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 March 31, 2022

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 April 30, 2022	**17,912,086**

QUAKER CHEMICAL CORPORATION AND CONSOLIDATED SUBSIDIARIES

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PART I
FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited).

Quaker Chemical Corporation
Condensed Consolidated Statements of Income
(Dollars in thousands, except per share data)

	Unaudited	
	Three Months Ended March 31,	
	2022	2021
Net sales	$ 474,171	$ 429,783
Cost of goods sold (excluding amortization expense - See Note 13)	328,100	273,589
Gross profit	146,071	156,194
Selling, general and administrative expenses	111,795	104,310
Restructuring and related charges	820	1,175
Combination, integration and other acquisition-related expenses	4,053	5,815
Operating income	29,403	44,894
Other (expense) income, net	(2,206)	4,687
Interest expense, net	(5,345)	(5,470)
Income before taxes and equity in net income of associated companies	21,852	44,111
Taxes on income before equity in net income of associated companies	2,866	10,689
Income before equity in net income of associated companies	18,986	33,422
Equity in net income of associated companies	835	5,210
Net income	19,821	38,632
Less: Net income attributable to noncontrolling interest	5	17
Net income attributable to Quaker Chemical Corporation	$ 19,816	$ 38,615
Per share data:		
Net income attributable to Quaker Chemical Corporation common shareholders – basic	$ 1.11	$ 2.16
Net income attributable to Quaker Chemical Corporation common shareholders – diluted	$ 1.11	$ 2.15
Dividends declared	$ 0.415	$ 0.395

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

Quaker Chemical Corporation
Condensed Consolidated Statements of Comprehensive Income
(Dollars in thousands)

	Unaudited	
	Three Months Ended March 31,	
	2022	2021
Net income	$ 19,821	$ 38,632
Other comprehensive (loss) income, net of tax		
Currency translation adjustments	(6,866)	(25,461)
Defined benefit retirement plans	496	1,292
Current period change in fair value of derivatives	1,100	562
Unrealized loss on available-for-sale securities	(1,000)	(3,025)
Other comprehensive loss	(6,270)	(26,632)
Comprehensive income	13,551	12,000
Less: Comprehensive income attributable to noncontrolling interest	(6)	(15)
Comprehensive income attributable to Quaker Chemical Corporation	$ 13,545	$ 11,985

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

Quaker Chemical Corporation
Condensed Consolidated Balance Sheets
(Dollars in thousands, except par value)

	Unaudited	
	March 31, 2022	**December 31, 2021**
ASSETS		
Current assets		
Cash and cash equivalents	$ 161,552	$ 165,176
Accounts receivable, net	458,459	430,676
Inventories		
Raw materials and supplies	146,289	129,382
Work-in-process and finished goods	153,506	135,149
Prepaid expenses and other current assets	67,853	59,871
Total current assets	987,659	920,254
Property, plant and equipment, at cost	439,318	434,344
Less accumulated depreciation	(242,203)	(236,824)
Property, plant and equipment, net	197,115	197,520
Right of use lease assets	38,245	36,635
Goodwill	630,938	631,194
Other intangible assets, net	1,012,068	1,027,782
Investments in associated companies	90,003	95,278
Deferred tax assets	11,496	16,138
Other non-current assets	29,198	30,959
Total assets	$ 2,996,722	$ 2,955,760
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 61,385	$ 56,935
Accounts payable	253,906	226,656
Dividends payable	7,433	7,427
Accrued compensation	26,396	38,197
Accrued restructuring	4,435	4,087
Accrued pension and postretirement benefits	1,549	1,548
Other accrued liabilities	97,445	95,617
Total current liabilities	452,549	430,467
Long-term debt	858,287	836,412
Long-term lease liabilities	27,433	26,335
Deferred tax liabilities	170,622	179,025
Non-current accrued pension and postretirement benefits	44,667	45,984
Other non-current liabilities	47,464	49,615
Total liabilities	1,601,022	1,567,838
Commitments and contingencies (Note 18)		
Equity		
Common stock, $1 par value; authorized		
outstanding 2022 – 17,911,583 shares; 2021 – 17,897,033 shares	17,912	17,897
Capital in excess of par value	918,699	917,053
Retained earnings	528,716	516,334
Accumulated other comprehensive loss	(70,261)	(63,990)
Total Quaker shareholders' equity	1,395,066	1,387,294
Noncontrolling interest	634	628
Total equity	1,395,700	1,387,922
Total liabilities and equity	$ 2,996,722	$ 2,955,760

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

Quaker Chemical Corporation
Condensed Consolidated Statements of Cash Flows
(Dollars in thousands)

	Unaudited	
	Three Months Ended March 31,	
	2022	2021
Cash flows from operating activities		
Net income	$ 19,821	$ 38,632
Adjustments to reconcile net income to net cash used in operating activities:		
Amortization of debt issuance costs	1,187	1,187
Depreciation and amortization	20,447	22,145
Equity in undistributed earnings of associated companies, net of dividends	2,135	(5,105)
Acquisition-related fair value adjustments related to inventory	—	801
Deferred compensation, deferred taxes and other, net	(3,778)	(9,888)
Share-based compensation	2,462	3,779
Gain on disposal of property, plant, equipment and other assets	(23)	(5,410)
Combination and other acquisition-related expenses, net of payments	(4,246)	(2,884)
Restructuring and related charges	820	1,175
Pension and other postretirement benefits	(1,316)	(1,034)
(Decrease) increase in cash from changes in current assets and current liabilities, net of acquisitions:		
Accounts receivable	(26,270)	(46,270)
Inventories	(33,873)	(24,994)
Prepaid expenses and other current assets	(6,506)	(8,315)
Change in restructuring liabilities	(408)	(3,034)
Accounts payable and accrued liabilities	23,249	26,597
Net cash used in operating activities	(6,299)	(12,618)
Cash flows from investing activities		
Investments in property, plant and equipment	(8,847)	(3,934)
Payments related to acquisitions, net of cash acquired	(9,383)	(26,655)
Proceeds from disposition of assets	—	14,744
Net cash used in investing activities	(18,230)	(15,845)
Cash flows from financing activities		
Payments of long-term debt	(14,112)	(9,551)
Borrowings on revolving credit facilities, net	43,000	30,000
Repayments on other debt, net	(102)	(188)
Dividends paid	(7,428)	(7,052)
Stock options exercised, other	(801)	(178)
Net cash provided by financing activities	20,557	13,031
Effect of foreign exchange rate changes on cash	348	(3,008)
Net decrease in cash and cash equivalents	(3,624)	(18,440)
Cash and cash equivalents at the beginning of the period	165,176	181,895
Cash and cash equivalents at the end of the period	$ 161,552	$ 163,455

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

Quaker Chemical Corporation
Condensed Consolidated Statements of Changes in Equity
(Dollars in thousands, except per share amounts)
(Unaudited)

	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total
Balance at December 31, 2020	$ 17,851	$ 905,171	$ 423,940	$ (26,598)	$ 550	$ 1,320,914
Net income	—	—	38,615	—	17	38,632
Amounts reported in other comprehensive loss	—	—	—	(26,630)	(2)	(26,632)
Dividends ($0.395 per share)	—	—	(7,062)	—	—	(7,062)
Share issuance and equity-based compensation plans	24	3,577	—	—	—	3,601
Balance at March 31, 2021	$ 17,875	$ 908,748	$ 455,493	$ (53,228)	$ 565	$ 1,329,453
Balance at December 31, 2021	$ 17,897	$ 917,053	$ 516,334	$ (63,990)	$ 628	$ 1,387,922
Net income	—	—	19,816	—	5	19,821
Amounts reported in other comprehensive loss	—	—	—	(6,271)	1	(6,270)
Dividends ($0.415 per share)	—	—	(7,434)	—	—	(7,434)
Share issuance and equity-based compensation plans	15	1,646	—	—	—	1,661
Balance at March 31, 2022	$ 17,912	$ 918,699	$ 528,716	$ (70,261)	$ 634	$ 1,395,700

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

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

Note 1 – Basis of Presentation and Description of Business

Basis of Presentation

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 consisting only of normal recurring 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 months ended March 31, 2022 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, 2021 (the "2021 Form 10-K").

Description of Business

The Company was organized in 1918, incorporated as a Pennsylvania business corporation in 1930, and in August 2019 completed the Combination with Houghton to form Quaker Houghton. Quaker Houghton is the global leader in industrial process fluids. With a presence around the world, including operations in over 25 countries, the Company's customers include thousands of the world's most advanced and specialized steel, aluminum, automotive, aerospace, offshore, can, mining, and metalworking companies. Quaker Houghton develops, produces, and markets a broad range of formulated chemical specialty products and offers chemical management services (which the Company refers to as "Fluidcare ™") for various heavy industrial and manufacturing applications throughout its four segments: Americas; Europe, Middle East and Africa ("EMEA"); Asia/Pacific; and Global Specialty Businesses.

Hyper-inflationary economies

Based on various indices or index compilations being used to monitor inflation in Argentina as well as economic instability, effective July 1, 2018, Argentina's economy was considered hyper-inflationary under U.S. GAAP. As of, and for the three months ended March 31, 2022, the Company's Argentine subsidiaries represented less than 1% of the Company's consolidated total assets and net sales, respectively. During each of the three months ended March 31, 2022 and 2021, the Company recorded $ 0.2 million of remeasurement losses associated with the applicable currency conversions related to Argentina. These losses were recorded within foreign exchange losses, net, which is a component of other (expense) income, net, in the Company's Condensed Consolidated Statements of Income.

Note 2 – Business Acquisitions

2022 Acquisitions

In January 2022, the Company acquired a business that provides pickling inhibitor technologies for the steel industry, drawing lubricants and stamping oil for metalworking, and various other lubrication, rust preventative, and cleaner applications, for its Americas reportable segment for approximately $ 8.0 million. This business broadens the Company's product offerings within its existing metals and metalworking business in the Americas region. The Company allocated $ 5.6 million of the purchase price to intangible assets, comprised of $ 5.1 million of customer relationships to be amortized over 14 years; and $0.5 million of existing product technologies to be amortized over 14 years. In addition, the Company recorded $ 1.8 million of goodwill related to expected value not allocated to other acquired assets, all of which is expected to be tax deductible in various jurisdictions in which the Company operates.

In January 2022, the Company acquired a business related to the sealing and impregnation of metal castings for the automotive sector, as well as impregnation resin and impregnation systems for metal parts, for its Global Specialty Business reportable segment for approximately 1.2 million EUR or approximately $ 1.4 million. This business expands the Company's geographic presence in Germany as well as broadens its product offerings and service capabilities within its existing impregnation business acquired as part of the Norman Hay acquisition in 2019.

