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, 2023

Commission file number 1-32737

KOPPERS HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Pennsylvania (State of incorporation)	20-1878963 (IRS Employer Identification No.)

436 Seventh Avenue
Pittsburgh, Pennsylvania 15219
(Address of principal executive offices)

(412) 227-2001
(Registrant's telephone number, including area code)

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	KOP	The 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 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 ☒

Common Stock, par value $0.01 per share, outstanding at April 28, 2023 amounted to 20,827,742 shares.

PART I—FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS AND COMPREHENSIVE INCOME

	Three Months Ended March 31,	
	2023	*2022*
(Dollars in millions, except per share amounts)	*(Unaudited)*	*(Unaudited)*
Net sales	$ 513.4	$ 459.3
Cost of sales	409.3	370.3
Depreciation and amortization	14.0	14.2
(Gain) on sale of assets	(1.8)	(2.5)
Selling, general and administrative expenses	41.6	39.1
Operating profit	50.3	38.2
Other (loss) income, net	(0.2)	0.6
Interest expense	14.0	9.8
Income from continuing operations before income taxes	36.1	29.0
Income tax provision	9.9	9.7
Income from continuing operations	26.2	19.3
Loss on sale of discontinued operations	0.0	(0.5)
Net income	26.2	18.8
Net income attributable to noncontrolling interests	0.7	0.0
Net income attributable to Koppers	$ 25.5	$ 18.8
Earnings (loss) per common share attributable to Koppers common shareholders:		
Basic -		
Continuing operations	$ 1.22	$ 0.91
Discontinued operations	0.00	(0.02)
Earnings per basic common share	$ 1.22	$ 0.89
Diluted -		
Continuing operations	$ 1.19	$ 0.89
Discontinued operations	0.00	(0.02)
Earnings per diluted common share	$ 1.19	$ 0.87
Comprehensive income	$ 33.9	$ 20.5
Comprehensive income attributable to noncontrolling interests	0.7	0.0
Comprehensive income attributable to Koppers	$ 33.2	$ 20.5
Weighted average shares outstanding (in thousands):		
Basic	20,842	21,151
Diluted	21,385	21,692

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

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED BALANCE SHEET

(Dollars in millions, except per share amounts)		*March 31, 2023* *(Unaudited)*		*December 31, 2022*
Assets				
Cash and cash equivalents	$	46.4	$	33.3
Accounts receivable, net of allowance of $3.7 and $3.5		241.6		215.7
Inventories, net		379.2		355.7
Derivative contracts		9.7		3.1
Other current assets		33.7		29.0
Total current assets		710.6		636.8
Property, plant and equipment, net		576.0		557.3
Operating lease right-of-use assets		85.9		86.3
Goodwill		294.0		294.0
Intangible assets, net		112.4		116.1
Deferred tax assets		11.7		11.7
Other assets		10.0		9.2
Total assets	$	1,800.6	$	1,711.4
Liabilities				
Accounts payable	$	219.2	$	207.4
Accrued liabilities		75.9		96.1
Current operating lease liabilities		20.9		20.5
Total current liabilities		316.0		324.0
Long-term debt		881.0		817.7
Accrued postretirement benefits		35.1		34.7
Deferred tax liabilities		23.2		21.5
Operating lease liabilities		65.4		66.3
Other long-term liabilities		45.0		44.2
Total liabilities		1,365.7		1,308.4
Commitments and contingent liabilities (Note 16)				
Equity				
Senior Convertible Preferred Stock, $0.01 par value per share; 10,000,000 shares authorized; no shares issued		0.0		0.0
Common Stock, $0.01 par value per share; 80,000,000 shares authorized; 24,785,028 and 24,547,000 shares issued		0.2		0.2
Additional paid-in capital		269.2		263.9
Retained earnings		384.2		360.2
Accumulated other comprehensive loss		(89.6)		(97.3)
Treasury stock, at cost, 3,961,817 and 3,783,901 shares		(133.4)		(127.6)
Total Koppers shareholders’ equity		430.6		399.4
Noncontrolling interests		4.3		3.6
Total equity		434.9		403.0
Total liabilities and equity	$	1,800.6	$	1,711.4

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

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED STATEMENT OF CASH FLOWS

	Three Months Ended March 31,	
	2023	2022
(Dollars in millions)	*(Unaudited)*	*(Unaudited)*
Cash provided by (used in) operating activities:		
Net income	$ 26.2	$ 18.8
Adjustments to reconcile net cash used in operating activities:		
Depreciation and amortization	14.0	14.2
Stock-based compensation	4.0	3.5
Change in derivative contracts	(1.1)	0.3
Non-cash interest expense	0.6	0.7
(Gain) on sale of assets	(1.8)	(2.5)
Insurance proceeds	0.0	(0.4)
Deferred income taxes	(0.1)	0.3
Change in other liabilities	0.4	1.0
Other - net	0.4	2.4
Changes in working capital:		
Accounts receivable	(25.1)	(40.0)
Inventories	(22.4)	(13.5)
Accounts payable	14.1	13.0
Accrued liabilities	(18.5)	(4.5)
Other working capital	(6.0)	(1.3)
Net cash used in operating activities	(15.3)	(8.0)
Cash (used in) provided by investing activities:		
Capital expenditures	(30.4)	(26.2)
Insurance proceeds received	0.0	0.4
Cash provided by sale of assets	1.9	3.8
Net cash used in investing activities	(28.5)	(22.0)
Cash provided by (used in) financing activities:		
Net increase in credit facility borrowings	63.5	47.4
Repayments of long-term debt	0.0	(2.0)
Issuances of Common Stock	1.2	0.3
Repurchases of Common Stock	(5.8)	(11.1)
Payment of debt issuance costs	(0.8)	(0.1)
Dividends paid	(1.3)	(1.1)
Net cash provided by financing activities	56.8	33.4
Effect of exchange rate changes on cash	0.1	0.3
Net increase in cash and cash equivalents	13.1	3.7
Cash and cash equivalents at beginning of period	33.3	45.5
Cash and cash equivalents at end of period	$ 46.4	$ 49.2
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflow from operating leases	$ 7.0	$ 7.4
Supplemental disclosure of non-cash investing and financing activities:		
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 5.9	$ 1.5
Accrued capital expenditures	8.4	11.5

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

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements and related disclosures have been prepared in accordance with accounting principles generally accepted in the United States applicable to interim financial information and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments considered necessary for a fair presentation of Koppers Holdings Inc.'s and its subsidiaries' ("Koppers", "Koppers Holdings", the "Company", "we" or "us") financial position and interim results as of and for the periods presented have been included. All such adjustments are of a normal recurring nature unless disclosed otherwise. Because our business is seasonal, results for interim periods are not necessarily indicative of those that may be expected for a full year. The Condensed Consolidated Balance Sheet as of December 31, 2022 has been summarized from the audited balance sheet contained in the Annual Report on Form 10-K as of and for the year ended December 31, 2022. Certain prior period amounts in the condensed consolidated financial statements and notes to the condensed consolidated financial statements have been reclassified to conform to the current period's presentation.

The financial information included herein should be read in conjunction with our audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2022.

2. New Accounting Pronouncements

In March 2022, the Financial Accounting Standards Board ("FASB") issued ASU No. 2022-01, "Derivatives and Hedging (Topic 815): Fair Value Hedging—Portfolio Layer Method." This ASU amends and simplifies existing guidance in order to allow companies to more accurately present the economic effects of risk management activities in financial statements. ASU No. 2022-01 is effective for periods beginning after December 15, 2022. The adoption of this ASU did not have a material impact on our financial statements as we principally utilize cash flow hedges.

3. Fair Value Measurements

Carrying amounts and the related estimated fair values of our financial instruments as of March 31, 2023 and December 31, 2022 are as follows:

	March 31, 2023		*December 31, 2022*	
	Fair Value	*Carrying Value*	*Fair Value*	*Carrying Value*
(Dollars in millions)				
Financial assets:				
Investments and other assets	$ 1.3	$ 1.3	$ 1.3	$ 1.3
Financial liabilities:				
Long-term debt	$ 884.1	$ 888.8	$ 801.1	$ 825.3

Investments and other assets – Represents the broker-quoted cash surrender value on universal life insurance policies. This asset is classified as Level 2 in the valuation hierarchy and is measured from values received from financial institutions.

Debt – The fair value of our long-term debt is estimated based on the market prices for the same or similar issuances or on the current rates offered to us for debt of the same remaining maturities (Level 2). The fair value of our Credit Facility (as defined in Note 12 – "Debt") approximates carrying value due to the variable rate nature of this instrument.

4. Comprehensive Income and Equity

Total comprehensive income for the three months ended March 31, 2023 and 2022 is summarized in the table below:

	Three Months Ended March 31,	
(Dollars in millions)	*2023*	*2022*
Net income	$ 26.2	$ 18.8
Changes in other comprehensive income:		
Currency translation adjustment	2.7	5.8
Unrealized gain (loss) on cash flow hedges, net of tax (expense) benefit of $(1.9) and $2.1	4.7	(4.3)
Unrecognized pension net loss, net of tax expense of $(0.1) and $(0.1)	0.3	0.2
Comprehensive income	33.9	20.5
Comprehensive income attributable to noncontrolling interests	0.7	0.0
Comprehensive income attributable to Koppers	$ 33.2	$ 20.5

Amounts reclassified from accumulated other comprehensive loss to net income consist of amounts shown for changes in or amortization of unrecognized pension net loss. This component of accumulated other comprehensive loss is included in the computation of net periodic pension cost as disclosed in Note 11 – “Pensions and Post-Retirement Benefit Plans.” Other amounts reclassified from accumulated other comprehensive loss related to derivative financial instruments of $1.7 million for the three months ended March 31, 2023, and $10.1 million for the three months ended March 31, 2022. The amounts in the preceding sentence are net of tax.

