non-GAAP net income and non-GAAP earnings per diluted share as additional performance measures. Non-GAAP net income is calculated as adjusted EBITDA, defined above, less depreciation and amortization, interest expense, net, and taxes on (loss) income before equity in net income of associated companies, in each cash adjusted, as applicable, for any depreciation, amortization, interest or tax impacts resulting from the non-core items identified in the reconciliation of net (loss) income attributable to the Company to adjusted EBITDA. Non-GAAP earnings per diluted share is calculated as non-GAAP net income per diluted share as accounted for under the "two-class share method." The Company believes that non-GAAP net income and non-GAAP earnings per diluted share provide transparent and useful information and are widely used by analysts, investors, and competitors in our industry as well as by management in assessing the operating performance of the Company on a consistent basis.

The following tables reconcile the Company's non-GAAP financial measures (unaudited) to their most directly comparable GAAP (unaudited) financial measures (dollars in thousands unless otherwise noted, except per share amounts):

Non-GAAP Operating Income and Margin Reconciliations	**Three Months Ended June 30,**		**Six Months Ended June 30,**	
	2020	**2019**	**2020**	**2019**
Operating income (loss)	$ 2,238	$ 20,531	$ (10,206)	$ 40,360
Fair value step up of inventory sold (a)	226	—	226	—
Houghton combination, integration and other acquisition-related expenses (b)	8,253	4,604	16,529	9,087
Restructuring and related charges (c)	486	—	2,202	—
Customer bankruptcy costs (d)	—	—	463	—
Charges related to the settlement of a non-core equipment sale (e)	—	384	—	384
Indefinite-lived intangible asset impairment (f)	—	—	38,000	—
Non-GAAP operating income	$ 11,203	$ 25,519	$ 47,214	$ 49,831
Non-GAAP operating margin (%) (m)	3.9%	12.4%	7.1%	11.9%

EBITDA, Adjusted EBITDA, Adjusted EBITDA Margin and Non-GAAP Net Income Reconciliations	**Three Months Ended June 30,**		**Six Months Ended June 30,**	
	2020	**2019**	**2020**	**2019**
Net (loss) income attributable to Quaker Chemical Corporation	$ (7,735)	$ 15,591	$ (36,116)	$ 29,435
Depreciation and amortization (b)(k)	21,158	4,843	42,742	9,702
Interest expense, net (b)	6,811	733	15,272	1,509
Taxes on (loss) income before equity in net income of associated companies (l)	3,222	4,800	(9,848)	9,729
EBITDA	23,456	25,967	12,050	50,375
Equity income in a captive insurance company (g)	(482)	(390)	(155)	(736)
Fair value step up of inventory sold (a)	226	—	226	—
Houghton combination, integration and other acquisition-related expenses (b)	7,963	4,604	15,766	9,087
Restructuring and related charges (c)	486	—	2,202	—
Customer bankruptcy costs (d)	—	—	463	—
Charges related to the settlement of a non-core equipment sale (e)	—	384	—	384
Indefinite-lived intangible asset impairment (f)	—	—	38,000	—
Pension and postretirement benefit costs, non-service components (h)	341	895	23,866	1,791
Currency conversion impacts of hyper-inflationary economies (i)	73	(31)	124	163
Adjusted EBITDA	$ 32,063	$ 31,429	$ 92,542	$ 61,064
Adjusted EBITDA margin (%) (m)	11.2%	15.3%	13.9%	14.6%
Adjusted EBITDA	$ 32,063	$ 31,429	$ 92,542	$ 61,064
Less: Depreciation and amortization (b)	20,869	4,843	41,980	9,702
Less: Interest expense, net - adjusted (b)	6,811	(130)	15,272	(216)
Less: Taxes on (loss) income before equity in net income of associated companies - adjusted (j)(l)	673	5,787	7,136	11,827
Non-GAAP net income	$ 3,710	$ 20,929	$ 28,154	$ 39,751

Non-GAAP Earnings per Diluted Share Reconciliations	**Three Months Ended June 30,**		**Six Months Ended June 30,**	
	2020	**2019**	**2020**	**2019**
GAAP (loss) earnings per diluted share attributable to Quaker Chemical Corporation common shareholders	$ (0.43)	$ 1.17	$ (2.03)	$ 2.20
Equity income in a captive insurance company per diluted share (g)	(0.03)	(0.03)	(0.01)	(0.06)
Fair value step up of inventory sold per diluted share (a)	0.01	—	0.01	—
Houghton combination, integration and other acquisition-related expenses per diluted share (b)	0.37	0.34	0.73	0.69
Restructuring and related charges per diluted share (c)	0.02	—	0.09	—
Customer bankruptcy costs per diluted share (d)	—	—	0.02	—
Charges related to the settlement of a non-core equipment sale per diluted share (e)	—	0.02	—	0.02
Indefinite-lived intangible asset impairment per diluted share (f)	—	—	1.65	—
Pension and postretirement benefit costs, non-service components per diluted share (h)	0.01	0.06	0.89	0.11
Currency conversion impacts of hyper-inflationary economies per diluted share (i)	0.01	—	0.01	0.01
Impact of certain discrete tax items per diluted share (j)	0.25	—	0.23	—
Non-GAAP earnings per diluted share (n)	$ 0.21	$ 1.56	$ 1.59	$ 2.97

(a) Fair value step up of inventory sold relates to an expense associated with selling inventory of acquired businesses during the second quarter of 2020, which was adjusted to fair value as a part of purchase accounting. This increase to COGS is not indicative of the future operating performance of the Company.

(b) Houghton combination, integration and other acquisition-related expenses include certain legal, financial, and other advisory and consultant costs incurred in connection with due diligence, regulatory approvals, integration planning, as well as certain one-time labor costs associated with the Company's acquisition-related activities. These costs are not indicative of the future operating performance of the Company. Approximately $2.3 million and $3.5 million in the three and six months ended June 30, 2019, respectively, of these pre-tax costs were considered non-deductible for the purpose of determining the Company's effective tax rate, and, therefore, taxes on (loss) income before equity in net income of associated companies - adjusted reflects the impact of these items. During the three and six months ended June 30, 2020, the Company recorded $0.3 million and $0.8 million of accelerated depreciation related to certain of the Company's facilities, which is included in the caption "Houghton combination, integration and other acquisition-related expenses" in the reconciliation of operating income (loss) to non-GAAP operating income and included in the caption "Depreciation and amortization" in the reconciliation of net (loss) income attributable to the Company to EBITDA, but excluded from the caption "Depreciation and amortization" in the reconciliation of adjusted EBITDA to non-GAAP net income attributable to the Company. During the three and six months ended June 30, 2019, the Company incurred $0.9 million and $1.7 million, respectively, of ticking fees to maintain the bank commitment related to the Combination. These interest costs are included in the caption "Interest expense, net" in the reconciliation of net (loss) income attributable to the Company to EBITDA, but are excluded from the caption "Interest expense, net – adjusted" in the reconciliation of adjusted EBITDA to non-GAAP net income. See Note 2 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(c) Restructuring and related charges represent the costs incurred by the Company associated with the QH restructuring program which was initiated in the third quarter of 2019 as part of the Company's plan to realize cost synergies associated with the Combination. These costs are not indicative of the future operating performance of the Company. See Note 7 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(d) Customer bankruptcy costs represent the cost associated with a specific reserve for trade accounts receivable related to a customer who filed for bankruptcy protection. These expenses are not indicative of the future operating performance of the Company.

