Koppers Holdings Inc.
Form 10-Q
May 03, 2019

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, 2019

Commission file number 1-32737

KOPPERS HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Pennsylvania	20-1878963
(State of incorporation)	(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)

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” and “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

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

Common Stock, par value $0.01 per share, outstanding at April 30, 2019 amounted to 20,647,947 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,	
	2019	2018
(Dollars in millions, except per share amounts)	(Unaudited)	(Unaudited)
Net sales	$434.9	$ 406.1
Cost of sales	353.8	311.4
Depreciation and amortization	14.6	11.8
Impairment and restructuring charges	0.3	1.5
Selling, general and administrative expenses	37.8	38.1
Operating profit	28.4	43.3
Other income, net	0.6	0.2
Interest expense	16.7	10.5
Income before income taxes	12.3	33.0
Income tax (benefit) provision	(0.1)	9.2
Income from continuing operations	12.4	23.8
Loss from discontinued operations, net of tax benefit of $0.0	0.0	(0.1)
Net income	12.4	23.7
Net income attributable to noncontrolling interests	0.9	5.9
Net income attributable to Koppers	$11.5	$ 17.8
Earnings per common share attributable to Koppers common shareholders:		
Basic -	$0.56	$ 0.86
Diluted -	$0.55	$ 0.81
Comprehensive income	$20.6	$ 16.2
Comprehensive income attributable to noncontrolling interests	1.1	6.1
Comprehensive income attributable to Koppers	$19.5	$ 10.1
Weighted average shares outstanding (in thousands):		
Basic	20,575	20,894
Diluted	20,881	22,158

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

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KOPPERS HOLDINGS INC.

CONDENSED CONSOLIDATED BALANCE SHEET

(Dollars in millions, except per share amounts)	March 31, 2019 (Unaudited)	December 31, 2018
Assets		
Cash and cash equivalents	$ 38.1	$ 40.6
Accounts receivable, net of allowance of $2.4 and $2.5	188.1	186.7
Income tax receivable	2.5	2.8
Inventories, net	285.5	284.7
Other current assets	29.1	25.5
Total current assets	543.3	540.3
Property, plant and equipment, net	417.3	417.9
Operating lease right-of-use assets	116.3	0.0
Goodwill	296.4	296.5
Intangible assets, net	183.0	188.0
Deferred tax assets	13.2	15.5
Other assets	23.9	21.7
Total assets	$ 1,593.4	$ 1,479.9
Liabilities		
Accounts payable	$ 143.1	$ 177.2
Accrued liabilities	99.5	109.9
Current operating lease liabilities	22.2	0.0
Current maturities of long-term debt	11.6	11.6
Total current liabilities	276.4	298.7
Long-term debt	1,001.1	978.8
Accrued postretirement benefits	48.4	48.2
Deferred tax liabilities	6.8	6.8
Operating lease liabilities	94.9	0.0
Other long-term liabilities	75.8	80.4
Total liabilities	1,503.4	1,412.9
Commitments and contingent liabilities (Note 18)		
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; 23,161,309 and 23,028,957 shares issued	0.2	0.2
Additional paid-in capital	209.0	206.0
Retained earnings	38.8	27.2
Accumulated other comprehensive loss	(79.2)	(87.2)
Treasury stock, at cost, 2,513,362 and 2,480,213 shares	(90.8)	(90.0)
Total Koppers shareholders’ equity	78.0	56.2

Noncontrolling interests	12.0	10.8
Total equity	90.0	67.0
Total liabilities and equity	$ 1,593.4	$ 1,479.9

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,	
	2019	2018
(Dollars in millions)	(Unaudited)	(Unaudited)
Cash provided by (used in) operating activities:		
Net income	$12.4	$ 23.7
Adjustments to reconcile net cash provided by operating activities:		
Depreciation and amortization	14.6	11.8
Gain on disposal of assets and investment	0.0	0.1
Insurance proceeds	(1.4)	0.0
Deferred income taxes	0.4	(0.1)
Change in other liabilities	(3.2)	(1.4)
Non-cash interest expense	0.6	0.5
Stock-based compensation	2.9	2.9
Other - net	(3.8)	3.2
Changes in working capital:		
Accounts receivable	1.7	(41.7)
Inventories	(0.5)	(10.7)
Accounts payable	(30.1)	2.4
Accrued liabilities	(4.5)	(20.2)
Other working capital	(3.5)	0.5
Net cash used in operating activities	(14.4)	(29.0)
Cash (used in) provided by investing activities:		
Capital expenditures	(11.0)	(22.5)
Acquisitions, net of cash acquired	0.0	(62.9)
Insurance proceeds received	1.4	0.0
Net cash provided by divestitures and asset sales	0.3	0.3
Net cash used in investing activities	(9.3)	(85.1)
Cash provided by (used in) financing activities:		
Net increase in credit facility borrowings	34.0	116.9
Borrowings of long-term debt	0.0	0.3
Repayments of long-term debt	(12.6)	(4.1)
Issuances of Common Stock	0.3	1.3
Repurchases of Common Stock	(0.9)	(7.4)
Payment of debt issuance costs	0.0	(1.1)
Net cash provided by financing activities	20.8	105.9
Effect of exchange rate changes on cash	0.4	0.1
Net decrease in cash and cash equivalents	(2.5)	(8.1)
Cash and cash equivalents at beginning of period	40.6	60.3
Cash and cash equivalents at end of period	$38.1	$ 52.2
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflow from operating leases	$7.6	$ 0.0
Supplemental disclosure of non-cash investing and financing activities:		

Right-of-use assets obtained in exchange for new operating lease liabilities	$14.3	$ 0.0

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

KOPPERS HOLDINGS INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

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 positic 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 for December 31, 2018 has been summarized from the audited balance sheet contained in the Annual Report on Form 10-K for the year ended December 31, 2018. Certain prior period amounts in the notes to the 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, 2018.

2. New Accounting Pronouncements

In August 2018, the Securities and Exchange Commission ("SEC") issued SEC Release No. 33-10532, "Disclosure Update and Simplification", which expanded the interim period disclosure requirements for stockholders' equity. Under the release, a reconciliation of the changes in each caption of stockholders' equity must be provided in a note or separate statement for each period that an income statement is required to be filed. We reflected the requirements of this release in "Note 6 – Comprehensive Income and Equity".

In August 2017, the Financial Accounting Standards Board ("FASB") issued ASU No. 2017-12, "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities." This ASU amends and simplifies existing guidance in order to allow companies to more accurately present the economic effects of risk management activities in the financial statements. We adopted this ASU effective January 1, 2018 and we reclassified a $3.9 million unrealized gain, net of tax, from retained earnings to accumulated other comprehensive loss upon adoption.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)". ASU 2016-02 requires an entity to recognize a right-of-use asset and lease liability for all leases. The standard is effective January 1, 2019 and measurement and presentation of expenses will depend on classification as a finance or operating lease. We adopted ASU 2016-02 effective January 1, 2019 using the modified retrospective approach with no restatement of comparative periods presented. The adoption is accounted for as a change in accounting principle in conformity with FASB Accounting Standards Codification ("ASC") 250, "Accounting Changes and Error Corrections".

We elected a suite of practical expedients, including retaining our current classification of leases, separating lease and non-lease components for certain asset classes and excluding leases expiring within twelve months. As a result, the initial impact of adopting this new standard on our consolidated statement of operations and consolidated statement of cash flows was not material. Approximately $119 million of right-of-use assets and lease liabilities were recognized in

the consolidated balance sheet upon adoption. The adoption of Topic 842 did not have a material effect on our Consolidated Condensed Statement of Operations or Condensed Consolidated Statement of Cash Flows. Refer to “Note 16 – Leases” for more details regarding leases as of March 31, 2019.

3. Plant Closures and Divestitures

Over the past five years, we have been restructuring our Carbon Materials and Chemicals (“CMC”) segment in order to concentrate our facilities in regions where we believe we hold key competitive advantages to better serve our global customers. These closure activities include:

- The cessation of naphthalene refining activities at our Follansbee, West Virginia coal tar distillation facility in the fourth quarter of 2018 subsequent to the commissioning of a new naphthalene refining plant in Stickney, Illinois.
- In September 2018, we sold our UK-based specialty chemicals business.
- In November 2016, we sold our 30-percent interest in Tangshan Kailuan Koppers Carbon Chemical Company Limited (“TKK”) located in the Hebei Province in China.

- In July 2016, we discontinued coal tar distillation activities at our CMC plant located in Clairton, Pennsylvania. In October 2018, we sold the facility and as part of the transaction, we transferred cash to the buyer and the buyer assumed decommissioning, demolition and site restoration responsibilities.
- In March 2016, we discontinued production at our 60-percent owned CMC plant located in Tangshan, China.
- In February 2016, we ceased coal tar distillation and specialty pitch operations at both of our United Kingdom CMC facilities. In July 2016, we sold substantially all of our CMC tar distillation properties and assets in the United Kingdom. In exchange, we transferred cash to the buyer and the buyer assumed historical environmental and asset retirement obligations.
- In April 2014, we ceased coal tar distillation activities at our CMC facility located in Uithoorn, the Netherlands.