The following tables present the change in equity for the three months ended March 31, 2023 and 2022, respectively:

(Dollars in millions)	*Common Stock*	*Additional Paid-In Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Loss*	*Treasury Stock*	*Noncontrolling Interests*	*Total Equity*
Balance at December 31, 2022	$ 0.2	$ 263.9	$ 360.2	$ (97.3)	$ (127.6)	$ 3.6	$ 403.0
Net income	0.0	0.0	25.5	0.0	0.0	0.7	26.2
Dividends	0.0	0.0	(1.5)	0.0	0.0	0.0	(1.5)
Issuance of common stock	0.0	1.3	0.0	0.0	0.0	0.0	1.3
Repurchases of common stock	0.0	0.0	0.0	0.0	(5.8)	0.0	(5.8)
Employee stock plans	0.0	4.0	0.0	0.0	0.0	0.0	4.0
Other comprehensive income							
Currency translation adjustment	0.0	0.0	0.0	2.7	0.0	0.0	2.7
Unrealized gain on cash flow hedges	0.0	0.0	0.0	4.7	0.0	0.0	4.7
Unrecognized pension net loss	0.0	0.0	0.0	0.3	0.0	0.0	0.3
Balance at March 31, 2023	$ 0.2	$ 269.2	$ 384.2	$ (89.6)	$ (133.4)	$ 4.3	$ 434.9

(Dollars in millions)		*Common Stock*		*Additional Paid-In Capital*		*Retained Earnings*		*Accumulated Other Comprehensive Loss*		*Treasury Stock*		*Noncontrolling Interests*		*Total Equity*
Balance at December 31, 2021	$	0.2	$	249.5	$	300.9	$	(40.0)	$	(104.0)	$	4.2	$	410.8
Net income		0.0		0.0		18.8		0.0		0.0		0.0		18.8
Dividends		0.0		0.0		(1.0)		0.0		0.0		0.0		(1.0)
Issuance of common stock		0.0		0.3		0.0		0.0		0.0		0.0		0.3
Repurchases of common stock		0.0		0.0		0.0		0.0		(11.1)		0.0		(11.1)
Employee stock plans		0.0		3.6		0.0		0.0		0.0		0.0		3.6
Other comprehensive (loss) income														
Currency translation adjustment		0.0		0.0		0.0		5.9		0.0		(0.1)		5.8
Unrealized loss on cash flow hedges		0.0		0.0		0.0		(4.3)		0.0		0.0		(4.3)
Unrecognized pension net loss		0.0		0.0		0.0		0.2		0.0		0.0		0.2
Balance at March 31, 2022	$	0.2	$	253.4	$	318.7	$	(38.3)	$	(115.1)	$	4.1	$	423.0

On May 4, 2023, we declared a quarterly dividend of $0.06 per common share, payable on June 12, 2023 to shareholders of record as of May 26, 2023.

5. Earnings per Common Share

The computation of basic earnings per common share for the periods presented is based upon the weighted average number of common shares outstanding during the periods. The computation of diluted earnings per common share includes the effect of non-vested nonqualified stock options and restricted stock units assuming such options and stock units were outstanding common shares at the beginning of the period. The effect of antidilutive securities is excluded from the computation of diluted loss per common share, if any.

The following table sets forth the computation of basic and diluted earnings per common share:

	Three Months Ended March 31,			
		2023		*2022*
(Dollars in millions, except share amounts, in thousands)				
Net income attributable to Koppers	$	25.5	$	18.8
Less: Loss on sale of discontinued operations		0.0		(0.5)
Income from continuing operations attributable to Koppers	$	25.5	$	19.3
Weighted average common shares outstanding:				
Basic		20,842		21,151
Effect of dilutive securities		543		541
Diluted		21,385		21,692
Earnings per common share – continuing operations:				
Basic earnings per common share	$	1.22	$	0.91
Diluted earnings per common share		1.19		0.89
Other data:				
Antidilutive securities excluded from computation of diluted earnings per common share		629		965

6. Stock-based Compensation

We have outstanding stock-based compensation awards that were granted under the amended and restated 2005 Long-Term Incentive Plan (the "2005 LTIP"), the 2018 Long-Term Incentive Plan (the "2018 LTIP") and the 2020 Long-Term Incentive Plan, as amended (the "2020 LTIP"). The 2005 LTIP, the 2018 LTIP and the 2020 LTIP are collectively referred to as the "LTIP". The LTIP provides for the grant to eligible persons of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance awards, dividend equivalents and other stock-based awards, which are collectively referred to as the "awards."

Restricted Stock Units and Performance Stock Units

Under the LTIP, the board of directors grants restricted stock units and performance stock units to certain employee participants (collectively, the "stock units"). Compensation expense for non-vested stock units is recorded over the vesting period based on the fair value at the date of grant. The fair value of restricted stock units is the market price of the underlying common stock on the date of grant. The fair value of performance stock units is determined using the market price of the underlying common stock on the date of grant for units with a performance condition and a Monte Carlo valuation model for units with a market condition.

For grants to most employees prior to 2023, the restricted stock units vest in four equal annual installments. Starting in 2023, most grants of restricted stock units vest in three years. Restricted stock units that have one-year vesting periods are also issued under the LTIP to members of the board of directors in connection with annual director compensation and, from time to time, are issued to employees in connection with employee compensation with vesting periods of typically two years or less.

Performance stock units have vesting based upon either a performance condition or a market condition. Performance stock units granted with a performance condition have a cumulative three-year performance objective based on adjusted EBITDA (see Note 7 - Segment Information). For performance stock units granted with a market condition, which applies to all performance stock unit grants prior to 2023, the applicable objective is based on our total shareholder return relative to the Standard & Poor's SmallCap 600 Materials Index and has multi-year performance objectives.

Both types of performance stock units have a three-year period for vesting (if the applicable performance objectives are achieved). The number of performance stock units granted represents the target award and participants have the ability to earn between zero and 200 percent of the target award based upon actual performance. If minimum performance criteria are not achieved, no performance stock units will vest. We have the discretion to settle the award in cash rather than shares, although we currently expect that all awards will be settled by the issuance of shares.

We calculated the fair value of the performance stock unit awards with a market condition on the date of grant using the assumptions listed below:

	January 2023 Grant	*January 2022 Grant*	*January 2021 Grant*
Grant date price per share of performance award	$ 29.01	$ 32.19	$ 29.84
Expected volatility	66.30 %	66.90 %	68.70 %
Risk-free interest rate	4.11 %	1.10 %	0.16 %
Look-back period in years	3.00	3.00	3.00
Grant date fair value per share	$ 39.51	$ 45.19	$ 41.50

Dividends declared, if any, on our common stock during the period prior to vesting of the stock units are credited at equivalent value as additional stock units and become payable as additional common shares upon vesting. In the event of termination of employment, other than retirement, death or disability, any non-vested stock units are forfeited, including additional stock units credited from dividends. In the event of termination of employment due to retirement, death or disability, pro-rata vesting of the stock units over the service period will result. There are special vesting provisions for the stock units related to a change in control.

The following table shows a summary of the performance stock units as of March 31, 2023:

Performance Period	*Minimum Shares*	*Target Shares*	*Maximum Shares*
Market Condition Units			
2021 – 2023	66,968	115,036	163,104
2022 – 2024	17,788	117,937	218,086
2023 – 2025	0	78,411	156,822
Performance Condition Units			
2023 – 2025	0	188,238	376,476

The following table shows a summary of the status and activity of non-vested stock units for the three months ended March 31, 2023:

	Restricted Stock Units	Performance Stock Units	Total Stock Units	Weighted Average Grant Date Fair Value per Unit
Non-vested at December 31, 2022	524,612	237,032	761,644	$ 32.40
Granted	201,640	267,073	468,713	$ 30.71
Credited from dividends	3,193	1,594	4,787	$ 26.80
Vested	(176,248)	0	(176,248)	$ 26.44
Forfeited	(13,609)	(6,077)	(19,686)	$ 32.50
Non-vested at March 31, 2023	539,588	499,622	1,039,210	$ 32.62

Stock Options

Stock options to executive officers vest and become exercisable in four equal annual installments. The stock options have a term of ten years. In the event of termination of employment, other than retirement, death or disability, any non-vested options are forfeited. In the event of termination of employment due to retirement, death or disability, pro-rata vesting of the options over the service period will result. There are special vesting provisions for the stock options related to a change in control.

Compensation expense for non-vested stock options is recorded over the vesting period based on the fair value at the date of grant. No stock options have been issued in 2023. We calculated the fair value of stock options on the date of grant using the Black-Scholes-Merton model and the assumptions listed below:

	January 2022 Grant	January 2021 Grant	March 2020 Grant
Grant date price per share of stock option award	$ 32.19	$ 29.84	$ 19.63
Expected dividend yield per share	0.00 %	0.00 %	0.00 %
Expected life in years	6.76	6.64	6.40
Expected volatility	54.50 %	54.80 %	42.85 %
Risk-free interest rate	1.52 %	0.59 %	0.87 %
Grant date fair value per share of option awards	$ 17.58	$ 15.79	$ 8.42

Prior to February 2022, we had not declared a dividend since 2014. The dividend yield is based on the Company's current and prospective dividend rate which calculates a continuous dividend yield based upon the market price of the underlying common stock. The expected life in years is based on historical exercise data of options previously granted by us. Expected volatility is based on the historical volatility of our common stock and the risk-free interest rate is based on U.S. Treasury bill rates for the expected life of the option.

The following table shows a summary of the status and activity of stock options for the three months ended March 31, 2023:

	Options	Weighted Average Exercise Price per Option	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2022	1,122,136	$ 27.05		
Exercised	(48,709)	$ 19.01		
Expired	(36,397)	$ 42.76		
Outstanding at March 31, 2023	1,037,030	$ 26.88	4.71	$ 10.0
Exercisable at March 31, 2023	875,554	$ 26.63	4.10	$ 8.9

Stock Compensation Expense

Total stock-based compensation expense recognized under our LTIP and employee stock purchase plan for the three months ended March 31, 2023 and 2022 is as follows:

		Three Months Ended March 31,		
		2023		2022
(Dollars in millions)				
Stock-based compensation expense recognized:				
Selling, general and administrative expenses	$	4.0	$	3.5
Less related income tax benefit		1.1		1.2
Decrease in net income attributable to Koppers	$	2.9	$	2.3
Intrinsic value of exercised stock options	$	0.7	$	0.0
Cash received from the exercise of stock options	$	0.9	$	0.0

As of March 31, 2023, total future compensation expense related to non-vested stock-based compensation arrangements is expected to total $28.2 million and the weighted-average period over which this expense is expected to be recognized is approximately 28 months.

7. Segment Information

We have three reportable segments: Railroad and Utility Products and Services ("RUPS"), Performance Chemicals (“PC”) and Carbon Materials and Chemicals ("CMC"). Our reportable segments contain multiple aggregated business units since management believes the long-term financial performance of these business units is affected by similar economic conditions. The reportable segments are each managed separately because they manufacture and distribute distinct products with different production processes.

Our RUPS segment sells treated and untreated wood products, manufactured products and services primarily to the railroad and public utility markets. Railroad products and services include procuring and treating items such as crossties, switch ties and various types of lumber used for railroad bridges and crossings and the manufacture of rail joint bars. Utility products include transmission and distribution poles and pilings. The segment also operates a railroad services business that conducts engineering, design, repair and inspection services for railroad bridges, a business related to the recovery of used crossties and utility poles and a business related to the inspection of utility poles.

Our PC segment develops, manufactures, and markets wood preservation chemicals and wood treatment technologies and services a diverse range of end-markets including infrastructure, residential and commercial construction, and agriculture.

