Vulcan Materials CO
Form 10-Q
May 03, 2019
UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2019

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

For the transition period from to

Commission File Number 001-33841

VULCAN MATERIALS COMPANY
(Exact name of registrant as specified in its charter)

New Jersey (State or other jurisdiction of incorporation)	20-8579133 (I.R.S. Employer Identification No.)
1200 Urban Center Drive, Birmingham, Alabama (Address of principal executive offices)	35242 (zip code)

(205) 298-3000
(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 during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large accelerated filer	Accelerated filer	Smaller reporting company
Non-accelerated filer		Emerging growth company

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

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

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

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

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

Class	Shares outstanding at April 30, 2019
Common Stock, $1 Par Value	132,092,119

VULCAN MATERIALS COMPANY

FORM 10-Q

QUARTER ENDED MARCH 31, 2019

Contents

Unless otherwise stated or the context otherwise requires, references in this report to "Vulcan," the "Company," "we," "our," or "us" refer to Vulcan Materials Company and its consolidated subsidiaries.

part I financial information

ITEM 1

FINANCIAL STATEMENTS

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES

CONDENSED CONSOLIDATED BALANCE SHEETS

Unaudited in thousands	March 31 2019	December 31 2018	March 31 2018
Assets			
Cash and cash equivalents	$ 30,838	$ 40,037	$ 38,141
Restricted cash	270	4,367	8,373
Accounts and notes receivable			
Accounts and notes receivable, gross	563,084	542,868	492,103
Allowance for doubtful accounts	(2,554)	(2,090)	(2,667)
Accounts and notes receivable, net	560,530	540,778	489,436
Inventories			
Finished products	369,743	372,604	340,666
Raw materials	27,951	27,942	29,393
Products in process	4,976	3,064	1,303
Operating supplies and other	26,727	25,720	28,392
Inventories	429,397	429,330	399,754
Other current assets	62,816	64,633	75,495
Total current assets	1,083,851	1,079,145	1,011,199
Investments and long-term receivables	50,952	44,615	35,056
Property, plant & equipment			
Property, plant & equipment, cost	8,559,549	8,457,619	8,116,439
Allowances for depreciation, depletion & amortization	(4,284,211)	(4,220,312)	(4,090,574)
Property, plant & equipment, net	4,275,338	4,237,307	4,025,865
Operating lease right-of-use assets, net	426,381	0	0
Goodwill	3,161,842	3,165,396	3,130,161
Other intangible assets, net	1,085,398	1,095,378	1,060,831
Other noncurrent assets	213,090	210,289	190,099
Total assets	$ 10,296,852	$ 9,832,130	$ 9,453,211
Liabilities			
Current maturities of long-term debt	24	23	22
Short-term debt	178,500	133,000	200,000
Trade payables and accruals	248,119	216,473	188,163

Other current liabilities	232,964	253,054	195,122
Total current liabilities	659,607	602,550	583,307
Long-term debt	2,780,589	2,779,357	2,775,687
Deferred income taxes, net	568,229	567,283	479,430
Deferred revenue	184,744	186,397	190,731
Operating lease liabilities	403,426	0	0
Other noncurrent liabilities	483,048	493,640	510,846
Total liabilities	$ 5,079,643	$ 4,629,227	$ 4,540,001
Other commitments and contingencies (Note 8)			
Equity			
Common stock, $1 par value, Authorized 480,000 shares,			
Outstanding 132,069, 131,762 and 132,290 shares, respectively	132,069	131,762	132,290
Capital in excess of par value	2,789,864	2,798,486	2,787,848
Retained earnings	2,467,201	2,444,870	2,138,885
Accumulated other comprehensive loss	(171,925)	(172,215)	(145,813)
Total equity	$ 5,217,209	$ 5,202,903	$ 4,913,210
Total liabilities and equity	$ 10,296,852	$ 9,832,130	$ 9,453,211

The accompanying Notes to the Condensed Consolidated Financial Statements are an integral part of these statements.

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VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Unaudited	Three Months Ended March 31	
in thousands, except per share data	2019	2018
Total revenues	$ 996,511	$ 854,474
Cost of revenues	804,836	695,140
Gross profit	191,675	159,334
Selling, administrative and general expenses	90,268	78,340
Gain on sale of property, plant & equipment and businesses	7,297	4,164
Other operating expense, net	(4,271)	(3,963)
Operating earnings	104,433	81,195
Other nonoperating income, net	3,129	5,071
Interest expense, net	32,934	37,774
Earnings from continuing operations before income taxes	74,628	48,492
Income tax expense (benefit)	10,693	(4,903)
Earnings from continuing operations	63,935	53,395
Loss on discontinued operations, net of tax	(636)	(416)
Net earnings	$ 63,299	$ 52,979
Other comprehensive income, net of tax		
Deferred gain on interest rate derivative	0	2,496
Amortization of prior interest rate derivative loss	55	66
Amortization of actuarial loss and prior service cost for benefit plans	235	1,091
Other comprehensive income	290	3,653
Comprehensive income	$ 63,589	$ 56,632
Basic earnings (loss) per share		
Continuing operations	$ 0.48	$ 0.40
Discontinued operations	0.00	0.00
Net earnings	$ 0.48	$ 0.40
Diluted earnings (loss) per share		
Continuing operations	$ 0.48	$ 0.40
Discontinued operations	0.00	(0.01)
Net earnings	$ 0.48	$ 0.39
Weighted-average common shares outstanding		
Basic	132,043	132,690
Assuming dilution	133,054	134,359
Depreciation, depletion, accretion and amortization	$ 89,181	$ 81,439
Effective tax rate from continuing operations	14.3%	-10.1%

The accompanying Notes to the Condensed Consolidated Financial Statements are an integral part of these statements.