Other closure and divestiture activity relates to our Railroad Utility Products and Services ("RUPS") segment. These actions include:

- In August 2015, we closed a crosstie treating plant located in Green Spring, West Virginia.
- In July 2015, we sold the assets of our 50-percent interest in KSA Limited Partnership, a concrete crosstie manufacturer.

In addition, in 2011, we ceased carbon black production at our CMC facility located in Kurnell, Australia. Costs associated with this closure are included in income from discontinued operations on the consolidated statement of operations and comprehensive income.

Details of the restructuring activities and related reserves are as follows:

(Dollars in millions)	Severance and employee benefits	Environmental remediation	Asset Retirement	Other	Total
Reserve at December 31, 2017	$ 1.7	$ 2.7	$ 10.6	$ 3.3	$ 18.3
Accrual	0.0	0.9	1.8	2.2	4.9
Cost charged against assets	0.0	0.0	0.0	(2.1)	(2.1)
Reversal of accrued charges	0.0	0.0	(0.9)	0.0	(0.9)
Cash paid	0.0	(3.4)	(7.9)	(0.5)	(11.8)
Currency translation	0.0	(0.2)	0.0	(0.1)	(0.3)
Reserve at December 31, 2018	$ 1.7	$ 0.0	$ 3.6	$ 2.8	$ 8.1
Accrual	0.0	0.0	0.3	0.0	0.3
Cash paid	(0.3)	0.0	(1.7)	0.0	(2.0)
Reserve at March 31, 2019	$ 1.4	$ 0.0	$ 2.2	$ 2.8	$ 6.4

4. Acquisitions

On April 10, 2018, Koppers Inc. acquired Cox Industries, Inc. ("Cox") for net cash consideration of $201.3 million. The transaction was funded by borrowings on Koppers Inc.'s credit facility discussed in "Note 14 - Debt." Cox was renamed Koppers Utility and Industrial Products Inc. ("UIP") subsequent to the acquisition. UIP is a manufacturer of treated wood transmission and distribution poles for utility companies and cooperative utility companies. It is also a manufacturer of treated wood pilings used for construction and marine applications. UIP manufactures and sells its

treated wood poles and pilings through a network of nine manufacturing facilities and 19 distribution yards located throughout the United States. UIP treats its products with a variety of wood protection chemicals, including chromated copper arsenate and creosote, which are produced by our PC and CMC segments, respectively.

On February 28, 2018, Koppers Inc. acquired M.A. Energy Resources, LLC (“MAER”) for net cash consideration of $62.8 million. The purchase price was funded by borrowings on Koppers Inc.’s credit facility. MAER was renamed Koppers Recovery Resources LLC (“KRR”) subsequent to the acquisition. KRR is a vertically-integrated company that provides material recovery services for crossties that have been taken out of service and other biomass material. KRR converts this recovered material into alternative fuels, such as crosstie-derived fuel or biomass-derived fuel, that is used as a substitute for conventional higher-cost carbon-based fuel. KRR currently operates two processing facilities, each of which is located to serve its Class I railroad customer base.

Combined costs related to these two acquisitions were $2.1 million for the three months ended March 31, 2018 and are recorded within selling, general and administrative expenses in the consolidated statement of operations. As of March 31, 2019, we have completed our valuation analysis to determine the fair values of UIP's and KRR's acquired assets and liabilities.

The following unaudited pro forma information presents a summary of our revenues and income from continuing operations as if the UIP acquisition occurred on January 1, 2017 (the first day of the most recently completed fiscal year prior to the acquisition). The unaudited pro forma information is not necessarily indicative of operating results that would have been achieved had the acquisition been completed as of January 1, 2017 and is not intended to project our future financial results after the acquisition. The unaudited pro forma information is based on certain assumptions, which management believes are reasonable, and does not reflect the cost of any integration activities or the benefits from the acquisition and synergies that may be derived from any integration activities.

	Three Months Ended March 31, 2018
(Dollars in millions)	
Pro forma revenue	$ 452.5
Pro forma income from continuing operations attributable to Koppers	17.8
Pro forma income per share - continuing operations:	
Basic -	$ 0.85
Diluted -	$ 0.80

5. Revenue Recognition

Effective January 1, 2018 we adopted ASC 606, "Revenue from Contracts with Customers", using the modified retrospective method. The cumulative effect to the opening balance of retained earnings recognized at January 1, 2018 was an increase of $0.3 million, consisting of $5.3 million in revenue and $5.0 million in cost of goods sold not previously recognized during the year ended December 31, 2017. ASC 606 impacted the timing of revenue recognized related to certain services to untreated cross-ties within our RUPS segment where those specific performance obligations were fulfilled prior to shipment and were historically not recognized as revenue until shipped. Refer to "Note 9 – Segment Information" for relevant disclosures regarding the disaggregation of revenue.

Contract Balances

The timing of revenue recognition in accordance with ASC 606 results in both billed accounts receivable and unbilled receivables, both classified as accounts receivable, net of allowance within the consolidated balance sheet. Contract assets of $7.0 million and $5.3 million are recorded within accounts receivable, net of allowance within the consolidated balance sheet as of March 31, 2019 and January 1, 2018, respectively.

6. Comprehensive Income and Equity

Total comprehensive income for the three months ended March 31, 2019 and 2018 is summarized in the table below:

	Three Months Ended March 31,	
	2019	2018
(Dollars in millions)		
Net income	$12.4	$23.7
Changes in other comprehensive income:		
Currency translation adjustment	1.8	1.2
Unrealized gain (loss) on cash flow hedges, net of tax (expense) benefit of $(2.7) and $4.9	6.2	(9.3)
Change in accounting standard	0.0	0.3
Unrecognized pension net loss, net of tax (expense) of $(0.1)	0.2	0.3
Total comprehensive income	20.6	16.2
Comprehensive income attributable to noncontrolling interests	1.1	6.1
Comprehensive income attributable to Koppers	$19.5	$10.1

Amounts reclassified from accumulated other comprehensive (loss) income to net income consist of amounts shown for changes in or amortization of unrecognized pension net loss. This component of accumulated other comprehensive (loss) income is included in the computation of net periodic pension cost as disclosed in "Note 13 – Pensions and Post-Retirement Benefit Plans." Other amounts reclassified from accumulated other comprehensive (loss) income include (loss) income related to derivative financial instruments, net of tax, of $(0.6) million for the three months ended March 31, 2019, and $2.5 million for the three months ended March 31, 2018.

The following tables present the change in equity for the three months ended March 31, 2019 and 2018, respectively:

(Dollars in millions)	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Treasury Stock	Noncontrolling Interests	Total Equity
Balance at December 31, 2018	$ 0.2	$ 206.0	$ 27.2	$ (87.2)	$ (90.0)	$ 10.8	$ 67.0
Net income	0.0	0.0	11.5	0.0	0.0	0.9	12.4
Issuance of common stock	0.0	0.3	0.0	0.0	0.0	0.0	0.3
Employee stock plans	0.0	2.9	0.0	0.0	0.0	0.0	2.9
Other comprehensive income							
Currency translation adjustment	0.0	0.0	0.0	1.5	0.0	0.3	1.8
Unrealized gain on cash flow hedges	0.0	0.0	0.0	6.2	0.0	0.0	6.2
Unrecognized pension net loss	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Repurchases of common stock	0.0	(0.2)	0.1	0.1	(0.8)	0.0	(0.8)
Balance at March 31, 2019	$ 0.2	$ 209.0	$ 38.8	$ (79.2)	$ (90.8)	$ 12.0	$ 90.0

(Dollars in millions)	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Treasury Stock	Noncontrolling Interests	Total Equity
Balance at December 31, 2017	$ 0.2	$ 190.6	$ 7.4	$ (40.1)	$ (58.2)	$ 5.9	$ 105.8
Net income	0.0	0.0	17.8	0.0	0.0	5.9	23.7

Issuance of common stock	0.0	1.3	0.0	0.0	0.0	0.0	1.3
Employee stock plans	0.0	2.8	0.0	0.0	0.0	0.0	2.8
Other comprehensive income							
Currency translation adjustment	0.0	0.0	0.0	1.1	0.0	0.1	1.2
Unrealized loss on cash flow hedges	0.0	0.0	0.0	(9.3)	0.0	0.0	(9.3)
Change in accounting standard	0.0	0.0	(3.6)	3.9	0.0	0.0	0.3
Unrecognized pension net loss	0.0	0.0	0.0	0.3	0.0	0.0	0.3
Repurchases of common stock	0.0	0.0	0.0	(0.1)	(7.4)	0.0	(7.5)
Balance at March 31, 2018	$ 0.2	$ 194.7	$ 21.6	$ (44.2)	$ (65.6)	$ 11.9	$ 118.6

7. 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,	
	2019	2018
(Dollars in millions, except share amounts, in thousands)		
Net income attributable to Koppers	$11.5	$17.8
Loss from discontinued operations	0.0	(0.1)
Income from continuing operations attributable to Koppers	$11.5	$17.9
Weighted average common shares outstanding:		
Basic	20,575	20,894
Effect of dilutive securities	306	1,264
Diluted	20,881	22,158
Income per common share – continuing operations:		
Basic income per common share	$0.56	$0.86
Diluted income per common share	0.55	0.81
Other data:		
Antidilutive securities excluded from computation of diluted earnings per common share	534	8

8. 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”) and the 2018 Long-Term Incentive Plan (the “2018 LTIP”). Both the 2005 LTIP and the 2018 LTIP are collectively referred to as the “LTIP”. On May 3, 2018, the 2018 LTIP was approved by our shareholders and the 2005 LTIP was frozen. Similar to the 2005 LTIP, the 2018 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 and the fair value of performance stock units is determined using a Monte Carlo valuation model. For grants to most employees, the restricted stock units vest in four equal annual installments. 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 two years or less.