Our CMC segment is primarily a manufacturer of creosote, carbon pitch, naphthalene, phthalic anhydride and carbon black feedstock. Creosote is used in the treatment of wood and carbon black feedstock is used in the production of carbon black. Carbon pitch is a critical raw material used in the production of aluminum and for the production of steel in electric arc furnaces. Naphthalene is used for the production of phthalic anhydride and as a surfactant in the production of concrete. Phthalic anhydride is used in the production of plasticizers, polyester resins and alkyd paints.

Our primary measure of segment profitability is adjusted earnings before interest, income taxes, depreciation, amortization and certain non-cash and/or non-recurring items that do not contribute directly to management’s evaluation of our operating results (as defined by us, “adjusted EBITDA"). These items include impairment, restructuring and plant closure costs, mark-to-market commodity hedging, gain or loss on sale of assets and LIFO inventory effects. This presentation is consistent with how our chief operating decision maker evaluates the results of operations and makes strategic decisions about the business. In addition, adjusted EBITDA is the primary measure used to determine the level of achievement of management’s short-term incentive goals and related payout. For these reasons, we believe that adjusted EBITDA represents the most relevant measure of segment profit and loss.

Adjusted EBITDA is reconciled to net income on a consolidated basis, the most directly comparable financial measure determined and reported in accordance with U.S. GAAP. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies. Intersegment transactions are eliminated in consolidation.

Contract Balances

The timing of revenue recognition results in both billed accounts receivable and unbilled receivables, both classified as accounts receivable, net of allowance within the condensed consolidated balance sheet. Contract assets of $9.2 million and $8.3 million are recorded within accounts receivable, net of allowance within the condensed consolidated balance sheet as of March 31, 2023 and December 31, 2022, respectively.

The following table sets forth certain sales and operating data, net of all intersegment transactions, for our segments for the periods indicated:

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
(Dollars in millions)		
Revenues from external customers:		
Railroad and Utility Products and Services	$ 213.1	$ 183.4
Performance Chemicals	146.9	136.4
Carbon Materials and Chemicals	153.4	139.5
Total	$ 513.4	$ 459.3
Intersegment revenues:		
Performance Chemicals	$ 5.6	$ 4.0
Carbon Materials and Chemicals	19.0	18.6
Total	$ 24.6	$ 22.6
Depreciation and amortization expense:		
Railroad and Utility Products and Services	$ 5.9	$ 5.4
Performance Chemicals	3.5	3.9
Carbon Materials and Chemicals	4.6	4.9
Total	$ 14.0	$ 14.2
Adjusted EBITDA:		
Railroad and Utility Products and Services	$ 15.8	$ 11.6
Performance Chemicals	26.3	20.9
Carbon Materials and Chemicals	19.4	20.1
Items excluded from the determination of segment profit:		
Impairment, restructuring and plant closure costs	0.0	(0.1)
Gain on sale of assets	1.8	2.5
LIFO expense[1]	(0.3)	(1.7)
Mark-to-market commodity hedging gains (losses)	1.1	(0.3)
Interest expense	(14.0)	(9.8)
Depreciation and amortization	(14.0)	(14.2)
Income tax provision	(9.9)	(9.7)
Discontinued operations	0.0	(0.5)
Net income	$ 26.2	$ 18.8

(1) The LIFO expense adjustment removes the entire impact of LIFO and effectively reflects the results as if we were on a FIFO inventory basis.

The following table sets forth revenues for significant product lines, net of all intersegment transactions, for our segments for the periods indicated:

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
(Dollars in millions)		
Railroad and Utility Products and Services:		
Railroad treated products	$ 127.5	$ 105.3
Utility poles	63.3	56.2
Railroad infrastructure services	9.6	9.3
Rail joints	6.3	6.8
Other products	6.4	5.8
Total	213.1	183.4
Performance Chemicals:		
Wood preservative products	136.9	130.4
Other products	10.0	6.0
Total	146.9	136.4
Carbon Materials and Chemicals:		
Pitch and related products	100.7	77.8
Phthalic anhydride and other chemicals	19.0	25.3
Carbon black feedstock and distillates	17.7	19.0
Naphthalene	8.6	8.6
Other products	7.4	8.8
Total	153.4	139.5
Total	$ 513.4	$ 459.3

The following table sets forth assets and goodwill allocated to each of our segments as of the dates indicated:

(Dollars in millions)		March 31, 2023		December 31, 2022
Segment assets:				
Railroad and Utility Products and Services	$	698.7	$	660.8
Performance Chemicals		551.6		516.9
Carbon Materials and Chemicals		518.6		500.5
All other		31.7		33.2
Total	$	1,800.6	$	1,711.4
Goodwill:				
Railroad and Utility Products and Services	$	120.6	$	120.6
Performance Chemicals		173.4		173.4
Total	$	294.0	$	294.0

8. Income Taxes

Effective Tax Rate

The income tax provision for interim periods is comprised of an estimated annual effective income tax rate applied to current year ordinary income and tax associated with discrete items. These discrete items generally relate to excess stock compensation deductions, changes in tax laws, adjustments to unrecognized tax benefits and changes of estimated tax liability to the actual liability determined upon filing income tax returns. To determine the annual effective tax rate, management is required to make estimates of annual pretax income in each domestic and foreign jurisdiction in which we conduct business. Entities that have historical pre-tax losses and current year estimated pre-tax losses that are not projected to generate a future benefit are excluded from the estimated annual effective income tax rate.

The estimated annual effective income tax rate, excluding discrete items, was 28.4 percent and 32.9 percent for the three months ended March 31, 2023 and 2022, respectively. The estimated annual effective income tax rate differs from the U.S. federal statutory tax rate due to:

	March 31,	
	2023	2022
Federal income tax rate	21.0 %	21.0 %
Foreign earnings taxed at different rates	4.3	5.2
Nondeductible expenses	1.4	1.3
State income taxes, net of federal tax benefit	1.3	0.6
GILTI inclusion, net of foreign tax credits	0.4	0.7
Change in tax contingency reserves	0.0	0.4
Interest expense deduction limitation	0.0	3.7
Estimated annual effective income tax rate	28.4 %	32.9 %

Income taxes as a percentage of pretax income were 27.4 percent for the three months ended March 31, 2023 and 33.4 percent for the three months ended March 31, 2022. Both periods were slightly different than the estimated annual effective income tax rate of 28.4 percent and 32.9 percent, respectively, due to various discrete items, which were not material in the aggregate or individually.

During the year, management regularly updates estimates of pre-tax income and income tax expense based on changes in pre-tax income projections by taxable jurisdiction, repatriation of foreign earnings, unrecognized tax benefits and other tax matters. To the extent that actual results vary from these estimates, the actual annual effective income tax rate at the end of the year could be materially different from the estimated annual effective income tax rate for the three months ended March 31, 2023.

Unrecognized Tax Benefits

We file income tax returns in the U.S. federal jurisdiction, individual U.S. state jurisdictions and non-U.S. jurisdictions. With few exceptions, we are no longer subject to U.S. federal, U.S. state, or non-U.S. income tax examinations by tax authorities for years prior to 2017.

Unrecognized tax benefits totaled $1.4 million as of March 31, 2023 and December 31, 2022. The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate, was approximately $1.4 million as of March 31, 2023 and December 31, 2022.

We recognize interest expense and any related penalties from unrecognized tax benefits in income tax expense. For the three months ended March 31, 2023 we recognized $0.1 million in interest and penalties. For the year ended December 31, 2022, we recognized income of $(0.1) million in interest and penalties.

We do not anticipate material changes to the amount of unrecognized tax benefits within the next twelve months.

9. Inventories

Net inventories as of March 31, 2023 and December 31, 2022 are summarized in the table below:

		March 31, 2023		*December 31, 2022*
(Dollars in millions)				
Raw materials	$	345.0	$	318.5
Work in process		11.8		10.2
Finished goods		126.1		130.4
	$	482.9	$	459.1
Less revaluation to LIFO		103.7		103.4
Net	$	379.2	$	355.7

10. Property, Plant and Equipment

Property, plant and equipment as of March 31, 2023 and December 31, 2022 are summarized in the table below:

		March 31, 2023		*December 31, 2022*
(Dollars in millions)				
Land	$	15.0	$	15.0
Buildings		80.4		80.3
Machinery and equipment		929.5		924.1
	$	1,024.9	$	1,019.4
Less accumulated depreciation		448.9		462.1
Net	$	576.0	$	557.3

11. Pensions and Post-Retirement Benefit Plans

We maintain a number of defined benefit and defined contribution plans to provide retirement benefits for employees in the United States, as well as employees outside the United States. These plans are maintained and contributions are made in accordance with the Employee Retirement Income Security Act of 1974 (“ERISA”) or local law, as applicable. The defined benefit pension plans generally provide benefits based upon years of service and compensation. Pension plans are funded except for three domestic non-qualified defined benefit pension plans for certain key executives.

In the United States, all qualified and two of the non-qualified defined benefit pension plans for salaried and hourly employees have been closed to new participants and have been frozen. Accordingly, these pension plans no longer accrue additional years of service or recognize future increases in compensation for benefit purposes.

In connection with our defined benefit pension plan in the United Kingdom, in 2021, we entered into a buy-in bulk annuity insurance policy in exchange for a premium payment of $67.8 million, which is subject to adjustment as a result of subsequent data cleansing activities. Under the terms of this buy-in insurance policy, the insurer is liable to pay the benefits of the plan, but the plan still retains full legal responsibility to pay the benefits to members using the insurance payments. The buy-in policy will be treated as a plan asset going forward until such time as the buy-in policy is converted to a buy-out policy, which is when individual insurance policies will be assigned to each member of the plan and the plan will no longer have legal responsibility to pay the benefits to the members. The data cleansing effort was substantially completed in late 2022 and by late 2023, the pension obligation is expected to be irrevocably settled. Upon that event, we will recognize a pre-tax pension settlement loss of approximately $20 million.

The defined contribution plans generally provide retirement assets to employee participants based upon employer and employee contributions to the participant’s individual investment account. We also provide retiree medical insurance coverage to certain U.S. employees and a life insurance benefit to most U.S. employees. For salaried employees, the retiree medical and retiree life insurance plans have been closed to new participants.

The following table provides the components of net periodic benefit cost for the pension plans for the three months ended March 31, 2023 and 2022:

	Three Months Ended March 31,	
	2023	2022
(Dollars in millions)		
Service cost	$ 0.4	$ 0.3
Interest cost	2.1	1.4
Expected return on plan assets	(1.7)	(2.0)
Amortization of net loss	0.5	0.5
Net periodic benefit cost	$ 1.3	$ 0.2
Defined contribution plan expense	$ 2.5	$ 2.5

12. Debt

Debt as of March 31, 2023 and December 31, 2022 was as follows:

	Weighted Average Interest Rate	Maturity	March 31, 2023	December 31, 2022
(Dollars in millions)				
Revolving Credit Facility	7.08 %	2027	388.8	325.3
Senior Notes due 2025	6.00 %	2025	500.0	500.0
Debt			888.8	825.3
Less unamortized debt issuance costs			7.8	7.6
Long-term debt			$ 881.0	$ 817.7

Revolving Credit Facility

In June 2022, we entered into an $800.0 million revolving credit agreement (the “Credit Facility”) with a consortium of banks. The Credit Facility also provides for a $50.0 million swingline facility and provides for the ability to incur one or more uncommitted incremental revolving or term loan facilities in an aggregate amount of at least $730.0 million, subject to applicable financial covenants. The interest rate on the Credit Facility is variable and may be based on the Secured Overnight Financing Rate (“SOFR”), which is the applicable benchmark for current borrowings, or an alternative benchmark depending on the borrowing type.