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VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

Unaudited in thousands	Three Months Ended March 31 2019	 2018
Operating Activities		
Net earnings	$ 63,299	$ 52,979
Adjustments to reconcile net earnings to net cash provided by operating activities		
Depreciation, depletion, accretion and amortization	89,181	81,439
Net gain on sale of property, plant & equipment and businesses	(7,297)	(4,164)
Contributions to pension plans	(2,320)	(102,443)
Share-based compensation expense	5,724	6,794
Deferred tax expense (benefit)	774	7,968
Cost of debt purchase	0	6,922
Changes in assets and liabilities before initial effects of business acquisitions and dispositions	(45,765)	39,832
Other, net	12,568	3,641
Net cash provided by operating activities	$ 116,164	$ 92,968
Investing Activities		
Purchases of property, plant & equipment	(122,019)	(128,688)
Proceeds from sale of property, plant & equipment	6,512	1,701
Proceeds from sale of businesses	1,744	11,256
Payment for businesses acquired, net of acquired cash	1,122	(76,259)
Other, net	(7,237)	(34)
Net cash used for investing activities	$ (119,878)	$ (192,024)
Financing Activities		
Proceeds from short-term debt	196,200	252,000
Payment of short-term debt	(150,700)	(52,000)
Payment of current maturities and long-term debt	(6)	(892,038)
Proceeds from issuance of long-term debt	0	850,000
Debt issuance and exchange costs	0	(45,513)
Settlements of interest rate derivatives	0	3,378
Purchases of common stock	0	(55,568)
Dividends paid	(40,939)	(37,176)
Share-based compensation, shares withheld for taxes	(14,137)	(24,159)
Net cash used for financing activities	$ (9,582)	$ (1,076)
Net decrease in cash and cash equivalents and restricted cash	(13,296)	(100,132)
Cash and cash equivalents and restricted cash at beginning of year	44,404	146,646
Cash and cash equivalents and restricted cash at end of period	$ 31,108	$ 46,514

The accompanying Notes to the Condensed Consolidated Financial Statements are an integral part of the statements.

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notes to condensed consolidated financial statements

Note 1: summary of significant accounting policies

NATURE OF OPERATIONS

Vulcan Materials Company (the "Company," "Vulcan," "we," "our"), a New Jersey corporation, is the nation's largest supplier of construction aggregates (primarily crushed stone, sand and gravel) and a major producer of asphalt mix and ready-mixed concrete.

We operate primarily in the United States and our principal product — aggregates — is used in virtually all types of public and private construction projects and in the production of asphalt mix and ready-mixed concrete. We serve markets in twenty states, Washington D.C., and the local markets surrounding our operations in Mexico and the Bahamas. Our primary focus is serving metropolitan markets in the United States that are expected to experience the most significant growth in population, households and employment. These three demographic factors are significant drivers of demand for aggregates. While aggregates is our focus and primary business, we produce and sell asphalt mix and/or ready-mixed concrete in our Alabama, mid-Atlantic, Southwestern, Tennessee and Western markets.

BASIS OF PRESENTATION

Our accompanying unaudited condensed consolidated financial statements were prepared in compliance with the instructions to Form 10-Q and Article 10 of Regulation S-X and thus do not include all of the information and footnotes required by accounting principles generally accepted in the United States of America (GAAP) for complete financial statements. We prepared the accompanying condensed consolidated financial statements on the same basis as our annual financial statements, except for the adoption of new accounting standards as described in Note 17. Our Condensed Consolidated Balance Sheet as of December 31, 2018 was derived from the audited financial statement, but it does not include all disclosures required by GAAP. In the opinion of our management, the statements reflect all adjustments, including those of a normal recurring nature, necessary to present fairly the results of the reported interim periods. Operating results for the three month period ended March 31, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019. For further information, refer to the consolidated financial statements and footnotes included in our most recent Annual Report on Form 10-K.

Due to the 2005 sale of our Chemicals business as described within this Note under the caption Discontinued Operations, the results of the Chemicals business are presented as discontinued operations in the accompanying Condensed Consolidated Statements of Comprehensive Income.

RECLASSIFICATIONS

Certain items previously reported in specific financial statement captions have been reclassified to conform to the 2019 presentation.

RESTRICTED CASH

Restricted cash consists of cash proceeds from the sale of property held in escrow for the acquisition of replacement property under like-kind exchange agreements and cash reserved by other contractual agreements (such as asset purchase agreements) for a specified purpose and therefore is not available for use for other purposes. The escrow accounts are administered by an intermediary. Cash restricted pursuant to like-kind exchange agreements remains restricted for a maximum of 180 days from the date of the property sale pending the acquisition of replacement property. Restricted cash is included with cash and cash equivalents in the accompanying Condensed Consolidated Statements of Cash Flows.

LEASES

Beginning in 2019 (see ASU 2016-02, “Leases,” as presented in Note 17), our nonmineral leases are recognized on the balance sheet as right-of-use (ROU) assets and lease liabilities. Mineral leases continue to be exempt from balance sheet recognition.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. ROU assets are adjusted for any prepaid lease payments and lease incentives. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option.

We elected the following practical expedients: (1) the practical expedient package which permits us to not reassess our prior conclusions about lease identification, lease classification, and initial direct costs; (2) to not separate the lease components from the non-lease components for all leases; (3) to apply a portfolio approach to our railcar and barge leases; (4) to not recognize ROU assets and lease liabilities for all pre-existing land easements not previously accounted for as leases; and (5) to not recognize ROU assets or lease liabilities for our short-term leases, including existing short-term leases of those assets in transition.

For additional information about leases see Note 2.

DISCONTINUED OPERATIONS

In 2005, we sold substantially all the assets of our Chemicals business to Basic Chemicals, a subsidiary of Occidental Chemical Corporation. The financial results of the Chemicals business are classified as discontinued operations in the accompanying Condensed Consolidated Statements of Comprehensive Income for all periods presented. Results from discontinued operations are as follows:

	Three Months Ended March 31			
in thousands	2019		2018	
Discontinued Operations				
Pretax loss	$	(638)	$	(566)
Income tax benefit	2		150	
Loss on discontinued operations, net of tax	$	(636)	$	(416)

Our discontinued operations include charges related to general and product liability costs, including legal defense costs, and environmental remediation costs associated with our former Chemicals business (including certain matters as discussed in Note 8). There were no revenues from discontinued operations for the periods presented.

EARNINGS PER SHARE (EPS)

Earnings per share are computed by dividing net earnings by the weighted-average common shares outstanding (basic EPS) or weighted-average common shares outstanding assuming dilution (diluted EPS), as set forth below:

	Three Months Ended March 31	
in thousands	2019	2018
Weighted-average common shares outstanding	132,043	132,690
Dilutive effect of		
Stock-Only Stock Appreciation Rights	742	1,132
Other stock compensation plans	269	537
Weighted-average common shares outstanding, assuming dilution	133,054	134,359

All dilutive common stock equivalents are reflected in our earnings per share calculations. In periods of loss, shares that otherwise would have been included in our diluted weighted-average common shares outstanding computation would be excluded.