Performance stock units have vesting based upon a market condition. These performance stock units have a three-year performance objective and a three-year period for vesting (if the applicable performance objective is achieved). The applicable performance objective is based on our total shareholder return relative to the Standard & Poor’s SmallCap 600 Materials Index. 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. Performance stock units for the 2016-2018 performance period vested at 13 percent of the target share amount in March 2019.

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

	March 2019 Grant	May 2018 Grant	March 2018 Grant	March 2017 Grant
Grant date price per share of performance award	$26.63	$ 39.10	$ 41.60	$ 44.10
Expected dividend yield per share	0.00 %	0.00 %	0.00 %	0.00 %
Expected volatility	39.00 %	39.40 %	39.40 %	43.50 %
Risk-free interest rate	2.50 %	2.35 %	2.35 %	1.54 %
Look-back period in years	2.82	2.84	2.84	2.83
Grant date fair value per share	$40.30	$ 44.29	$ 47.12	$ 64.02

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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, 2019:

Performance Period	Minimum Shares	Target Shares	Maximum Shares
2017 – 2019	0	110,262	220,524
2018 – 2020	0	128,093	256,186
2019 – 2021	0	156,287	312,574

The following table shows a summary of the status and activity of non-vested stock units for the three months ended March 31, 2019:

	Restricted Stock Units	Performance Stock Units	Total Stock Units	Weighted Average Grant Date Fair Value per Unit
Non-vested at December 31, 2018	223,561	271,123	494,684	$ 45.65
Granted	193,229	156,287	349,516	$ 32.74
Vested	(79,520)	(32,768)	(112,288)	$ 26.65
Non-vested at March 31, 2019	337,270	394,642	731,912	$ 40.69

Stock Options

Stock options to most 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. We calculated the fair value of stock options on the date of grant using the Black-Scholes-Merton model and the assumptions listed below:

	March 2019	May 2018 Grant	March 2018 Grant	March 2017 Grant	March 2016 Grant

	Grant									
Grant date price per share of stock option award	$26.63		$ 39.10		$ 41.60		$ 44.10		$ 18.11	
Expected dividend yield per share	0.00	%	0.00	%	0.00	%	0.00	%	0.00	%
Expected life in years	6.14		5.73		5.73		5.77		5.96	
Expected volatility	39.44	%	37.05	%	37.05	%	39.70	%	40.86	%
Risk-free interest rate	2.53	%	2.82	%	2.67	%	2.13	%	1.45	%
Grant date fair value per share	$11.29		$ 15.48		$ 16.38		$ 17.90		$ 7.41	

We suspended our dividend in February 2015 and we do not expect to declare any dividends for the foreseeable future. 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 historical volatility of certain other similar public companies. 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, 2019:

	Options	Weighted Average Exercise Price per Option	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2018	981,940	$ 29.63		
Granted	145,301	$ 26.63		
Outstanding at March 31, 2019	1,127,241	$ 29.24	6.11	$ 3.9
Exercisable at March 31, 2019	805,623	$ 28.25	4.80	$ 3.5

Stock Compensation Expense

Total stock-based compensation expense recognized under our LTIP and employee stock purchase plan for the three months ended March 31, 2019 and 2018 is as follows:

	Three Months Ended March 31,	
	2019	2018
(Dollars in millions)		
Stock-based compensation expense recognized:		
Selling, general and administrative expenses	$2.9	$2.9
Less related income tax benefit	0.9	1.0
Decrease in net income attributable to Koppers	$2.0	$1.9
Intrinsic value of exercised stock options	$0.0	$0.2
Cash received from the exercise of stock options	$0.0	$0.9

As of March 31, 2019, total future compensation expense related to non-vested stock-based compensation arrangements totaled $25.0 million and the weighted-average period over which this expense is expected to be recognized is approximately 32 months.

9. Segment Information

We have three reportable segments: Railroad and Utility Products and Services, Performance Chemicals and Carbon Materials and Chemicals. 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 Railroad and Utility Products and Services 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. The segment also operates a railroad services business that conducts engineering, design, repair and inspection services for railroad bridges and a business related to the recovery of used crossties. In April 2018, we acquired UIP, a manufacturer of treated wood utility transmission and distribution poles for utility companies and cooperative utility companies. It is also a manufacturer of treated wood pilings used for construction and marine applications. In February 2018, we acquired KRR, a vertically-integrated provider of crosstie recovery and disposal services. KRR converts recovered material into alternative fuels, such as crosstie-derived fuel or biomass-derived fuel, that is used as a substitute for conventional higher-cost carbon-based fuel.

Our Performance Chemicals 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 Carbon Materials and Chemicals 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 used in the production of aluminum and 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.

We evaluate performance and determine resource allocations based on a number of factors, the primary measure being operating profit or loss from operations. Operating profit does not include other loss, interest expense, income taxes or operating costs of Koppers Holdings Inc. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2018, except for those described in "Note 2 – New Accounting Pronouncements." Intersegment transactions are eliminated in consolidation.

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,	
	2019	2018
(Dollars in millions)		
Revenues from external customers:		
Railroad and Utility Products and Services	$166.1	$108.4
Performance Chemicals	99.0	97.4
Carbon Materials and Chemicals	169.8	200.3
Total	$434.9	$406.1
Intersegment revenues:		
Railroad and Utility Products and Services	$0.3	$0.0
Performance Chemicals	3.1	1.8
Carbon Materials and Chemicals	17.9	18.2
Total	$21.3	$20.0
Depreciation and amortization expense:		
Railroad and Utility Products and Services	$4.8	$3.0
Performance Chemicals	4.9	4.4
Carbon Materials and Chemicals	4.9	4.4
Total	$14.6	$11.8
Operating profit (loss):		
Railroad and Utility Products and Services	$8.7	$1.1
Performance Chemicals	12.8	5.6
Carbon Materials and Chemicals	7.4	37.2
Corporate[(a)]	(0.5)	(0.6)
Total	$28.4	$43.3

(a) Operating loss for Corporate includes primarily general and administrative costs for Koppers Holdings Inc., the parent company of Koppers Inc.

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,	
	2019	2018
(Dollars in millions)		
Railroad and Utility Products and Services:		
Railroad treated products	$84.7	$79.4
Utility poles	54.5	11.5
Rail joints	8.3	8.3
Railroad infrastructure services	9.3	7.0
Other products	9.3	2.2
	166.1	108.4
Performance Chemicals:		

Wood preservative products	91.3	89.5
Other products	7.7	7.9
	99.0	97.4
Carbon Materials and Chemicals:		
Pitch and related products	107.0	129.2
Creosote and distillates	18.9	22.9
Phthalic anhydride and other chemicals	21.0	22.2
Naphthalene	12.8	13.1
Other products	10.1	12.9
	169.8	200.3
Total	$434.9	$406.1

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

(Dollars in millions)	March 31, 2019	December 31, 2018
Segment assets:		
Railroad and Utility Products and Services	$ 567.6	$ 538.0
Performance Chemicals	472.6	446.9
Carbon Materials and Chemicals	504.6	457.1
All other	48.6	37.9
Total[(a)]	$ 1,593.4	$ 1,479.9
Goodwill:		
Railroad and Utility Products and Services	$ 120.7	$ 121.1
Performance Chemicals	175.7	175.4
Total	$ 296.4	$ 296.5

(a) The increase in total assets as of March 31, 2019 includes $116 million attributable to the implementation of ASU No. 2016-02 “Leases (Topic 842).”