The results of operations of the 2022 acquired assets and businesses subsequent to the respective acquisition dates are included in the unaudited Condensed Consolidated Statements of Income for the quarter ended March 31, 2022. Applicable transaction expenses associated with these acquisitions are included in Combination, integration and other acquisition-related expenses in the Company's unaudited Condensed Consolidated Statements of Income. Certain pro forma and other information is not presented, as the operations of the acquired assets and businesses are not considered material to the overall operations of the Company for the periods presented.

Previous Acquisitions

In November 2021, the Company acquired Baron Industries ("Baron"), a privately held Company that provides vacuum impregnation services of castings, powder metals and electrical components for its Global Specialty Businesses reportable segment for $11.0 million, including an initial cash payment of $7.1 million, subject to post-closing adjustments as well as certain earn-out provisions initially estimated at $3.9 million that are payable at different times from 2022 through 2025. The earn-out provisions could total a maximum of $4.5 million. The Company allocated $8.0 million of the purchase price to intangible assets, $1.1 million of property, plant and equipment and $1.5 million of other assets acquired net of liabilities assumed, which includes $0.3 million of cash acquired. In addition, the Company recorded $0.4 million of goodwill, all of which is expected to be tax deductible. Intangible assets comprised $7.2 million of customer relationships to be amortized over 15 years; and $0.8 million of existing product technology to be amortized over 13 years.

In November 2021, the Company acquired a business that provides hydraulic fluids, coolants, cleaners, and rust preventative oils in Turkey for its EMEA reportable segment for 3.2 million EUR or approximately $3.7 million.

In September 2021, the Company acquired the remaining interest in Grindaix-GmbH ("Grindaix"), a Germany-based, high-tech provider of coolant control and delivery systems for its Global Specialty Businesses reportable segment for 2.4 million EUR or approximately $2.9 million, which is gross of approximately $0.3 million of cash acquired. Previously, in February 2021, the Company acquired a 38% ownership interest in Grindaix for 1.4 million EUR or approximately $1.7 million. The Company recorded its initial investment as an equity method investment within the Consolidated Financial Statements and accounted for the purchase of the remaining interest as a step acquisition whereby the Company remeasured the previously held equity method investment to its fair value.

In June 2021, the Company acquired certain assets for its chemical milling maskants product line in the Global Specialty Businesses reportable segment for 2.3 million EUR or approximately $2.8 million.

In February 2021, the Company acquired a tin-plating solutions business for the steel end market for $25.0 million. This acquisition is part of each of the Company's geographic reportable segments. The Company allocated $19.6 million of the purchase price to intangible assets, comprised of $18.3 million of customer relationships, to be amortized over 19 years; $0.9 million of existing product technology to be amortized over 14 years; and $0.4 million of a licensed trademark to be amortized over 3 years. In addition, the Company recorded $5.0 million of goodwill, all of which is expected to be tax deductible in various jurisdictions in which we operate. Factors contributing to the purchase price that resulted in goodwill included the acquisition of business processes and personnel that will allow Quaker Houghton to better serve its customers.

As of March 31, 2022, the allocation of the purchase price of these acquisitions have not been finalized and the one-year measurement period has not ended, with the exception of the tin-plating solutions business acquired in February 2021, the measurement period for which ended in February 2022. 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 December 2020, the Company acquired Coral Chemical Corporation ("Coral"), a privately held U.S.-based provider of metal finishing fluid solutions. Subsequent to the acquisition, the Company and the sellers of Coral (the "Sellers") have worked to finalize certain post-closing adjustments. In April 2022, after failing to reach resolution, the Sellers filed suit asserting certain amounts owed related to tax attributes of the acquisition. Based on the facts and circumstances of the claim asserted by the Sellers, the Company believes the potential range of exposure for this claim is $0 to $1.5 million.

Note 3 – Recently Issued Accounting Standards

Recently Issued Accounting Standards Adopted

The FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting* in March 2020. The FASB subsequently issued ASU 2021-01, *Reference Rate Reform (Topic 848): Scope* in January 2021 which clarified the guidance but did not materially change the guidance or its applicability to the Company. The amendments provide temporary optional expedients and exceptions for applying U.S. 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. On December 10, 2021, the Company entered into a Second Amendment to Credit Agreement ("Second Amendment") with Bank of America N.A., an update to provide for the use of a non-USD currency LIBOR successor rate. The Company elected to apply the expedients provided in ASU 2020-04 with respect to the Second Amendment. The Company will continue to monitor for potential impacts related to its USD-based LIBOR rates. See Note 14 of Notes to Condensed Consolidated Financial Statements.

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

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 chief operating decision maker assesses the Company's performance. The Company has four reportable 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 each of the Company's reportable segments are comprised of the segment's net sales less directly related cost of goods sold ("COGS") and selling, general and administrative expenses ("SG&A"). Operating expenses not directly attributable to the net sales of each respective segment, such as certain corporate and administrative costs, Combination, integration and other acquisition-related expenses, and Restructuring and related charges, are not included in segment operating earnings. 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 operating segments for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Net sales		
Americas	$ 154,144	$ 134,871
EMEA	125,687	119,814
Asia/Pacific	104,234	96,706
Global Specialty Businesses	90,106	78,392
Total net sales	$ 474,171	$ 429,783
Segment operating earnings		
Americas	$ 29,220	$ 32,234
EMEA	16,766	25,244
Asia/Pacific	21,907	27,478
Global Specialty Businesses	25,035	24,169
Total segment operating earnings	92,928	109,125
Combination, integration and other acquisition-related expenses	(4,053)	(5,815)
Restructuring and related charges	(820)	(1,175)
Fair value step up of acquired inventory sold	—	(801)
Non-operating and administrative expenses	(43,463)	(40,992)
Depreciation of corporate assets and amortization	(15,189)	(15,448)
Operating income	29,403	44,894
Other (expense) income, net	(2,206)	4,687
Interest expense, net	(5,345)	(5,470)
Income before taxes and equity in net income of associated companies	$ 21,852	$ 44,111

Inter-segment revenues for the three months ended March 31, 2022 and 2021 were $2.9 million and $3.3 million for Americas, $8.9 million and $8.8 million for EMEA, $0.3 million and $0.1 million for Asia/Pacific and $1.7 million and $2.0 million for Global Specialty Businesses, respectively. However, all inter-segment transactions have been eliminated from each reportable operating segment's net sales and earnings for all periods presented in the above tables.

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

Note 5 – Net Sales and Revenue Recognition

Arrangements Resulting in Net Reporting

As part of the Company's Fluidcare TM business, certain third-party product sales to customers are managed by the Company. The Company transferred third-party products under arrangements recognized on a net reporting basis of $ 19.8 million and $17.8 million for the three months ended March 31, 2022 and 2021, respectively.

Customer Concentration

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. As previously disclosed in the 2021 Form 10-K, during the year ended December 31, 2021, the Company's five largest customers (each composed of multiple subsidiaries or divisions with semiautonomous purchasing authority) accounted for approximately 10% of consolidated net sales, with its largest customer accounting for approximately 3% of consolidated net sales.

Contract Assets and Liabilities

The Company had no material contract assets recorded on its Condensed Consolidated Balance Sheets as of March 31, 2022 or December 31, 2021.

The Company had approximately $6.9 million and $7.0 million of deferred revenue as of March 31, 2022 and December 31, 2021, respectively. For three months ended March 31, 2022, the Company satisfied all of the associated performance obligations and recognized into revenue the advance payments received and recorded as of December 31, 2021.

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. 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 months ended March 31, 2022 and 2021.

	Three Months Ended March 31, 2022			
	Americas	EMEA	Asia/Pacific	Consolidated Total
Customer Industries				
Metals	$ 56,160	$ 36,839	$ 55,287	$ 148,286
Metalworking and other	97,984	88,848	48,947	235,779
	154,144	125,687	104,234	384,065
Global Specialty Businesses	57,264	20,021	12,821	90,106
	$ 211,408	$ 145,708	$ 117,055	$ 474,171
Timing of Revenue Recognized				
Product sales at a point in time	$ 201,284	$ 137,203	$ 114,625	$ 453,112
Services transferred over time	10,124	8,505	2,430	21,059
	$ 211,408	$ 145,708	$ 117,055	$ 474,171

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

	Three Months Ended March 31, 2021			
	Americas	**EMEA**	**Asia/Pacific**	**Consolidated Total**
Customer Industries				
Metals	$ 46,793	$ 34,274	$ 49,743	$ 130,810
Metalworking and other	88,078	85,540	46,963	220,581
	134,871	119,814	96,706	351,391
Global Specialty Businesses	45,256	20,272	12,864	78,392
	$ 180,127	$ 140,086	$ 109,570	$ 429,783
Timing of Revenue Recognized				
Product sales at a point in time	$ 171,594	$ 131,162	$ 106,399	$ 409,155
Services transferred over time	8,533	8,924	3,171	20,628
	$ 180,127	$ 140,086	$ 109,570	$ 429,783

Note 6 - Leases

The Company has operating leases for certain facilities, vehicles and machinery and equipment with remaining lease terms up to 10 years. Operating lease expense is recognized on a straight-line basis over the lease term. In addition, the Company has certain land use leases with remaining lease terms up to 93 years.

The Company has no material variable lease costs or sublease income for three months ended March 31, 2022 and 2021. The following table sets forth the components of the Company's lease cost for three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	**2021**
Operating lease expense	$ 3,409	$ 3,612
Short-term lease expense	219	251

Supplemental cash flow information related to the Company's leases is as follows:

	Three Months Ended March 31,	
	2022	**2021**
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 3,365	$ 3,579
Non-cash lease liabilities activity:		
Leased assets obtained in exchange for new operating lease liabilities	4,689	3,050

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

	March 31, 2022	**December 31, 2021**
Right of use lease assets	$ 38,245	$ 36,635
Other current liabilities	10,540	9,976
Long-term lease liabilities	27,433	26,335
Total operating lease liabilities	$ 37,973	$ 36,311
Weighted average remaining lease term (years)	5.9	5.6
Weighted average discount rate	4.14%	4.22%

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

Maturities of operating lease liabilities as of March 31, 2022 were as follows:

	March 31, 2022
For the remainder of 2022	$ 8,990
For the year ended December 31, 2023	9,513
For the year ended December 31, 2024	7,292
For the year ended December 31, 2025	5,375
For the year ended December 31, 2026	4,338
For the year ended December 31, 2027 and beyond	7,046
Total lease payments	42,554
Less: imputed interest	(4,581)
Present value of lease liabilities	$ 37,973

Note 7 – Restructuring and Related Activities

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 in the third quarter of 2019. The QH Program includes restructuring and associated severance costs to reduce total headcount by approximately 400 people globally, as well as 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 are subject to change; however, the Company currently expects reductions in headcount and site closures to continue to occur throughout 2022 under 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, including customary and routine adjustments to initial estimates for employee separation costs, as well as costs to close certain facilities and are recorded in Restructuring and related charges in the Company's Condensed Consolidated Statements of Income. 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.