Antidilutive common stock equivalents are not included in our earnings per share calculations. The number of antidilutive common stock equivalents for which the exercise price exceeds the weighted-average market price is as follows:

	Three Months Ended March 31	
in thousands	2019	2018
Antidilutive common stock equivalents	220	157

Note 2: Leases

Operating lease-related assets and liabilities (we do not have any material finance leases) reflected on our March 31, 2019 balance sheet and the weighted-average lease term and discount rate are as follows:

in thousands	Classification on the Balance Sheet	March 31 2019
Assets		
Operating lease right-of-use assets		$ 434,970
Accumulated amortization		(8,589)
Total lease assets	Operating lease right-of-use assets, net	$ 426,381
Liabilities		
Current		
Operating	Other current liabilities	$ 31,255
Noncurrent		
Operating	Operating lease liabilities	403,426
Total lease liabilities		$ 434,681
Lease Term and Discount Rate		
Weighted-average remaining lease term (years)		
Operating leases		10.3
Weighted-average discount rate		
Operating leases		4.4%

Our portfolio of nonmineral leases is composed almost entirely of operating leases for real estate (including office buildings, aggregates sales yards, and concrete and asphalt sites) and equipment (including railcars and rail track, barges, office equipment and plant equipment).

Our building leases have remaining noncancelable periods of 1 - 30 years, and lease terms (including options to extend) of 1 - 30 years. Key factors in determining the certainty of lease renewals include the location of the building, the value of leasehold improvements and the cost to relocate. Rental payments for certain of our building leases are periodically adjusted for inflation and this variable component is recognized as expense when incurred. Many of our building leases contain common area maintenance charges which we include in the calculation of our lease liability (the lease consideration is not allocated between the lease and non-lease components).

Our aggregates sales yard leases have remaining noncancelable periods of 0 - 13 years, and lease terms of 2 - 80 years. The key factor in determining the certainty of lease renewals is the financial impact of extending the lease, including the reserve life of the sourcing aggregates quarry. Certain aggregates sales yard lease agreements include rental payments based on a percentage of sales over contractual levels or the number of shipments received into the sales yard. Variable payments for these sales yards comprise a majority of the overall variable lease cost presented in the table below.

Our concrete and asphalt site leases have remaining noncancelable periods of 0 - 97 years, and lease terms of 1 - 97 years. The key factor in determining the certainty of lease renewals is the financial impact of extending the lease, including the reserve life of the sourcing aggregates quarry. Rental payments are generally fixed for our concrete and asphalt sites.

Our rail (car and track) leases have remaining noncancelable periods of 0 - 7 years, and lease terms of 2 - 76 years. Key factors in determining the certainty of lease renewals include the market rental rate for comparable assets and, in some cases, the cost incurred to restore the asset. Rental payments are fixed for our rail leases. The majority of our rail leases contain substitution rights that allow the supplier to replace damaged equipment. Because these rights are generally limited to either replacing railcars or moving our placement on rail track for purposes of repair or maintenance, we do not consider these substitution rights to be substantive and have recorded a lease liability and ROU asset for all leased rail.

Our barge leases have remaining noncancelable periods of 2 - 3 years, and lease terms (including options to extend) of 10 - 16 years. Key factors in determining the certainty of lease renewals include the market rental rate for comparable assets and, in some cases, the cost incurred to restore the asset. Rental payments are fixed. Like our rail leases, our barge leases contain non-substantive substitution rights that are limited to replacing barges in need of repair or maintenance.

Office and plant equipment leases have remaining noncancelable periods of 0 - 4 years, and lease terms of 0 - 4 years. The key factor in determining the certainty of lease renewals is the market rental rate for comparable assets. Rental payments are generally fixed for our equipment leases with terms greater than 1 year. The significant majority of our short-term lease cost presented in the table below is derived from office and plant equipment leases with terms of 1 year or less.

Our lease agreements do not contain material residual value guarantees, material restrictive covenants or material termination options.

Lease expense for operating leases is recognized on a straight-line basis over the lease term. The components of nonmineral operating lease expense are as follows:

	Three Months Ended March 31	
in thousands	2019	
Lease cost		
Operating lease cost	$	14,127
Short-term lease cost [1]	8,700	
Variable lease cost	3,068	
Sublease income	(610)	
Total lease cost	$	25,285

1 We have elected to recognize the cost of leases with an initial term of one month or less within our short-term lease cost.

Total nonmineral operating lease expense for the prior year's three months ended March 31, 2018 was $24,352,000.

Cash paid for operating leases was $13,333,000 for the three months ended March 31, 2019 and was reflected as a reduction to operating cash flows.

Maturity analysis on an undiscounted basis of our nonmineral lease liabilities as of March 31, 2019 is as follows:

in thousands	Operating Leases
Maturity of Lease Liabilities	
2019 (remainder)	$ 39,281
2020	49,300
2021	45,607
2022	40,680
2023	36,143
Thereafter	605,516
Total minimum lease payments	$ 816,527
Less: Lease payments representing interest	381,846
Present value of future minimum lease payments	$ 434,681
Less: Current obligations under leases	31,255
Long-term lease obligations	$ 403,426

Future minimum operating lease payments under leases with initial or remaining noncancelable lease terms in excess of one year, exclusive of mineral leases, as of December 31, 2018 were payable as follows:

in thousands	
Future Minimum Operating Lease Payments	
2019	$ 47,979

2020	43,540
2021	35,732
2022	27,463
2023	19,707
Thereafter	195,104
Total	$ 369,525

Note 3: Income Taxes

Our estimated annual effective tax rate (EAETR) is based on full-year expectations of pretax earnings, statutory tax rates, permanent differences between book and tax accounting such as percentage depletion, and tax planning alternatives available in the various jurisdictions in which we operate. For interim financial reporting, we calculate our quarterly income tax provision in accordance with the EAETR. Each quarter, we update our EAETR based on our revised full-year expectation of pretax earnings and calculate the income tax provision so that the year-to-date income tax provision reflects the EAETR. Significant judgment is required in determining our EAETR.

In the first quarter of 2019, we recorded income tax expense from continuing operations of $10,693,000 compared to an income tax benefit from continuing operations of $4,903,000 in the first quarter of 2018. The increase in tax expense is related to an increase in earnings along with a decrease in share-based compensation excess tax benefits.

We recognize deferred tax assets and liabilities (which reflect our best assessment of the future taxes we will pay) based on the differences between the book basis and tax basis of assets and liabilities. Deferred tax assets represent items to be used as a tax deduction or credit in future tax returns while deferred tax liabilities represent items that will result in additional tax in future tax returns.