10. 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 to the actual liability determined upon filing 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 discussed above, was 30.4 percent and 34.4 percent for the three months ended March 31, 2019 and 2018, respectively. The estimated annual effective income tax rate differs from the U.S. federal statutory tax rate due to:

	March 31, 2019		March 31, 2018	
Federal income tax rate	21.0	%	21.0	%
State income taxes, net of federal tax benefit	0.6		0.9	
Foreign earnings taxed at different rates	1.7		3.5	
Interest expense deduction limitation	6.9		0.0	
Nondeductible expenses	1.2		0.0	
Change in tax contingency reserves	0.1		0.1	

Valuation allowance adjustments	0.0	(5.7)
GILTI inclusion, net of foreign tax credits	(0.8)	13.1
Other	(0.3)	1.5
Estimated annual effective income tax rate	30.4 %	34.4 %

In 2018, the estimated annual effective income tax rate included a benefit related to the release of a valuation allowance adjustment for a subsidiary in China. Management determined that sufficient positive evidence exists to support that this entity's net operating losses were more likely than not to be realized.

Income taxes as a percentage of pretax income were (0.8) percent for the three months ended March 31, 2019. This is lower than the estimated annual effective income tax rate due to discrete items. Discrete items included in income taxes for the three months ended March 31, 2019 were a net benefit of $3.8 million. Discrete items were primarily related to the reversal of various unrecognized tax benefits due to audit closures.

Income taxes as a percentage of pretax income were 27.9 percent for the three months ended March 31, 2018. This was lower than the estimated annual effective income tax rate due to discrete items. Discrete items included in income taxes for the three months ended March 31, 2018 were a net benefit of $2.2 million, which is primarily related to excess tax benefits for stock-based compensation.

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, 2019.

Unrecognized Tax Benefits

We and our subsidiaries 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 2015.

Unrecognized tax benefits totaled $2.3 million and $7.0 million as of March 31, 2019 and December 31, 2018, respectively. As of March 31, 2019 and December 31, 2018, the total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate, was approximately $2.3 million and $3.7 million, respectively. We recognize interest expense and any related penalties from unrecognized tax benefits in income tax expense. As of March 31, 2019 and December 31, 2018, we had accrued approximately $0.8 million and $2.2 million for interest and penalties, respectively.

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

11. Inventories

Net inventories as of March 31, 2019 and December 31, 2018 are summarized in the table below:

(Dollars in millions)	March 31, 2019	December 31, 2018
Raw materials	$ 205.2	$ 199.5
Work in process	12.3	16.0
Finished goods	127.9	128.1
	$ 345.4	$ 343.6
Less revaluation to LIFO	59.9	58.9
Net	$ 285.5	$ 284.7

12. Property, Plant and Equipment

Property, plant and equipment as of March 31, 2019 and December 31, 2018 are summarized in the table below:

(Dollars in millions)	March 31, 2019	December 31, 2018

Land	$ 17.6	$ 17.5
Buildings	65.7	65.1
Machinery and equipment	807.9	800.9
	$ 891.2	$ 883.5
Less accumulated depreciation	473.9	465.6
Net	$ 417.3	$ 417.9

Impairments – There were no impairment charges incurred for the three months ended March 31, 2019 and 2018.

13. 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 U.S., as well as employees outside the U.S. These plans are maintained and contributions are made in accordance with the Employee Retirement Income Security Act of 1974 (“ERISA”), local statutory law or as determined by the board of directors. 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 U.S., 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.

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 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, 2019 and 2018:

	Three Months Ended March 31,	
	2019	2018
(Dollars in millions)		
Service cost	$0.4	$0.5
Interest cost	2.0	1.8
Expected return on plan assets	(2.0)	(2.1)
Amortization of net loss	0.4	0.4
Net periodic benefit cost	$0.8	$0.6
Defined contribution plan expense	$1.6	$2.0

14. Debt

Debt as of March 31, 2019 and December 31, 2018 was as follows:

	Weighted Average Interest Rate		Maturity	March 31, 2019	December 31, 2018
(Dollars in millions)					
Term Loan	5.82	%	2024	$ 90.0	$ 92.5
Revolving Credit Facility	5.82	%	2024	424.0	390.0
Construction and other loans	4.75	%	2020	10.2	20.1
Senior Notes due 2025	6.00	%	2025	500.0	500.0
Debt				1,024.2	1,002.6
Less short-term debt and current maturities of long-term debt				11.6	11.6

Less unamortized debt issuance costs	11.5	12.2
Long-term debt	$ 1,001.1	$ 978.8

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. On or after February 15, 2020, we are entitled to redeem all or a portion of the 2025 Senior Notes at a redemption price of 104.5 percent of principal value, declining to a redemption price of 101.5 percent on or after February 15, 2022 until the redemption price is equivalent to the principal value on April 15, 2023.

The indenture governing the 2025 Senior 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.

Credit Facility

On April 10, 2018, we amended our $600 million Revolving Credit Facility to enter into a new Secured Term Loan Facility (the "Credit Facility"). The new Credit Facility includes the $600 million Revolving Credit Facility and a secured term loan of $100 million with a quarterly amortization of $2.5 million and a five-year maturity. In addition, the maturity date of the amended Credit Facility was extended one year to April 2023. The interest rate on the amended Credit Facility is variable and is based on LIBOR.

Borrowings under the Credit Facility are secured by a first priority lien on substantially all of the assets of Koppers Inc., Koppers Holdings Inc. and their material domestic subsidiaries. The Credit Facility contains certain covenants for Koppers Inc. and its restricted subsidiaries that limit capital expenditures, additional indebtedness, liens, dividends, investments or acquisitions. 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, 2019, we had $139.2 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, 2019, $18.7 million of commitments were utilized by outstanding letters of credit.

Construction Loans

Our 75-percent owned subsidiary, Koppers (Jiangsu) Carbon Chemical Company Limited ("KJCC") entered into a committed loan facility agreement with a third-party bank. Borrowings under the third-party bank facility totaled $10.2 million at March 31, 2019 and are secured by a letter of credit issued by a bank under the Credit Facility. The construction loan portion of the third-party commitment requires semi-annual installments every six months with a final repayment in December 2020.

Events subsequent to March 31, 2019

On May 1, 2019, we entered into the Third Amendment to our credit agreement (the "Third Amendment") and amended the Credit Facility to, among other things: (1) reset the Credit Facility termination date to May 1, 2024; and (2) revise certain financial statement covenants and related definitions and other covenants, including revising the definition of Consolidated EBITDA to increase the permitted add back of non-recurring, non-cash charges incurred in connection with the discontinuation or sale of business operations and excluding dividends and distributions made during the fiscal quarter ended September 30, 2018 from the definition of Fixed Charge Coverage Ratio. All other material terms, conditions and covenants with respect to the Credit Facility remain unchanged.

15. 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 rail cars; 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:

	March 31,	December 31,

(Dollars in millions)	2019	2018
Asset retirement obligation at beginning of year	$ 27.0	$ 37.1
Accretion expense	0.4	1.7
Revision in estimated cash flows	1.0	0.8
Cash expenditures	(2.3)	(12.5)
Currency translation	0.0	(0.1)
Balance at end of period	$ 26.1	$ 27.0

16. Leases

As described more fully in Note 2 – "New Accounting Pronouncements," on January 1, 2019, we adopted the provisions of ASU 2016-02 and recognized 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 the practical expedient to account for these components as a single lease component.

Many of our leases include one or more options to renew. The exercise of the lease renewal option is generally at our sole discretion. 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 $8.0 million and variable lease costs were $0.9 million during the three months ended March 31, 2019.

The following table presents information about the amount and timing of cash flows arising from our operating leases as of March 31, 2019:

(Dollars in millions)	
2019	$23.4
2020	28.5
2021	22.0
2022	18.3
2023	12.7
Thereafter	51.8
Total lease payments	$156.7
Less: Interest	(39.6)
Present value of lease liabilities	$117.1

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

(Dollars in millions)	March 31, 2019
Operating leases:	
Operating lease right-of-use assets	$116.3
Current operating lease liabilities	$22.2
Operating lease liabilities	94.9
Total operating lease liabilities	$117.1
Weighted average remaining lease term, in years	7.1
Weighted average discount rate	7.7 %

17. Derivative Financial Instruments

We utilize derivative instruments to manage exposures to risks that have been identified and measured and are capable of being controlled. The primary risks managed by us by using derivative instruments are commodity price risk associated with copper and foreign currency exchange risk associated with a number of currencies, principally the U.S. dollar, the Canadian dollar, the New Zealand dollar, the Euro and British pounds. 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 30 months and we have hedged certain volumes of copper through December 2020. We enter into foreign currency forward contracts to manage foreign currency risk associated with our receivable and payable balances and foreign currency denominated sales. 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.

ASC Topic 815-10, “Derivatives and Hedging,” requires companies to recognize all derivative instruments as either assets or liabilities at fair value in the balance sheet. Derivative instruments’ fair value is determined using significant other observable inputs, or Level 2 in the fair value hierarchy. In accordance with ASC Topic 815-10, we designate certain of our commodity swaps as cash flow hedges of forecasted purchases of commodities. 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 either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

For those commodity swaps which are not designated as cash flow hedges, the fair value of the commodity swap is recognized as an asset or liability in 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 consolidated statement of operations.