Activity in the Company's accrual for restructuring under the QH Program for the three months ended March 31, 2022 is as follows:

	QH Program
Accrued restructuring as of December 31, 2021	$ 4,087
Restructuring and related charges	820
Cash payments	(408)
Currency translation adjustments	(64)
Accrued restructuring as of March 31, 2022	$ 4,435

Note 8 – Share-Based Compensation

The Company recognized the following share-based compensation expense in its Condensed Consolidated Statements of Income for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	2021
Stock options	$ 267	$ 308
Non-vested stock awards and restricted stock units	1,548	1,396
Non-elective and elective 401(k) matching contribution in stock	—	1,553
Director stock ownership plan	24	203
Performance stock units	623	319
Total share-based compensation expense	$ 2,462	$ 3,779

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

Share-based compensation expense is recorded in SG&A, except for less than $ 0.1 million and $0.3 million during the three months ended March 31, 2022 and 2021, respectively, recorded within Combination, integration and other acquisition-related expenses.

Stock Options

During the first quarter of 2022, the Company granted stock options under its long-term incentive plan ("LTIP") that are subject only to time vesting over a three year period. For the purposes of determining the fair value of stock option awards, the Company used a Black-Scholes option pricing model and the assumptions set forth in the table below:

	March 2022 Grant
Number of options granted	27,077
Dividend yield	0.80 %
Expected volatility	38.60 %
Risk-free interest rate	2.07 %
Expected term (years)	4.0

The fair value of these options is amortized on a straight-line basis over the vesting period. As of March 31, 2022, unrecognized compensation expense related to all stock options granted was $2.9 million, to be recognized over a weighted average remaining period of 1.9 years.

Restricted Stock Awards and Restricted Stock Units

During the three months ended March 31, 2022, the Company granted 17,425 non-vested restricted shares and 4,490 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 March 31, 2022, unrecognized compensation expense related to the nonvested restricted shares was $6.4 million, to be recognized over a weighted average remaining period of 2.1 years, and unrecognized compensation expense related to nonvested restricted stock units was $1.3 million, to be recognized over a weighted average remaining period of 2.3 years.

Performance Stock Units

The Company grants 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 generally from January 1 of the year of grant through December 31 of the year prior to issuances of the shares upon settlement.

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 set forth in the table below:

	March 2022 Grant
Number of PSUs granted	16,820
Risk-free interest rate	2.11 %
Dividend yield	0.93 %
Expected term (years)	3.0

As of March 31, 2022, the Company estimates that it will issue 0 fully vested shares as of the applicable settlement date of all outstanding PSUs awards based on the conditions of the PSUs and performance to date for each award. As of March 31, 2022, there was approximately $6.4 million of total unrecognized compensation cost related to PSUs which the Company expects to recognize over a weighted-average period of 2.3 years.

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

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 participants' compensation. Beginning in April 2020 and continuing through March 2021, the Company matched both non-elective and elective 401(k) contributions in fully vested shares of the Company's common stock rather than cash. There were no matching contributions in stock for the three months ended March 31, 2022. For the three months ended March 31, 2021, total contributions were $ 1.5 million.

Note 9 – Pension and Other Postretirement Benefits

The components of net periodic benefit (income) cost for the three months ended March 31, 2022 and 2021 are as follows:

	Three Months Ended March 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Service cost	$ 180	$ 316	$ (8)	$ 1
Interest cost	1,360	1,090	9	11
Expected return on plan assets	(2,084)	(2,082)	—	—
Actuarial loss (gain) amortization	257	855	(24)	—
Prior service cost (income) amortization	2	2	1	—
Total net periodic benefit (income) cost	$ (285)	$ 181	$ (22)	$ 12

Employer Contributions

As of March 31, 2022, $1.0 million and $0.1 million of contributions have been made to the Company's U.S. and foreign pension plans and its other postretirement benefit plans, respectively. Taking into consideration current minimum cash contribution requirements, the Company currently expects to make full year cash contributions of approximately $ 6.6 million to its U.S. and foreign pension plans and approximately $ 0.2 million to its other postretirement benefit plans in 2022.

Note 10 – Other (Expense) Income, Net

The components of other (expense) income, net for the three months ended March 31, 2022 and 2021 are as follows:

	Three Months Ended March 31,	
	2022	2021
Income from third party license fees	$ 404	$ 339
Foreign exchange losses, net	(1,905)	(1,478)
Gain on disposals of property, plant, equipment and other assets, net	23	5,410
Non-income tax refunds and other related (expense) credits	(1,322)	97
Pension and postretirement benefit income, non-service components	479	124
Other non-operating income, net	115	195
Total other (expense) income, net	$ (2,206)	$ 4,687

Non-income tax refunds and other related (expense) credits during the three months ended March 31, 2022 includes other expense related to an indemnification asset associated with the settlement of certain income tax audits at one of the Company's Italian affiliates for tax periods prior to August 1, 2019. See Note 11 of Notes to Condensed Consolidated Financial Statements. Gain on disposals of property, plant, equipment and other assets, net, during the three months ended March 31, 2021, includes a gain on the sale of certain held-for-sale real property assets related to the Combination. Foreign exchange losses, net, during each of the three months ended March 31, 2022 and 2021 include foreign currency transaction losses of approximately $ 0.2 million related to hyper-inflationary accounting for the Company's Argentine subsidiaries. See Note 1 of Notes to Condensed Consolidated Financial Statements.

Note 11 – Income Taxes and Uncertain Income Tax Positions

The Company's effective tax rates for the three months ended March 31, 2022 and 2021 were 13.1% and 24.2%, respectively. The Company's effective tax rate for the three months ended March 31, 2022 was largely driven by changes in the valuation allowance for foreign tax credits due to recently issued legislative guidance and audit settlements reached with Italian tax authorities. In addition, the Company incurred higher tax expense during the three months ended March 31, 2022 related to the Company recording earnings in one of its subsidiaries at a statutory tax rate of 25% while it awaits recertification of a concessionary 15% tax rate, which was available to the Company during all of 2021. Comparatively, the prior year first quarter effective tax rate was impacted by the sale of a subsidiary which included certain held-for-sale real property assets related to the Combination.

As of December 31, 2021, the Company had a deferred tax liability of $ 8.4 million on certain undistributed foreign earnings, which primarily represents the Company's estimate of non-U.S. income taxes the Company will incur to ultimately remit certain earnings to the U.S. The balance as of March 31, 2022 was $ 8.0 million.

As of March 31, 2022, the Company's cumulative liability for gross unrecognized tax benefits was $ 20.1 million, a decrease of approximately $ 2.4 million from the cumulative liability accrued as of December 31, 2021.

The Company continues to recognize interest and penalties associated with uncertain tax positions as a component of taxes on income before equity in net income of associated companies in its Condensed Consolidated Statements of Income. The Company recognized a benefit of $0.3 million for interest and a benefit of $ 1.6 million for penalties in its Condensed Consolidated Statements of Income for the three months ended March 31, 2022, and recognized an expense of less than $0.1 million for interest and a benefit of $0.1 million for penalties in its Condensed Consolidated Statements of Income for the three months ended March 31, 2021. As of March 31, 2022, the Company had accrued $ 2.7 million for cumulative interest and $1.6 million for cumulative penalties in its Condensed Consolidated Balance Sheets, compared to $ 3.1 million for cumulative interest and $3.1 million for cumulative penalties accrued at December 31, 2021.

During the three months ended March 31, 2022 and 2021, the Company recognized decreases of $2.8 million and $0.3 million, respectively, in its cumulative liability for gross unrecognized tax benefits due to the settlement of income tax audits with the Italian tax authorities, as well as the expiration of the applicable statutes of limitations for certain tax years.

The Company estimates that during the year ending December 31, 2022 it will reduce its cumulative liability for gross unrecognized tax benefits by approximately $ 4.2 million due to the settlement of income tax audits and 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, 2022.

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 Italy from 2007, Brazil from 2011, Germany from 2015, the Netherlands, Mexico and China from 2016, Canada, Spain, and the U.S. from 2017, the United Kingdom from 2018, India from fiscal year beginning April 1, 2017 and ending March 31, 2018, and various U.S. state tax jurisdictions from 2011.

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 from these assessments under the Mutual Agreement Procedures ("MAP") of the Organization for Economic Co-Operation and Development for all years except 2007. In 2020, the respective tax authorities in Italy, Spain and the Netherlands reached agreement with respect to the MAP proceedings which the Company has accepted. As of March 31, 2022, the Company has received $ 1.6 million in refunds from the Netherlands and Spain. In February 2022, the Company received a settlement notice from the Italian taxing authorities confirming the amount due of $ 2.6 million, having granted the Company's request to utilize its remaining net operating losses to partially offset the liability. As a result of the settlement the Company recognized tax expense of $ 0.8 million for the quarter ended March 31, 2022.

Houghton Italia, S.r.l is also involved in a corporate income tax audit with the Italian tax authorities covering tax years 2014 through 2018. During the fourth quarter of 2021, the Company settled a portion of the Houghton Italia, S.r.l. corporate income tax audit with the Italian tax authorities for the tax years 2014 and 2015. During the three months ended March 31, 2022 the Company settled tax years 2016 through 2018 for a total of $ 2.1 million. In total, the Company has now settled all years 2014 through 2018 for $3.7 million. Accordingly, the Company has released all reserves relating to this audit for the settled tax years. As a result of the settlement and reserve release the Company recognized a net benefit to the tax provision of $ 2.1 million during the first quarter of 2022. The Company has established an indemnification receivable of $ 3.8 million in connection with its claim against the former owners of Houghton for any pre-Combination tax liabilities arising from this matter.

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

Houghton Deutschland GmbH is also under audit by the German tax authorities for the tax years 2015 through 2017. Based on preliminary audit findings, primarily related to transfer pricing, the Company has recorded reserves for $0.3 million as of March 31, 2022. Of this amount, $0.3 million relates to tax periods prior to the Combination and therefore the Company has submitted an indemnification claim with Houghton's former owners for any tax liabilities arising pre-Combination. As a result, a corresponding indemnification receivable has also been established.