Each quarter we analyze the likelihood that our deferred tax assets will be realized. A valuation allowance is recorded if, based on the weight of all available positive and negative evidence, it is more likely than not (a likelihood of more than 50%) that some portion, or all, of a deferred tax asset will not be realized. At December 31, 2019, we project state net operating loss carryforward deferred tax assets of $65,787,000 ($63,603,000 relates to Alabama), against which we project to have a valuation allowance of $29,678,000 ($29,183,000 relates to Alabama). The Alabama net operating loss carryforward, if not utilized, would expire in years 2023 – 2032.

We recognize a tax benefit associated with a tax position when, in our judgment, it is more likely than not that the position will be sustained based upon the technical merits of the position. For a tax position that meets the more likely than not recognition threshold, we measure the income tax benefit as the largest amount that we judge to have a greater than 50% likelihood of being realized. A liability is established for the unrecognized portion of any tax benefit. Our liability for unrecognized tax benefits is adjusted periodically due to changing circumstances, such as the progress of tax audits, case law developments and new or emerging legislation.

A summary of our deferred tax assets is included in Note 9 “Income Taxes” in our Annual Report on Form 10-K for the year ended December 31, 2018.

Note 4: revenueS

Revenues are measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. Sales and other taxes we collect are excluded from revenues. Costs to obtain and fulfill contracts (primarily asphalt construction paving contracts) are immaterial and are expensed as incurred when the expected amortization period is one year or less.

Total revenues are primarily derived from our product sales of aggregates (crushed stone, sand and gravel, sand and other aggregates), asphalt mix and ready-mixed concrete, and include freight & delivery costs that we pass along to our customers to deliver these products. We also generate service revenues from our asphalt construction paving business and service revenues related to our aggregates business, such as landfill tipping fees. Our total service revenues were $34,515,000 and $18,639,000 for the three months ended March 31, 2019 and 2018, respectively.

Our products typically are sold to private industry and not directly to governmental entities. Although approximately 45% to 55% of our aggregates shipments have historically been used in publicly funded construction, such as highways, airports and government buildings, relatively insignificant sales are made directly to federal, state, county or municipal governments/agencies. Therefore, although reductions in state and federal funding can curtail publicly-funded construction, our aggregates business is not directly subject to renegotiation of profits or termination of contracts with state or federal governments.

Our segment total revenues by geographic market for the three month periods ended March 31, 2019 and 2018 are disaggregated as follows:

	Three Months Ended March 31, 2019				
in thousands	Aggregates	Asphalt	Concrete	Calcium	Total
Total Revenues by Geographic Market 1					
East	$ 224,902	$ 18,216	$ 54,716	$ 0	$ 297,834
Gulf Coast	496,633	37,053	16,505	1,951	552,142
West	113,430	76,821	12,416	0	202,667
Segment sales	$ 834,965	$ 132,090	$ 83,637	$ 1,951	$ 1,052,643
Intersegment sales	(56,132)	0	0	0	(56,132)
Total revenues	$ 778,833	$ 132,090	$ 83,637	$ 1,951	$ 996,511

	Three Months Ended March 31, 2018				
in thousands	Aggregates	Asphalt	Concrete	Calcium	Total
Total Revenues by Geographic Market 1					
East	$ 193,848	$ 11,729	$ 61,571	$ 0	$ 267,148
Gulf Coast	383,941	14,644	25,199	1,942	425,726
West	121,868	77,462	14,192	0	213,522
Segment sales	$ 699,657	$ 103,835	$ 100,962	$ 1,942	$ 906,396
Intersegment sales	(51,922)	0	0	0	(51,922)
Total revenues	$ 647,735	$ 103,835	$ 100,962	$ 1,942	$ 854,474

1 The geographic markets are defined by states/countries as follows:

East market — Arkansas, Delaware, Illinois, Kentucky, Maryland, North Carolina, Pennsylvania, Tennessee, Virginia, and Washington D.C.

Gulf Coast market — Alabama, Florida, Georgia, Louisiana, Mexico, Mississippi, Oklahoma, South Carolina, Texas and the Bahamas

West market — Arizona, California and New Mexico

PRODUCT REVENUES

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally this occurs at a point in time when our aggregates, asphalt mix and ready-mixed concrete are shipped/delivered and control passes to the customer. Revenue for our products is recorded at the fixed invoice amount and is due by the 15th day of the following month — we do not offer discounts for early payment. Freight & delivery generally represents pass-through transportation we incur (including our administrative costs) and pay to third-party carriers to deliver our products to customers and are accounted for as a fulfillment activity. Likewise, the costs related to freight & delivery are included in cost of revenues.

Freight & delivery revenues are as follows:

	Three Months Ended March 31	
in thousands	2019	2018
Freight & Delivery Revenues		
Total revenues	$ 996,511	$ 854,474
Freight & delivery revenues 1	(162,605)	(129,690)
Total revenues excluding freight & delivery	$ 833,906	$ 724,784

1 Includes freight & delivery to remote distribution sites.

CONSTRUCTION PAVING SERVICE REVENUES

Revenue from our asphalt construction paving business is recognized over time using the percentage-of-completion method under the cost approach. The percentage of completion is determined by costs incurred to date as a percentage of total costs estimated for the project. Under this approach, recognized contract revenue equals the total estimated contract revenue multiplied by the percentage of completion. Our construction contracts are unit priced and an account receivable is recorded for amounts invoiced based on actual units produced. Contract assets for estimated earnings in excess of billings, contract assets related to retainage provisions and contract liabilities for billings in excess of costs are immaterial. Variable consideration in our construction paving contracts is immaterial and consists of incentives and penalties based on the quality of work performed. Our construction paving contracts may contain warranty provisions covering defects in equipment, materials, design or workmanship that generally run from nine months to one year after project completion. Due to the nature of our construction paving projects, including contract owner inspections of the work during construction and prior to acceptance, we have not experienced material warranty costs for these short-term warranties.

VOLUMETRIC PRODUCTION PAYMENT DEFERRED REVENUES

In 2013 and 2012, we sold a percentage interest in certain future aggregates production for net cash proceeds of $226,926,000. These transactions, structured as volumetric production payments (VPPs):

§ relate to eight quarries in Georgia and South Carolina
§ provide the purchaser solely with a nonoperating percentage interest in the subject quarries’ future aggregates production
§ contain no minimum annual or cumulative guarantees by us for production or sales volume, nor minimum sales price
§ are both volume and time limited (we expect the transactions will last approximately 25 years, limited by volume rather than time)

We are the exclusive sales agent for, and transmit quarterly to the purchaser the proceeds from the sale of, the purchaser’s share of future aggregates production. Our consolidated total revenues exclude the revenue from the sale of the purchaser’s share of aggregates.