As of March 31, 2019 and December 31, 2018, we had outstanding copper swap contracts of the following amounts:

	Units Outstanding (in Pounds)		Net Fair Value - Asset (Liability)	
	March 31, 2019	December 31, 2018	March 31, 2019	December 31, 2018
(Amounts in millions)				
Cash flow hedges	28.4	35.5	$1.5	$ (6.8)
Not designated as hedges	11.0	13.3	0.8	(2.4)
Total	39.4	48.8	$2.3	$ (9.2)

As of March 31, 2019 and December 31, 2018, the fair value of the outstanding copper swap contracts is recorded in the balance sheet as follows:

	March 31, 2019	December 31, 2018
(Dollars in millions)		
Other current assets	$ 2.4	$ 0.0
Other assets	1.2	0.0
Accrued liabilities	(1.3)	(9.0)
Other long-term liabilities	0.0	(0.2)
Net asset (liability) on balance sheet	$ 2.3	$ (9.2)
Accumulated other comprehensive gain (loss), net of tax	$ 1.1	$ (5.3)

Based upon contracts outstanding at March 31, 2019, in the next twelve months we estimate that $0.8 million of unrealized gains, net of tax, related to commodity price hedging will be reclassified from other comprehensive income into earnings.

See “Note 6 – Comprehensive Income and Equity”, for amounts recorded in other comprehensive income and for amounts reclassified from accumulated other comprehensive loss to net income for the periods specified below. For the three months ended March 31, 2019 and 2018, the gain (loss) in earnings related to copper swap contracts was $3.1 million and $(3.5) million, respectively.

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, 2019 and December 31, 2018, the fair value of outstanding foreign currency forward contracts is recorded in the balance sheet as follows:

(Dollars in millions)	March 31, 2019	December 31, 2018
Other current assets	$ 0.6	$ 0.9
Accrued liabilities	(1.0)	(1.0)
Net liability on balance sheet	$ (0.4)	$ (0.1)

As of March 31, 2019 and December 31, 2018, the net currency units outstanding for these contracts were:

(In millions)	March 31, 2019	December 31, 2018
British Pounds	GBP 5.7	GBP 5.7
New Zealand Dollars	NZD 16.0	NZD 16.0
United States Dollars	USD 5.5	USD 6.0
Canadian Dollars	CAD 8.7	CAD 0.0
Euro	EUR 1.2	EUR 1.2

18. Commitments and Contingent Liabilities

We and our subsidiaries 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 or our subsidiaries fail to prevail in any of these legal matters or should several of these legal matters be resolved against us or our subsidiaries in the same reporting period, these legal matters could, individually or in the aggregate, be material to the 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 65 plaintiffs in 35 cases pending as of March 31, 2019, which is unchanged from December 31, 2018. As of March 31, 2019, there were 34 cases pending in state court in Pennsylvania, and 1 case pending in state court in Tennessee.

The plaintiffs in all 35 pending cases seek to recover compensatory damages. Plaintiffs in 30 of those cases also seek to recover punitive damages. The plaintiffs in the 34 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.

Pavement Sealer Cases. Koppers Inc. is one of thirteen defendants in separate federal lawsuits recently filed by ten municipalities in the state of Minnesota since December 2018. These lawsuits were filed in federal district court in Minnesota. Each of the complaints allege that contamination caused by coal tar-based pavement sealer products has impacted their stormwater retention ponds resulting in substantially increased disposal costs when the ponds are periodically dredged. The plaintiffs seek to recover compensatory damages and other costs in addition to compelling the defendants to remove the alleged contamination from the plaintiffs' stormwater retention ponds and other stormwater-management devices. Plaintiffs filed a motion to consolidate nine of the ten cases. The tenth case is currently on a different schedule and is not part of the motion to consolidate. Defendants filed an opposition to the motion to consolidate and a hearing on the motion is currently scheduled for May 28, 2019.

We have not provided a reserve for the coal tar pitch or pavement sealer 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 "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 through July 2019. As consideration for the amendment, Koppers Inc. paid Beazer East a total of $7.0 million and agreed to share toxic tort litigation defense costs arising from any sites acquired from Beazer East. The July 2004 amendment 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 asserted after July 2019.

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. If the third-party claims described in sections (i) and (ii) above are not made by July 2019, Beazer East will not be required to pay the costs arising from such claims under the Indemnity. However, with respect to any such claims which are made by July 2019, Beazer East will continue to be responsible for such claims under the Indemnity beyond July 2019. 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. We believe that, for the last three years ended December 31, 2018, amounts paid by Beazer East as a result of its environmental remediation obligations under the Indemnity have averaged, in total, approximately $11 million per year. 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 or our subsidiaries are held liable for or otherwise required to pay all or part of such liabilities without reimbursement, the imposition of such liabilities on us or our subsidiaries 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. On June 4, 2018, Koppers Inc. received a letter from the U.S. Environmental Protection Agency ("EPA") concerning potential violations of the Clean Water Act observed during inspections and review of Spill Prevention, Control and Countermeasure Plans and Facility Response Plans at our facilities in

Follansbee, WV; Green Spring, WV; and Clairton, PA. In addition, the EPA reviewed one facility's compliance with an earlier consent order regarding above ground storage tank integrity testing. We continue to meet and correspond with the EPA to discuss and present relevant information related to the allegations. We currently cannot estimate the potential penalties, fines or other expenditures, if any, that may result from any EPA actions relating to the alleged potential violations and, therefore, we cannot determine if the ultimate outcome of this matter will have a material impact on our financial position, results of operations or cash flows.

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. The net present value and undiscounted costs of the selected remedy as estimated in the ROD are approximately $1.1 billion and $1.7 billion, respectively. Responsibility for implementing and funding that work will be decided in the separate private allocation process, which is ongoing.

Additionally, Koppers Inc. is involved in two separate natural resource damages assessments at the Portland Harbor site. An assessment is intended to identify damages to natural resources caused by the releases of hazardous substances to the Willamette River and to serve 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. One of the natural resource damage assessments was filed in January 2017 by the Yakama Nation in Oregon federal court. Yakama Nation seeks recovery for future response costs and the costs of assessing injury to natural resources and recovery for past costs of overseeing investigations conducted on the site. Currently, a magistrate judge has recommended the Yakama Nation case be stayed pending completion of the private allocation process for the Portland Harbor CERCLA site. A final ruling on the stay is pending.

In September 2009, Koppers Inc. received a general notice letter notifying it 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 settlement amounts at the sites totaling $2.2 million at March 31, 2019. 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, 2019, our estimated environmental remediation liability for these acquired sites totals $5.0 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, 2019, our estimated environmental remediation liability for this acquired site totals $1.4 million.

In December 2011, we ceased manufacturing operations at our Continental Carbon facility located in Kurnell, Australia. As of March 31, 2019, we believe we have fully satisfied all site remediation responsibilities resulting from the closure.

Environmental Reserves Rollforward. The following table reflects changes in the accrued liability for environmental matters, of which $3.5 million and $3.5 million are classified as current liabilities at March 31, 2019 and December 31, 2018, respectively:

Period ended	
March 31,	December 31,

(Dollars in millions)	2019	2018
Balance at beginning of year	$10.1	$ 13.9
Expense	0.0	0.9
Reversal of reserves	0.0	(2.4)
Cash expenditures	(0.1)	(3.8)
Acquisition	0.0	1.9
Currency translation	0.1	(0.4)
Balance at end of period	$10.1	$ 10.1

19. Related Party Transactions

At December 31, 2017, KJCC had an outstanding loan from its 25-percent non-controlling shareholder of $2.5 million. This loan was repaid in November 2018.

20. Fair Value Measurements

Carrying amounts and the related estimated fair values of our financial instruments as of March 31, 2019 and December 31, 2018 are as follows:

	March 31, 2019		December 31, 2018	
	Fair Value	Carrying Value	Fair Value	Carrying Value
(Dollars in millions)				
Financial assets:				
Cash and cash equivalents, including restricted cash	$38.1	$38.1	$40.6	$40.6
Investments and other assets[(a)]	1.2	1.2	1.2	1.2
Financial liabilities:				
Long-term debt (including current portion)	$1,002.7	$1,024.2	$945.3	$1,002.6

(a) Excludes equity method investments.

Cash and cash equivalents – The carrying value approximates fair value because of the short maturity of those instruments.

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 approximates carrying value due to the variable rate nature of this instrument.

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,” “int
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 expectations with respect to sales, earnings, cash flows, operating efficiencies, restructurings, product introduction or expansion, the benefits of acquisitions and divestitures, joint ventures 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; 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 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, 2018.

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 facilities located in North America, South America, Australasia, China and Europe.

We operate three principal businesses: Railroad and Utility Products and Services (“RUPS”), Performance Chemicals (“PC”) and Carbon Materials and Chemicals (“CMC”).