Note 12 – Earnings Per Share

The following table summarizes earnings per share calculations for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	**2021**
Basic earnings per common share		
Net income attributable to Quaker Chemical Corporation	$ 19,816	$ 38,615
Less: income allocated to participating securities	(78)	(154)
Net income available to common shareholders	$ 19,738	$ 38,461
Basic weighted average common shares outstanding	17,826,061	17,785,370
Basic earnings per common share	$ 1.11	$ 2.16
Diluted earnings per common share		
Net income attributable to Quaker Chemical Corporation	$ 19,816	$ 38,615
Less: income allocated to participating securities	(78)	(154)
Net income available to common shareholders	$ 19,738	$ 38,461
Basic weighted average common shares outstanding	17,826,061	17,785,370
Effect of dilutive securities	25,798	70,607
Diluted weighted average common shares outstanding	17,851,859	17,855,977
Diluted earnings per common share	$ 1.11	$ 2.15

Certain stock options, restricted stock units and PSUs are not included in the diluted earnings per share calculation when the effect would have been anti-dilutive. The calculated amount of anti-diluted shares not included were 12,260 and 2,083 for the three months ended March 31, 2022 and 2021, respectively.

Note 13 – Goodwill and Other Intangible Assets

Changes in the carrying amount of goodwill for the three months ended March 31, 2022 were as follows:

	Americas	EMEA	Asia/Pacific	Global Specialty Businesses	Total
Balance as of December 31, 2021	$ 214,023	$ 135,520	$ 162,458	$ 119,193	$ 631,194
Goodwill additions	1,752	—	—	32	1,784
Currency translation adjustments	1,376	(2,569)	(328)	(519)	(2,040)
Balance as of March 31, 2022	$ 217,151	$ 132,951	$ 162,130	$ 118,706	$ 630,938

Gross carrying amounts and accumulated amortization for definite-lived intangible assets as of March 31, 2022 and December 31, 2021 were as follows:

	Gross Carrying Amount		Accumulated Amortization	
	2022	**2021**	**2022**	**2021**
Customer lists and rights to sell	$ 855,309	$ 853,122	$ 159,576	$ 147,858
Trademarks, formulations and product technology	162,408	163,974	40,565	38,747
Other	6,361	6,309	5,989	5,900
Total definite-lived intangible assets	$ 1,024,078	$ 1,023,405	$ 206,130	$ 192,505

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

The Company amortizes definite-lived intangible assets on a straight-line basis over their useful lives. The Company recorded $14.6 million and $14.8 million of amortization expense for the three months ended March 31, 2022 and 2021, respectively. Estimated annual aggregate amortization expense for the current year and subsequent five years is as follows:

For the year ended December 31, 2022	$	59,465
For the year ended December 31, 2023		59,293
For the year ended December 31, 2024		58,701
For the year ended December 31, 2025		57,924
For the year ended December 31, 2026		57,678
For the year ended December 31, 2027 and beyond		532,124

The Company has four indefinite-lived intangible assets totaling $ 194.1 million as of March 31, 2022, including $193.0 million of indefinite-lived intangible assets for trademarks and tradename associated with the Combination. Comparatively, the Company had four indefinitely-lived intangible assets for trademarks and tradename totaling $196.9 million as of December 31, 2021.

Note 14 – Debt

Debt as of March 31, 2022 and December 31, 2021 includes the following:

	As of March 31, 2022			As of December 31, 2021		
	Interest Rate		Outstanding Balance	Interest Rate		Outstanding Balance
Credit Facilities:						
Revolver	1.68%	$	254,453	1.62%	$	211,955
U.S. Term Loan	1.71%		528,750	1.65%		540,000
EURO Term Loan	1.50%		132,037	1.50%		137,616
Industrial development bonds	5.26%		10,000	5.26%		10,000
Bank lines of credit and other debt obligations	Various		1,659	Various		1,777
Total debt		$	926,899		$	901,348
Less: debt issuance costs			(7,227)			(8,001)
Less: short-term and current portion of long-term debts			(61,385)			(56,935)
Total long-term debt		$	858,287		$	836,412

Credit facilities

The Company's primary credit facility (as amended, the "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 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 Credit Facility bear interest at a base rate or LIBOR plus an applicable margin based upon the Company's consolidated net leverage ratio. On December 10, 2021, the Company entered into the Second Amendment with Bank of America N.A., to include among other things, an update to provide for use of a non-USD currency LIBOR successor rate. The variable interest rate incurred on the outstanding borrowings under the Credit Facility during the three months ended March 31, 2022 was approximately 1.6%. As of March 31, 2022, the interest rate of the outstanding borrowings under the Credit Facility was approximately 1.7%. In addition to paying interest on outstanding principal under the Credit Facility, the Company is required to pay a commitment fee ranging from 0.2% to 0.3% depending on the Company's consolidated net 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 $142 million, net of bank letters of credit of approximately $4 million, as of March 31, 2022.

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

The Credit Facility is subject to certain financial and other covenants. The Company's initial consolidated net debt to consolidated adjusted EBITDA ratio could not exceed 4.25 to 1, with step downs in the permitted ratio over the term of the Credit Facility. As of March 31, 2021, the consolidated net debt to adjusted EBITDA may not exceed 3.75 to 1. The Company's consolidated adjusted EBITDA to interest expense ratio cannot be less than 3.0 to 1 over the term of the agreement. The 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 March 31, 2022 and December 31, 2021, the Company was in compliance with all of the Credit Facility covenants . The Term Loans have quarterly principal amortization during their five year terms, with 5.0% amortization of the principal balance due in years 1 and 2, 7.5% in year 3, and 10.0% in years 4 and 5, with the remaining principal amount due at maturity. During the three months ended March 31, 2022, the Company made quarterly amortization payments related to the Term Loans totaling $14.1 million. The 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 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 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 Credit Facility, based on the Company's consolidated net leverage ratio. At the time the Company entered into the swaps, and as of March 31, 2022, the aggregate interest rate on the swaps, including the fixed base rate plus an applicable margin, was 3.1%. See Note 17 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 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 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 Consolidated Balance Sheet. These capitalized costs are being amortized into interest expense over the five year term of the Credit Facility. As of March 31, 2022 and December 31, 2021, the Company had $7.2 million and $8.0 million, respectively, of debt issuance costs recorded as a reduction of long-term debt. As of March 31, 2022 and December 31, 2021, the Company had $3.9 million and $4.3 million, respectively, of debt issuance costs recorded within other assets.

Industrial development bonds

As of March 31, 2022 and December 31, 2021, 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 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 certain 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 March 31, 2022 was approximately $30 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 March 31, 2022 were approximately $6 million.

The Company incurred the following debt related expenses included within Interest expense, net, in the Condensed Consolidated Statements of Income:

	Three Months Ended March 31,	
	2022	**2021**
Interest expense	$ 4,746	$ 4,650
Amortization of debt issuance costs	1,187	1,187
Total	$ 5,933	$ 5,837

Based on the variable interest rates associated with the Credit Facility, as of March 31, 2022 and December 31, 2021, the amounts at which the Company's total debt were recorded are not materially different from their fair market value.

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

Note 15 – Accumulated Other Comprehensive Income

The following tables show the reclassifications from and resulting balances of accumulated other comprehensive income ("AOCI") for the three months ended March 31, 2022 and 2021:

	Currency Translation Adjustments	Defined Benefit Retirement Plans	Unrealized Gain (Loss) in Available-for-Sale Securities	Derivative Instruments	Total
Balance at December 31, 2021	$ (49,843)	$ (13,172)	$ 397	$ (1,372)	$ (63,990)
Other comprehensive (loss) income before reclassifications	(6,867)	432	(1,277)	1,429	(6,283)
Amounts reclassified from AOCI	—	229	11	—	240
Related tax amounts	—	(165)	266	(329)	(228)
Balance at March 31, 2022	$ (56,710)	$ (12,676)	$ (603)	$ (272)	$ (70,261)
Balance at December 31, 2020	$ (2,875)	$ (23,467)	$ 3,342	$ (3,598)	$ (26,598)
Other comprehensive (loss) income before reclassifications	(25,459)	781	(745)	730	(24,693)
Amounts reclassified from AOCI	—	862	(3,085)	—	(2,223)
Related tax amounts	—	(351)	805	(168)	286
Balance at March 31, 2021	$ (28,334)	$ (22,175)	$ 317	$ (3,036)	$ (53,228)

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.

Note 16 – Fair Value Measurements

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

		Fair Value Measurements at March 31, 2022 Using Fair Value Hierarchy		
Assets	Total Fair Value	Level 1	Level 2	Level 3
Company-owned life insurance	$ 2,395	$ —	$ 2,395	$ —
Total	$ 2,395	$ —	$ 2,395	$ —

		Fair Value Measurements at December 31, 2021 Using Fair Value Hierarchy		
Assets	Total Fair Value	Level 1	Level 2	Level 3
Company-owned life insurance	$ 2,533	$ —	$ 2,533	$ —
Total	$ 2,533	$ —	$ 2,533	$ —

The fair values of Company-owned life insurance assets are based on quotes for like instruments with similar credit ratings and terms. The Company did not hold any Level 3 investments as of March 31, 2022 or December 31, 2021, respectively, so related disclosures have not been included.

Note 17 – Hedging Activities

In order to satisfy certain requirements of the Credit Facility as well as to manage the Company's exposure to variable interest rate risk associated with the Credit Facility, in November 2019, the Company entered into $ 170.0 million notional amounts of three year interest rate swaps. See Note 14 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 effects earnings or it becomes probable that the forecasted transaction will not occur.

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

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

	Consolidated Balance Sheet Location	Fair Value March 31, 2022	Fair Value December 31, 2021
Derivatives designated as cash flow hedges:			
Interest rate swaps	Other accrued liabilities	$ 353	$ 1,782
		$ 353	$ 1,782

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

		March 31, 2022	December 31, 2021
Derivatives designated as cash flow hedges:			
Interest rate swaps	AOCI	$ 272	$ 1,372
		$ 272	$ 1,372

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

		Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Amount and location of expense reclassified from AOCI into expense (Effective Portion)	Interest expense, net	$ (637)	$ (643)

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 18 – Commitments and Contingencies

The Company previously disclosed in its 2021 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 March 31, 2022, ACP believes it is close to meeting the conditions for closure of the groundwater treatment system, but continues to operate this system while in discussions with the relevant authorities.

As of March 31, 2022, 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 2021 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 months ended March 31, 2022, 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 $0.3 million (excluding costs of defense).

The Company previously disclosed in its 2021 Form 10-K that it is party to certain environmental matters related to certain domestic and foreign properties. 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 months ended March 31, 2022, 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 27 years, has estimated the range of costs for all of these environmental matters, on a discounted basis, to be between approximately $5 million and $6 million as of March 31, 2022, for which $5.9 million was accrued within other accrued liabilities and other non-current liabilities on the Company's Condensed Consolidated Balance Sheet as of March 31, 2022. Comparatively, as of December 31, 2021, the Company had $5.6 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 $0.4 million were accrued as of both March 31, 2022 and December 31, 2021, respectively, to provide for such anticipated future environmental assessments and remediation costs.