The proceeds we received from the sale of the percentage interest were recorded as deferred revenue on the balance sheet. We recognize revenue on a unit-of-sales basis (as we sell the purchaser’s share of future production) relative to the volume limitations of the transactions. Given the nature of the risks and potential rewards assumed by the buyer, the transactions do not reflect financing activities.

Reconciliation of the VPP deferred revenue balances (current and noncurrent) is as follows:

	Three Months Ended March 31	
in thousands	2019	2018
Deferred Revenue		
Balance at beginning of year	$ 192,783	$ 199,556
Revenue recognized from deferred revenue	(1,652)	(1,355)
Balance at end of period	$ 191,131	$ 198,201

Based on expected sales from the specified quarries, we expect to recognize $7,500,000 of deferred revenue as income during the 12-month period ending March 31, 2020 (reflected in other current liabilities in our March 31, 2019 Condensed Consolidated Balance Sheet).

Note 5: Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as described below:

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Inputs that are derived principally from or corroborated by observable market data

Level 3: Inputs that are unobservable and significant to the overall fair value measurement

Our assets subject to fair value measurement on a recurring basis are summarized below:

	Level 1 Fair Value					
	March 31		December 31		March 31	
in thousands	2019		2018		2018	
Fair Value Recurring						
Rabbi Trust						
Mutual funds	$	20,953	$	19,164	$	19,412
Total	$	20,953	$	19,164	$	19,412

	Level 2 Fair Value					
	March 31		December 31		March 31	
in thousands	2019		2018		2018	
Fair Value Recurring						
Rabbi Trust						
Money market mutual fund	$	490	$	1,015	$	2,738
Total	$	490	$	1,015	$	2,738

We have two Rabbi Trusts for the purpose of providing a level of security for the employee nonqualified retirement and deferred compensation plans and for the directors' nonqualified deferred compensation plans. The fair values of these investments are estimated using a market approach. The Level 1 investments include mutual funds and equity securities for which quoted prices in active markets are available. Level 2 investments are stated at estimated fair value based on the underlying investments in the fund (short-term, highly liquid assets in commercial paper, short-term bonds and certificates of deposit).

Net gains (losses) of the Rabbi Trust investments were $1,863,000 and $(776,000) for the three months ended March 31, 2019 and 2018, respectively. The portions of the net gains (losses) related to investments still held by the Rabbi Trusts at March 31, 2019 and 2018 were $1,905,000 and $(787,000), respectively.

The carrying values of our cash equivalents, restricted cash, accounts and notes receivable, short-term debt, trade payables and accruals, and all other current liabilities approximate their fair values because of the short-term nature of these instruments. Additional disclosures for derivative instruments and interest-bearing debt are presented in Notes 6 and 7, respectively.

Note 6: Derivative Instruments

During the normal course of operations, we are exposed to market risks including interest rates, foreign currency exchange rates and commodity prices. From time to time, and consistent with our risk management policies, we use derivative instruments to balance the cost and risk of such exposure. We do not use derivative instruments for trading or other speculative purposes.

In 2007 and 2018, we entered into interest rate locks of future debt issuances to hedge the risk of higher interest rates. These interest rate locks were designated as cash flow hedges. The gain/loss upon settlement of these interest rate hedges is deferred (recorded in AOCI) and amortized to interest expense over the term of the related debt.

This amortization was reflected in the accompanying Condensed Consolidated Statements of Comprehensive Income as follows:

in thousands	Location on Statement	Three Months Ended March 31 2019	2018
Interest Rate Hedges			
Loss reclassified from AOCI (effective portion)	Interest expense	$ (75)	$ (89)

For the 12-month period ending March 31, 2020, we estimate that $314,000 of the pretax loss in AOCI will be reclassified to interest expense.

Note 7: Debt

Debt is detailed as follows:

in thousands	Effective Interest Rates	March 31 2019	December 31 2018	March 31 2018
Short-term Debt				
Bank line of credit expires 2021 1, 2	1.25%	$ 178,500	$ 133,000	$ 200,000
Total short-term debt		$ 178,500	$ 133,000	$ 200,000

Long-term Debt				
Floating-rate notes due 2020	3.61%	$ 250,000	$ 250,000	$ 250,000
Floating-rate notes due 2021	3.59%	500,000	500,000	500,000
8.85% notes due 2021	8.88%	6,000	6,000	6,000
4.50% notes due 2025	4.65%	400,000	400,000	400,000
3.90% notes due 2027	4.00%	400,000	400,000	400,000
7.15% notes due 2037	8.05%	129,239	129,239	129,239
4.50% notes due 2047	4.59%	700,000	700,000	700,000
4.70% notes due 2048	5.42%	460,949	460,949	460,949
Other notes	6.46%	202	208	224
Total long-term debt - face value		$ 2,846,390	$ 2,846,396	$ 2,846,412
Unamortized discounts and debt issuance costs		(65,777)	(67,016)	(70,703)
Total long-term debt - book value		$ 2,780,613	$ 2,779,380	$ 2,775,709
Less current maturities		24	23	22
Total long-term debt - reported value		$ 2,780,589	$ 2,779,357	$ 2,775,687
Estimated fair value of long-term debt		$ 2,775,511	$ 2,695,802	$ 2,843,943

1

Borrowings on the bank line of credit are classified as short-term debt if we intend to repay within twelve months and as long-term debt if we have the intent and ability to extend payment beyond twelve months.

2 The effective interest rate reflects the margin above LIBOR for LIBOR-based borrowings. We also paid upfront fees that are amortized to interest expense and pay fees for unused borrowing capacity and standby letters of credit.

Discounts and debt issuance costs are amortized using the effective interest method over the terms of the respective notes resulting in $1,239,000 and $1,473,000 of net interest expense for these items for the three months ended March 31, 2019 and 2018, respectively.

LINE OF CREDIT

Our unsecured $750,000,000 line of credit matures December 2021 and contains affirmative, negative and financial covenants customary for an unsecured investment-grade facility. The primary negative covenant limits our ability to incur secured debt. The financial covenants are: (1) a maximum ratio of debt to EBITDA of 3.5:1 (upon certain acquisitions, the maximum ratio can be 3.75:1 for three quarters), and (2) a minimum ratio of EBITDA to net cash interest expense of 3.0:1. As of March 31, 2019, we were in compliance with the line of credit covenants.