(e) Charges related to the settlement of a non-core equipment sale represent the pre-tax charge related to a one-time, uncommon, customer settlement associated with a prior sale of non-core equipment. These charges are not indicative of the future operating performance of the Company.

(f) Indefinite-lived intangible asset impairment represents the non-cash charge taken to write down the value of certain indefinite-lived intangible assets associated with the Houghton Combination. The Company has no prior history of goodwill or intangible asset impairments and this charge is not indicative of the future operating performance of the Company. See Note 14 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(g) Equity income in a captive insurance company represents the after-tax 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.

(h) Pension and postretirement benefit costs, non-service components represent the pre-tax, non-service component of the Company's pension and postretirement net periodic benefit cost in each period. These costs are not indicative of the future operating performance of the Company. The six months ended June 30, 2020 includes the $22.7 million settlement charge for the Company's termination of the Legacy Quaker U.S. Pension Plan. See Note 9 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(i) Currency conversion impacts of hyper-inflationary economies represents the foreign currency remeasurement impacts associated with the Company's affiliates whose local economies are designated as hyper-inflationary under U.S. GAAP. During the three and six months ended June 30, 2020 and 2019, the Company incurred non-deductible, pre-tax charges related to the Company's Argentine affiliates. These charges related to the immediate recognition of foreign currency remeasurement in the Condensed Consolidated Statements of Operations associated with these entities are not indicative of the future operating performance of the Company. See Note 1 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(j) The impacts of certain discrete tax items included the impact of changes in the valuation allowance for foreign tax credits acquired with the Combination, changes in withholding tax rates and the associated impact on previously accrued for distributions at certain of the Company's Asia/Pacific subsidiaries, additional reserves for uncertain tax positions related to tax audits at certain of the Company's EMEA subsidiaries, as well as the offsetting impact and amortization of a deferred tax benefit the Company recorded in the fourth quarter of 2019 related to an intercompany intangible asset transfer. See Note 11 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(k) Depreciation and amortization for the three and six months ended June 30, 2020 includes $0.3 million and $0.7 million, respectively, of amortization expense recorded within equity in net income of associated companies in the Company's Condensed Consolidated Statements of Operations, which is attributable to the amortization of the fair value step up for the Company's 50% interest in a Houghton joint venture in Korea as a result of required purchase accounting.

(l) Taxes on (loss) income before equity in net income of associated companies – adjusted presents the impact of any current and deferred income tax expense (benefit), as applicable, of the reconciling items presented in the reconciliation of net (loss) income attributable to Quaker Chemical Corporation to adjusted EBITDA, and was determined utilizing the applicable rates in the taxing jurisdictions in which these adjustments occurred, subject to deductibility. Fair value step up of inventory sold described in (a) resulted in incremental taxes of less than $0.1 million during both the three and six months ended June 30, 2020. Houghton combination, integration and other acquisition-related expenses described in (b) resulted in incremental taxes of $1.5 million and $3.4 million for the three and six months ended June 30, 2020, respectively, and $0.7 million and $1.6 million for the three and six months ended June 30, 2019, respectively. Restructuring and related charges described in (c) resulted in incremental taxes of $0.1 million and $0.5 million for the three and six months ended June 30, 2020. Customer bankruptcy costs described in (d) resulted in incremental taxes of $0.1 million during the six months ended June 30, 2020. Charges related to the settlement of a non-core equipment sale described in (e) resulted in incremental taxes of $0.1 million for both the three and six months ended June 30, 2019. Indefinite-lived intangible asset impairment described in (f) resulted in incremental taxes of $8.7 million during the six months ended June 30, 2020. Pension and postretirement benefit costs, non-service components described in (h) resulted in incremental taxes of $0.1 million and $8.0 million for the three and six months ended June 30, 2020, respectively, and $0.2 million and $0.4 million for the three and six months ended June 30, 2019, respectively. Tax impact of certain discrete items described in (j) resulted in incremental taxes of $4.4 million and $4.0 million for the three and six months ended June 30, 2020.

(m) The Company calculates adjusted EBITDA margin and non-GAAP operating margin as the percentage of adjusted EBITDA and non-GAAP operating income to consolidated net sales.

(n) The Company calculates non-GAAP earnings per diluted share as non-GAAP net income attributable to the Company per weighted average diluted shares outstanding using the "two-class share method" to calculate such in each given period.

Off-Balance Sheet Arrangements

The Company had no material off-balance sheet items, as defined under Item 303(a)(4) of Regulation S-K as of June 30, 2020. The Company's only off-balance sheet items outstanding as of June 30, 2020 represented approximately $14 million of total bank letters of credit and guarantees. The bank letters of credit and guarantees are not significant to the Company's liquidity or capital resources. See also Note 15 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

Operations

Consolidated Operations Review – Comparison of the Second Quarter of 2020 with the Second Quarter of 2019

Net sales were $286.0 million in the second quarter of 2020 compared to $205.9 million in the second quarter of 2019. The net sales increase of 39% quarter-over-quarter includes net sales from Houghton and Norman Hay of $142.5 million. Without Houghton and Norman Hay net sales, the Company's current quarter net sales would have declined approximately 30%, which reflects a decrease in sales volumes of approximately 27% and a negative impact from foreign currency translation of 4% partially offset by an increase from selling price and product mix of 1%. The primary driver of the volume decline in the current quarter was the negative impact of COVID-19 on global production levels.

COGS were $188.7 million in the second quarter of 2020 compared to $130.7 million in the second quarter of 2019. The increase in COGS of 44% was primarily due to the inclusion of Houghton and Norman Hay sales and associated COGS, as well as $0.3 million of accelerated depreciation charges and $0.2 million of an inventory fair value step up charge described in the Non-GAAP Measures section of this Item above, partially offset by lower COGS on the decline in legacy Quaker net sales, described above.