In connection with obtaining regulatory approvals for the Combination, certain steel and aluminum related product lines of Houghton were divested in August 2019. The Company previously disclosed in its 2021 Form 10-K that in July 2021, the entity that acquired these divested product lines submitted an indemnification claim for certain alleged breaches of representation made by Houghton in the agreement pursuant to which such assets had been divested. The Company responded to the subject matters of the indemnification claim and during the first quarter of 2022 the matter was resolved consistent with the Company’s expectations and position that there were no amounts owed by the Company.

The Company previously disclosed in its 2021 Form 10-K that two of the Company’s locations suffered property damages as a result of flooding and fire, respectively. The Company maintains property insurance for all of its facilities globally. During the three months ended March 31, 2022, there have been no significant changes to the facts or circumstances of these previously disclosed matters, aside from the on-going restoration of both sites. The Company, its insurance adjuster and insurance carrier are actively managing the remediation and restoration activities associated with these events and at this time the Company has concluded, based on all available information and discussions with its insurance adjuster and insurance carrier, that the losses were covered under the Company’s property insurance coverage, net of an aggregate deductible of $2.0 million. The Company has received payments from its insurers of $2.1 million and has recorded an insurance receivable associated with these events (and a gain on insurance recoveries for losses incurred) of $0.5 million as of March 31, 2022.

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.

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. The term Legacy Quaker refers to the Company prior to the closing of its combination with Houghton International, Inc. in 2019 ("Houghton") (herein referred to as the "Combination").

Executive Summary

Quaker Houghton is the 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 U.S.

Overall, the Company's first quarter of 2022 performance reflected continued progress navigating through a very challenging economic environment, including significant raw material cost escalation, supply chain and logistics disruptions and the direct, indirect and global impacts of the war in Ukraine and other global events that presented headwinds to the Company in the first quarter of 2022. Net sales in the first quarter of 2022 were $474.2 million, an increase of 10% compared to $429.8 million in the first quarter of 2021, primarily driven by an increase in selling price and product mix of approximately 17% and additional net sales from acquisitions of 2%, partially offset by a decline in organic sales volume of 6% and the unfavorable impact from foreign currency translation of 3%. The increase in selling price and product mix is primarily the result of continued and strategic price increases implemented to help offset the unprecedented increase in raw material costs as well as global supply chain and logistics and labor cost pressures that began during 2021 and continued through the first quarter of 2022. The decline in organic sales volumes was primarily attributable to the comparison to a very strong first quarter of 2021, where customers replenished their supply chains due to the continued economic recovery from COVID-19, the impact of lower volumes related to the tolling agreement for previously divested products associated with the Combination and lower sales volumes attributable to the war in Ukraine. The Company's organic sales volumes increased approximately 3% sequentially compared to the fourth quarter of 2021, as continued new business wins were partially offset by the Company's actions to strategically reduce volumes in accordance with its ongoing value-based pricing initiatives.

The Company generated net income in the first quarter of 2022 of $19.8 million, or $1.11 per diluted share, compared to a first quarter of 2021 net income of $38.6 million, or $2.15 per diluted share. Excluding non-recurring and non-core items in each period, the Company's first quarter of 2022 non-GAAP earnings per diluted share were $1.42 compared to $2.11 in the prior year first quarter and the Company's current quarter adjusted EBITDA of $60.4 million decreased 22% compared to $77.1 million in the first quarter of 2021. These results were primarily driven by lower gross margins in the current quarter due to significantly higher raw material and other input costs as well as the direct and indirect impacts of global supply chain disruptions, and to a lesser extent, by higher selling, general and administrative expenses ("SG&A"). Sequentially, the Company's adjusted EBITDA was relatively flat compared to the fourth quarter of 2021. 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.

The Company's first quarter of 2022 operating performance in each of its four reportable segments: (i) Americas; (ii) Europe, Middle East and Africa ("EMEA"); (iii) Asia/Pacific; and (iv) Global Specialty Businesses, reflect similar drivers to that of its consolidated performance as each of the Company's reportable segments net sales benefitted from double-digit increases in selling price and product mix and additional net sales from acquisitions, while most segments were partially offset by lower sales volumes and the unfavorable impact of foreign currency translation. Operating earnings from the Global Specialty Businesses increased compared to the prior year quarter whereas operating earnings from the Americas, Asia/Pacific, and EMEA segments declined. This was a result of lower segment gross margins which were unfavorably impacted by the lag in price capture compared to the continued cost pressures on our raw materials, global supply chain and logistics networks, and manufacturing, labor and other costs. 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 a net operating cash outflow of $6.3 million in the first quarter of 2022 as compared to a net operating cash outflow of $12.6 million in the first quarter of 2021. Despite the net operating cash outflow in both periods, the increase in net operating cash flow quarter-over-quarter was primarily driven by a modest improvement in working capital compared to the prior year first quarter, notably by a lower outflow related to accounts receivable partially offset by an increase in inventory due to higher raw material costs and a build in certain inventory in response to global supply chain and logistics challenges. 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, results in the first quarter of 2022 reflected the Company's ability to continue to navigate through persistent raw material cost pressures, supply chain challenges including those impacting on semiconductors for the automotive end markets and the impacts of certain global economic events including the Russia conflict with Ukraine. Increases in net sales in all segments were primarily driven by an increase in selling price implemented to offset the ongoing and significant escalation of raw material costs and a favorable demand environment across most of the Company's markets. However, raw material cost increases continued to outpace the Company's broad-based pricing initiatives in the first quarter of 2022, and the Company's margins and earnings reflect the significantly different cost environment in the first quarter of 2022 compared to the first quarter of 2021. The Company continues to implement further aggressive and strategic price increases and is actively managing its cost structure to mitigate the current and expected inflationary pressures. While significant uncertainty exists, notably due to pandemic-related restrictions in China and the ongoing war in Ukraine, the Company remains committed to advancing its customer intimate strategy, recovering its margins and investing in value enhancing initiatives to better position the Company to continue to deliver on its growth potential.

Ongoing impact of COVID-19

The global outbreak of COVID-19 has negatively impacted all locations where the Company does business. Although the Company has now operated in this COVID-19 environment for two years, the full extent of the outbreak and related business impacts continue to remain uncertain and volatile, and therefore the full extent to which COVID-19 may impact the Company's future results of operations or financial condition is uncertain. This outbreak has significantly disrupted the operations of the Company and those of its suppliers and customers and at times during the pandemic, the Company has experienced volume declines and lower net sales as compared to pre-COVID-19 levels. 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. The prolonged pandemic and resurgences of the outbreak including as new variants continue to emerge, and continued restrictions on day-to-day life and business operations as well as increased border controls or closures and transportation disruptions may result in volume declines and lower net sales in future periods. 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 cautions that its future results of operations could be significantly adversely impacted by COVID-19. While the circumstances have presented and are expected to continue to present challenges, and have necessitated additional time and resources to be deployed to sufficiently address the challenges brought on by the pandemic, at this time, management does not believe that COVID-19 has had a material impact on financial reporting processes, internal controls over financial reporting, or disclosure controls and procedures.

The Company's top priority, especially during this pandemic, is to protect the health and safety of its employees and customers, while working to ensure business continuity to meet customers' needs. 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 practicable, 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 has not and does not expect that it will incur material expenses implementing these health and safety policies. With the exception of its Shanghai-based operations, which have been and continue to be significantly impacted since late March 2022 due to government restrictions currently in place in that province of China, all of the Company's more than 30 other production facilities worldwide are open and operating and are deemed as essential businesses in the jurisdictions where they are operating and the Company believes that to date it has been able to meet the needs of all its customers across the globe despite the current challenges. The Company continues to expect that the impacts from COVID-19 will gradually decline subject to the effective containment of the virus and its variants and successful distribution and acceptance of the available vaccines and treatments; however, the incidence of reported cases of COVID-19 or a variant in several geographies where the Company has significant operations remains high. Differing government responses to these reported cases continues to evolve and it therefore remains highly uncertain as to how long the global pandemic and related economic challenges will last in each of the jurisdictions where the Company does business and when our customers' businesses will recover to pre-COVID-19 levels. As a result of the government-imposed quarantine and lockdown measures implemented at the end of March 2022, which are currently in effect, the Company's Shanghai-based locations have been and continue to be significantly impacted as of the date of this Form 10-Q. The negative impact of these measures to operations and liquidity has and will be experienced during the second quarter of 2022, and the ultimate impact will depend on the duration of the quarantine and lockdown measures in effect. While the actions taken to date to protect our workforce, to continue to serve our customers with excellence and to conserve cash and reduce costs as applicable, have been effective thus far, further actions to respond to the pandemic and its effects may be necessary as conditions continue to evolve.

Impact of Political Conflicts

A significant portion of the Company's revenues and earnings are generated by non-U.S. operations which subjects the Company to political and economic risks that could adversely affect the Company's business, liquidity, financial position and results of operations. The existence of military conflicts, for example the Russian invasion of Ukraine, bring inherent risks such as the potential for supply chain disruptions, decreased trade activity and other consequences related to economic or other sanctions. The U.S.

government and other nations have imposed significant restrictions on most companies' ability to do business in Russia as a result of the military conflict between Russia and Ukraine. It is not possible to predict the broader or longer-term consequences of this conflict, which could include further sanctions, embargoes, regional instability, geopolitical shifts and adverse effects on macroeconomic conditions, security conditions, currency exchange rates and financial markets. Such geo-political instability and uncertainty could have a negative impact on the Company's ability to sell to, ship products to, collect payments from, and support customers in certain regions based on trade restrictions, embargoes and export control law restrictions, and logistics restrictions including closures of air space, and could increase the costs, risks and adverse impacts from these new challenges. The Company may also be the subject of increased cyber-attacks.

The Company's operations in the conflict areas including Russia, Ukraine and Belarus represent less than 2% of the Company's consolidated net sales and less than 1% of the Company's consolidated total assets. The Company's primary exposure in the conflict area relates to outstanding customer accounts receivable. The Company is actively monitoring the outstanding receivables for collections and has recorded incremental allowance for doubtful accounts where warranted. The Company continues to review the facts and circumstances of its customers and the impact of the ongoing sanctions as they relate to its continued business with impacted customers and the collectability of outstanding accounts receivable. The Company also has and continues to monitor the impact of the volatility and uncertainty in the economic outlook as a result of the conflict with respect to the recoverability of its long-term and indefinite-lived assets, including assessing potential triggering events for impairment considerations related to intangible assets and goodwill. As of March 31, 2022, the Company concluded that the conflict and its current and projected impact to the Company did not represent a triggering event and the Company continues to monitor and evaluate the evolving situation.