Borrowings on our line of credit are classified as short-term debt if we intend to repay within twelve months and as long-term debt if we have the intent and ability to extend repayment beyond twelve months. Borrowings bear interest, at our option, at either LIBOR plus a credit margin ranging from 1.00% to 1.75%, or SunTrust Bank's base rate (generally, its prime rate) plus a credit margin ranging from 0.00% to 0.75%. The credit margin for both LIBOR and base rate borrowings is determined by our credit ratings. Standby letters of credit, which are issued under the line of credit and reduce availability, are charged a fee equal to the credit margin for LIBOR borrowings plus 0.175%. We also pay a commitment fee on the daily average unused amount of the line of credit that ranges from 0.10% to 0.25% determined by our credit ratings. As of March 31, 2019, the credit margin for LIBOR borrowings was 1.25%, the credit margin for base rate borrowings was 0.25%, and the commitment fee for the unused amount was 0.15%.

As of March 31, 2019, our available borrowing capacity was $516,970,000. Utilization of the borrowing capacity was as follows:

§ $178,500,000 was borrowed
§ $54,530,000 was used to provide support for outstanding standby letters of credit

TERM DEBT

All of our $2,846,390,000 (face value) of term debt is unsecured. $2,846,188,000 of such debt is governed by three essentially identical indentures that contain customary investment-grade type covenants. The primary covenant in all three indentures limits the amount of secured debt we may incur without ratably securing such debt. As of March 31, 2019, we were in compliance with all term debt covenants.

In December 2018, we completed an exchange offer in which all of the $460,949,000 of 4.70% senior unregistered notes due 2048 (issued in February 2018 and March 2018 as described below) were exchanged for new registered notes of like principal amount and like denomination as the unregistered notes, with substantially identical terms. We did not receive any proceeds from the issuance of the new notes.

In March 2018, we early retired via exchange offer $110,949,000 of the $240,188,000 7.15% senior notes due 2037 for: (1) a like amount of notes due 2048 (these notes are a further issuance of, and form a single series with, the $350,000,000 of 4.70% senior notes due 2048 issued in February 2018 as described below) and (2) $38,164,000 of cash. The cash payment primarily reflects the trading price of the retired notes relative to par and will be amortized to interest expense over the term of the notes due 2048. We recognized transaction costs of $1,314,000 with this early retirement.

In February 2018, we issued $350,000,000 of 4.70% senior notes due 2048 (these notes now total $460,949,000 including the notes issued in March as described above) and $500,000,000 of floating-rate senior notes due 2021. Total proceeds of $846,029,000 (net of discounts, transaction costs and an interest rate derivative settlement gain), together with cash on hand, were used to retire/repay without penalty or premium: (1) the $350,000,000 term loan due 2018, (2) the $250,000,000 term loan due 2021, and (3) the $250,000,000 bank line of credit borrowings. We recognized noncash expense of $203,000 with the acceleration of unamortized deferred transaction costs.

In January 2018, we early retired via redemption the remaining $35,111,000 of the 7.50% senior notes due 2021 at a cost of $40,719,000 including a premium of $5,608,000. Additionally, we recognized noncash expense of $263,000 with the acceleration of unamortized deferred transaction costs.

As a result of the first quarter 2018 early debt retirements described above, we recognized premiums of $5,608,000, transaction costs of $1,314,000 and noncash expense (acceleration of unamortized deferred transaction costs) of $466,000. The combined charge of $7,388,000 was a component of interest expense for the first quarter of 2018.

STANDBY LETTERS OF CREDIT

We provide, in the normal course of business, certain third-party beneficiaries with standby letters of credit to support our obligations to pay or perform according to the requirements of an underlying agreement. Such letters of credit typically have an initial term of one year, typically renew automatically, and can only be modified or canceled with the approval of the beneficiary. All of our standby letters of credit are issued by banks that participate in our $750,000,000 line of credit, and reduce the borrowing capacity thereunder. Our standby letters of credit as of March 31, 2019 are summarized by purpose in the table below:

in thousands		
Standby Letters of Credit		
Risk management insurance	$	46,611
Reclamation/restoration requirements	7,919	
Total	$	54,530

Note 8: Commitments and Contingencies

As summarized by purpose directly above in Note 7, our standby letters of credit totaled $54,530,000 as of March 31, 2019.

As described in Note 2, our nonmineral operating lease liabilities totaled $434,681,000 as of March 31, 2019.

As described in Note 9, our asset retirement obligations totaled $225,186,000 as of March 31, 2019.

LITIGATION AND ENVIRONMENTAL MATTERS

We are subject to occasional governmental proceedings and orders pertaining to occupational safety and health or to protection of the environment, such as proceedings or orders relating to noise abatement, air emissions or water discharges. As part of our continuing program of stewardship in safety, health and environmental matters, we have been able to resolve such proceedings and to comply with such orders without any material adverse effects on our business.

We have received notices from the United States Environmental Protection Agency (EPA) or similar state or local agencies that we are considered a potentially responsible party (PRP) at a limited number of sites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) or similar state and local environmental laws. Generally, we share the cost of remediation at these sites with other PRPs or alleged PRPs in accordance with negotiated or prescribed allocations. There is inherent uncertainty in determining the potential cost of remediating a given site and in determining any individual party's share in that cost. As a result, estimates can change substantially as additional information becomes available regarding the nature or extent of site contamination, remediation methods, other PRPs and their probable level of involvement, and actions by or against governmental agencies or private parties.

We have reviewed the nature and extent of our involvement at each Superfund site, as well as potential obligations arising under other federal, state and local environmental laws. While ultimate resolution and financial liability is uncertain at a number of the sites, in our opinion based on information currently available, the ultimate resolution of claims and assessments related to these sites will not have a material effect on our consolidated results of operations, financial position or cash flows, although amounts recorded in a given period could be material to our results of operations or cash flows for that period.

We are a defendant in various lawsuits in the ordinary course of business. It is not possible to determine with precision the outcome, or the amount of liability, if any, under these lawsuits, especially where the cases involve possible jury trials with as yet undetermined jury panels.