Borrowings under the Credit Facility are secured by a first priority lien on substantially all of the assets (excluding real property and other customary assets) of Koppers Inc., Koppers Holdings Inc. and their material domestic subsidiaries. The Credit Facility contains certain covenants that limit Koppers Inc. and its restricted subsidiaries, including, without limitation, limitations on additional indebtedness, liens, dividends, investments, acquisitions, subsidiary and certain other distributions, asset sales, transactions with affiliates and modifications to material documents, including organizational documents. In addition, such covenants give rise to events of default upon the failure by Koppers Inc. and its restricted subsidiaries to meet certain financial ratios.

As of March 31, 2023, we had approximately $400 million of unused revolving credit availability for working capital purposes after restrictions from certain letter of credit commitments and other covenants. As of March 31, 2023, approximately $18 million of commitments were utilized by outstanding letters of credit.

Senior Notes due 2025

Koppers Inc.’s $500 million Senior Notes due 2025 (the “2025 Notes”) are senior obligations of Koppers Inc., are unsecured and are guaranteed by Koppers Holdings Inc. and certain of Koppers Inc.’s domestic subsidiaries. The 2025 Notes pay interest semi-annually in arrears on February 15 and August 15 and will mature on February 15, 2025 unless earlier redeemed or repurchased. We are entitled to redeem all or a portion of the 2025 Senior Notes at a redemption price of 101.5 percent of principal value as of February 15, 2022 until April 15, 2023 when the 2025 Notes are redeemable at principal value.

The indenture governing the 2025 Notes includes customary covenants that restrict, among other things, the ability of Koppers Inc. and its restricted subsidiaries to incur additional debt, pay dividends or make certain other restricted payments, incur liens, merge or sell all or substantially all of the assets of Koppers Inc. or its subsidiaries or enter into various transactions with affiliates.

Subsequent Events

On April 10, 2023, we entered into Amendment No. 1 to the Credit Facility ("Amendment No. 1") which added a new class of senior secured term loans under the Credit Facility in an aggregate principal amount of $400.0 million (the "Term Loan B"), among other modifications. The Term Loan B was issued at 97 percent of face value, resulting in $388.0 million of net proceeds, before debt financing costs. The interest rate on the Term Loan B is variable and is based on, at our option, adjusted Term SOFR Rate or adjusted Daily Simple SOFR, in each case plus 4.00 percent with a floor of 0.50 percent. The principal balance of the Term Loan B will be repayable in quarterly installments of $1.0 million each quarter beginning with the third quarter of 2023, with the balance due at maturity on April 10, 2030.

On April 11, 2023, we used the proceeds from the Term Loan B, cash on hand and available borrowing capacity under our existing Credit Facility to redeem all of the outstanding 2025 Notes and to pay any fees and expenses incurred in connection with the issuance of the Term Loan B and the redemption of the 2025 Notes.

During the first quarter of 2023, we entered into an interest rate swap agreement with an aggregate notional value of $100.0 million in anticipation of the issuance of the Term Loan B in April 2023. The interest rate swap effectively converts the variable rate to a fixed rate of 7.478 percent for that portion of the loan. The swap agreement expires in April 2027.

13. Asset Retirement Obligations

We recognize asset retirement obligations for the removal and disposal of residues; dismantling of certain tanks required by governmental authorities; cleaning and dismantling costs for owned railcars; cleaning costs for leased rail-cars and barges; and site demolition, when required by governmental authorities or by contract. The following table reflects changes in the carrying values of asset retirement obligations:

(Dollars in millions)	*March 31, 2023*	*December 31, 2022*
Balance at beginning of year	$ 15.5	$ 13.2
Accretion expense	0.2	1.1
Revision in estimated cash flows	(0.5)	2.2
Cash expenditures	0.0	(1.0)
Balance at end of year	$ 15.2	$ 15.5

14. Leases

We recognize lease obligations and associated right-of-use assets for existing non-cancelable leases. We have non-cancelable operating leases primarily associated with railcars, office and manufacturing facilities, storage tanks, ships, production equipment and vehicles. Many of our leases include both lease (e.g., fixed rent) and non-lease components (e.g., maintenance and services). For certain asset classes such as railcars, storage tanks and ships, we have separated the lease and non-lease components based on the estimated stand-alone price for each component. For the remaining asset classes, we have elected to account for these components as a single lease component. In addition, we exclude leases expiring within twelve months from balance sheet recognition.

Many of our leases include one or more options to renew. We evaluate renewal options at the lease commencement date and regularly thereafter to determine if we are reasonably certain to exercise the option, in which case we include the renewal period in our lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on information available to determine the present value of the lease payments.

Lease expense for operating leases is recognized on a straight-line basis over the lease term. Variable lease expense is recognized in the period in which the obligation for those payments is incurred. Operating lease costs were $6.7 million and $7.5 million during the three months ended March 31, 2023 and 2022, respectively. Variable lease costs were $0.9 million and $0.8 million during the three months ended March 31, 2023 and 2022, respectively.

The following table presents information about the amount and timing of cash flows arising from our operating leases as of March 31, 2023:

(Dollars in millions)		
2023	$	20.3
2024		22.7
2025		17.5
2026		12.8
2027		10.4
Thereafter		20.8
Total lease payments	$	104.5
Less: Interest		(18.2)
Present value of lease liabilities	$	86.3

Supplemental condensed consolidated balance sheet information related to leases is as follows:

(Dollars in millions)		*March 31, 2023*		*December 31, 2022*
Operating leases:				
Operating lease right-of-use assets	$	85.9	$	86.3
Current operating lease liabilities	$	20.9	$	20.5
Operating lease liabilities		65.4		66.3
Total operating lease liabilities	$	86.3	$	86.8
Weighted average remaining lease term, in years		5.5		5.6
Weighted average discount rate		6.8 %		7.2 %

15. Derivative Financial Instruments

We utilize derivative instruments to manage exposures to risks that have been identified, measured and are capable of being mitigated. The primary risks that we manage by using derivative instruments are commodity price risk associated with copper, foreign currency exchange risk associated with a number of currencies, principally the U.S. dollar and New Zealand dollar and interest rate risk associated with variable rate borrowings. Swap contracts on copper are used to manage the price risk associated with forecasted purchases of materials used in our manufacturing processes. Generally, we will not hedge cash flow exposures for durations longer than 36 months and we have hedged certain volumes of copper through the end of 2024.

We enter into foreign currency forward contracts to manage foreign currency risk associated with our receivable and payable balances in addition to foreign-denominated sales. We also enter into interest rate swaps to effectively convert portions of our variable interest debt into fixed rate debt. Our objective in using interest rate swaps is to add stability to interest expense and to manage our exposure to interest rate movements. Generally, we enter into master netting arrangements with the counterparties and offset net derivative positions with the same counterparties. Currently, our agreements do not require cash collateral.

The Company recognizes all derivative instruments as either assets or liabilities at fair value on the balance sheet. The derivative instruments are classified as current or noncurrent based upon the expected timing of cash flows and are subject to offset under our master netting arrangements. A derivative instrument's fair value is determined using significant other observable inputs, a Level 2 fair value measurement. We designate certain of our commodity swaps as cash flow hedges of forecasted purchases of commodities. We also designate our interest rate swaps as cash flow hedges on interest payments.

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income and is reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative instruments representing hedge ineffectiveness are recognized in current earnings.

For those commodity swaps where hedge accounting is not elected, the fair value of the commodity swap is recognized as an asset or liability on the consolidated balance sheet and the related gain or loss on the derivative is reported in current earnings. These amounts are classified in cost of sales in the condensed consolidated statement of operations.

As of March 31, 2023 and December 31, 2022, we had outstanding copper swap contracts of the following amounts:

	Units Outstanding (in Pounds)		Net Fair Value - Asset (in Dollars)	
	March 31, 2023	December 31, 2022	March 31, 2023	December 31, 2022
(Amounts in millions)				
Cash flow hedges	28.4	21.3	$ 8.5	$ 2.5
Contracts where hedge accounting was not elected	4.5	6.0	1.6	0.6
Total	32.9	27.3	$ 10.1	$ 3.1

As of March 31, 2023 and December 31, 2022, the fair value of the outstanding copper swap contracts is recorded in the balance sheet as follows:

	March 31, 2023	December 31, 2022
(Dollars in millions)		
Derivative contracts	$ 8.5	$ 2.9
Other assets	1.6	0.5
Accrued liabilities	0.0	(0.3)
Net asset on balance sheet	$ 10.1	$ 3.1
Accumulated other comprehensive gain, net of tax	$ 6.4	$ 1.8

We estimate that $5.3 million of unrealized gains, net of tax, related to commodity price hedging will be reclassified from other comprehensive income into earnings over the next twelve months.

See Note 4 – “Comprehensive Income and Equity”, for amounts recorded in other comprehensive income and for amounts reclassified from accumulated other comprehensive loss into net income.

For the three months ended March 31, 2023 and 2022, the unrealized (loss) gain from contracts where hedge accounting was not elected is as follows:

	Three Months Ended March 31,	
	2023	2022
(Dollars in millions)		
Gain (loss) from contracts where hedge accounting was not elected	1.1	(0.3)

The fair value associated with forward contracts related to foreign currency that are not designated as hedges are immediately charged to earnings. These amounts are classified in cost of sales in the condensed consolidated statement of operations and comprehensive income.

As of March 31, 2023 and December 31, 2022, the fair value of outstanding foreign currency forward contracts is recorded in the balance sheet as follows:

	March 31, 2023	December 31, 2022
(Dollars in millions)		
Derivative contracts	$ 0.1	$ 0.1
Accrued liabilities	(0.2)	(0.1)
Net liability on balance sheet	$ (0.1)	$ 0.0

As of March 31, 2023 and December 31, 2022, the net currency units outstanding for these contracts were:

	March 31, 2023	December 31, 2022
(In millions)		
New Zealand Dollars	NZD 3.3	NZD 3.3
United States Dollars	USD 6.3	USD 9.3

During the first quarter of 2023, we entered into an interest rate swap agreement with an aggregate notional value of $100 million in anticipation of the issuance of our Term Loan B in April 2023 (see Note 12 – "Debt"), which effectively converts the variable rate to a fixed rate for that portion of the loan. The swap agreement expires in April 2027. The interest rate swap has been designated as a cash flow hedge and involves the receipt of variable amounts from a counterparty in exchange for us making fixed rate payments over the life of the agreements without exchange of the underlying notional amount.