Liquidity and Capital Resources

At March 31, 2022, the Company had cash and cash equivalents of $161.6 million. Total cash and cash equivalents was $165.2 million at December 31, 2021. The $3.6 million decrease in cash and cash equivalents was the net result of $18.2 million of cash used in investing activities and $6.3 million of cash used in operating activities partially offset by $20.6 million of cash provided by financing activities and a $0.3 million positive impact due to the effect of foreign currency translation.

Net cash flows used in operating activities were $6.3 million in the first three months of 2022 compared to net cash flows used in operating activities of $12.6 million in the first three months of 2021. The increase in net operating cash flows of $6.3 million was primarily driven by a lower working capital outflow quarter-over-quarter, as the Company had a smaller increase in accounts receivable in the first quarter of 2022 due to changes in current quarter net sales, which was partially offset by a higher outflow from inventory due to increases in raw material costs and continued build of stock in response to global supply chain and logistics challenges and other recent global economic events. Also, in the first quarter of 2022, the Company received a $2.8 million dividend from the Company's Korean joint venture, with no similar dividend received in the prior year period.

Net cash flows used in investing activities were $18.2 million in the first three months of 2022 compared to $15.8 million in the first three months of 2021. This increase in cash outflows was a result of lower cash proceeds from the disposition of assets which included the sale of certain held-for-sale real property assets related to the Combination in the prior year period, and higher capital expenditures in the current year largely related to certain infrastructure and sustainability-related spending. These increases in cash used in investing activities were partially offset by lower cash payments related to acquisitions as a result of the level of acquisition activity in each year.

Net cash flows provided by financing activities were $20.6 million in the first three months of 2022 compared to $13.0 million in the first three months of 2021. The increase in net cash flows was primarily related to an increase in borrowings in the current year under the Company's credit facility as compared to the prior year. In addition, the Company paid $7.4 million of cash dividends during the first three months of 2022, a $0.4 million or 5% increase in cash dividends compared to the prior year. See Note 2 of Notes to Condensed Consolidated Financial Statements in Item 1 of this Report.

The Company's primary credit facility (the "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 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 Credit Facility bear interest at a base rate plus an applicable margin based on the Company's consolidated net leverage ratio. The weighted average interest rate incurred on the outstanding borrowings under the Credit Facility during both the first quarter of 2022 and as of March 31, 2022 was approximately 1.6%. In addition to paying interest on outstanding principal under the Credit Facility, the Company is required to pay a commitment fee ranging from 0.2% to 0.3% depending on the Company's consolidated net leverage ratio to the lenders under the Revolver in respect of the unutilized commitments thereunder.

The Credit Facility is subject to certain financial and other covenants. The Company's initial consolidated net debt to consolidated adjusted EBITDA ratio could not exceed 4.25 to 1, with step downs in the permitted ratio over the term of the Credit Facility. As of March 31, 2022, the consolidated net debt to consolidated adjusted EBITDA ratio may not exceed 3.75 to 1. The Company's consolidated adjusted EBITDA to interest expense ratio may not be less than 3.0 to 1 over the term of the agreement. The Credit Facility also prohibits the payment of cash dividends if the Company is in default or if the amount of the dividends 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 March 31, 2022 and December 31, 2021, the Company was in compliance with all of the Credit Facility covenants. The Term Loans have quarterly principal amortization during their five year terms, with 5.0% amortization of the principal balance due in years 1 and 2, 7.5% in year 3, and 10.0% in years 4 and 5, with the remaining principal amount due at maturity. The 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 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 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 Credit Facility, based on the Company's consolidated net leverage ratio. At the time the Company entered into the swaps, and as of March 31, 2022, the aggregate interest rate on the swaps, including the fixed base rate plus an applicable margin, was 3.1%.

The Company capitalized $23.7 million of certain third-party debt issuance costs in connection with executing the 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 Credit Facility.

As of March 31, 2022, the Company had Credit Facility borrowings outstanding of $915.2 million. As of December 31, 2021, the Company had Credit Facility borrowings outstanding of $889.6 million. The Company has unused capacity under the Revolver of approximately $142 million, net of bank letters of credit of approximately $4 million, as of March 31, 2022. The Company's other debt obligations are primarily industrial development bonds, bank lines of credit and municipality-related loans, which totaled $11.7 million and $11.8 million as of March 31, 2022 and December 31, 2021, respectively. Total unused capacity under these arrangements as of March 31, 2022 was approximately $30 million. The Company's total net debt as of March 31, 2022 was $765.3 million.

The Company incurred $6.0 million of total Combination, integration and other acquisition-related expenses in the first quarter of 2022, which includes $2.0 million of other expenses related to an indemnification asset, described in the Non-GAAP Measures section of this Item below. Comparatively, in the first quarter of 2021, the Company incurred $0.8 million of total Combination, integration and other acquisition-related expenses, which was net of a $5.4 million gain on the sale of certain held-for-sale real property assets and also $0.4 million of accelerated depreciation. The Company had aggregate net cash outflows of approximately $8.3 million related to the Combination, integration and other acquisition-related expenses during the first three months of 2022 as compared to $8.7 million during the first three months of 2021. During the first quarter of 2022, the Company incurred $3.1 million of strategic planning and transformation expenses. The Company expects that these additional operating costs and associated cash flows, as well as higher capital expenditures related to strategic planning, process optimization and the next phase of the Company's long-term integration to further optimize its footprint, processes and other functions will continue in 2022 and over the next several years.

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 400 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 continues to depend on a number of factors and is subject to change; however, reductions in headcount and site closures have occurred, and the Company currently expects additional headcount reductions and site closures to occur throughout the year and estimates that the anticipated cost synergies realized under the QH Program will approximate one-times restructuring costs incurred. The Company made cash payments related to the settlement of restructuring liabilities under the QH Program during the first three months of 2022 of approximately $0.4 million compared to $3.0 million in the first three months of 2021.

As of March 31, 2022, the Company's gross liability for uncertain tax positions, including interest and penalties, was $24.5 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 $7.2 million as a result of offsetting benefits in other tax jurisdictions.

In 2021, two of the Company's locations suffered significant property damage as a result of flooding and fire. The Company maintains property insurance for all of its facilities globally. The Company, its insurance adjuster and insurance carrier are actively managing the remediation and restoration activities associated with both of these events and at this time the Company has concluded, based on all available information and discussions with its insurance adjuster and insurance carrier, that the losses incurred during 2021 were covered under the Company's property insurance coverage, net of an aggregate deductible of $2.0 million. The Company has received payments from its insurers of $2.1 million and has recorded an insurance receivable associated with these events of $0.5 million as of March 31, 2022. See Note 18 of Notes to Condensed Consolidated Financial Statements in Item 1 of this Report.

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 ongoing acquisition integration and optimization, pension plan contributions, capital expenditures, other business opportunities (including potential acquisitions), implementing actions to achieve the Company's sustainability goals and other potential contingencies. The Company believes it has sufficient additional liquidity to support its operating requirements and fund its business obligations for the period beyond the next twelve months as well, including the aforementioned items which are expected to recur annually, as well as future principal payments on the Company's Credit Facility, transition tax obligations and other long-term liabilities. 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 and other global events 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.

Non-GAAP Measures

The information in this Form 10-Q filing 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 income attributable to the Company before depreciation and amortization, interest expense, net, and taxes on 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 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 plus or minus certain items that are not 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 income before equity in net income of associated companies, in each case adjusted, as applicable, for any depreciation, amortization, interest or tax impacts resulting from the non-core items identified in the reconciliation of net 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 March 31, 2022**	**Three Months Ended March 31, 2021**
Operating income	$ 29,403	$ 44,894
Combination, integration and other acquisition-related expenses (a)	4,053	6,230
Strategic planning and transformation expenses (b)	3,088	-
Restructuring and related charges (c)	820	1,175
Fair value step up of acquired inventory sold (d)	—	801
Executive transition costs (e)	539	504
Inactive subsidiary's non-operating litigation costs (f)	92	51
Customer insolvency costs (g)	1,166	—
Non-GAAP operating income	$ 39,161	$ 53,655
Non-GAAP operating margin (%) (n)	8.3%	12.5%

EBITDA, Adjusted EBITDA, Adjusted EBITDA Margin and Non-GAAP Net Income Reconciliations	**Three Months Ended March 31, 2022**	**Three Months Ended March 31, 2021**
Net income attributable to Quaker Chemical Corporation	$ 19,816	$ 38,615
Depreciation and amortization (a) (l)	20,727	22,448
Interest expense, net (a)	5,345	5,470
Taxes on income before equity in net income of associated companies (m)	2,866	10,689
EBITDA	$ 48,754	$ 77,222
Equity loss (income) in a captive insurance company (h)	244	(3,080)
Combination, integration and other acquisition-related expenses (a)	6,032	427
Strategic planning and transformation expenses (b)	3,088	—
Restructuring and related charges (c)	820	1,175
Fair value step up of acquired inventory sold (d)	—	801
Executive transition costs (e)	539	504
Inactive subsidiary's non-operating litigation costs (f)	92	51
Customer insolvency costs (g)	1,166	—
Pension and postretirement benefit income, non-service components (i)	(479)	(124)
Currency conversion impacts of hyper-inflationary economies (j)	188	172
Adjusted EBITDA	$ 60,444	$ 77,148
Adjusted EBITDA margin (%) (n)	12.7%	18.0%
Adjusted EBITDA	$ 60,444	$ 77,148
Less: Depreciation and amortization - adjusted (a)	20,727	22,033
Less: Interest expense, net	5,345	5,470
Less: Taxes on income before equity in net income of associated companies - adjusted (k)(m)	8,902	11,739
Non-GAAP net income	$ 25,470	$ 37,906

Non-GAAP Earnings per Diluted Share Reconciliations	**Three Months Ended March 31, 2022**	**Three Months Ended March 31, 2021**
GAAP earnings per diluted share attributable to Quaker Chemical Corporation common shareholders	$ 1.11	$ 2.15
Equity loss (income) in a captive insurance company per diluted share (h)	0.01	(0.17)
Combination, integration and other acquisition-related expenses per diluted share (a)	0.25	0.04
Strategic planning and transformation expenses per diluted share (b)	0.14	—
Restructuring and related charges per diluted share (c)	0.03	0.05
Fair value step up of acquired inventory sold per diluted share (d)	—	0.03
Executive transition costs per diluted share (e)	0.02	0.02
Inactive subsidiary's non-operating litigation costs per diluted share (f)	0.00	0.00
Customer insolvency costs per diluted share (g)	0.06	—
Pension and postretirement benefit costs, non-service components per diluted share (i)	(0.02)	(0.00)
Currency conversion impacts of hyper-inflationary economies per diluted share (j)	0.01	0.01
Impact of certain discrete tax items per diluted share (k)	(0.19)	(0.02)
Non-GAAP earnings per diluted share (o)	$ 1.42	$ 2.11

(a) Combination, integration and other acquisition-related expenses include certain legal, financial, and other advisory and consultant costs incurred in connection with integration activities including internal control readiness and remediation. These costs are not indicative of the future operating performance of the Company. Less than $0.1 million and $0.1 million for the three months ended March 31, 2022 and 2021, 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 income before equity in net income of associated companies - adjusted reflects the impact of these items. During the three months ended March 31, 2022, the Company recorded $2.0 million of other expense related to an indemnification asset. During the three months ended March 31, 2021, the Company recorded $0.4 million of accelerated depreciation related to certain of the Company's facilities, which is included in the caption "Combination, integration and other acquisition-related expenses" in the reconciliation of operating income to non-GAAP operating income and included in the caption "Depreciation and amortization" in the reconciliation of net income attributable to the Company to EBITDA, but excluded from the caption "Depreciation and amortization – adjusted" in the reconciliation of adjusted EBITDA to non-GAAP net income attributable to the Company. During the three months ended March 31, 2021, the Company recorded a $5.4 million gain on the sale of certain held-for-sale real property assets related to the Combination which is included in the caption "Combination, integration and other acquisition-related expenses" in the reconciliation of GAAP earnings per diluted share attributable to Quaker Chemical Corporation common shareholders to Non-GAAP earnings per diluted share as well as the reconciliation of net income attributable to Quaker Chemical Corporation to Adjusted EBITDA and Non-GAAP net income.