Gross profit in the second quarter of 2020 of $97.4 million increased $22.2 million or 30% from the second quarter of 2019, due primarily to Houghton and Norman Hay net sales, noted above. The Company's reported gross margin in the current quarter was 34.0% compared to 36.5% in the second quarter of 2019. The decrease in gross margin quarter-over-quarter was primarily due to the significantly lower volumes in the current quarter and the related impact from fixed manufacturing costs, as well as price and product mix largely due to lower gross margins in the legacy Houghton business, partially offset by certain COGS decreases as a result of the Company's progression on Combination-related logistics and procurement cost savings initiatives.

SG&A in the second quarter of 2020 increased $36.6 million compared to the second quarter of 2019 due primarily to additional SG&A from Houghton and Norman Hay. This increase was partially offset by lower SG&A due to foreign currency translation, the impact of the sales decline on direct selling costs, lower incentive compensation on reduced Company performance, the impact COVID-19 cost savings actions, including lower travel expenses, and the benefits of realized cost savings associated with the Combination.

During the second quarter of 2020, the Company incurred $8.0 million of Combination, integration and other acquisition-related expenses, primarily for professional fees related to Houghton integration activities. Comparatively, the Company incurred $4.6 million of expenses in the prior year second quarter, primarily for integration planning and regulatory approvals. See the Non-GAAP Measures section of this Item, above.

The Company initiated a restructuring program during the third quarter of 2019 as part of its global plan to realize cost synergies associated with the Combination. The Company expects reductions in headcount and site closures under this program to continue during 2020 and 2021. The Company recorded additional restructuring and related charges of $0.5 million related to this program during the second quarter of 2020 and there were no similar restructuring charges recorded during the second quarter of 2019. See the Non-GAAP Measures section of this Item, above.

Operating income in the second quarter of 2020 was $2.2 million compared to $20.5 million in the second quarter of 2019. Excluding the Combination, integration and other acquisition-related charges, restructuring and related charges and other non-core items, the Company's current quarter non-GAAP operating income decreased to $11.2 million compared to $25.5 million in the prior year quarter, primarily due to the negative impact of COVID-19, which more than offset the added net sales and operating income from Houghton and Norman Hay and the benefits from cost savings related to the Combination.

The Company had other expense, net, of $1.0 million in the second quarter of 2020 compared to other income, net, of less than $0.1 million in the second quarter of 2019. The quarter-over-quarter change was primarily driven by higher foreign currency transaction losses in the second quarter of 2020 as compared to the prior year second quarter, partially offset by lower non-service components of pension and postretirement benefit costs.

Interest expense, net, increased $6.1 million compared to the second quarter of 2019, as a result of additional borrowings under the Company's term loans and revolving credit facility to finance the closing of the Combination on August 1, 2019.

The Company's effective tax rates for the second quarters of 2020 and 2019 were an expense of 57.9% and 24.2%, respectively. The Company's current quarter effective tax rate was driven by the impact of certain tax charges in the current period relating to changes in the valuation allowance for foreign tax credits acquired with the Combination and additional charges for uncertain tax positions resulting from certain foreign tax audits combined with pre-tax losses as a result of the negative impacts of COVID-19. Excluding the impact of these items as well as all other non-core items in each quarter, described in the Non-GAAP Measures section of this Item, above, the Company estimates that its second quarters of 2020 and 2019 effective tax rates would have been approximately 18% and 22%, respectively. The Company may experience continued 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. In addition, the foreign tax credit valuation allowance is based on a number of variables, including forecasted earnings, which may vary.

Equity in net income of associated companies increased $0.5 million in the second quarter of 2020 compared to the second quarter of 2019, primarily due to additional earnings from the Company's 50% interest in a joint venture in Korea and higher earnings from the Company's interest in a captive insurance company. See the Non-GAAP Measures section of this Item, above.

Net income attributable to non-controlling interest was consistent at less than $0.1 million in both the second quarters of 2020 and 2019.

Foreign exchange negatively impacted the Company's second quarter results by approximately $0.11 per diluted share, primarily due to approximately $1.9 million of higher foreign exchange transaction losses quarter-over-quarter as well as the negative impact from foreign currency translation on earnings due to the strengthening of the U.S. dollar against certain major foreign currencies in the current quarter.

Consolidated Operations Review – Comparison of the First Six Months of 2020 with the First Six Months of 2019

Net sales were $664.6 million in the first six months of 2020 compared to $417.1 million in the first six months of 2019. The net sales increase of 59% year-over-year includes net sales from Houghton and Norman Hay of $332.8 million. Without Houghton and Norman Hay net sales, the Company's current year net sales would have declined approximately 20%, which reflects a decrease in sales volumes of approximately 16%, a negative impact from foreign currency translation of 3% and a decrease from selling price and product mix of 1%. Consistent with the second quarter of 2020 description above, the primary driver of the volume decline in the current year was the negative impact of COVID-19 on global production levels.

COGS were $433.4 million in the first six months of 2020 compared to $266.2 million in the first six months of 2019. The increase in COGS of 63% was primarily due to the inclusion of Houghton and Norman Hay sales and associated COGS, as well as $0.8 million of accelerated depreciation charges and $0.2 million of an inventory fair value step up charge described in the Non-GAAP Measures section of this Item above, partially offset by lower COGS on the decline in legacy Quaker net sales, described above.

Gross profit in the first six months of 2020 increased $80.3 million or 53% from the first six months of 2019, due primarily to the added Houghton and Norman Hay net sales. The Company's reported gross margin in the current year was 34.8% compared to 36.2% in the first six months of 2019. The decrease in gross margin quarter-over-quarter was primarily the result of the same drivers described in the second quarter description above.

SG&A in the first six months of 2020 increased $83.9 million compared to the first six months of 2019 due primarily to additional SG&A from Houghton and Norman Hay, partially offset by the same decreases in SG&A described in the second quarter description above.

During the first six months of 2020, the Company incurred $15.9 million of Combination, integration and other acquisition-related expenses, primarily for professional fees related to Houghton integration activities. Comparatively, the Company incurred $9.1 million of expenses in the prior year, primarily for integration planning and regulatory approval for the Combination. See the Non-GAAP Measures section of this Item, above.

As described above, the Company initiated a restructuring program during the third quarter of 2019 as part of its global plan to realize cost synergies associated with the Combination. The Company recorded additional restructuring and related charges of $2.2 million related to this program during the first six months of 2020 and there were no similar restructuring charges recorded during the first six months of 2019. See the Non-GAAP Measures section of this Item, above.

During the first quarter of 2020, the Company recorded a $38.0 million non-cash impairment charge to write down the value of certain indefinite-lived intangible assets associated with the Combination. This non-cash impairment charge is related to certain acquired Houghton trademarks and tradenames and is primarily the result of the current year negative impacts of COVID-19 on their estimated fair values. There were no impairment charges in the second quarter of 2020 or in the prior year. See the Critical Accounting Policies and Estimates section as well as the Non-GAAP Measures section, of this Item, above.

Operating loss in the first six months of 2020 was $10.2 million compared to operating income of $40.4 million in the first six months of 2019. Excluding the Combination, integration and other acquisition-related charges, restructuring and related charges, the non-cash indefinite-lived intangible asset impairment charge, and other non-core items, the Company's current year non-GAAP operating income of $47.2 million decreased compared to $49.8 million in the prior year, primarily due to the negative impact on volumes due to the impact of COVID-19, which more than offset the added net sales and operating income from Houghton and Norman Hay and the benefits from cost savings related to the Combination.

The Company's other expense, net, was $22.2 million in the first six months of 2020 compared to $0.6 million in the prior year. The year-over-year increase in other expense, net was primarily due to the first quarter of 2020 non-cash pension plan settlement charge of $22.7 million associated with the termination of the Legacy Quaker U.S. Pension Plan, described in the Non-GAAP Measures section of this Item, above.

Interest expense, net, increased $13.8 million in the first six months of 2020 compared to the first six months of 2019 primarily due to additional borrowings under the Company's term loans and revolving credit facility to finance the closing of the Combination on August 1, 2019.

The Company's effective tax rates for the first six months of 2020 and 2019 were a benefit of 20.7% and an expense of 25.4%, respectively. The Company's current year effective tax rate was impacted by the tax effect of certain one-time pre-tax costs as well as certain one-time tax charges and benefits in the current period including those related to changes in foreign tax credit valuation allowances, tax law changes, additional charges taken for uncertain tax positions taken resulting from certain foreign tax audits, and the impact of the Company's termination of its Legacy Quaker U.S. Pension Plan. Comparatively, the prior year effective tax rate was primarily impacted by certain non-deductible costs associated with the Combination, partially offset by a favorable shift in earnings to entities with lower tax rates. Excluding the impact of these items as well as all other non-core items in each year, described in the Non-GAAP Measures section of this Item, above, the Company estimates that its first six months of 2020 and 2019 effective tax rates would have been approximately 21% and 23%, respectively.

Equity in net income of associated companies increased $0.7 million in the first six months of 2020 compared to the first six months of 2019, primarily due to additional earnings from Houghton's 50% interest in a joint venture in Korea partially offset by lower earnings as compared to the prior year period from the Company's interest in a captive insurance company. See the Non-GAAP Measures section of this Item, above.

Net income attributable to non-controlling interest was consistent in both the first six months of 2020 and 2019.

Foreign exchange negatively impacted the Company's first six months of 2020 results by approximately $0.11 per diluted share, primarily due to approximately $0.8 million higher foreign exchange transaction losses year-over-year as well as the negative impact from foreign currency translation due to the strengthening of the U.S. dollar in the current year period.

Reportable Segments Review - Comparison of the Second Quarter of 2020 with the Second Quarter of 2019

The Company's reportable segments reflect the structure of the Company's internal organization, the method by which the Company's resources are allocated and the manner by which the chief operating decision maker of the Company assesses its performance. During the third quarter of 2019 and in connection with the Combination, the Company reorganized its executive management team to align with its new business structure which reflects the method by which the Company assesses its performance and allocates its resources. The Company's current reportable segment structure includes four segments: (i) Americas; (ii) EMEA; (iii) Asia/Pacific; and (iv) Global Specialty Businesses. The three geographic segments are composed of the net sales and operations in each respective region, excluding net sales and operations managed globally by the Global Specialty Businesses segment, which includes the Company's container, metal finishing, mining, offshore, specialty coatings, specialty grease and Norman Hay businesses.

Segment operating earnings for the Company's reportable segments are comprised of net sales less COGS and SG&A directly related to the respective segment's product sales. Operating expenses not directly attributable to the net sales of each respective segment are not included in segment operating earnings, such as certain corporate and administrative costs, Combination, integration and other acquisition-related expenses, and Restructuring and related charges. Other items not specifically identified with the Company's reportable segments include interest expense, net and other (expense) income, net.

All prior period information has been recast to reflect these four segments as the Company's new reportable segments. See Note 4 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

Americas

Americas represented approximately 28% of the Company's consolidated net sales in the second quarter of 2020. The segment's net sales were $80.6 million, an increase of $8.8 million or 12% compared to the second quarter of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $38.5 million. Excluding Houghton net sales, the segment's net sales decrease quarter-over-quarter of 41% was due to lower volumes of 38% and a negative impact of foreign currency translation of 5%, partially offset by increases in selling price and product mix of 2%. The current quarter volume decline was driven by the economic slowdown that began in late March and continued throughout the second quarter due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the Brazilian real and the Mexican peso against the U.S. dollar, as these exchange rates averaged 5.37 and 23.32, respectively, in the second quarter of 2020 compared to 3.92 and 19.11, respectively in the second quarter of 2019. This segment's operating earnings were $10.3 million, a decrease of $3.7 million or 26% compared to the second quarter of 2019. The decrease in segment operating earnings reflects the significant decline in volumes due to the negative impact of COVID-19 which also resulted in lower gross margins quarter-over-quarter driven by certain fixed manufacturing costs coupled with the lower volumes, which more than offset the operating earnings from Houghton in the current year quarter.

EMEA

EMEA represented approximately 27% of the Company's consolidated net sales in the second quarter of 2020. The segment's net sales were $77.7 million, an increase of $28.7 million or 59% compared to the second quarter of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $40.2 million. Excluding Houghton net sales, the segment's net sales decrease quarter-over-quarter of 23% was due to lower volumes of 25% and a negative impact of foreign currency translation of approximately 1%, partially offset by increases in selling price and product mix of 3%. The current quarter volume decline was driven by the economic slowdown that began in late March and continued throughout the second quarter due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the euro against the U.S. dollar as this exchange rate averaged 1.10 in the second quarter of 2020 compared to 1.12 in the second quarter of 2019. This segment's operating earnings were $10.2 million, an increase of $1.3 million or 15% compared to the second quarter of 2019, which reflects the inclusion of Houghton net sales, partially offset by lower gross margins quarter-over-quarter as a result of fixed manufacturing costs coupled with lower volumes, as well as higher SG&A, including Houghton SG&A.

Asia/Pacific

Asia/Pacific represented approximately 24% of the Company's consolidated net sales in the second quarter of 2020. The segment's net sales were $68.4 million, an increase of $23.6 million or 53% compared to the second quarter of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $32.9 million. Excluding Houghton net sales, the segment's net sales decrease of 21% quarter-over-quarter was driven by lower volumes of 20% and a negative impact of foreign currency translation of 3%, partially offset by increases in selling price and product mix of 2%. The current quarter volume decline was driven by the economic slowdown that began in the first quarter in China and in late March throughout the region due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the Chinese renminbi against the U.S. dollar as this exchange rate averaged 7.09 in the second quarter of 2020 compared to 6.82 in the second quarter of 2019. This segment's operating earnings were $19.3 million, an increase of $7.1 million or 58% compared to the second quarter of 2019. The increase in segment operating earnings reflects the inclusion of Houghton net sales and relatively consistent gross margins, partially offset by higher SG&A, including Houghton SG&A.