In addition to these lawsuits in which we are involved in the ordinary course of business, certain other material legal proceedings are more specifically described below:

Lower Passaic River Study Area (DISCONTINUED OPERATIONS) — The Lower Passaic River Study Area is part of the Diamond Shamrock Superfund Site in New Jersey. Vulcan and approximately 70 other companies are parties (collectively the Cooperating Parties Group, CPG) to a May 2007 Administrative Order on Consent (AOC) with the EPA to perform a Remedial Investigation/Feasibility Study (draft RI/FS) of the lower 17 miles of the Passaic River (River). The draft RI/FS was submitted recommending a targeted hot spot remedy; however, the EPA issued a record of decision (ROD) in March 2016 that calls for a bank-to-bank dredging remedy for the lower 8 miles of the River. The EPA estimates that the cost of implementing this proposal is $1.38 billion. In September 2016, the EPA entered into an Administrative Settlement Agreement and Order on Consent with Occidental Chemical Corporation (Occidental) in which Occidental agreed to undertake the remedial design for this bank-to-bank dredging remedy, and to reimburse the United States for certain response costs.

In August 2017, the EPA informed certain members of the CPG, including Vulcan, that it planned to use the services of a third-party allocator with the expectation of offering cash-out settlements to some parties in connection with the bank-to-bank remedy. This voluntary allocation process is intended to establish an impartial third-party expert recommendation that may be considered by the government and the participants as the basis of possible settlements. We have begun participating in this voluntary allocation process, which is likely to take several years.

In July 2018, Vulcan, along with more than one hundred other defendants, was sued by Occidental in United States District Court for the District of New Jersey, Newark Vicinage. Occidental is seeking cost recovery and contribution under CERCLA. It is unknown at this time whether the filing of the Occidental lawsuit will impact the EPA allocation process.

In October 2018, the EPA ordered the CPG to prepare a streamlined feasibility study specifically for the upper 9 miles of the River. This directive is focused on dioxin and covers the remaining portion of the River not included in the EPA’s March 2016 ROD.

Efforts to remediate the River have been underway for many years and have involved hundreds of entities that have had operations on or near the River at some point during the past several decades. We formerly owned a chemicals operation near the mouth of the River, which was sold in 1974. The major risk drivers in the River have been identified as dioxins, PCBs, DDx and mercury. We did not manufacture any of these risk drivers and have no evidence that any of these were discharged into the River by Vulcan.

The AOC does not obligate us to fund or perform the remedial action contemplated by either the draft RI/FS or the ROD. Furthermore, the parties who will participate in funding the remediation and their respective allocations have not been determined. We do not agree that a bank-to-bank remedy is warranted, and we are not obligated to fund any of the remedial action at this time; nevertheless, we previously estimated the cost to be incurred by us as a potential participant in a bank-to-bank dredging remedy and recorded an immaterial loss for this matter in 2015.

TEXAS BRINE MATTER (DISCONTINUED OPERATIONS) — During the operation of its former Chemicals Division, Vulcan secured the right to mine salt out of an underground salt dome formation in Assumption Parish, Louisiana from 1976 - 2005. Throughout that period and for all times thereafter, the Texas Brine Company (Texas Brine) was the operator contracted by Vulcan (and later Occidental) to mine and deliver the salt. We sold our Chemicals Division in 2005 and transferred our rights and interests related to the salt and mining operations to the purchaser, a subsidiary of Occidental, and we have had no association with the leased premises or Texas Brine since that time. In August 2012, a sinkhole developed in the vicinity of the Texas Brine mining operations, and numerous lawsuits were filed in state court in Assumption Parish, Louisiana. Other lawsuits, including class action litigation, were also filed in federal court before the Eastern District of Louisiana in New Orleans.

There are numerous defendants, including Texas Brine and Occidental, to the litigation in state and federal court. Vulcan was first brought into the litigation as a third-party defendant in August 2013 by Texas Brine. We have since been added as a direct and third-party defendant by other parties, including a direct claim by the state of Louisiana. Damage categories encompassed within the litigation include individual plaintiffs' claims for property damage, a claim by the state of Louisiana for response costs and civil penalties, claims by Texas Brine for response costs and lost profits, claims for physical damages to nearby oil and gas pipelines and storage facilities (pipelines), and business interruption claims.

In addition to the plaintiffs' claims, we were also sued for contractual indemnity and comparative fault by both Texas Brine and Occidental. It is alleged that the sinkhole was caused, in whole or in part, by our negligent actions or failure to act. It is also alleged that we breached the salt lease with Occidental, as well as an operating agreement and related contracts with Texas Brine; that we are strictly liable for certain property damages in our capacity as a former lessee of the salt lease; and that we violated certain covenants and conditions in the agreement under which we sold our Chemicals Division to Occidental. We likewise made claims for contractual indemnity and on a basis of comparative fault against Texas Brine and Occidental. Vulcan and Occidental have since dismissed all of their claims against one another. Texas Brine has claims that remain pending against Vulcan and against Occidental.

A bench trial (judge only) began in September 2017 and ended in October 2017 in the pipeline cases. The trial was limited in scope to the allocation of comparative fault or liability for causing the sinkhole, with a damages phase of the trial to be held at a later date. In December 2017, the judge issued a ruling on the allocation of fault among the three defendants as follows: Occidental 50%, Texas Brine 35% and Vulcan 15%. This ruling has been appealed by the parties.

We have settled all but two outstanding cases and our insurers have funded these settlements in excess of our self-insured retention amount. The remaining cases involve Texas Brine and the state of Louisiana. Discovery remains ongoing and we cannot reasonably estimate a range of liability pertaining to these open cases at this time.

NEW YORK WATER DISTRICT CASES (DISCONTINUED OPERATIONS) — During the operation of our former Chemicals Division, which was divested to Occidental in 2005, Vulcan manufactured a chlorinated solvent known as 1,1,1-trichloroethane. We are a defendant in 14 cases allegedly involving 1,1,1-trichloroethane. All of the cases are filed in the United States District Court for the Eastern District of New York. According to the various complaints, the plaintiffs are public drinking water providers who serve customers in Nassau County and Suffolk County, New York. It is alleged that our 1,1,1-trichloroethane was stabilized with 1,4-dioxane and that various water wells of the plaintiffs are contaminated with 1,4-dioxane. The cases, against us and other defendants, have been filed by the following plaintiffs: Albertson Water District, Bethpage Water District, Carle Place Water District, Garden City Park Water District, Jericho Water District, Manhasset-Lakeview Water District, Oyster Bay Water District, Plainview Water District, Port Washington Water District, Roslyn Water District, South Farmingdale Water District, Suffolk County Water Authority, Water Authority of Great Neck North, and the West Hempstead Water District (collectively, the Cases). The plaintiffs are seeking unspecified compensatory and punitive damages. We will vigorously defend the Cases. At this time we cannot determine the likelihood or reasonably estimate a range of loss, if any, pertaining to the Cases.