(b) Strategic planning and transformation expenses include certain consultant and advisory expenses for the Company's long-term strategic planning, as well as process optimization and the next phase of the Company's long-term integration to further optimize its footprint, processes and other functions. These costs are not indicative of the future operating performance of the Company.

(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) Fair value step up of acquired inventory sold relates to expense associated with selling inventory from acquired businesses which was adjusted to fair value as part of purchase accounting. These increases in costs of goods sold ("COGS") are not indicative of the future operating performance of the Company.

(e) Executive transition costs represent the costs related to the Company's search, hiring and transition to a new CEO in connection with the executive transition that took place in 2021 as well as the on-going search for a new Chief Human Resources Officer during the first quarter of 2022. These expenses are not indicative of the future operating performance of the Company.

(f) Inactive subsidiary's non-operating litigation costs represent the charges incurred by an inactive subsidiary of the Company and are a result of the termination of restrictions on insurance settlement reserves. These charges are not indicative of the future operating performance of the Company.

(g) Customer insolvency costs represent the costs associated with a specific reserve or changes to existing reserves for trade accounts receivable within the Company's EMEA reportable segment related to certain customers who filed for bankruptcy protection as well as costs related to specific reserves recorded for certain customer accounts receivables which have been directly impacted by the current economic conflict between Russia and Ukraine. These expenses are not indicative of the future operating performance of the Company.

(h) Equity loss (income) in a captive insurance company represents the after-tax (loss) income attributable to the Company's interest in Primex, Ltd. ("Primex"), a captive insurance company. The Company holds a 32% investment in and has significant influence over Primex, and therefore accounts for this interest under the equity method of accounting. The loss (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.

(i) Pension and postretirement benefit income, non-service components represent the pre-tax, non-service component of the Company's pension and postretirement net periodic benefit income in each period. These costs are not indicative of the future operating performance of the Company. See Note 9 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(j) 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 both the three months ended March 31, 2022 and 2021, the Company incurred non-deductible, pre-tax charges related to the Company's Argentine affiliates. The charges incurred related to the immediate recognition of foreign currency remeasurement in the Consolidated Statements of Income associated with these entities are not indicative of the future operating performance of the Company. See Note 1 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(k) The impacts of certain discrete tax items include changes in valuation allowances recorded on certain Brazilian branch foreign tax credits and the recording of deferred taxes on Brazilian branch income. Both of these discrete items related to a result of tax law changes in the U.S. due to the issuance of final foreign tax credit regulations during the period. Additionally, the Company has discrete items related to the release of the reserves for uncertain tax positions settled during the quarter and certain taxes, penalties, and interest due as a result of the settlements. See Note 11 of Notes to Condensed Consolidated Financial Statements, which appears in Item 1 of this Report.

(l) Depreciation and amortization for the three months ended March 31, 2022 and 2021 each included $0.3 million of amortization expense recorded within equity in net income of associated companies in the Company's Condensed Consolidated Statement of Income, 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.

(m) Taxes on 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 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. Combination, integration and other acquisition-related expenses described in (a) resulted in incremental taxes of $1.4 million and $0.1 million during the three months ended March 31, 2022 and 2021, respectively. Strategic planning and transformation expenses describes in (b) above resulted in incremental taxes of $0.7 million during the three months ended March 31, 2022. Restructuring and related charges described in (c) resulted in incremental taxes of $0.2 million during each of the three months ended March 31, 2022 and 2021. Fair value step up of acquired inventory sold described in (d) resulted in incremental taxes of $0.2 million during the three months ending March 31, 2021. Executive transition expenses described in (e) resulted in incremental taxes of $0.1 million during each of the three months ended March 31, 2022 and 2021. Inactive subsidiary non-operating litigation costs described in (f) resulted in incremental taxes of less than $0.1 million for each of the three months ended March 31, 2022 and 2021. Customer insolvency costs described in (g) resulted in incremental taxes of $0.3 million during the three months ended March 31, 2022. Pension and postretirement benefit income, non-service components described in (i) resulted in a tax benefit of $0.1 million and less than $0.1 million for the three months ended March 31, 2022 and 2021, respectively. The impact of certain discrete items described in (k) resulted in a tax benefit of $3.4 million and $0.4 million for the three months ended March 31, 2022 and 2021, respectively.

(n) 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.

(o) 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 commitments or obligations as of March 31, 2022. The Company's only off-balance sheet items outstanding as of March 31, 2022 represented approximately $6 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 Note 14 of Notes to Condensed Consolidated Financial Statements in Item 1 of this Report.

Operations

Consolidated Operations Review – Comparison of the First Quarter of 2022 with the First Quarter of 2021

Net sales were $474.2 million in the first quarter of 2022 compared to $429.8 million in the first quarter of 2021. The net sales increase of $44.4 million or 10% quarter-over-quarter reflects increases in selling price and product mix of approximately 17% and additional net sales from acquisitions of 2% partially offset by a decline in sales volume of approximately 6% and the unfavorable impact from foreign currency translation of 3%. The increase in selling price and product mix is primarily driven by price increases implemented to help offset the significant increases in raw material and other input costs that began during 2021. The decline in sales volumes was primarily attributable to the comparison to a very strong first quarter of 2021, where customers replenished their supply chains, the impact of lower volumes related to the tolling agreement for previously divested products associated with the Combination and lower sales volumes attributable to the war in Ukraine.

COGS were $328.1 million in the first quarter of 2022 compared to $273.6 million in the first quarter of 2021. The increase in COGS of $54.5 million or 20% was driven by the associated COGS on the increase in net sales described above as well as continued increases in the Company's global raw material and supply chain and logistics costs compared to the prior year.

Gross profit in the first quarter of 2022 decreased $10.1 million or 6% from the first quarter of 2021. The Company's reported gross margin in the first quarter of 2022 was 30.8% compared to 36.3% in the first quarter of 2021. The Company's current quarter gross margin reflects a significant increase in raw material and other input costs experienced throughout the first quarter of 2022 and the impacts of constraints on the global supply chain, partially offset by the Company's ongoing value-based pricing initiatives.

SG&A in the first quarter of 2022 increased $7.5 million or 7% compared to the first quarter of 2021 due primarily to the impact of sales increases on direct selling costs, inflationary impacts on higher operating costs, costs associated with strategic planning and transformation initiatives (see the Non-GAAP Measures section of this Item, above), and additional SG&A from recent acquisitions partially offset by lower SG&A due to foreign currency translation and lower incentive compensation compared to the prior year. In addition, SG&A was lower in the prior year period as a result of continued temporary cost saving measures the Company implemented in response to the onset of COVID-19.

During the first quarter of 2022, the Company incurred $4.1 million of Combination, integration and other acquisition-related operating expenses primarily for professional fees related to the Houghton integration and other acquisition-related activities. Comparatively, the Company incurred $5.8 million of expenses in the prior year first quarter, primarily due to various professional fees related to legal, financial and other advisory and consultant expenses for integration activities including internal control readiness and remediation. 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 incurred Restructuring and related charges for reductions in headcount and site closures under this program, net of adjustments to initial estimates for severance of $0.8 million and $1.2 million during the first quarters of 2022 and 2021, respectively. See the Non-GAAP Measures section of this Item, above.

Operating income in the first quarter of 2022 was $29.4 million compared to $44.9 million in the first quarter of 2021. Excluding non-recurring and non-core expenses that are not indicative of the future operating performance of the Company described in the Non-GAAP Measures section of this Item, above, the Company's current quarter non-GAAP operating income decreased to $39.2 million compared to $53.7 million in the prior year first quarter primarily due to the lower gross profit described above.

The Company had other expense, net, of $2.2 million in the first quarter of 2022 compared to other income, net of $4.7 million in the first quarter of 2021. The first quarter of 2022 includes other expenses related to the impact of certain adjustment to the Company's indemnification receivables, while the prior year first quarter other income includes a gain on the sale of certain held-for-sale real property assets. See the Non-GAAP Measures section of this Item, above.

Interest expense, net, decreased $0.1 million compared to the first quarter of 2021, due to a slight decrease in the average borrowings outstanding in the first quarter of 2022 compared to the first quarter of 2021 on relatively consistent interest rates during both the first quarter of 2022 and 2021.

The Company's effective tax rates for the first quarters of 2022 and 2021 were 13.1% and 24.2%, respectively. The Company's effective tax rate for the three months ended March 31, 2022 was largely driven by changes in the valuation allowance for foreign tax credits due to recently issued legislative guidance and impacts due to settlements reached on certain tax audits. Comparatively, the prior year first quarter effective tax rate was impacted by the sale of a subsidiary which included certain held-for-sale real property assets related to the Combination. 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 effective tax rates for the first quarter of 2022 and 2021 would have been approximately 27% and 25%, respectively. The Company incurred higher tax expense during the three months ended March 31, 2022 primarily related to the Company recording earnings in one of its subsidiaries at a statutory tax rate of 25% while it awaits recertification of a concessionary 15% tax rate, which was available to the Company during all of 2021. The Company expects continued volatility in its effective tax rates due to several factors, including the timing and scope of tax audits and the expiration of applicable statutes of limitations as they relate to uncertain tax positions, the unpredictability of the timing and amount of certain incentives in various tax jurisdictions, the treatment of certain acquisition-related costs and the timing and amount of certain share-based compensation-related tax benefits, among other factors.