Global Specialty Businesses

Global Specialty Businesses represented approximately 21% of the Company's consolidated net sales in the second quarter of 2020. The segment's net sales were $59.3 million, an increase of $19.0 million or 47% compared to the second quarter of 2019. The increase in net sales reflects the inclusion of Houghton and Norman Hay net sales of $30.9 million. Excluding Houghton and Norman Hay net sales, the segment's net sales would have decreased 29% quarter-over-quarter driven by lower volumes of 21%, decreases in selling price and product mix of 5% and a negative impact from foreign currency translation of 3%. The current quarter volume decline was primarily due to a decrease in the Company's specialty coatings business driven by Boeing's decision to temporarily stop production of the 737 Max aircraft and continued volume declines due to the economic slowdown that began in late March and continued throughout the second quarter due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the Brazilian real against the U.S. dollar described in the Americas section, above. This segment's operating earnings were $16.4 million, an increase of $5.4 million or 49% compared to the second quarter of 2019. The increase in segment operating earnings reflects the inclusion of Houghton and Norman Hay net sales, as well as slightly higher gross margin due to price and product mix, including higher Houghton and Norman Hay gross margin compared to Legacy Quaker, partially offset by higher SG&A, including Houghton and Norman Hay.

Reportable Segments Review - Comparison of the First Six Months of 2020 with the First Six Months of 2019

Americas

Americas represented approximately 32% of the Company's consolidated net sales in the first six months of 2020. The segment's net sales were $210.5 million, an increase of $66.5 million or 46% compared to the first six months of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $101.3 million. Excluding Houghton net sales, the segment's net sales decrease year-over-year of 24% was due to lower volumes of 21% and a negative impact of foreign currency translation of 4%, partially offset by increases in selling price and product mix of 1%. The current year volume decline was driven by the economic slowdown that began in late March and continued throughout the second quarter due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the Brazilian real and the Mexican peso against the U.S. dollar, as these exchange rates averaged 4.85 and 21.41, respectively, in the first six months of 2020 compared to 3.84 and 19.16, respectively in the first six months of 2019. This segment's operating earnings were $39.5 million, an increase of $11.2 million or 40% compared to the first six months of 2019. The increase in segment operating earnings reflects the including of Houghton net sales, partially offset by lower gross margins and higher SG&A, including Houghton SG&A.

EMEA

EMEA represented approximately 27% of the Company's consolidated net sales in the first six months of 2020. The segment's net sales were $182.5 million, an increase of $81.1 million or 80% compared to the first six months of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $98.1 million. Excluding Houghton net sales, the segment's net sales decrease year-over-year of 17% was due to lower volumes of 15% and a negative impact of foreign currency translation of 2%, partially offset by increases in selling price and product mix of less than 1%. The current year volume decline was driven by the economic slowdown that began in late March due to the impacts of COVID-19 and an overall reduced production in certain EMEA countries that began in the second half of 2019 and continued into 2020. The foreign exchange impact was primarily due to the weakening of the euro against the U.S. dollar as this exchange rate averaged 1.10 in the first six months of 2020 compared to 1.13 in the first six months of 2019. This segment's operating earnings were $28.6 million, an increase of $10.9 million or 61% compared to the first six months of 2019. The increase in segment operating earnings reflects the including of Houghton net sales, partially offset by lower gross margins and higher SG&A, including Houghton SG&A.

Asia/Pacific

Asia/Pacific represented approximately 21% of the Company's consolidated net sales in the first six months of 2020. The segment's net sales were $142.0 million, an increase of $51 million or 56% compared to the first six months of 2019. The increase in net sales reflects the inclusion of Houghton net sales of $66.6 million. Excluding Houghton net sales, the segment's net sales decrease of 17% year-over-year was driven by lower volumes of 15% and a negative impact of foreign currency translation of 3%, partially offset by increases in selling price and product mix of 1%. The current quarter volume decline was driven by the economic slowdown that began in the first quarter in China and in late March throughout the region due to the impacts of COVID-19. The foreign exchange impact was primarily due to the weakening of the Chinese renminbi against the U.S. dollar as this exchange rate averaged 7.03 in the first six months of 2020 compared to 6.78 in the first six months of 2019. This segment's operating earnings were $38.8 million, an increase of $13.8 million or 55% compared to the first six months of 2019. The increase in segment operating earnings reflects the including of Houghton net sales, partially offset by lower gross margins and higher SG&A, including Houghton SG&A.

Global Specialty Businesses

Global Specialty Businesses represented approximately 20% of the Company's consolidated net sales in the first six months of 2020. The segment's net sales were $129.6 million, an increase of $48.9 million or 61% compared to the first six months of 2019. The increase in net sales reflects the inclusion of Houghton and Norman Hay net sales of $66.8 million. Excluding Houghton and Norman Hay net sales, the segment's net sales would have decreased 22% year-over-year driven by lower volumes of 7%, decreases in selling price and product mix of 12% and a negative impact from foreign currency translation of 3%. The current year volume decline was primarily due to a decrease in the Company's specialty coatings business driven by Boeing's decision to temporarily stop production of the 737 Max aircraft and continued volume declines due to the economic slowdown that began in late March due to the impacts of COVID-19. Partially offsetting these volume declines, and contributing to the decrease in selling price and product mix were higher shipments of a lower priced product in the Company's mining business compared to the prior year. The foreign exchange impact was primarily due to the weakening of the Brazilian real against the U.S. dollar described in the Americas section, above. This segment's operating earnings were $37.0 million, an increase of $15.4 million or 71% compared to the first six months of 2019. The increase in segment operating earnings reflects the inclusion of Houghton and Norman Hay net sales, as well as slightly higher gross margin due to price and product mix, including higher Houghton and Norman Hay gross margin compared to Legacy Quaker, partially offset by higher SG&A, including Houghton and Norman Hay.

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 Chemical Corporation with the Securities and Exchange Commission ("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, including statements regarding the potential effects of the COVID-19 pandemic on the Company's business, results of operations, or financial condition and our expectations to maintain sufficient liquidity and remain compliant with the terms of the Company's credit facility 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:

- the potential benefits of the Combination;
- the impacts on our business as a result of the COVID-19 pandemic and any projected global economic rebound or anticipated positive results due to Company actions taken in response to the pandemic;
- 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 the Company'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, in the Company's 2019 Form 10-K 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 the Company's subsequent reports on Forms 10-K, 10-Q, 8-K and other related filings should be consulted. A major risk is that 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, the primary and secondary impacts of the COVID-19 pandemic, including actions taken in response to the pandemic by various governments, which could exacerbate some or all of the other risks and uncertainties faced by the Company, including the potential for significant increases in raw material costs, supply chain disruptions, 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, industrial equipment, and durable goods manufacturers. The ultimate significance of COVID-19 on our business will depend on, among other things, the extent and duration of the pandemic, the severity of the disease and the number of people infected with the virus, the effects on the economy by the pandemic, including the resulting market volatility, and by the measures taken by governmental authorities and other third parties restricting day-to-day life and business operations and the length of time that such measures remain in place, and governmental programs implemented to assist businesses impacted by the COVID-19 pandemic. Other factors could also adversely affect us, including those related to the Combination and other acquisitions and the integration of the combined company as well as other acquired businesses. Our forward-looking statements are subject to risks, uncertainties and assumptions about the Company and its operations that are subject to change based on various important factors, some of which are beyond our control. These risks, uncertainties, and possible inaccurate assumptions relevant to our business could cause our actual results to differ materially from expected and historical results.

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, refer to the Risk Factors section, which appears in Item 1A of this Report, as well as Item 1A in our 2019 Form 10-K 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.

Quaker Houghton on the Internet

Financial results, news and other information about Quaker Houghton can be accessed from the Company's website at https://www.quakerhoughton.com. This site includes important information on the Company's locations, products and services, financial reports, news releases and career opportunities. The Company's periodic and current reports on Forms 10-K, 10-Q, 8-K, and other filings, including exhibits and supplemental schedules filed therewith, and amendments to those reports, filed with the SEC are available on the Company's website, free of charge, as soon as reasonably practicable after they are electronically filed with or furnished to the SEC. Information contained on, or that may be accessed through, the Company's website is not incorporated by reference in this Report and, accordingly, you should not consider that information part of this Report.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Quaker Houghton is exposed to the impact of interest rates, foreign currency fluctuations, changes in commodity prices and credit risk. The current economic environment associated with COVID-19 has led to significant volatility and uncertainty with each of these market risks. Other than the impact of the COVID-19 pandemic on market risks generally, we believe there has been no other material change to the information disclosed in Part II, Item 7A, of our 2019 Form 10-K. See Item 1A, "Risk Factors", of this Report for additional discussion of the current and potential risks associated with the COVID-19 pandemic.

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 defined in Rule 13a-15(e) under the Exchange Act) 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 not effective as of June 30, 2020 because of the material weaknesses in our internal control over financial reporting, as described below.

As previously disclosed in "Item 9A. Controls and Procedures." in the Company's 2019 Form 10-K, through the process of evaluating risks and corresponding changes to the design of existing or the implementation of new controls in light of the significant non-recurring transactions that occurred during 2019, including the Combination, the Company identified certain deficiencies in its application of the principles associated with the Committee of Sponsoring Organization of the Treadway Commission in Internal Control – Integrated Framework (2013) that management has concluded in the aggregate constitute a material weakness. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, management concluded that changes to existing controls or the implementation of new controls were not sufficient to respond to changes to the risks of material misstatement to financial reporting. As a result of this deficiency in the design and implementation of an effective risk assessment, this material weakness contributed to certain control deficiencies that management concluded result in the following additional material weaknesses: (i) we did not design and maintain effective controls over the review of pricing, quantity and customer data to verify that revenue recognized at certain locations was complete and accurate, and (ii) we did not design and maintain effective controls over the reliability of data used to support the reasonableness of certain assumptions in the accounting for business combinations.

Notwithstanding these material weaknesses, the Company has concluded that the unaudited condensed consolidated financial statements included in this Report present fairly, in all material respects, the financial position of the Company as of June 30, 2020 and December 31, 2019, and the results of its operations and its cash flows and changes in equity for both the three and six month periods ended June 30, 2020 and 2019, are in conformity with accounting principles generally accepted in the United States of America. However, these control deficiencies could have resulted in misstatements of interim condensed consolidated financial statements and disclosures that could have resulted in a material misstatement that would not be prevented or detected.

Remediation Plan Activities. As previously disclosed in "Item 9A. Controls and Procedures." in the Company's 2019 Form 10-K, the Company and its Board of Directors are committed to maintaining a strong internal control environment. During the first six months of 2020, management began developing its full remediation plan and executing what will be a multi-step remediation process to completely and fully remediate the material weaknesses identified and described above. The initial steps the Company has taken include identifying dedicated internal resources supplemented with third-party specialists to assist with formalizing a robust and detailed remediation plan and specifically completing an updated risk assessment, including identifying and assessing those risks attendant to the significant changes within the Company as a result of becoming a larger, more complex global organization as a result of the Combination. The Company is conducting a comprehensive review, and, as appropriate, is updating its existing internal control framework to ensure that it has identified, developed and deployed the appropriate business process and information technology general controls to meet the objectives and address the risks identified through the updated risk assessment process. In undertaking this process, the Company is identifying and will be implementing further modifications to strengthen its internal control environment. It is the Company's goal to remediate all of the previously identified material weaknesses as quickly and effectively as possible, however, the impact of COVID-19, including travel restrictions and remote work arrangements has presented and is expected to continue to present challenges with regards to the timing of the Company's remediation plan activities.

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 June 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, there were no changes that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting during the quarter ended June 30, 2020.

PART II.
OTHER INFORMATION

Items 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 19 of the Notes to the Condensed Consolidated Financial Statements in Part I, Item 1, of this Report.

Item 1A. Risk Factors.

In addition to the other information set forth in this Report, you should carefully consider the risk set forth below, which updates the risk factors previously disclosed in Part I, Item 1A of our 2019 Form 10-K, as well as the other risk factors described in the 2019 Form 10-K, which could materially affect our business, financial condition or future results. The risk described below, and the risks described in our 2019 Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially and adversely affect our business, financial condition or operating results.

The outbreak of COVID-19 and its impact on business and economic conditions have negatively affected our business, results of operations and financial condition and the extent and duration of those effects is uncertain.

Beginning in early 2020, there has been an outbreak of COVID-19, initially in China and which has spread globally, including generally all locations where the Company does business. In March 2020, the World Health Organization formally identified the COVID-19 outbreak as a pandemic. The COVID-19 pandemic, including the fear of exposure to and the actual effects of the illness, together with the measures implemented to reduce its spread, including travel restrictions, shutdowns of businesses deemed nonessential, and large gatherings and shelter-in-place or similar orders, have significantly impacted the global economy. The pandemic has disrupted global supply chains, lowered equity market valuations, created significant volatility and disruption in financial markets, and increased unemployment levels. In addition, it has resulted in temporary closures of many businesses, and although many of the businesses have subsequently re-opened, they may be operating at reduced capacity, while other closures may be prolonged or become permanent.

The scale and scope of the COVID-19 outbreak, the resulting pandemic, and the primary and secondary impacts on the economy and financial markets have had a significant disruption on the operations of the Company and its suppliers and customers and have adversely affected the Company's results of operations and financial condition during the first six months of 2020 as further described in Management's Discussion and Analysis of Financial Condition and Results of Operations included in this Report. The Company has experienced disruptions as a result of COVID-19, first at its China subsidiaries in the first quarter of 2020 and subsequently, particularly beginning late March and continuing into the second quarter of 2020, throughout the rest of the business due to the global economic slowdown. We have experienced, and may experience in the future, temporary site or facility closures at our own facilities or those of our customers in response to government mandates in certain jurisdictions in which we operate. We may also be required to close certain of our facilities for the safety of our employees in response to positive diagnoses for COVID-19. Even in facilities that are not closed, we could be affected by reductions in employee availability and productivity, changes in operating procedures, and increased costs. The Company anticipates that its future results of operations, including the results for the remainder of 2020 may continue to be adversely impacted by COVID-19. In particular, the spread of COVID-19 and efforts to contain the virus have had the following additional effects, which are likely to increase or become exacerbated the longer the crisis continues:

- reduced the demand for our products and services as many customers have reduced production levels;
- driven declines in volume and net sales across all reportable segments;
- required us to adjust certain of our facility operating procedures and to take steps to reduce costs and preserve liquidity; and
- negatively affected the estimated fair value of certain of the Company's reporting units or other indefinite-lived or long-lived assets, namely the Company's Houghton and Fluidcare trademark and tradename indefinite-lived intangible assets, such that their estimated fair values were less than their carrying values and required adjustments.

The spread of COVID-19, a prolonged outbreak, and efforts to contain the virus in some cases have already or could in the future also:

- limit the availability and reduce the productivity of our employees;
- impact our financial reporting systems and processes, internal control over financial reporting, and disclosure controls and procedures, including our ability to ensure information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow for timely decisions regarding required disclosure;
- present challenges as a result of travel restrictions and remote work arrangements, including the timing of our ERP system implementations which are an integral part of our integration activities; the timing of the Company's remediation plan activities as described in Item 4 Controls and Procedures, of this Report; and the Company's first year assessment of internal control over financial reporting for Houghton and Norman Hay, including the implementation of new or enhanced business

process and information technology general controls, as necessary, to meet the objectives and address the risks identified once the Company completes its initial design assessment;
- increase our costs as a result of emergency measures that we may take or that may be imposed on us by regulatory authorities;
- cause a delay in customer payments or cause a deterioration of the credit quality of other counterparties that could result in credit losses or force both customer and supplier bankruptcies;
- cause delays and disruptions in the availability of and timely delivery of materials and components used in our operations;
- result in our inability to meet the requirements of the covenants in our existing credit facility, including covenants regarding our consolidated interest coverage ratio and consolidated net leverage ratio, or increase our cost of capital or make additional capital, including the refinancing of our credit facility, more difficult or available only on terms less favorable to us;
- impact our liquidity position and cost of and ability to access funds from financial institutions and capital markets;
- negatively affect the estimated fair values of the Company's reporting units or other indefinite-lived or long-lived assets; and
- cause other risks to impact us, including the risks described in the "Risk Factors" section of the 2019 Form 10-K.

While the Company has implemented business continuity and emergency response plans to permit it to continue to provide services and products to customers and support the Company's operations, while also taking health and safety measures such as implementing worker distancing measures, enhancing on-site hygiene measures, and using a remote workforce where possible, there can be no assurance that the continued spread of COVID-19 and efforts to contain the virus (including, but not limited to, voluntary and mandatory quarantines, restrictions on travel, limiting gatherings of people, and reduced operations and extended closures of many businesses and institutions) will not further impact our business, results of operations and financial condition. However, given the unprecedented and continually evolving developments with respect to this pandemic, the Company cannot, as of the date of this Report, reasonably estimate the magnitude or full extent of the impact to its future results of operations or to the ability of it or its customers to resume more normal operations. A further prolonged outbreak or resurgence and period of continued restrictions on day-to-day life and business operations would likely result in volume declines and lower net sales for later periods in 2020 as well, when compared to the prior year.

The ultimate significance of COVID-19 on our business will depend on, among other things, the extent and duration of the pandemic, the severity of the disease and the number of people infected with the virus, the ultimate geographic spread of the virus, the effects on the economy by the pandemic, including market volatility, and by the measures taken by governmental authorities and other third parties restricting day-to-day life and the length of time that such measures remain in place, and laws or governmental programs implemented to assist businesses impacted by the COVID-19 pandemic, such as fiscal stimulus and other legislation designed to deliver monetary aid and other relief. The likelihood of a further impact on the Company that could be material increases the longer the virus impacts economic activity levels in the United States and across the world.

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

Recent Sales of Unregistered Securities

On May 7, 2020, the Company acquired Tel Nordic ApS ("TEL"), a company that specializes in lubricants and engineering primarily in high pressure aluminum die casting for its EMEA reportable segment. Consideration paid was in the form of a convertible promissory note in the amount of 20.0 million DKK, or approximately $2.9 million, that was subsequently converted on May 20, 2020 into 17,894 shares of the Company's common stock based on the closing market price of the common stock on May 19, 2020, as reported on the New York Stock Exchange, and the conversion rate of Danish Kroner into U.S. dollars as reported on that day in the Wall Street Journal. The issuance of the convertible promissory note and the shares issued thereunder were made in a private placement transaction in reliance upon Regulation D promulgated under the Securities Act of 1933, as amended, based on the written representations from TEL regarding its "accredited investor" status as defined in Rule 501 of Regulation D. The Company subsequently registered the resale by the holder of these shares under the Securities Act of 1933, as amended.

Purchases of Equity Securities by the Company

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)
April 1 - April 30	**—**	**$**	**—**	**—**	**$**	**86,865,026**
May 1 - May 31	**72**	**$**	**159.15**	**—**	**$**	**86,865,026**
June 1 - June 30	**3,858**	**$**	**189.73**	**—**	**$**	**86,865,026**
Total	**3,930**	**$**	**189.17**	**—**	**$**	**86,865,026**

(1) All of these shares were acquired from employees upon their surrender of Quaker Chemical Corporation 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 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") and has no expiration date. There were no shares acquired by the Company pursuant to the 2015 Share Repurchase Program during the quarter ended June 30, 2020.

Limitation on the Payment of Dividends

The New Credit Facility has limitations on the payment of dividends and other so-called restricted payments. See Note 15 of Notes to Condensed Consolidated Financial Statements, in Part I, Item I, of this Report.

Item 6. Exhibits.