Through our RUPS business, we believe that we are the largest supplier of railroad crossties to the North American railroads. Our other treated wood products include utility poles for the electric and telephone utility industries in the United States and Australia. We also provide rail joint bar products as well as various services to the railroad industry. In April 2018, we re-entered the North American utility pole market with the acquisition of Cox Industries, Inc., which has been renamed Koppers Utility and Industrial Products Inc. ("UIP"). UIP manufactures and sells utility poles and construction and marine pilings through a network of eight manufacturing facilities and 19 distribution yards located throughout the United States. In February 2018, Koppers Inc. acquired M.A. Energy Resources, LLC, a business related to the recovery of used crossties, which was renamed Koppers Recovery Resources LLC ("KRR") subsequent to the acquisition.

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, the production of aluminum, the production of carbon black, the production of high-strength concrete, and the production of plasticizers and specialty chemicals, respectively.

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

We provide our customers with treated and untreated wood products, rail joint bars and services primarily for the railroad markets in the United States and Canada. In addition, we supply treated utility poles for the utility sector in the United States and Australia. The primary end-markets for RUPS is the North American railroad industry, which has an installed base of approximately 700 million wood crossties, and the investor-owned utility industry which utilizes wooden distribution and transmission poles. Both crossties and utility poles require periodic replacement. Historically, North American demand for crossties had been in the range of 22-25 million annually. However, the crosstie replacement market has been significantly lower recently. According to the Railway Tie Association (“RTA”), the estimated total crosstie installations in 2018 were approximately 21 million, of which 16 million were for Class I railroads. The RTA has issued a preliminary forecast expecting fundamental demand for the industry to increase from prior year to approximately 23 million in 2019.

For distribution poles, nearly half of the installed base is 40-plus years old and the demand has historically been in the range of two to three million 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. Given that backdrop, we anticipate that 2019 will continue to be a stable year from a demand standpoint. We also operate a railroad services business that conducts engineering, design, repair and inspection services primarily for railroad bridges in the U.S. and Canada.

The supply of untreated crossties can vary at times based upon weather conditions in addition to other factors. We have a nationwide wood procurement team that maintains close working relationships with a network of sawmills. We procure untreated crossties, either on behalf of our customers, or for our own inventory for future treating. We also procure switch ties and various other types of lumber used for railroad bridges and crossings. Untreated crossties go through a six- to nine-month air seasoning process before they are ready to be pressure treated. After the air seasoning process is complete, the crossties are pressure treated using creosote-only treatment or a combined creosote and borate treatment. During any given year, there is a seasonal effect in the winter months on our crosstie business depending on weather conditions for harvesting lumber and installation.

For the past several years, the major companies in the rail industry substantially reduced both operating and capital spending from peak spending levels, which had a negative impact on sales of various products and services that we provide to that industry. Current year revenues and profitability reflect an increase year-over-year due to a slight rise in demand as capital budgets have now stabilized for most North American Class I railroads. We currently supply all seven of the North American Class I railroads and have long-standing relationships with these customers. Approximately 70 percent of our North American sales are under long-term contracts and we believe that we are positioned to maintain or grow our current market position.

According to the Association of American Railroads ("AAR"), the level of business activity for the railroad industry is dependent on, to a large extent, trends occurring in other sectors of the economy. In the recent past, the Class I railroads were highly dependent on the oil and gas and coal mining industries. Currently, the railroads are more correlated to trade relations, commodity prices and interest rates. The AAR reported that rail traffic has been trending down recently. For the three months ended March 31, 2019, total U.S. carload traffic decreased 3.1 percent from last year while intermodal units were lower by 0.6 percent from the prior year. For the three months ended March 31, 2019, combined U.S. traffic for carloads and intermodal units was 1.8 percent lower than prior year. Although year-over-year rail traffic had been relatively positive during the past several years, the amount of heavy-haul loads such as coal and fracking sands have declined significantly from historical levels. As a result, this translates into lighter-weight loads having less wear on tracks and ties.

Over an economic cycle, the long-term prognosis for the railroad industry and the products and services that we provide to it are generally favorable. However, in the near-term, railroad customers have scaled back and are focusing on

reducing their operating costs and working capital. In 2019, demand has shown modest improvements in the first quarter of the year and we anticipate that to continue, contingent on the availability of lumber for untreated crosstie production.

In terms of raw material, there was less available inventory of untreated crossties from the sawmills during 2018 and lumber prices increased dramatically due to unfavorable weather conditions affecting production. The RTA indicates that the industry continues to experience a shortage of lumber availability and consequently, the sawmills are reducing their tie production, which has resulted in a tightness in the supply of untreated crossties which challenges our ability to procure needed inventory. In addition, the potential effects from the impending tariffs on trade between China and the U.S. may negatively impact the hardwood industry and the availability of lumber. To the extent that we can build our untreated tie inventory, we anticipate having higher levels of dry crosstie inventory ready for treatment.

In addition, over the last several years, certain Class I railroads have shifted from a treatment-service only model to having suppliers hold untreated inventory until the crossties have been treated. Going forward, we estimate that the remaining potential impact of this transition could be a further increase of working capital of approximately $50 million primarily due to higher inventory, and the associated revenue cycle could be temporarily extended for approximately six to nine months, for approximately $50 million in total. The actual timing of this impact will be dependent on the date, if at all, when the remaining customer makes the transition.

From a long-term perspective, there remains a need for sustained investment in infrastructure and capacity expansion. We believe that with our vertical integration capabilities in wood treatment and strong customer relationships, we will ultimately benefit from increased demand.

Strategic Initiatives and Integration Synergies

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 18 treating facilities related to our RUPS and UIP businesses operating at less than full utilization, our goal is to either capture more volume through the existing facilities or consolidate our operating footprint. We are pursuing actions to achieve both goals, which should begin realizing benefits in 2019. Overall, through a combination of strategic initiatives and integration synergies, we expect to deliver $25 million to $40 million in annualized benefits over five years, with $10 million expected to be realized in 2019.

Performance Chemicals

The largest geographic market for wood treating chemicals sold by our PC business is in North America, and the largest application for our products is the residential remodeling market. We also have a market presence in Europe, South America, Australia, New Zealand and Africa. We believe that PC is the largest global manufacturer and supplier of water-based wood preservatives and wood specialty additives to treaters who supply pressure treated wood products to large retailers and independent lumber dealers. These retailers and dealers, in turn, serve the residential, agricultural and industrial pressure-treated wood market. Our primary products are copper-based wood preservatives, including micronized copper azole (“MicroPro®”) and micronized pigments (“MicroShades®”). Applications for these products include decking, fencing, utility poles, construction lumber and other outdoor structures.

In North America, we are vertically integrated due to our manufacturing capabilities for copper compounds for our copper-based wood preservatives. We believe our vertical integration is part of our proprietary processes and reflects an important competitive advantage.

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 30 months. These hedges typically match expected customer purchases and receive hedge accounting treatment. From time to time, we enter into forward transactions based upon long-term forecasted needs of copper. These forward positions are typically marked to market.

Product demand for our PC business has historically been closely associated with consumer spending on home repair and remodeling projects, and therefore, trends in existing home sales serve as a leading indicator. Overall, the market for existing homes continues to show mixed signals. According to the National Association of Realtors® ("NAR"), total existing-home sales in February were up nearly 12 percent from January, although sales were 1.8 percent lower from a year ago.

According to the Leading Indicator of Remodeling Activity ("LIRA") reported by the Joint Center for Housing Studies of Harvard University, the annual growth in the national market for home improvement and repair has been revised lower and is now expected to grow 5.1 percent compared to 7.5 percent previously. Even so, LIRA projects that spending on these areas is still anticipated to expand to more than $350 billion nationally.

The Conference Board Consumer Confidence Index partially rebounded in April to 129.2, compared with 124.2 in March, but still remains below the levels seen last fall. Even so, the Conference Board indicates that consumers expect the economy to continue growing at a solid pace into the summer months. These relatively strong confidence levels should continue to support consumer spending in the near-term.

From a margin perspective, our profitability has been unfavorably impacted by rising raw material costs, primarily due to copper prices which began to trend higher in 2017, continued into 2018 and then pulled back from highs reached in the first half of 2018. Overall, copper prices in 2018 were higher, and given that we make purchasing commitments approximately 12 to 18 months in advance of the following 12-month period, we expect higher year-over-year raw material costs throughout 2019. Our strategy is to hedge a majority of our requirements over a one-to-three year time frame in order to provide short-term certainty and visibility of our cost structure by lessening the impact that may arise in commodity markets. In a rising copper price environment, as has been the case for much of the past twenty-four months, our average hedged prices have increased from prior year. That trend has continued in 2019. We have begun hedging for our input needs in 2020 and as long as copper prices remain at current levels, we anticipate a year-over-year benefit for that time period. We have implemented pricing actions, where possible, to partially offset the impact of higher input costs.

Carbon Materials and Chemicals

The primary products produced by CMC are creosote, which is a registered pesticide in the U.S. 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 reduced 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. As a result of these initiatives, we expect additional restructuring and related charges to earnings of approximately $6.0 million through 2020. The overall expected future cash requirements for the CMC plant closures are estimated to be approximately $20 million through 2021.

We currently supply our North American RUPS business with 100 percent of its creosote requirements. As discussed in the RUPS outlook, there has been a decrease starting in 2017 with respect to spending for railroad infrastructure. This results in a shift in excess distillate production to the commodity carbon black feedstock market until demand stabilizes for creosote and eventually returns to higher levels.

While the sale of carbon pitch remains a significant portion of our sales volume, the reduction of aluminum smelting capacity in the United States, Australia and Western Europe has led to sharply lower demand for carbon pitch over the past several years. Accordingly, we have experienced significantly lower sales volumes due to the reduction in aluminum production in parts of the world where the majority of our production facilities are located. However, beginning in 2018, aluminum production in the U.S. increased to some extent as tariffs are being imposed on certain imported steel and aluminum products that has stimulated restarts of previously idled capacity. This development has resulted in additional demand for carbon pitch in the United States that can likely only be sustained through a continuation of current trade policy.

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 also been reduced. For the past decade, the coal tar distillation industry has operated in an excess capacity mode, which further increased the competition for a limited amount of coal tar in North America. Over the past three years we have consolidated our operating footprint and significantly lowered production levels at the same time that we added distribution assets to move finished products from Europe to the U.S. more efficiently. As a result, our raw material needs in North America have been significantly less than historically required. In early 2017, we entered into several new long-term supply agreements to further lower our exposure to coal tar availability

risk and volatile end markets.

For the external markets served by our CMC business, we expect that North America, Europe and Australia will benefit from relatively favorable demand levels for carbon pitch. However, end market pricing for some products has been under pressure in certain regions as competitors are trying to take market share. Also, CMC margins are being negatively impacted by higher cost of raw materials in 2019.

With respect to our largest customer in China, we believe that the pricing we have received has been understated for a number of quarterly periods prior to the fourth quarter of 2018. While we continue to engage in discussions with this customer and hope to resolve the disagreement in accordance with certain provisions in our contractual relationship, we have not recognized any incremental revenue associated with the higher price that we believe is accurate.

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, 2019 and 2018

Consolidated Results

Net sales for the three months ended March 31, 2019 and 2018 are summarized by segment in the following table:

	Three Months Ended March 31,		
	2019	2018	Net Change
(Dollars in millions)			
Railroad and Utility Products and Services	$166.1	$108.4	53 %
Performance Chemicals	99.0	97.4	2 %
Carbon Materials and Chemicals	169.8	200.3	-15 %
	$434.9	$406.1	7 %

RUPS net sales increased by $57.7 million or 53 percent compared to the prior year period. The sales increase was primarily due to the acquisition of UIP in the second quarter of the prior year as well as volume increases in the Class I and commercial crosstie markets and rail services in the current year period. Sales of crossties increased by $9.2 million in the current year period. In the prior year period, lower sales volumes of crossties was a result of decreased spending in the rail industry, particularly the Class I market. Also, the railroad bridge business was affected in the prior year period by unfavorable weather conditions in various regions throughout the United States that caused project delays.

PC net sales increased by $1.6 million or two percent compared to the prior year period. The slightly higher sales were due primarily to higher volumes in North America mainly attributable to our new fire retardant product and in Australasia for light organic solvent preservatives. Sales of copper-based preservatives in North America realized a more favorable pricing mix in the current year period, partially offset by a slight decrease in sales volumes of those products.

CMC net sales decreased by $30.5 million or 15 percent compared to the prior year period due mainly to lower sales prices for carbon pitch in China along with lower sales volumes of carbon black feedstock and phthalic anhydride and an unfavorable impact from foreign currency translation, partially offset by increased volumes for carbon pitch in China, North America and Europe. In Australia, higher sales prices for carbon pitch and carbon black feedstock were driven primarily by higher raw material cost and increases in global oil pricing.

Cost of sales as a percentage of net sales was 81 percent for the quarter ended March 31, 2019 compared to 77 percent in the prior year quarter. Lower gross margins for CMC were driven by higher raw material prices globally. These were offset by higher gross margins for PC driven by favorable pricing and higher gross margins for RUPS due to increased sales volumes of crossties.

Depreciation and amortization charges for the quarter ended March 31, 2019 was $2.8 million higher when compared to the prior year period due mainly to assets placed in service over the past year related to our new naphthalene unit at our CMC plant in Stickney, Illinois along with depreciation and amortization from our acquisition of UIP in the second quarter of 2018.

Impairment and restructuring expenses for the quarter ended March 31, 2019 were $1.2 million lower when compared to the prior year period due mainly to prior year charges for storage tank decommissioning costs and accelerated depreciation for the remaining fixed assets at our coal tar distillation facilities in Clairton, Pennsylvania and Follansbee, West Virginia. Current year charges consist primarily of remaining restructuring-related costs and depreciation at our Follansbee, West Virginia facility.

Selling, general and administrative expenses for the quarter ended March 31, 2019 were $0.3 million lower when compared to the prior year period due primarily to a decrease of $2.1 million of acquisition-related expenses and $2.0 million from lower compensation expense, offset by incremental costs within KRR and UIP in the current year period.

Interest expense for the quarter ended March 31, 2019 was $6.2 million higher when compared to the prior year period primarily due to the higher average debt level to fund our acquisitions of UIP and KRR in 2018.

Income tax benefit for the quarter ended March 31, 2019 was $0.1 million. Income tax expense for the quarter ended March 31, 2018 was $9.2 million. The decrease in income tax expense is primarily due to a reduction in pre-tax earnings when compared to the prior period and due to favorable discrete items. Discrete items were primarily related to the reversal of various unrecognized tax benefits due to audit closures. Income tax (benefit) expense as a percentage of pre-tax profit for the three months ended March 31, 2019 and 2018 were 0.8 percent and 27.9 percent, respectively. The decrease in this percentage is largely due to the effect of the favorable discrete items.

Segment Results

Segment operating profit for the three months ended March 31, 2019 and 2018 is summarized by segment in the following table:

	Three Months Ended March 31,		
	2019	2018	% Change
(Dollars in millions)			
Operating profit (loss):			
Railroad and Utility Products and Services	$8.7	$1.1	691 %
Performance Chemicals	12.8	5.6	129 %
Carbon Materials and Chemicals	7.4	37.2	-80 %
Corporate	(0.5)	(0.6)	17 %
	$28.4	$43.3	-34 %
Operating profit as a percentage of net sales:			
Railroad and Utility Products and Services	5.2 %	1.0 %	4.2 %
Performance Chemicals	12.9%	5.7 %	7.2 %
Carbon Materials and Chemicals	4.4 %	18.6%	-14.2 %
	6.5 %	10.7%	-4.2 %

RUPS operating profit increased by $7.6 million compared to the prior year period. Operating profit as a percentage of net sales increased to 5.2 percent from 1.0 percent in the prior year period. Operating profit as a percentage of net sales for the three months ended March 31, 2019 was impacted by increased treating volumes of crossties to Class I customers coupled with commercial crosstie market price increases and higher demand.

PC operating profit increased by $7.2 million compared to the prior year period. Operating profit as a percentage of net sales increased to 12.9 percent from 5.7 percent in the prior year quarter. The current year period was favorably impacted by a net amount of $6.6 million due to changes in unrealized gains and losses from our copper swap contracts as compared to the prior year period. Higher year-over-year raw material prices partially offset our slight increase in sales for the quarter ended March 31, 2019.

CMC operating profit decreased by $29.8 million or 80 percent compared to the prior year period. Operating profit as a percentage of net sales decreased to 4.4 percent from 18.6 percent in the prior year quarter. Operating profit for the three months ended March 31, 2019 was negatively affected by lower sales prices for carbon pitch in China along with lower sales volumes of carbon black feedstock and phthalic anhydride, higher raw material costs in Australasia and Europe and an unfavorable impact from foreign currency translation, partially offset by increased volumes for carbon pitch in China, North America and Europe, and a more streamlined and efficient cost structure across the entire segment.

Cash Flow

Net cash used in operating activities for the three months ended March 31, 2019 was $14.4 million compared to net cash used in operating activities of $29.0 million in the prior year period. The net decrease of $14.6 million in cash used in operations was due primarily to lower working capital usage of $32.7 million compared to the prior year period principally as a result of a favorable impact on cash from a period over period change in accrued liabilities of

$15.7 million. The cash impact of lower working capital usage was partially offset by a reduction in net income of $11.3 million.

Net cash used in investing activities amounted to $9.3 million for the three months ended March 31, 2019 compared to net cash used in investing activities of $85.1 million in the prior year period. The decrease in cash used for investing activities of $75.8 million is primarily due to $62.9 million of net cash used for acquisitions in the prior year period as well as prior year capital expenditures to expand production capacity at PC in the United States and continued spending on the new naphthalene unit construction at our CMC plant in Stickney, Illinois. Both of these projects were substantially completed by the end of 2018.