Equity in net income of associated companies decreased $4.4 million in the first quarter of 2022 compared to the first quarter of 2021, primarily due to lower current year income from the Company's interest in a captive insurance company and from the Company's 50% interest in a joint venture in Korea. See the Non-GAAP Measures section of this Item, above.

Net income attributable to noncontrolling interest was less than $0.1 million in both the first quarters of 2022 and 2021.

Foreign exchange unfavorably impacted the Company's first quarter of 2022 results by approximately 4% driven by the impact from foreign currency translation on earnings as well as higher foreign exchange transaction losses in the current quarter as compared to the prior year first quarter.

Reportable Segments Review - Comparison of the First Quarter of 2022 with the First Quarter of 2021

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. The Company has four reportable 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, such as certain corporate and administrative costs, Combination, integration and other acquisition-related expenses, Restructuring and related charges, and COGS related to acquired inventory sold, which is adjusted to fair value as part of purchase accounting, are not included in segment operating earnings. Other items not specifically identified with the Company's reportable segments include interest expense, net, and other (expense) income, net.

Americas

Americas represented approximately 33% of the Company's consolidated net sales in the first quarter of 2022. The segment's net sales were $154.1 million, an increase of $19.3 million or 14% compared to the first quarter of 2021. The increase in net sales was due to higher selling price and product mix of 22% and additional net sales from acquisitions of 2% partially offset by decreases in organic sales volumes of 10%. The increase in selling price and product mix is primarily driven by price increases implemented to help offset the significant increases in raw material and other input costs that began during 2021 and have continued in 2022. The current quarter decline in organic sales volume was largely driven by the impact of lower volumes related to the tolling agreement for previously divested products associated with the Combination and the prior year period comparison, which included a strong rebound from COVID-19 impacts. This segment's operating earnings were $29.2 million, a decrease of $3.0 million or 9% compared to the first quarter of 2021. The decrease in segment operating earnings was primarily a result of lower gross margins driven by the lag in price increases as compared to continued raw material cost increases and global supply chain and logistics pressures, as well as higher SG&A including an increase in direct selling costs, SG&A from acquisitions and year-over-year inflationary increases.

EMEA

EMEA represented approximately 26% of the Company's consolidated net sales in the first quarter of 2022. The segment's net sales were $125.7 million, an increase of $5.9 million or 5% compared to the first quarter of 2021. The increase in net sales was due to higher selling price and product mix of 18% and additional net sales from acquisitions of 2%, partially offset by the unfavorable impact of foreign currency translation of 9% and a decrease in organic sales volumes of 6%. The increase in selling price and product mix is primarily driven by price increases implemented to help offset the significant increases in raw material and other input costs that began during 2021 and have continued in 2022. The current quarter organic volume decline was primarily driven by the current economic pressures including the direct and indirect impacts of the Russia-Ukraine conflict and the impact of economic and other sanctions by other nations on Russia as well as the prior year period comparison including a strong rebound from COVID-19 impacts. The foreign exchange impact was primarily due to the weakening of the euro against the U.S. dollar as this exchange rate averaged 1.12 in the first quarter of 2022 compared to 1.21 in the first quarter of 2021. This segment's operating earnings were $16.8 million, a decrease of $8.5 million or 34% compared to the first quarter of 2021. The decrease in segment operating earnings was primarily a result of lower gross margins driven by the lag in price increases as compared to continued raw material cost increases and global supply chain and logistics pressures, coupled with higher SG&A including an increase in direct selling costs, SG&A from acquisitions and year-over-year inflationary increases.

Asia/Pacific

Asia/Pacific represented approximately 22% of the Company's consolidated net sales in the first quarter of 2022. The segment's net sales were $104.2 million, an increase of $7.5 million or 8% compared to the first quarter of 2021. The increase in net sales was driven by higher selling price and product mix of 12% partially offset by lower organic sales volumes of 4%. The increase in selling price and product mix is primarily driven by price increases implemented to help offset the significant increases in raw material and other input costs that began during 2021 and continued throughout the first quarter of 2022. The current quarter decline in organic sales volume was primarily driven by lower activity primarily in China related to government mandates regarding the current year Olympics as well as country restrictions over power and export related activity compared to a very favorable demand environment in the prior year period. This segment's operating earnings were $21.9 million, a decrease of $5.6 million or 20% compared to the first quarter of 2021. The decrease in segment operating earnings was primarily a result of lower gross margins driven by the lag in price increases as compared to continued raw material cost increases and global supply chain and logistics pressures, coupled with higher SG&A including an increase in direct selling costs and year-over-year inflationary increases.

Global Specialty Businesses

Global Specialty Businesses represented approximately 19% of the Company's consolidated net sales in the first quarter of 2022. The segment's net sales were $90.1 million, an increase of $11.7 million or 15% compared to the first quarter of 2021. The increase in net sales was driven by higher selling price and product mix of 10%, including Norman Hay, additional net sales from acquisitions of 4% and an increase in organic sales volumes of 2%, partially offset by the unfavorable impact from foreign currency transaction of approximately 1%. The increase in selling price and product mix is primarily driven by price increases implemented to help offset the significant increases in raw material and other input costs that began during 2021 and continued throughout the first quarter of 2022. The increase in organic sales volumes was primarily attributable to a favorable demand environment for our products. The foreign exchange impact was primarily due to the weakening of the euro against the U.S. dollar described in the EMEA section above. This segment's operating earnings were $25.0 million, an increase of $0.9 million or 4% compared to the first quarter of 2021. The increase in segment operating earnings reflects the aforementioned higher net sales partially offset by slightly lower gross margins in the current year coupled with higher SG&A, including an increase in direct selling costs, SG&A from acquisitions and year-over-year inflationary increases.

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 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 and global supply chain constraints on the Company's business, results of operations, and financial condition, our expectation that we will maintain sufficient liquidity and remediate any of our material weaknesses in internal control over financial reporting, and statements regarding the impact of increased raw material costs and pricing initiatives 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 and other acquisitions;
- the impacts on our business as a result of the COVID-19 pandemic;
- the timing and extent of the projected impacts on our business as a result of the Ukrainian and Russian conflict;
- cost increases in prices of raw materials and the impacts of constraints and disruptions in the global supply chain;
- our current and future results and plans including our sustainability goals; 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 Annual Report to Shareholders for 2021 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 slowdowns and shutdowns, including as is currently being experienced by many automotive industry companies as a result of supply chain disruption. 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, as well as the potential for significant increases in raw material costs, supply chain disruptions, customer financial instability, worldwide economic and political disruptions including the impacts of the military conflict between Russia and Ukraine, the economic and other sanctions imposed by other nations on Russia, suspensions of activities in Russia by many multinational companies and the potential expansion of military activity, 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 our customers in the steel, automobile, aircraft, industrial equipment, and durable goods industries. The ultimate impact 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 including new variants, the continued uncertainty regarding global availability, administration, acceptance and long-term efficacy of vaccines, or other treatments for COVID-19 or its variants, the longer-term effects on the economy of 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, as well as laws and other governmental programs implemented to address the pandemic or assist impacted businesses, such as fiscal stimulus and other legislation designed to deliver monetary aid and other relief. Other factors could also adversely affect us, including those related to acquisitions and the integration of 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 in our 2021 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.

We have evaluated the information required under this Item that was disclosed in Part II, Item 7A, of our Annual Report on Form 10-K for the year ended December 31, 2021, and we believe there has been no material change to that information.

Item 4. Controls and Procedures.

Evaluation of disclosure controls and procedures. As required by Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), our management, including our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as 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 March 31, 2022, the end of the period covered by this Report, our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) were effective.

Changes in internal control over financial reporting. As required by Rule 13a-15(d) under the Exchange Act, our management, including our principal executive officer and principal financial officer, has evaluated our internal control over financial reporting to determine whether any changes to our internal control over financial reporting occurred during the quarter ended March 31, 2022 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 March 31, 2022.

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

Item 1A. Risk Factors.

The Company's business, financial condition, results of operations and cash flows are subject to various risks that could cause actual results to vary materially from recent results or from anticipated future results. In addition to the other information set forth in this Report, you should carefully consider the risk factors previously disclosed in Part I, Item 1A of our 2021 Form 10-K. While there have been no material changes to the risk factors described in our 2021 Form 10-K, reference is made to the developments discussed under the headings ***Ongoing impact of COVID-19*** and ***Impact of Political Conflicts*** within Item 2 of this Report.

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

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

Period	(a) Total Number of Shares Purchased (1)	(b) Average Price Paid Per Share (2)	(c) Total Number of Shares Purchased as part of Publicly Announced Plans or Programs	(d) Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs (3)
January 1 - January 31	494	$ 227.19	—	$ 86,865,026
February 1 - February 28	4,717	$ 189.45	—	$ 86,865,026
March 1 - March 31	161	$ 174.07	—	$ 86,865,026
Total	5,372	$ 192.46	—	$ 86,865,026

(1) All of these shares were acquired from employees related to the 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 awards or units.

(2) The price paid for shares acquired from employees pursuant to employee benefit and share-based compensation plans is 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, restricted stock award, or restricted stock unit 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 it has no expiration date. There were no shares acquired by the Company pursuant to the 2015 Share Repurchase Program during the quarter ended March 31, 2022.

Limitation on the Payment of Dividends

The Credit Facility has certain limitations on the payment of dividends and other so-called restricted payments. See Note 14 of Notes to Condensed Consolidated Financial Statements, in Part I, Item 1, 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.
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 Calculation Linkbase Document*
101.DEF	–	Inline XBRL Taxonomy Definition Linkbase Document*
101.LAB	–	Inline XBRL Taxonomy Label Linkbase Document*
101.PRE	_	Inline XBRL Taxonomy 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/ Shane W. Hostetter

Date: May 5, 2022

Shane W. Hostetter, Senior Vice President, Chief Financial Officer (officer duly authorized on behalf of, and principal financial officer of, the Registrant)

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, Andrew E. Tometich, 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: May 5, 2022

/s/ Andrew E. Tometich
Andrew E. Tometich
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, Shane W. Hostetter, 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: May 5, 2022

/s/ Shane W. Hostetter
Shane W. Hostetter
Chief Financial Officer

EXHIBIT 32.1

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

The undersigned hereby certifies that the Form 10-Q Quarterly Report of Quaker Chemical Corporation (the “Company”) for the quarterly period ended March 31, 2022 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: May 5, 2022	/s/ Andrew E. Tometich
	Andrew E. Tometich
	Chief Executive Officer of Quaker Chemical Corporation

EXHIBIT 32.2

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

The undersigned hereby certifies that the Form 10-Q Quarterly Report of Quaker Chemical Corporation (the “Company”) for the quarterly period ended March 31, 2022 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: May 5, 2022	/s/ Shane W. Hostetter
	Shane W. Hostetter Chief Financial Officer of Quaker Chemical Corporation