As of March 31, 2023, the fair value of the outstanding interest rate swap is recorded in the balance sheet as follows:

(Dollars in millions)		March 31, 2023
Derivative contracts	$	1.1
Other long-term liabilities		(0.9)
Net asset on balance sheet	$	0.2
Accumulated other comprehensive gain, net of tax	$	0.1

We estimate that $0.8 million of unrealized gains, net of tax, related to interest rate swaps will be reclassified from other comprehensive income into earnings over the next twelve months.

16. Commitments and Contingent Liabilities

We are involved in litigation and various proceedings relating to environmental laws and regulations, product liability and other matters. Certain of these matters are discussed below. The ultimate resolution of these contingencies is subject to significant uncertainty and should we fail to prevail in any of these legal matters or should several of these legal matters be resolved against us in the same reporting period, these legal matters could, individually or in the aggregate, be material to the condensed consolidated financial statements.

Legal Proceedings

Coal Tar Pitch Cases. Koppers Inc. is one of several defendants in lawsuits filed in two states in which the plaintiffs claim they suffered a variety of illnesses (including cancer) as a result of exposure to coal tar pitch sold by the defendants. There were 51 plaintiffs in 27 cases pending as of March 31, 2023 and as of December 31, 2022. As of March 31, 2023, there were 26 cases pending in the Court of Common Pleas of Allegheny County, Pennsylvania, and one case pending in the Circuit Court of Knox County, Tennessee.

The plaintiffs in all 27 pending cases seek to recover compensatory damages. Plaintiffs in 24 of those cases also seek to recover punitive damages. The plaintiffs in the 26 cases filed in Pennsylvania seek unspecified damages in excess of the court's minimum jurisdictional limit. The plaintiff in the Tennessee state court case seeks damages of $15.0 million. The other defendants in these lawsuits vary from case to case and include companies such as Beazer East, Inc. ("Beazer East"), Honeywell International Inc., Graftech International Holdings, Dow Chemical Company, UCAR Carbon Company, Inc., and SGL Carbon Corporation. Discovery is proceeding in these cases. No trial dates have been set in any of these cases.

We have not provided a reserve for the coal tar pitch lawsuits because, at this time, we cannot reasonably determine the probability of a loss, and the amount of loss, if any, cannot be reasonably estimated. The timing of resolution of these cases cannot be reasonably determined. Although Koppers Inc. is vigorously defending these cases, an unfavorable resolution of these matters may have a material adverse effect on our business, financial condition, cash flows and results of operations.

Environmental and Other Litigation Matters

We are subject to federal, state, local and foreign laws and regulations and potential liabilities relating to the protection of the environment and human health and safety including, among other things, the cleanup of contaminated sites, the treatment, storage and disposal of wastes, the discharge of effluent into waterways, the emission of substances into the air and various health and safety matters. We expect to incur substantial costs for ongoing compliance with such laws and regulations. We may also face governmental or third-party claims, or otherwise incur costs, relating to cleanup of, or for injuries resulting from, contamination at sites associated with past and present operations. We accrue for environmental liabilities when a determination can be made that a liability is probable and reasonably estimable.

Environmental and Other Liabilities Retained or Assumed by Others. We have agreements with former owners of certain of our operating locations under which the former owners retained, assumed and/or agreed to indemnify us against certain environmental and other liabilities. The most significant of these agreements was entered into at Koppers Inc.'s formation on December 29, 1988 (the "Acquisition"). Under the related asset purchase agreement between Koppers Inc. and Beazer East, subject to certain limitations, Beazer East retained the responsibility for and agreed to indemnify Koppers Inc. against certain liabilities, damages, losses and costs, including, with certain limited exceptions, liabilities under and costs to comply with environmental laws to the extent attributable to acts or omissions occurring prior to the Acquisition and liabilities related to products sold by Beazer East prior to the Acquisition (the "Indemnity"). Beazer Limited, the parent company of Beazer East, unconditionally guaranteed Beazer East's performance of the Indemnity pursuant to a guarantee.

The Indemnity provides different mechanisms, subject to certain limitations, by which Beazer East is obligated to indemnify Koppers Inc. with regard to certain environmental, product and other liabilities and imposes certain conditions on Koppers Inc. before receiving such indemnification, including, in some cases, certain limitations regarding the time period as to which claims for indemnification can be brought. In July 2004, Koppers Inc. and Beazer East agreed to amend the environmental indemnification provisions of the December 29, 1988 asset purchase agreement to extend the indemnification period for pre-closing environmental liabilities, subject to the following paragraph, and agreed to share toxic tort litigation defense arising from any sites acquired from Beazer East.

Qualified expenditures under the Indemnity are not subject to a monetary limit. Qualified expenditures under the Indemnity include (i) environmental cleanup liabilities required by third parties, such as investigation, remediation and closure costs, relating to pre-December 29, 1988 (“Pre-Closing”) acts or omissions of Beazer East or its predecessors; (ii) environmental claims by third parties for personal injuries, property damages and natural resources damages relating to Pre-Closing acts or omissions of Beazer East or its predecessors; (iii) punitive damages for the acts or omissions of Beazer East and its predecessors without regard to the date of the alleged conduct and (iv) product liability claims for products sold by Beazer East or its predecessors without regard to the date of the alleged conduct. The indemnification period ended July 14, 2019 (the “Claim Deadline”) and Beazer East may now tender certain third-party claims described in sections (i) and (ii) above to Koppers Inc. However, to the extent the third-party claims described in sections (i) and (ii) above were tendered to Beazer East by the Claim Deadline, Beazer East will continue to be required to pay the costs arising from such claims under the Indemnity. Furthermore, the Claim Deadline did not change the provisions of the Indemnity with respect to indemnification for non-environmental claims, such as product liability claims, which claims may continue to be tendered by Koppers Inc. to Beazer East.

The Indemnity provides for the resolution of issues between Koppers Inc. and Beazer East by an arbitrator on an expedited basis upon the request of either party. The arbitrator could be asked, among other things, to make a determination regarding the allocation of environmental responsibilities between Koppers Inc. and Beazer East. Arbitration decisions under the Indemnity are final and binding on the parties.

Contamination has been identified at most manufacturing and other sites of our subsidiaries. One site currently owned and operated by Koppers Inc. in the United States is listed on the National Priorities List promulgated under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (“CERCLA”). Currently, at the properties acquired from Beazer East (which includes the National Priorities List site and all but one of the sites permitted under the Resource Conservation and Recovery Act (“RCRA”)), a significant portion of all investigative, cleanup and closure activities are being conducted and paid for by Beazer East pursuant to the terms of the Indemnity. In addition, other of Koppers Inc.’s sites are or have been operated under RCRA and various other environmental permits, and remedial and closure activities are being conducted at some of these sites.

To date, the parties that retained, assumed and/or agreed to indemnify us against the liabilities referred to above, including Beazer East, have performed their obligations in all material respects. Periodically, issues have arisen between Koppers Inc. and Beazer East and/or other indemnitors that have been resolved without arbitration. Koppers Inc. and Beazer East engage in discussions from time to time that involve, among other things, the allocation of environmental costs related to certain operating and closed facilities.

If for any reason (including disputed coverage or financial incapability) one or more of such parties fail to perform their obligations and we are held liable for or otherwise required to pay all or part of such liabilities without reimbursement, the imposition of such liabilities on us could have a material adverse effect on our business, financial condition, cash flows and results of operations. Furthermore, we could be required to record a contingent liability on our balance sheet with respect to such matters, which could result in a negative impact to our business, financial condition, cash flows and results of operations.

Domestic Environmental Matters. Koppers Inc. has been named as one of the potentially responsible parties (“PRPs”) at the Portland Harbor CERCLA site located on the Willamette River in Oregon. Koppers Inc. operated a coal tar pitch terminal near the site. Koppers Inc. has responded to an EPA information request and has executed a PRP agreement which outlines a private process to develop an allocation of past and future costs among more than 80 parties to the site. Koppers Inc. believes it is a *de minimis* contributor at the site.

The EPA issued its Record of Decision (“ROD”) in January 2017 for the Portland Harbor CERCLA site. The selected remedy includes a combination of sediment removal, capping, enhanced and monitored natural recovery and riverbank improvements. The ROD does not determine who is responsible for remediation costs. At that time, the net present value and undiscounted costs of the selected remedy as estimated in the ROD were approximately $1.1 billion and $1.7 billion, respectively. These costs are likely to increase given recent submissions to EPA regarding remedy design and because the remedy will not be implemented for several years. Responsibility for implementing and funding that work is yet to be determined. The funding of that work amongst the PRPs is the subject of a separate private allocation process which is ongoing.

Additionally, Koppers Inc. is involved in two separate matters involving natural resource damages at the Portland Harbor site. One matter involves claims by the trustees to recover damages based upon an assessment of damages to natural resources caused by the releases of hazardous substances to the Willamette River. The assessment serves as the foundation to estimate liabilities for settlements of natural resource damages claims or litigation to recover from those who do not settle with the trustee groups. Koppers Inc. has been engaged in a process to resolve its natural resource damage liabilities for the assessment area. A second matter involves a lawsuit filed in January 2017 by the Yakama Nation in Oregon federal court. Yakama Nation seeks recovery for response costs and the costs of assessing injury to natural resources in waterways beyond the current assessment area. Following the most recent court rulings, the Yakama Nation case has been stayed pending completion of the private allocation process for the Portland Harbor CERCLA site.

In September 2009, Koppers Inc. received a general notice letter stating that it may be a PRP at the Newark Bay CERCLA site. In January 2010, Koppers Inc. submitted a response to the general notice letter asserting that Koppers Inc. is a *de minimis* party at this site.

We have accrued the estimated costs of participating in the PRP group at the Portland Harbor and Newark Bay CERCLA sites and estimated *de minimis* contributor settlement amounts at the sites totaling $4.0 million as of March 31, 2023. The actual cost could be materially higher as there has not been a determination of how those costs will be allocated among the PRPs at the sites. Accordingly, an unfavorable resolution of these matters may have a material adverse effect on our business, financial condition, cash flows and results of operations.

There are two plant sites related to the Performance Chemicals business and one plant site related to the Utility and Industrial Products business in the United States where we have recorded environmental remediation liabilities for soil and groundwater contamination which occurred prior to our acquisition of the businesses. As of March 31, 2023, our estimated environmental remediation liability for these acquired sites totals $3.9 million.

Foreign Environmental Matters. There is one plant site related to the Performance Chemicals business located in Australia where we have recorded an environmental remediation liability for soil and groundwater contamination which occurred prior to the acquisition of the business. As of March 31, 2023, our estimated environmental remediation liability for the acquired site totals $1.3 million.