HEWITT LANDFILL MATTER (SUPERFUND SITE) — In September 2015, the Los Angeles Regional Water Quality Control Board (RWQCB) issued a Cleanup and Abatement Order (CAO) directing Vulcan to assess, monitor, cleanup and abate wastes that have been discharged to soil, soil vapor, and/or groundwater at the former Hewitt Landfill in Los Angeles. The CAO follows a 2014 Investigative Order from the RWQCB that sought data and a technical evaluation regarding the Hewitt Landfill, and a subsequent amendment to the Investigative Order requiring us to provide groundwater monitoring results to the RWQCB and to create and implement a work plan for further investigation of the Hewitt Landfill. In April 2016, we submitted an interim remedial action plan (IRAP) to the RWQCB, proposing an on-site pilot test of a pump and treat system; testing and implementation of a leachate recovery system; and storm water capture and conveyance improvements.

Operation of the on-site pilot-scale treatment system began in January 2017, and was completed in April 2017. With completion of the pilot testing and other investigative work, we submitted an amendment to the IRAP (AIRAP) to RWQCB in August 2017 proposing the use of a pump, treat and reinjection system. In December 2017, we submitted an addendum to the AIRAP, incorporating new data acquired since the prior submission. In February 2018, the AIRAP was approved by RWQCB. As a result of this approval, we have begun to implement the on-site source control activities described in the AIRAP. In 2018, we accrued a total of $19,032,000 (Q3 - $8,640,000 and Q4 - $10,392,000) for the on-site remedy, bringing the life-to-date total to $34,271,000.

We are also engaged in an ongoing dialogue with the EPA, the Los Angeles Department of Water and Power, and other stakeholders regarding the potential contribution of the Hewitt Landfill to groundwater contamination in the North Hollywood Operable Unit (NHOU) of the San Fernando Valley Superfund Site. We are gathering and analyzing data and developing technical information to determine the extent of possible contribution by the Hewitt Landfill to the groundwater contamination in the area. This work is also intended to assist in identification of other PRPs that may have contributed to groundwater contamination in the area.

The EPA and Vulcan entered into an AOC and Statement of Work having an effective date of September 2017 for the design of two extraction wells south of the Hewitt Site to protect the North Hollywood West (NHW) well field. In November 2017, we submitted a Pre-Design Investigation (PDI) Work Plan to the EPA, which sets forth the activities and schedule for our evaluation of the need for a two-well remedy. These activities were completed between the first and third quarters of 2018, and in December 2018 we submitted a PDI Evaluation Report to the EPA. The PDI Evaluation Report summarizes data collection activities conducted pursuant to the PDI Work Plan, and provides model updates and evaluation of remediation alternatives to protect the NHW and Rinaldi-Toluca well fields from 1,4-dioxane from the Hewitt Site. Vulcan has not yet received comments or feedback from the EPA or the Regional Board on the report. Until the EPA's review of the PDI Evaluation Report is complete and an effective remedy can be agreed upon, we cannot identify an appropriate remedial action. Given the various stakeholders involved and the uncertainties relating to issues such as testing, monitoring, and remediation alternatives, we cannot reasonably estimate a loss pertaining to this matter.

NAFTA ARBITRATION — In September 2018, our subsidiary Legacy Vulcan, LLC (Legacy Vulcan), on its own behalf, and on behalf of our Mexican subsidiary Calizas Industriales del Carmen, S.A. de C.V. (Calica), served the United Mexican States (Mexico) a Notice of Intent to Submit a Claim to Arbitration under Chapter 11 of the North American Free Trade Agreement (NAFTA). Our NAFTA claim relates to the treatment of a portion of our quarrying operations in the State of Quintana Roo, in Mexico's Yucatan Peninsula, arising from, among other measures, Mexico's failure to comply with a legally binding zoning agreement and relates to other unfair, arbitrary and capricious actions by Mexico's environmental enforcement agency. We assert that these actions are in breach of Mexico's international obligations under NAFTA and international law.

As required by Article 1118 of NAFTA, we sought to settle this dispute with Mexico through consultations. Notwithstanding our good faith efforts to resolve the dispute amicably, we were unable to do so and filed a Request for Arbitration, which we filed with the International Centre for Settlement of Investment Disputes (ICSID) in December 2018. In January 2019, ICSID registered our Request for Arbitration.

We expect that the NAFTA arbitration will take at least two years to be concluded. At this time, there can be no assurance whether we will be successful in our NAFTA claim, and we cannot quantify the amount we may recover, if any, under this arbitration proceeding if we were successful.

It is not possible to predict with certainty the ultimate outcome of these and other legal proceedings in which we are involved and a number of factors, including developments in ongoing discovery or adverse rulings, or the verdict of a particular jury, could cause actual losses to differ materially from accrued costs. No liability was recorded for claims and litigation for which a loss was determined to be only reasonably possible or for which a loss could not be reasonably estimated. Legal costs incurred in defense of lawsuits are expensed as incurred. In addition, losses on certain claims and litigation described above may be subject to limitations on a per occurrence basis by excess insurance, as described in our most recent Annual Report on Form 10-K.

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Note 9: Asset Retirement Obligations

Asset retirement obligations (AROs) are legal obligations associated with the retirement of long-lived assets resulting from the acquisition, construction, development and/or normal use of the underlying assets. Recognition of a liability for an ARO is required in the period in which it is incurred at its estimated fair value. The associated asset retirement costs are capitalized as part of the carrying amount of the underlying asset and depreciated over the estimated useful life of the asset. The liability is accreted through charges to operating expenses. If the ARO is settled for other than the carrying amount of the liability, we recognize a gain or loss on settlement.

We record all AROs for which we have legal obligations for land reclamation at estimated fair value. These AROs relate to our underlying land parcels, including both owned properties and mineral leases. For the three month periods ended March 31, we recognized ARO operating costs related to accretion of the liabilities and depreciation of the assets as follows:

	Three Months Ended March 31	
in thousands	2019	2018
ARO Operating Costs		
Accretion	$ 2,733	$ 2,684
Depreciation	1,841	1,337
Total	$ 4,574	$ 4,021

ARO operating costs are reported in cost of revenues. AROs are reported within other noncurrent liabilities in our accompanying Condensed Consolidated Balance Sheets.

Reconciliations of the carrying amounts of our AROs are as follows: