

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

FORM 10-Q

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

For the Quarterly Period Ended June 30, 2019

OR

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

Commission file number 001-35416



U.S. Silica Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
Incorporation or Organization)

26-3718801
(I.R.S. Employer
Identification No.)

24275 Katy Freeway, Suite 600
Katy, Texas 77494
(Address of Principal Executive Offices) (Zip Code)
(281) 258-2170
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$0.01 par value	SLCA	New York Stock Exchange

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

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

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 Act). Yes No

As of July 26, 2019, 73,579,966 shares of common stock, par value \$0.01 per share, of the registrant were outstanding.

U.S. SILICA HOLDINGS, INC.
FORM 10-Q
For the Quarter Ended June 30, 2019

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PART I-FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited; dollars in thousands)

	June 30, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 189,388	\$ 202,498
Accounts receivable, net	237,393	215,486
Inventories, net	148,397	162,087
Prepaid expenses and other current assets	12,876	17,966
Income tax deposits	2,010	2,200
Total current assets	590,064	600,237
Property, plant and mine development, net	1,803,203	1,826,303
Operating lease right-of-use assets	196,660	—
Goodwill	273,524	261,340
Intangible assets, net	189,207	194,626
Other assets	12,856	18,334
Total assets	\$ 3,065,514	\$ 2,900,840
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable and accrued expenses	\$ 231,260	\$ 216,400
Current portion of operating lease liabilities	59,479	—
Current portion of long-term debt	13,093	13,327
Current portion of deferred revenue	26,161	31,612
Total current liabilities	329,993	261,339
Long-term debt, net	1,229,820	1,246,428
Deferred revenue	81,904	81,707
Liability for pension and other post-retirement benefits	60,830	57,194
Deferred income taxes, net	130,942	137,239
Operating lease liabilities	139,379	—
Other long-term liabilities	60,181	64,629
Total liabilities	2,033,049	1,848,536
Commitments and Contingencies (Note O)		
Stockholders' Equity:		
Preferred stock, \$0.01 par value, 10,000,000 shares authorized; zero issued and outstanding at June 30, 2019 and December 31, 2018	—	—
Common stock, \$0.01 par value, 500,000,000 shares authorized; 82,549,488 issued and 73,579,691 outstanding at June 30, 2019; 81,811,977 issued and 73,148,853 outstanding at December 31, 2018	821	818
Additional paid-in capital	1,176,057	1,169,383
Retained earnings	45,224	67,854
Treasury stock, at cost, 8,969,797 and 8,663,124 shares at June 30, 2019 and December 31, 2018, respectively	(180,775)	(178,215)
Accumulated other comprehensive loss	(21,382)	(15,020)
Total U.S. Silica Holdings, Inc. stockholders' equity	1,019,945	1,044,820
Non-controlling interest	12,520	7,484
Total stockholders' equity	1,032,465	1,052,304
Total liabilities and stockholders' equity	\$ 3,065,514	\$ 2,900,840

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

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited; dollars in thousands, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Sales:				
Product	\$ 303,041	\$ 345,957	\$ 599,901	\$ 640,745
Service	91,813	81,476	173,703	156,001
Total sales	394,854	427,433	773,604	796,746
Cost of sales (excluding depreciation, depletion and amortization):				
Product	225,473	236,236	460,389	443,475
Service	68,687	56,609	131,309	110,280
Total cost of sales (excluding depreciation, depletion and amortization)	294,160	292,845	591,698	553,755
Operating expenses:				
Selling, general and administrative	38,659	42,232	73,315	76,823
Depreciation, depletion and amortization	44,899	36,563	89,499	65,155
Asset impairment	—	16,184	—	16,184
Total operating expenses	83,558	94,979	162,814	158,162
Operating income	17,136	39,609	19,092	84,829
Other (expense) income:				
Interest expense	(23,765)	(20,214)	(47,743)	(27,284)
Other income, net, including interest income	15,074	1,081	15,796	1,746
Total other expense	(8,691)	(19,133)	(31,947)	(25,538)
Income (loss) before income taxes	8,445	20,476	(12,855)	59,291
Income tax expense	(2,384)	(2,832)	(412)	(10,353)
Net income (loss)	\$ 6,061	\$ 17,644	\$ (13,267)	\$ 48,938
Less: Net loss attributable to non-controlling interest	(89)	—	(93)	—
Net income (loss) attributable to U.S. Silica Holdings, Inc.	\$ 6,150	\$ 17,644	\$ (13,174)	\$ 48,938
Earnings (loss) per share attributable to U.S. Silica Holdings, Inc.:				
Basic	\$ 0.08	\$ 0.23	\$ (0.18)	\$ 0.62
Diluted	\$ 0.08	\$ 0.22	\$ (0.18)	\$ 0.62
Weighted average shares outstanding:				
Basic	73,301	77,784	73,165	78,636
Diluted	73,505	78,480	73,165	79,328
Dividends declared per share	\$ 0.06	\$ 0.06	\$ 0.13	\$ 0.13

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

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited; dollars in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income (loss)	\$ 6,061	\$ 17,644	\$ (13,267)	\$ 48,938
Other comprehensive (loss) income:				
Unrealized (loss) gain on derivatives (net of tax of \$(660) and \$1 for the three months ended June 30, 2019 and 2018, respectively, and \$(959) and \$2 for the six months ended June 30, 2019 and 2018, respectively)	(2,071)	4	(3,011)	6
Foreign currency translation adjustment (net of tax of \$49 and \$(7) for the three months ended June 30, 2019 and 2018, respectively, and \$(11) and \$(9) for the six months ended June 30, 2019 and 2018, respectively)	165	(540)	(34)	(541)
Pension and other post-retirement benefits liability adjustment (net of tax of \$(1,112) and \$799 for the three months ended June 30, 2019 and 2018, respectively, and \$(1,057) and \$1,529 for the six months ended June 30, 2019 and 2018, respectively)	(3,491)	2,505	(3,317)	4,798
Comprehensive income (loss)	\$ 664	\$ 19,613	\$ (19,629)	\$ 53,201
Less: Comprehensive loss attributable to non-controlling interest	(89)	—	(93)	—
Comprehensive income (loss) attributable to U.S. Silica Holdings, Inc.	\$ 753	\$ 19,613	\$ (19,536)	\$ 53,201

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

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited; dollars in thousands, except per share amounts)

	Common Stock	Treasury Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total U.S. Silica Holdings Inc., Stockholders' Equity	Non- controlling Interest	Total Stockholders' Equity
Balance at March 31, 2019	\$ 820	\$ (180,125)	\$ 1,173,259	\$ 43,920	\$ (15,985)	\$ 1,021,889	\$ 12,209	\$ 1,034,098
Net income	—	—	—	6,150	—	6,150	(89)	6,061
Unrealized loss on derivatives	—	—	—	—	(2,071)	(2,071)	—	(2,071)
Foreign currency translation adjustment	—	—	—	—	165	165	—	165
Pension and post-retirement liability	—	—	—	—	(3,491)	(3,491)	—	(3,491)
Cash dividend declared (\$0.0625 per share)	—	—	—	(4,846)	—	(4,846)	—	(4,846)
Contributions from non-controlling interest	—	—	—	—	—	—	400	400
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	2,799	—	—	2,799	—	2,799
Tax payments related to shares withheld for vested restricted stock and stock units	1	(650)	(1)	—	—	(650)	—	(650)
Balance at June 30, 2019	\$ 821	\$ (180,775)	\$ 1,176,057	\$ 45,224	\$ (21,382)	\$ 1,019,945	\$ 12,520	\$ 1,032,465
Balance at March 31, 2018	\$ 814	\$ (103,940)	\$ 1,153,336	\$ 314,405	\$ (11,632)	\$ 1,352,983	\$ —	\$ 1,352,983
Net income	—	—	—	17,644	—	17,644	—	17,644
Unrealized gain on derivatives	—	—	—	—	4	4	—	4
Foreign currency translation adjustment	—	—	—	—	(540)	(540)	—	(540)
Pension and post-retirement liability	—	—	—	—	2,505	2,505	—	2,505
Cash dividend declared (\$0.0625 per share)	—	—	—	(4,876)	—	(4,876)	—	(4,876)
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	6,931	—	—	6,931	—	6,931
Proceeds from options exercised	—	93	(31)	—	—	62	—	62
Tax payments related to shares withheld for vested restricted stock and stock units	1	(710)	(1)	—	—	(710)	—	(710)
Repurchase of common stock	—	(15,499)	—	—	—	(15,499)	—	(15,499)
Balance at June 30, 2018	\$ 815	\$ (120,056)	\$ 1,160,235	\$ 327,173	\$ (9,663)	\$ 1,358,504	\$ —	\$ 1,358,504

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (Continued)
(Unaudited; dollars in thousands, except per share amounts)

	Common Stock	Treasury Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total U.S. Silica Holdings Inc., Stockholders' Equity	Non- controlling Interest	Total Stockholders' Equity
Balance at December 31, 2018	\$ 818	\$ (178,215)	\$ 1,169,383	\$ 67,854	\$ (15,020)	\$ 1,044,820	\$ 7,484	\$ 1,052,304
Net loss	—	—	—	(13,174)	—	(13,174)	(93)	(13,267)
Unrealized loss on derivatives	—	—	—	—	(3,011)	(3,011)	—	(3,011)
Foreign currency translation adjustment	—	—	—	—	(34)	(34)	—	(34)
Pension and post-retirement liability	—	—	—	—	(3,317)	(3,317)	—	(3,317)
Cash dividend declared (\$0.1250 per share)	—	—	—	(9,456)	—	(9,456)	—	(9,456)
Contributions from non-controlling interest	—	—	—	—	—	—	5,129	5,129
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	6,844	—	—	6,844	—	6,844
Proceeds from options exercised	—	295	(167)	—	—	128	—	128
Tax payments related to shares withheld for vested restricted stock and stock units	3	(2,855)	(3)	—	—	(2,855)	—	(2,855)
Balance at June 30, 2019	\$ 821	\$ (180,775)	\$ 1,176,057	\$ 45,224	\$ (21,382)	\$ 1,019,945	\$ 12,520	\$ 1,032,465
Balance at December 31, 2017	\$ 812	\$ (25,456)	\$ 1,147,084	\$ 287,992	\$ (13,926)	\$ 1,396,506	\$ —	\$ 1,396,506
Net income	—	—	—	48,938	—	48,938	—	48,938
Unrealized gain on derivatives	—	—	—	—	6	6	—	6
Foreign currency translation adjustment	—	—	—	—	(541)	(541)	—	(541)
Pension and post-retirement liability	—	—	—	—	4,798	4,798	—	4,798
Cash dividend declared (\$0.1250 per share)	—	—	—	(9,757)	—	(9,757)	—	(9,757)
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	13,185	—	—	13,185	—	13,185
Proceeds from options exercised	—	93	(31)	—	—	62	—	62
Tax payments related to shares withheld for vested restricted stock and stock units	3	(4,194)	(3)	—	—	(4,194)	—	(4,194)
Repurchase of common stock	—	(90,499)	—	—	—	(90,499)	—	(90,499)
Balance at June 30, 2018	\$ 815	\$ (120,056)	\$ 1,160,235	\$ 327,173	\$ (9,663)	\$ 1,358,504	\$ —	\$ 1,358,504

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

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited; dollars in thousands)

	Six Months Ended June 30,	
	2019	2018
Operating activities:		
Net (loss) income	\$ (13,267)	\$ 48,938
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation, depletion and amortization	89,499	65,155
Asset impairment	—	16,184
Gain on valuation change of royalty note payable	(14,100)	—
Debt issuance amortization	2,640	4,421
Original issue discount amortization	528	561
Deferred income taxes	(943)	11,023
Deferred revenue	(17,479)	(6,970)
Loss (gain) on disposal of property, plant and equipment	70	(5,619)
Equity-based compensation	6,844	13,185
Bad debt provision, net of recoveries	2,399	387
Other	(2,886)	(4,516)
Changes in operating assets and liabilities, net of effects of acquisitions:		
Accounts receivable	(28,327)	(24,472)
Inventories	13,690	6,040
Prepaid expenses and other current assets	6,103	1,333
Income taxes	190	(4,757)
Accounts payable and accrued expenses	26,121	(2,883)
Short-term and long-term obligations-vendor incentives	4,021	54,632
Liability for pension and other post-retirement benefits	5,153	301
Other noncurrent assets and liabilities	2,232	—
Net cash provided by operating activities	<u>82,488</u>	<u>172,943</u>
Investing activities:		
Capital expenditures	(78,451)	(159,196)
Capitalized intellectual property costs	(2,620)	(3,863)
Acquisition of business, net of cash acquired	—	(742,841)
Proceeds from sale of property, plant and equipment	708	26,179
Net cash used in investing activities	<u>(80,363)</u>	<u>(879,721)</u>
Financing activities:		
Dividends paid	(9,372)	(10,132)
Repurchase of common stock	—	(90,499)
Proceeds from options exercised	128	62
Tax payments related to shares withheld for vested restricted stock and stock units	(2,855)	(4,194)
Proceeds from long-term debt	—	1,280,000
Payments on long-term debt	(8,226)	(493,231)
Financing fees paid	—	(37,273)
Contributions from non-controlling interest	5,129	—
Principal payments on finance lease obligations	(39)	(165)
Net cash (used in) provided by financing activities	<u>(15,235)</u>	<u>644,568</u>
Net decrease in cash and cash equivalents	(13,110)	(62,210)
Cash and cash equivalents, beginning of period	<u>202,498</u>	<u>384,567</u>
Cash and cash equivalents, end of period	<u>\$ 189,388</u>	<u>\$ 322,357</u>