Net cash provided by financing activities was $20.8 million for the three months ended March 31, 2019 compared to $105.9 million of net cash provided by financing activities in the prior year period. The cash provided by financing activities in the three months ended March 31, 2019, reflected net borrowings of $21.4 million and repurchases of common stock of $0.9 million. The cash provided by financing activities in the prior year period reflected net borrowings of revolving credit of $116.9 million and offset by net repayments of long-term debt of $3.8 million, payment of debt issuance costs of $1.1 million from the issuance of new debt and repurchases of common stock of $7.4 million.

Liquidity and Capital Resources

We have a $600.0 million senior secured revolving credit facility and a $100.0 million secured term loan with a maturity date of May 2024. The interest rate on the Credit Facility is variable and is based on LIBOR. On May 1, 2019, we entered into the Third Amendment and amended the Credit Facility to, among other things: (1) reset the Credit Facility termination date to May 1, 2024; and (2) revise certain financial statement covenants and related definitions and other covenants, including revising the definition of Consolidated EBITDA to increase the permitted add back of non-recurring, non-cash charges incurred in connection with the discontinuation or sale of business operations and excluding dividends and distributions made during the fiscal quarter ended September 30, 2018 from the definition of Fixed Charge Coverage Ratio. All other material terms, conditions and covenants with respect to the Credit Facility remain unchanged.

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 prohibits Koppers Inc. from making dividend payments to Koppers Holdings unless (1) such dividend payments are permitted by the indenture governing Koppers Inc.'s $500 million Senior Notes due 2025 (the "2025 Notes"), (2) no event of default or potential default has occurred or is continuing under our Credit Facility, and (3) we are in pro forma compliance with our fixed charge coverage ratio covenant after giving effect to such dividend. The indenture governing the 2025 Notes restricts Koppers Inc.'s ability to finance our payment of dividends if (1) a default has occurred or would result from such financing, (2) Koppers Inc., or a restricted subsidiary of Koppers Inc. which is not a guarantor under the indenture, is not able to incur additional indebtedness (as defined in the indenture), and (3) the sum of all restricted payments (as defined in the indenture) have exceeded the permitted amount (which we refer to as the "basket") at such point in time.

The basket is governed by a formula based on the sum of a beginning amount, plus or minus a percentage of Koppers Inc.'s consolidated net income (as defined in the indenture), plus the net proceeds of Koppers Inc.'s qualified stock issuance or conversions of debt to qualified stock, plus the net proceeds from the sale of or a reduction in an investment (as defined in the indenture) or the value of the assets of an unrestricted subsidiary which is designated a restricted subsidiary. At March 31, 2019, the basket totaled $134.9 million. Notwithstanding such restrictions, the indenture governing the 2025 Notes permits 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 is any basket availability, provided that at the time of such payment, no default in the indenture has occurred or would result from financing the dividends.

In addition, certain required coverage ratios in Koppers Inc.'s Credit Facility may restrict the ability of Koppers Inc. to pay dividends. Koppers Holdings last declared a dividend in November 2014 and does not expect to declare any dividends for the foreseeable future.

Liquidity

Borrowings under the Credit Facility are secured by a first priority lien on substantially all of the assets of Koppers Inc., Koppers Holdings and their material domestic subsidiaries. The Credit Facility contains certain covenants for Koppers Inc. and its restricted subsidiaries that limit capital expenditures, additional indebtedness, liens, dividends and investments or acquisitions. 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, 2019 we had $139.2 million of unused revolving credit availability for working capital purposes after restrictions by various debt covenants and certain letter of credit commitments. As of March 31, 2019, $18.7 million of commitments were utilized by outstanding letters of credit.

The following table summarizes our estimated liquidity as of March 31, 2019 (dollars in millions):

Cash and cash equivalents[1]	$38.1
Amount available under Credit Facility	139.2
Total estimated liquidity	$177.3

(1) Cash includes approximately $34.6 million held by foreign subsidiaries.

Our estimated liquidity was $219.6 million at December 31, 2018.

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Our remaining need for cash in the next twelve months relates primarily to contractual obligations which include debt service, purchase commitments and operating leases, as well as working capital, capital maintenance programs, liability transfers of closed facilities and the funding of plant consolidation and rationalizations. We may also use cash to pursue other potential strategic acquisitions or voluntary pension plan contributions. Capital expenditures in 2019, excluding acquisitions, if any, are expected to total approximately $30 million and are expected to be funded by cash from operations

Debt Covenants

The covenants under the Third Amendment 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 fixed charge coverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to be less than 1.10. The fixed charge coverage ratio at March 31, 2019 was 1.50.

The total secured leverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to exceed 3.25. The leverage ratio at March 31, 2019 was 2.57.

The total leverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to exceed 5.50. The leverage ratio at March 31, 2019 was 4.99.

We are currently in compliance with all covenants governing the Credit Facility. Our continued ability to meet those financial ratios can be affected by events beyond our control, however, excluding possible acquisitions, 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 the next twelve months.

Legal Matters

The information set forth in Note 18 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

We adopted ASU 2016-02, Leases (Topic 842) effective January 1, 2019 using the modified retrospective approach with no restatement of comparative periods presented. The adoption is accounted for as a change in accounting principle in conformity with FASB Accounting Standards Codification ("ASC") 250, “Accounting Changes and Error Corrections”.

Environmental and Other Matters

The information set forth in Note 18 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

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, 2018.

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.

Beginning January 1, 2019, we adopted the provisions of ASU No. 2016-02, Leases (Topic 842). We implemented changes to our processes and control activities as a result of adopting Topic 842 related to lease identification and subsequent accounting for leases entered into, and financial statement disclosure. These included the development of new policies based on the guidance provided in the new lease standard, new training related to Topic 842, ongoing lease contract review requirements, and gathering of information provided for disclosures.

On April 10, 2018, we acquired UIP and on February 28, 2018, we acquired KRR. In conducting our evaluation of the effectiveness of internal controls over financial reporting, we will include UIP and KRR when conducting our annual evaluation of internal controls. We are implementing internal controls over significant processes specific to UIP and KRR that management believes are appropriate in consideration of related integration of operations, systems, control activities. As of the date of this Quarterly Report on Form 10-Q, we are in the process of further integrating the acquired UIP and KRR operations into our overall internal controls over financial reporting.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The information set forth in Note 18 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, 2018.

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

Not applicable.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Credit Agreement Amendment

On May 1, 2019, we entered into the Third Amendment and amended the Credit Facility to, among other things: (1) reset the Credit Facility termination date to May 1, 2024; and (2) revise certain financial statement covenants and related definitions and other covenants, including revising the definition of Consolidated EBITDA to increase the permitted add back of non-recurring, non-cash charges incurred in connection with the discontinuation or sale of business operations and excluding dividends and distributions made during the fiscal quarter ended September 30, 2018 from the definition of Fixed Charge Coverage Ratio. All other material terms, conditions and covenants with respect to the Credit Facility remain unchanged.

The foregoing description of the Third Amendment is not and does not purport to be a complete statement of the parties' rights and obligations under the Third Amendment and is qualified in its entirety by reference to the Third Amendment, a copy of which is filed as Exhibit 10.126 to this Quarterly Report on Form 10-Q.

Election of Chief Accounting Officer

On May 2, 2019, Bradley A. Pearce, Director, Corporate Control and Taxes for Koppers Inc. (“Koppers”), was elected to the position of Chief Accounting Officer, Koppers and Koppers Holdings Inc., effective immediately.

Mr. Pearce, age 52, has served as Director, Corporate Control and Taxes for Koppers, since April 2008. In that position, Mr. Pearce has had responsibility for the accounting operations of Koppers, including, but not limited to, the preparation of periodic financial reports, maintenance of accounting records, and internal controls. In addition, he managed tax compliance, tax planning and accounting for income taxes.

Mr. Pearce’s compensation includes the following:

- Annual base salary of $216,000.
- Participation in the Koppers Annual Incentive Plan, subject to such terms and conditions as the Board of Directors shall determine from time to time, with an annual incentive target of 30% of annual base salary.
- Participation in the Company’s 2018 Long Term Incentive Plan (the “LTIP”), subject to the terms and conditions of the LTIP.

ITEM 6. EXHIBITS

10.126*	Third Amendment to Credit Agreement and Joinder, dated as of May 1, 2019, by and among Koppers Inc., as Borrower, the Guarantors party thereto, the Lenders party thereto, and PNC Bank, National Association, as Administrative Agent
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*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* 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 3, 2019 By: /s/ MICHAEL J. ZUGAY
Michael J. Zugay

Chief Financial Officer and Treasurer
(Principal Financial Officer,

Principal Accounting Officer and Duly Authorized Officer)