(a) Exhibits

3.1	–	Amended and Restated Articles of Incorporation (as amended through July 24, 2019). Incorporated by reference to Exhibit 3.1 as filed by the Registrant with its quarterly report on Form 10-Q filed on August 1, 2019.
3.2	–	Restated By-laws (effective May 6, 2015, as amended through March 27, 2020). Incorporated by reference to Exhibit 3.2 as filed by the Registrant within its quarterly report on Form 10-Q filed on May 11, 2020.
4.1	–	Convertible Note, dated May 7, 2020, by and among Quaker Chemical Corporation, TEL Nordic Holding ApS, and Lars Skogstad-Jensen. Incorporated by reference to Exhibit 4.3 as filed by Registrant on Form S-3 on May 19. 2020.
10.1	–	Amendment No 2, effective February 10, 2020, to the Quaker Houghton Retirement Savings Plan.*†
10.2	–	Amendment No 3, effective April 17, 2020, to the Quaker Houghton Retirement Savings Plan.*†
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	–	Inline XBRL Instance Document*
101.SCH	–	Inline XBRL Taxonomy Extension Schema Document*
101.CAL	–	Inline XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	–	Inline XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	–	Inline XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	–	Inline XBRL Taxonomy Extension Presentation Linkbase Document*
104	–	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101.INS)*

* Filed herewith.
** Furnished herewith.
† Management contract or compensatory plan.

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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: August 5, 2020

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

EXHIBIT 10.1

**AMENDMENT NO. 2 TO THE
QUAKER HOUGHTON
RETIREMENT SAVINGS PLAN**

(As Amended and Restated January 1, 2020)

WHEREAS, Quaker Chemical Corporation d/b/a Quaker Houghton (the "Company") adopted the Quaker Houghton Retirement Savings Plan, as amended and restated effective January 1, 2020, and as amended on one occasion thereafter (the "Plan");

WHEREAS, the Company desires to amend the Plan to clarify eligibility for nonelective contributions for certain collectively bargained employees; and

WHEREAS, pursuant to Section 8.1 of the Plan, the Retirement Savings Plan Committee has the right to amend the Plan at any time, subject to certain inapplicable limitations.

NOW, THEREFORE, effective as of February 10, 2020, the Plan shall be, and hereby is, amended as follows:

Effective as of February 10, 2020, a sentence is hereby added to the end of Section 4.5(a) to read as follows:

> "Notwithstanding the foregoing, Employees hired on or after February 10, 2020 who are covered by a collective bargaining agreement between the Employer and the International Chemical Workers Union Council of the United Food and Commercial Workers Union and its Local No. 125C, shall be eligible to receive Nonelective Contributions provided they have met the conditions of eligibility set forth in Section 3.1(b)."

IN WITNESS WHEREOF, Quaker Chemical Corporation d/b/a Quaker Houghton has caused these presents to be duly executed on this __30____ day of ______April_________, 2020.

QUAKER CHEMICAL CORPORATION
D/B/A QUAKER HOUGHTON

Attest: ____/s/ Victoria K. Gehris___________________ By: ________/s/_Robert T. Traub________________

EXHIBIT 10.2

AMENDMENT NO. 3 TO THE
QUAKER HOUGHTON
RETIREMENT SAVINGS PLAN

(As Amended and Restated January 1, 2020)

WHEREAS, Quaker Chemical Corporation d/b/a Quaker Houghton (the "Company") adopted the Quaker Houghton Retirement Savings Plan, as amended and restated effective January 1, 2020, and as amended on two occasions thereafter (the "Plan");

WHEREAS, the Company desires to amend the Plan to change the investment direction of matching contributions and nonelective contributions, and to make certain other clarifying changes; and

WHEREAS, pursuant to Section 8.1 of the Plan, the Retirement Savings Plan Committee has the right to amend the Plan at any time, subject to certain inapplicable limitations.

NOW, THEREFORE, effective as of April 17, 2020, the Plan shall be, and hereby is, amended as follows:

1. **The last paragraph of Section 4.4(a) ("Matching Contributions") is amended to read as follows:**

"Effective with the Elective Contributions taken from the paycheck for the first pay date on or after April 17, 2020, the Matching Contribution may be made in cash or in Company Securities in the sole discretion of the Administrator. Matching Contributions made in cash will be invested according to the direction of the Participant, Beneficiary, or alternate payee under Section 4.13(a). To the extent a Matching Contribution is made in Company Securities, the contribution shall be invested in the Quaker Stock Fund, subject to any subsequent reapportionment direction of the Participant, Beneficiary, or alternate payee under Section 4.13(e)."

2. **Section 4.5(c) ("Employer Nonelective Contributions") is amended to read as follows:**

(c) Investment. Effective with the first pay date on or after April 17, 2020, the Nonelective Contribution may be made in cash or in Company Securities in the sole discretion of the Administrator. Nonelective Contributions made in cash will be invested according to the direction of the Participant, Beneficiary, or alternate payee under Section 4.13(a). To the extent Nonelective Contributions are made in Company Securities, the contribution shall be invested in the Quaker Stock Fund, subject to any subsequent reapportionment direction of the Participant, Beneficiary, or alternate payee under Section 4.13(e).

3. **Section 4.13(a) ("Investment of Aggregate Accounts") is amended to read as follows:**

(a) Participant Directed. Every Participant, Beneficiary, and alternate payee shall have the right to designate the investment category or categories in which the Trustee is to invest his or her Aggregate Account including, pursuant to Section 4.13(e), any contributions that are initially invested in the Quaker Stock Fund at the time of contribution pursuant to Section 4.4(a) or Section 4.5(c).

4. **Section 4.13(e) ("Investment of Aggregate Accounts") is amended to read as follows:**

(e) Investment Direction – Reapportionment of Aggregate Account. A Participant, Beneficiary, or alternate payee may, subject to the Company's insider trading policy or other restriction(s) imposed by the Company pursuant to Sections 4.13(m) or 4.13(n), on any business day, by giving notice in the manner prescribed by the Trustee, transfer all or any portion of the assets held on his or her behalf in any investment category or categories to any other category or categories then provided, including any contributions that are initially invested in the Quaker Stock Fund at the time of contribution pursuant to Section 4.4(a) or Section 4.5(c).

IN WITNESS WHEREOF, Quaker Chemical Corporation d/b/a Quaker Houghton has caused these presents to be duly executed on this __30____ day of _____April_________, 2020.

QUAKER CHEMICAL CORPORATION
D/B/A QUAKER HOUGHTON

Attest: ____/s/ Victoria K. Gehris___________________ By: _______/s/_Robert T. Traub________________

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: August 5, 2020

/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: August 5, 2020

/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 June 30, 2020 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: August 5, 2020

/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 June 30, 2020 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: August 5, 2020

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