Environmental Reserves Rollforward. The following table reflects changes in the accrual for environmental remediation. A total of $2.5 million and $2.5 million are classified as current liabilities as of March 31, 2023 and December 31, 2022:

	Period ended	
(Dollars in millions)	*March 31, 2023*	*December 31, 2022*
Balance at beginning of year	$ 10.9	$ 10.7
Expense	0.0	1.6
Cash expenditures	(0.1)	(1.1)
Currency translation	0.0	(0.3)
Balance at end of year	$ 10.8	$ 10.9

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This report and any documents incorporated herein by reference contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and may include, but are not limited to, statements about sales levels, acquisitions, restructuring, declines in the value of Koppers assets and the effect of any related impairment charges, profitability and anticipated expenses and cash outflows. All forward-looking statements involve risks and uncertainties. All statements contained herein that are not clearly historical in nature are forward-looking, and words such as "believe," "anticipate," "expect," "estimate," "may," "will," "should," "continue," "plans," "potential," "intends," "likely," or other similar words or phrases are generally intended to identify forward-looking statements. Any forward-looking statement contained herein, in press releases, written statements or documents filed with the Securities and Exchange Commission, or in Koppers communications and discussions with investors and analysts in the normal course of business through meetings, phone calls and conference calls, regarding future dividends, expectations with respect to sales, earnings, cash flows, operating efficiencies, restructurings, product introduction or expansion, the benefits of acquisitions and divestitures, or other matters as well as financings and debt reduction, are subject to known and unknown risks, uncertainties and contingencies. Many of these risks, uncertainties and contingencies are beyond our control, and may cause actual results, performance or achievements to differ materially from anticipated results, performance or achievements. Factors that might affect such forward-looking statements, include, among other things, the impact of changes in commodity prices, such as oil and copper, on product margins; general economic and business conditions; inflation; disruption in the U.S. and global financial markets; potential difficulties in protecting our intellectual property; the ratings on our debt and our ability to repay or refinance our outstanding indebtedness as it matures; our ability to operate within the limits of our debt covenants; potential impairment of our goodwill and/or long-lived assets; demand for Koppers goods and services; competitive conditions; interest rate and foreign currency rate fluctuations; availability and costs of key raw materials, such as coal tar, and unfavorable resolution of claims against us, as well as those discussed more fully elsewhere in this report and in documents filed with the Securities and Exchange Commission by Koppers, particularly our latest annual report on Form 10-K and subsequent filings. We caution you that the foregoing list of important factors may not contain all of the material factors that are important to you. In addition, in light of these risks and uncertainties, the matters referred to in the forward-looking statements contained in this report and the documents incorporated by reference herein may not in fact occur. Any forward-looking statements in this report speak only as of the date of this report, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after that date or to reflect the occurrence of unanticipated events.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the unaudited financial statements and related notes included in Item 1 of this Part I as well as the audited consolidated financial statements and the related notes included in our Annual Report on Form 10-K for the year ended December 31, 2022.

Overview

We are a leading integrated global provider of treated wood products, wood preservation chemicals and carbon compounds. Our products and services are used in a variety of niche applications in a diverse range of end-markets, including the railroad, specialty chemical, utility, residential lumber, agriculture, aluminum, steel, rubber and construction industries. We serve our customers through a comprehensive global manufacturing and distribution network, with manufacturing capabilities in North America, South America, Australasia and Europe.

We operate three principal businesses: RUPS, PC and CMC. Through our RUPS business, we believe that we are the largest supplier of wood crossties to the Class I railroads in North America. Our other treated wood products include utility poles for the electric, telephone, and broadband utility industries in the United States and Australia and construction pilings in the U.S. We also provide rail joint bar products as well as various services to the railroad industry in North America.

Through our PC business, we believe that we are the global leader in developing, manufacturing and marketing wood preservation chemicals and wood treatment technologies for use in the pressure treating of lumber for residential, industrial and agricultural applications.

Our CMC business processes coal tar into a variety of products, including creosote, carbon pitch, carbon black feedstock, naphthalene and phthalic anhydride, which are intermediate materials necessary in the pressure treatment of wood, and the production of aluminum, steel, carbon black, high-strength concrete, plasticizers and specialty chemicals, respectively.

Non-GAAP Financial Measures

We utilize certain financial measures that are not in accordance with U.S. generally accepted accounting principles (U.S. GAAP) to analyze and manage the performance of our business. We believe that adjusted EBITDA provides information useful to investors in understanding the underlying operational performance of the company, our business and performance trends, and facilitates comparisons between periods. The exclusion of certain items permits evaluation and a comparison between periods of results for business operations, and it is on this basis that our management internally assesses our performance. In addition, our board of directors and executive management team use adjusted EBITDA as a performance measure under the company's annual incentive plans.

Although we believe that these non-GAAP financial measures enhance investors' understanding of our business and performance, these non-GAAP financial measures should not be considered an alternative to GAAP financial measures and should be read in conjunction with the relevant GAAP financial measures. Other companies in a similar industry may define or calculate these measures differently than we do, limiting their usefulness as comparative measures. Because of these limitations, these non-GAAP financial measures should not be considered in isolation or as substitutes for performance measures calculated in accordance with GAAP.

Adjusted EBITDA is a non-GAAP financial measure defined as net income from continuing operations before interest, income taxes, depreciation, amortization and other adjustments. These other adjustments are items that we believe are not representative of underlying business performance. Adjusted items typically include certain expenses associated with impairment, restructuring and plant closure costs, significant gains and losses on asset disposals or business combinations, LIFO and mark-to-market commodity hedging and other unusual items. We adjust for LIFO to reflect operating results on a FIFO basis. Adjusted EBITDA is the primary measure of profitability we use to evaluate our businesses. Refer to Note 7 – "Segment Information" for reconciliations from adjusted EBITDA to net income on a consolidated basis.

Outlook

Trend Overview

Our businesses and results of operations are affected by various competitive and other factors including (i) the impact of global economic conditions on demand for our products, including the impact of imported products from competitors in certain regions where we operate; (ii) raw material pricing and availability, in particular the cost and availability of hardwood lumber for railroad crossties and softwood lumber for utility poles, scrap copper prices, and the cost and amount of coal tar available in global markets, which is negatively affected by reductions in blast furnace steel production; (iii) volatility in oil prices, which impacts the cost of coal tar and certain other raw materials, as well as selling prices and margins for certain of our products including carbon black feedstock, phthalic anhydride, and naphthalene; (iv) competitive conditions in global carbon pitch markets; and (v) changes in foreign exchange rates.

Railroad and Utility Products and Services

Historically, North American demand for crossties had been in the range of 18 million to 22 million crossties annually. According to the Railway Tie Association ("RTA"), the estimated total crosstie installations in 2022 were approximately 18.7 million, of which 14.6 million were for Class I railroads. In the aggregate, spending by railroads is projected to be somewhat higher in 2023 in nominal terms; however, will be marginally lower in real terms due to higher input costs for labor, crossties and other materials. In terms of the supply of crossties, the demand for pallet lumber has eased, which has improved crosstie availability, and the price has moderated on slowing consumer spending. As a result of the weakening demand for board roads and mats, availability for crosstie production by sawmills is improving which is encouraging for the railroads as their inventory-to-sales ratio has been depressed for many months, mainly because of low crosstie inventories. Nevertheless, the RTA demand forecast predicts slightly lower crosstie demand of 1.3 percent in 2023, or total demand of 18.4 million crossties. For 2024, the economy is estimated to grow by 1.4 percent and crosstie demand is expected to recover modestly, with an increase of 0.9 percent, or total demand of 18.6 million crossties.

According to the Association of American Railroads ("AAR"), rail traffic in 2022 was lower than in 2021 for most categories. Compared to the prior year, total U.S. carload traffic for the year-to-date period through March 31, 2023 declined 0.3 percent, and intermodal units were lower by 10.3 percent. For 2023 to-date, total combined U.S. traffic decreased by 5.6 percent compared to last year. According to the AAR, rail volumes are being negatively influenced by broader economic trends, including slowdowns in industrial output, high inventory levels at many retailers, lower port activity and less robust consumer spending.

With respect to our utility products business, the installed base for wood distribution poles in the United States is approximately 150 million and nearly half are 40 years old. Industry demand has historically been in the range of approximately two to four million poles annually. On an overall basis, we believe that the rate at which utilities purchase utility poles will grow as they continue replacement programs within their service territories. As a whole, the key factors that drive growth in the utility pole market include growing global energy consumption as well as expansion of the global telecommunication industry. Now more than ever, utilities need to maintain their infrastructure to avoid interruptions in service as portions of the population work remotely. As long as there are not any extended supply chain disruptions, we anticipate that 2023 demand for pole replacements will be higher, as the overall industry is trending toward expanded and upgraded transmission networks. In addition, we believe there is a developing trend in the industry for utilities to maintain some additional inventory to prepare for potentially damaging storms.

With respect to raw materials, we expect the availability of poles to be affected as lumber demand continues to be relatively strong and, consequently, results in increased costs for pole material. Also, transportation costs, which include fuel costs, could experience some upward pressure and may affect the price of pole material delivered to the pole peelers from the forest. At the same time, utilities are working through various supply constraints by adjusting their ordering patterns and moving away from single-source supply, which may represent additional growth opportunities to gain market share.

Longer term, we are evaluating opportunities to potentially expand our market presence in the United States as well as certain overseas markets. We believe there remains an overall need for sustained investment in infrastructure and capacity expansion and with our vertical integration capabilities in wood treatment and strong customer relationships, we will ultimately benefit from increased demand.

For the overall segment, we believe a positive development involves the Infrastructure Investment and Jobs Act, which was signed into law on November 15, 2021, and will usher in more than a trillion dollars in new spending across eight years to improve the nation's roads, bridges, rail, Internet, water systems and more. As a global leader in water- and oil-borne preservatives serving many end markets with our wood-treatment technologies, we believe we are well-positioned to benefit from the new legislation. Our products are used in multiple infrastructure applications, including utility poles, railroad ties, highway and construction concrete, steel, aluminum, and wood for construction projects.

As part of optimizing our business, we continue to evaluate a number of opportunities to improve efficiencies in our operational processes, people and facilities. With our 14 North American RUPS treating facilities operating at less than full utilization, our goal is to either capture more volume through the existing facilities or consolidate our operating footprint. Actions we have taken over the past three years include the purchase of a 105-acre property in Leesville, Louisiana, which will host a facility providing additional peeling and drying capacity for utility poles and is expected to become operational in mid-2023, the sale of our Sweetwater, Tennessee plant, exiting the Texas Electric Cooperatives' Jasper, Texas facility and relocating the production of utility products to our existing Somerville, Texas plant and the permanent closure of our Denver, Colorado wood treatment facility. Concurrent with the decision to close the Denver facility, we announced our plan to modernize and upgrade parts of our treating network, specifically at our facility in North Little Rock, Arkansas, which has been partly funded through proceeds from the sale of non-core assets, including the Denver facility.

Performance Chemicals

As most of the products sold by PC are copper-based products, changes in the price and availability of copper can have a significant impact on product pricing and margins. We attempt to moderate the variability in copper pricing over time by entering into hedging transactions for the majority of our copper needs, which primarily range from six months up to 36 months. These hedges typically match expected customer purchases and from time to time, we enter into forward transactions based upon long-term forecasted needs of copper.

Product demand for our PC business has historically been closely associated with consumer spending on home repair and remodeling projects in North America, and therefore, trends in existing home sales serve as a leading indicator. According to the National Association of Realtors® ("NAR"), total existing-home sales in March were 2.4 percent lower than February. Month-over-month sales decreased in three out of four major U.S. regions, while sales in the Northeast remained steady. On a year-over-year basis, all regions declined and March existing home sales were lower by 22 percent. The NAR reported that the market is unique in that while home sales are trying to recover and are highly sensitive to changes in mortgage rates, multiple offers on starter homes are quite common, implying more supply will be needed to fully satisfy demand.

According to the Leading Indicator of Remodeling Activity ("LIRA") reported by the Joint Center for Housing Studies of Harvard University, after more than a decade of continuous growth, annual spending on improvements and repairs to owner-occupied homes is expected to decline by early 2024. The LIRA projects that year-over-year expenditures for homeowner improvements and maintenance will post a modest decline of 2.8 percent through the first quarter of 2024. The forecast for sluggish remodeling activity next year is driven by higher interest rates and sharp downturns in homebuilding and existing home sales. Overall, homeowner improvement and maintenance spending is expected to reach $458 billion in the coming year, compared with market spending of $471 billion during the past twelve months.

The Conference Board Consumer Confidence Index® decreased to 101.3 in April, down from 104.0 in March. In April, consumers indicated a more favorable assessment of the current business environment; however, their forward expectations declined, which may signal a recession in the short-term. At the same time, consumer inflation expectations regarding the next twelve months remain essentially unchanged from March but are still elevated.

Carbon Materials and Chemicals

The primary products produced by CMC are creosote, which is a registered pesticide in the United States and used primarily in the pressure treatment of railroad crossties, and carbon pitch, which is sold primarily to the aluminum industry for the production of carbon anodes used in the smelting of aluminum. We have realigned capacity in our CMC plants in North America and Europe over the past several years to levels required to meet creosote demand in North America for the treatment of railroad crossties. The CMC business currently supplies our North American RUPS business with its creosote requirements.

The availability of coal tar, the primary raw material for our CMC business, is linked to levels of metallurgical coke production. As the global steel industry, excluding Asia, has reduced the production of steel using metallurgical coke, the volumes of coal tar have been reduced. We are actively working to mitigate the impacts of declining coal tar supply by gaining market acceptance for blended alternative products. We are also investing in projects to increase distillation yields and balance raw material supply and cost with customer demand and pricing.

For the external markets served by our CMC business, we anticipate relative stability in manufacturing overall as well as in the steel, aluminum and carbon black industries. According to S&P Global Mobility (formerly IHS Markit Automotive Group), U.S. light vehicle production levels are forecasted to increase even as economic conditions are expected to deteriorate. The advancing production levels, along with reports of sustained retail order books, recovering stock of vehicles, and a fleet sector that remains low on product should provide some benefits to automotive demand levels. For 2023, S&P projects U.S. production volumes of 14.8 million units, a seven percent increase from the estimated 2022 production level.

Globally, the auto industry continues to navigate supply chain challenges while impacted by several markets facing deteriorating economic conditions and fading demand. As the ongoing issue of semiconductor availability continues to be addressed, the global light vehicle market is expected to slowly recover and vehicle sales are anticipated to reach nearly 83.6 million units in 2023, a 5.6 percent increase year-over-year. Recently, auto production is beginning to show some sustained signs of improvement. In March 2023, North American production results were estimated to total 1.5 million units, translating into 15.8 million units produced on a seasonally adjusted annual rate basis, which is the highest level in 30 months. However, the auto sales environment is dealing with mixed signals of mildly advancing production, improving inventory and attractive incentives on one hand, and rising affordability concerns and uncertain consumer confidence levels on the other. Therefore, subject to the uncertainty in the overall economy, we believe it is likely that month-to-month volatility lies ahead.

Seasonality and Effects of Weather on Operations

Our quarterly operating results fluctuate due to a variety of factors that are outside of our control, including inclement weather conditions, which in the past have affected operating results. Operations at some of our facilities have at times been reduced during the winter months. Moreover, demand for some of our products declines during periods of inclement weather. As a result of the foregoing, we anticipate that we may experience material fluctuations in quarterly operating results. Historically, our operating results have been significantly lower in the first and fourth calendar quarters as compared to the second and third calendar quarters.

Results of Operations – Comparison of Three Months Ended March 31, 2023 and 2022

Consolidated Results

Net sales for the three months ended March 31, 2023 and 2022 are summarized by segment in the following table:

	Three Months Ended March 31,		
(Dollars in millions)	*2023*	*2022*	*Net Change*
Railroad and Utility Products and Services	$ 213.1	$ 183.4	16 %
Performance Chemicals	146.9	136.4	8 %
Carbon Materials and Chemicals	153.4	139.5	10 %
	$ 513.4	$ 459.3	12 %

RUPS net sales increased by $29.7 million, or 16 percent, compared to the prior year period. The sales increase was largely related to a net $21.2 million of pricing increases across multiple markets, particularly for crossties and domestic utility poles. Volume increases for untreated crossties also contributed to the increase. Foreign currency changes compared to the prior year period had an unfavorable impact on sales in the current year period of $0.8 million, mainly from our Australian utility pole business.

PC net sales increased by $10.5 million, or eight percent, compared to the prior year period. Sales increased as a result of global price increases of $24.7 million, or 18 percent in the current year period, particularly in the Americas for our copper-based preservatives. The pricing increases were offset, in part, by $11.7 million of volume decreases for wood treatment preservatives across most markets, primarily Europe and Australasia. Volumes in the Americas were down four percent compared to the prior year period. Foreign currency changes compared to the prior year period had an unfavorable impact on sales in the current year period of $2.5 million.

CMC net sales increased by $13.9 million, or 10 percent, compared to the prior year period due mainly to $37.1 million of higher sales prices, primarily for carbon pitch driven by strong end markets and constrained raw material supply, partly offset by volume decreases of phthalic anhydride, carbon pitch and carbon black feedstock. Foreign currency changes compared to the prior year period from our international markets had an unfavorable impact on sales in the current year period of $4.6 million.

Cost of sales as a percentage of net sales was 80 percent for the quarter ended March 31, 2023, compared to 81 percent in the prior year period as global price increases have outpaced increased raw material and operating costs on a consolidated basis and across most of our businesses. Significant items impacting cost of sales in individual operating segments are discussed as part of "Segment adjusted EBITDA and adjusted EBITDA margin" herein.

Depreciation and amortization charges for the quarter ended March 31, 2023 were consistent with the prior year period.

Gain on sale of assets for the quarter ended March 31, 2023 was related to a sale of assets of our former coal tar distillation facility located in China while the gain on sale of assets in the prior year was related to the sale of our utility pole treating facility in Sweetwater, Tennessee.

Selling, general and administrative expenses for the quarter ended March 31, 2023 were $2.5 million higher when compared to the prior year period due mainly to an increase in travel, entertainment and corporate events along with an increase in compensation related costs.

Interest expense for the quarter ended March 31, 2023 was $4.2 million higher when compared to the prior year period due to higher interest rates.

Income tax expense for the quarter ended March 31, 2023 increased due to higher income from continuing operations before income taxes when compared to the prior year period. This increase was partially offset by a lower estimated annual effective income tax rate when compared to the prior year period. The higher effective tax rate in the prior year period was driven by higher estimated non-deductible expenses, notably interest expense.

Segment Results.

Segment adjusted EBITDA and adjusted EBITDA margin for the three months ended March 31, 2023 and 2022 is summarized in the following table:

(Dollars in millions)	*Three Months Ended March 31,* 2023	*Three Months Ended March 31,* 2022	*% Change*
Adjusted EBITDA:			
Railroad and Utility Products and Services	$ 15.8	$ 11.6	36 %
Performance Chemicals	26.3	20.9	26 %
Carbon Materials and Chemicals	19.4	20.1	-3 %
Total Adjusted EBITDA	$ 61.5	$ 52.6	17 %
Adjusted EBITDA margin as a percentage of GAAP sales:			
Railroad and Utility Products and Services	7.4 %	6.3 %	17 %
Performance Chemicals	17.9 %	15.3 %	17 %
Carbon Materials and Chemicals	12.6 %	14.4 %	-12 %

RUPS adjusted EBITDA increased by $4.2 million compared to the prior year period. Adjusted EBITDA as a percentage of net sales increased to 7.4 percent from 6.3 percent in the prior year period due primarily to price increases, partly offset by cost increases, including $19.2 million of higher raw material and operating costs in our crosstie and maintenance of way businesses in the current year period.

PC adjusted EBITDA increased by $5.4 million compared to the prior year period. Adjusted EBITDA as a percentage of net sales increased to 17.9 percent from 15.3 percent as renegotiated customer contracts allowed us to increase prices to recapture prior year cost increases. These price increases more than offset $10.9 million of raw material cost increases and an 8.6 percent global volume decrease on wood treatment preservatives from the prior year period.

CMC adjusted EBITDA decreased by $0.7 million compared to the prior year period. Adjusted EBITDA as a percentage of net sales decreased to 12.6 percent from 14.4 percent in the prior year period due to an increase of $39.8 million in raw material costs, particularly in North America and Europe, partly offset by higher pricing compared to the prior year period. Foreign currency changes from our international markets had an unfavorable impact on profitability in the current year period of $0.7 million.

The following table reconciles net income to adjusted EBITDA on a consolidated basis as calculated by us for the periods indicated below:

(Dollars in millions)	*Three Months Ended March 31,* 2023	*Three Months Ended March 31,* 2022
Net income	$ 26.2	$ 18.8
Interest expense	14.0	9.8
Depreciation and amortization	14.0	14.2
Income tax provision	9.9	9.7
Discontinued operations	0.0	0.5
Sub-total	64.1	53.0
Adjustments to arrive at adjusted EBITDA:		
Impairment, restructuring and plant closure costs[(1)]	0.0	0.1
(Gain) on sale of assets	(1.8)	(2.5)
LIFO expense[(2)]	0.3	1.7
Mark-to-market commodity hedging (gains) losses	(1.1)	0.3
Total adjustments	(2.6)	(0.4)
Adjusted EBITDA	$ 61.5	$ 52.6

(1) Includes costs associated with restructuring, sales and closures of certain RUPS and CMC facilities.
(2) The LIFO expense adjustment removes the entire impact of LIFO and effectively reflects the results as if we were on a FIFO inventory basis.

Cash Flow

Net cash used in operating activities for the three months ended March 31, 2023 was $15.3 million compared to net cash used in operating activities of $8.0 million in the prior year. The increase is primarily the result of higher working capital usage of $11.6 million in the current year period driven in part by an increase in inventories from higher raw material costs.

Net cash used in investing activities for the three months ended March 31, 2023 was $28.5 million compared to net cash used in investing activities of $22.0 million in the prior year period driven primarily by capital expenditures. Capital expenditures for both periods include increased investment in growth projects, such as the expansion of our RUPS facility in North Little Rock, Arkansas and a capacity enhancement project at our CMC facility in Nyborg, Denmark.

Net cash provided by financing activities was $56.8 million for the three months ended March 31, 2023 compared to $33.4 million of net cash provided by financing activities in the prior year. Cash provided by financing activities in the three months ended March 31, 2023 reflected net borrowings of $63.5 million partly offset by repurchases of common stock, dividends paid and payments of debt issuance costs. The cash provided by financing activities in the prior year period primarily reflected net borrowings of debt of $45.4 million partly offset by repurchases of common stock and dividends paid.

Liquidity and Capital Resources

Our Credit Facility is described in Note 12 – “Debt.”

Restrictions on Dividends to Koppers Holdings

Koppers Holdings depends on the dividends from the earnings of Koppers Inc. and its subsidiaries to generate the funds necessary to meet its financial obligations, including the payment of any declared dividend of Koppers Holdings. The Credit Facility permits Koppers Inc. to make dividend payments to Koppers Holdings if certain conditions are met, including, among other permitted dividend payments, the ability to fund the payment of regularly scheduled dividends on and repurchases of Koppers Holdings common stock, in an aggregate amount per year not to exceed the greater of $50.0 million in any fiscal year, with unused amounts in any fiscal year being carried over to the succeeding fiscal year, and 6.0 percent of market capitalization. The indenture governing the 2025 Notes restricted Koppers Inc.’s ability to finance our payment of dividends if a default had occurred or would have resulted from such financing, Koppers Inc. would not have been able to incur additional indebtedness (as defined in the indenture), or the sum of all restricted payments (as defined in the indenture) would have exceeded the permitted amount (which we refer to as the “basket”) at such point in time.

At March 31, 2023, the basket totaled $314.6 million. Notwithstanding such restrictions, the indenture governing the 2025 Notes permitted an additional aggregate amount of $0.30 per share each fiscal quarter to finance dividends on the capital stock of Koppers Holdings, whether or not there was any basket availability, provided that at the time of such payment, no default in the indenture had occurred or would have resulted from financing the dividends. The indenture governing the 2025 Notes was discharged in accordance with its terms upon our redemption of the 2025 Notes on April 11, 2023, as described in "Subsequent Events" in Note 12 – “Debt.”

Liquidity

As of March 31, 2023, the maximum amount available under the Credit Facility considering restrictions from debt covenants was approximately $400 million. As of December 31, 2022, the maximum amount available under the Credit Facility was approximately $412 million. On April 11, 2023, we redeemed our 2025 Notes using the proceeds of a $400.0 million face value Term Loan B, cash on hand and additional borrowings of approximately $100.0 million under our existing $800.0 million revolving Credit Facility. Such additional borrowings reduced the maximum amount available under the Credit Facility by a commensurate amount. The maximum amount available under the Credit Facility is increased by the amount of cash held by certain subsidiaries as defined by the Credit Facility.

Our need for cash in the next twelve months relates primarily to contractual obligations which includes debt service, pension plan funding, purchase commitments and operating leases, as well as working capital, capital maintenance programs, the funding of plant consolidation and rationalizations, dividends and share repurchases. We may also use cash to pursue other potential strategic acquisitions or voluntary pension plan contributions. Capital expenditures in 2023, excluding acquisitions, if any, are expected to total approximately $110 to $120 million and are expected to be funded by cash from operations. We anticipate that our liquidity will continue to be adequate to fund our cash requirements for at least the next twelve months.

We manage our working capital to increase our flexibility to pay down debt. Debt will fluctuate throughout any operating period based upon the timing of receipts from customers and payments to vendors. As of March 31, 2023, approximately 85 percent of accounts payable was current and 15 percent was 1-30 days past due. As of December 31, 2022, approximately 80 percent of accounts payable was current and 20 percent was 1-30 days past due.

Debt Covenants

The covenants that affect availability of the Credit Facility and which may restrict the ability of Koppers Inc. to pay dividends include the following financial ratios:

- The total net leverage ratio, calculated as of the last day of each fiscal quarter, is not permitted to exceed 5.0. The total net leverage ratio as of March 31, 2023 was 3.4.
- The cash interest coverage ratio, calculated as of the last day of each fiscal quarter, is not permitted to be less than 2.0. The cash interest coverage ratio as of March 31, 2023 was 5.2.

We are currently in compliance with all covenants governing the Credit Facility. Our continued ability to meet these financial covenants can be affected by events beyond our control; however, we currently expect that our net cash flows from operating activities and funds available from our Credit Facility will be sufficient to provide for our working capital needs and capital spending requirements over at least the next twelve months.

Legal Matters

The information set forth in Note 16 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

Recently Issued Accounting Guidance

The information set forth in Note 2 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

Critical Accounting Policies

There have been no material changes to our critical accounting policies as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2022.

Environmental and Other Matters

The information set forth in Note 16 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Except for the following update of interest rate sensitivity subsequent to March 31, 2023, there are no material changes to the disclosure on this matter made in our Annual Report on Form 10-K for the year ended December 31, 2022. As discussed in Note 12 – “Debt” - "Subsequent Events", on April 10, 2023 we completed a Term Loan B financing in an aggregate principal amount of $400.0 million and used the proceeds from the Term Loan B, cash on hand and additional borrowings under our Credit Facility to redeem our 2025 Notes. As a result of these transactions, all of our debt subsequent to April 11, 2023 consists of variable rate debt. For variable rate debt, interest rate changes impact earnings and cash flows, assuming other factors are held constant. Assuming all of our debt consisted of variable rate debt as of March 31, 2023, a one percentage point increase in interest rates would have decreased earnings and cash flows by approximately $8.0 million over a twelve-month period, holding other variables constant inclusive of interest rate swap effects. During the first quarter of 2023, we entered into an interest rate swap agreement with an aggregate notional value of $100.0 million in anticipation of the issuance of the Term Loan B in April 2023. The interest rate swap effectively converts the variable rate to a fixed rate of 7.478 percent for that portion of the loan. The swap agreement expires in April 2027.

ITEM 4. CONTROLS AND PROCEDURES

Our management, with the participation of the Chief Executive Officer and Chief Financial Officer and utilizing the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework (2013), have evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934 as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that these controls and procedures were effective as of the end of the period covered by this report. There were no changes in our internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that occurred during the quarter ended March 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The information set forth in Note 16 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of Part I of this report is incorporated herein by reference.

ITEM 1A. RISK FACTORS

There have been no material changes to the Risk Factors previously disclosed in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2022, except for the addition of the following risk factor.

The failure of financial institutions or transactional counterparties could adversely affect our current and projected business operations and our liquidity, financial condition and results of operations.

We regularly maintain domestic cash deposits in Federal Deposit Insurance Corporation (“FDIC”) insured banks which exceed the FDIC insurance limits. We also maintain cash deposits in foreign banks where we operate, some of which are not insured or are only partially insured by the FDIC or other similar agencies. The failure of a bank, or events involving limited liquidity, defaults, non-performance or other adverse conditions in the financial or credit markets impacting financial institutions at which we maintain balances, or concerns or rumors about such events, may lead to disruptions in access to our bank deposits or otherwise adversely impact our liquidity and financial condition. There can be no assurance that our deposits in excess of the FDIC or other comparable insurance limits will be backstopped by the U.S. or applicable foreign government, or that any bank or financial institution with which we do business will be able to obtain needed liquidity from other banks, government institutions or by acquisition in the event of a failure or liquidity crisis.

In addition, instability, liquidity constraints or other distress in the financial markets, including the effects of bank failures, defaults, non-performance or other adverse developments that affect financial institutions could impair the ability of one or more of the banks participating in our current or any future credit agreement from honoring their commitments under the credit agreement or situations where the banks serve as a counterparty on our derivative swap agreements. This could have a material adverse effect on our business if we were not able to replace those commitments or locate other sources of liquidity on acceptable terms.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The following table sets forth information regarding Koppers Holdings’ repurchases of shares of its common stock during the three months ended March 31, 2023:

Period	*Total Number of Common Shares Purchased* (1)	*Average Price paid per Common Share*		*Total Number of Common Shares Purchased as Part of Publicly Announced Plans or Programs*	*Approximate Dollar Value of Common Shares that May Yet be Purchased Under the Plans or Programs (Dollars in Millions)*	
January 1 - January 31	0	$	0.00	0	$	71.9
February 1 - February 28	0	$	0.00	0	$	71.9
March 1 - March 31	112,705	$	32.39	112,705	$	68.3
Total	112,705	$	32.39	112,705	$	68.3

(1) On August 6, 2021, we announced the board of directors' approval of a $100 million share repurchase program. The repurchase program has no expiration date.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

10.1	Amendment No. 1 dated as of April 10, 2023, to the Credit Agreement, dated as of June 17, 2022, by and among Koppers Inc., as Borrower, Koppers Holdings Inc., as Holdings, the Lenders and L/C issuers party thereto, PNC Bank, National Association, as Revolving Administrative Agent, Collateral Agent and Swingline Loan Lender, and Wells Fargo Bank, National Association, as Term Administrative Agent (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 11, 2023).
31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.

SIGNATURES

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.

KOPPERS HOLDINGS INC.
(REGISTRANT)

Date: May 5, 2023

By: /s/ JIMMI SUE SMITH

Jimmi Sue Smith
Chief Financial Officer
(Principal Financial Officer and Duly Authorized Officer)

Exhibit 31.1

CERTIFICATIONS

I, Leroy M. Ball, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Koppers Holdings Inc.;
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-5(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, 2023

/s/ Leroy M. Ball
Leroy M. Ball
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Jimmi Sue Smith, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Koppers Holdings Inc.;
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-5(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, 2023

/s/ JIMMI SUE SMITH
Jimmi Sue Smith
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Koppers Holdings Inc. (the “Company”) on Form 10-Q for the quarter ending March 31, 2023 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned hereby certifies in his or her capacity as an officer of the Company, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ LEROY M. BALL	/s/ JIMMI SUE SMITH
Leroy M. Ball	Jimmi Sue Smith
President and Chief Executive Officer	Chief Financial Officer
May 5, 2023	May 5, 2023