U.S. SILICA HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
(Unaudited; dollars in thousands)

	Six Months Ended June 30,	
	2019	2018
Supplemental cash flow information:		
Cash paid during the period for:		
Interest	\$ 43,960	\$ 22,689
Taxes, net of refunds	\$ 1,360	\$ 3,778
Related party purchases	\$ —	\$ 1,604
Non-cash items:		
Accrued capital expenditures	\$ 30,134	\$ 21,966
Capital lease assumed by third-party	\$ —	\$ 119
Asset retirement obligation assumed by third-party	\$ —	\$ 2,116

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

U.S. SILICA HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited; dollars in thousands, except per share amounts)

NOTE A—ORGANIZATION AND BASIS OF PRESENTATION

Organization

U.S. Silica Holdings, Inc. (“Holdings,” and together with its subsidiaries “we,” “us” or the “Company”) is a performance materials company and one of the largest domestic producers of commercial silica used in the oil and gas industry and in a wide range of industrial applications. In addition, through our acquisition of EP Minerals, LLC (“EPM”) and its affiliated companies, we are an industry leader in the production of industrial minerals, including diatomaceous earth, clay (calcium bentonite and calcium montmorillonite) and perlite. During our 119-year history, we have developed core competencies in mining, processing, logistics and materials science that enable us to produce and cost-effectively deliver products to customers across our end markets. Our operations are organized into two reportable segments based on end markets served: (1) Oil & Gas Proppants and (2) Industrial & Specialty Products. See Note U - Segment Reporting for more information on our reportable segments.

Basis of Presentation and Consolidation

The accompanying unaudited Condensed Consolidated Financial Statements for the quarter ended June 30, 2019 included in this Quarterly Report on Form 10-Q have been prepared in accordance with generally accepted accounting principles in the United States (“GAAP”) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X issued by the U.S. Securities and Exchange Commission (“SEC”). They do not contain certain information included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018; therefore, the unaudited Condensed Consolidated Financial Statements should be read in conjunction with that Annual Report on Form 10-K. In the opinion of management, all adjustments necessary for a fair presentation have been included. Such adjustments are of a normal, recurring nature.

The unaudited Condensed Consolidated Financial Statements include the accounts of Holdings and its direct and indirect wholly-owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

We follow Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) guidance for identification and reporting of entities over which control is achieved through means other than voting rights. The guidance defines such entities as Variable Interest Entities (“VIEs”). We consolidate VIEs when we have variable interests and are the primary beneficiary. We continually evaluate our involvement with VIEs to determine when these criteria are met.

During the third quarter of 2018 we finalized a shareholders' agreement with unrelated parties to form a limited liability company with the purpose of constructing and operating a water pipeline to transport and sell water. In connection with the shareholders' agreement, we acquired a 50% equity ownership for \$3.2 million, with a maximum capital contribution of \$7.0 million, and a water rights intangible asset for \$0.7 million. Based on our evaluation, we determined that this limited liability company is a VIE of which we are the primary beneficiary and therefore we are required to consolidate it. During the fourth quarter of 2018 we contributed an additional \$3.8 million for a total of \$7.0 million in capital contributions for the year ended December 31, 2018. As of June 30, 2019, the VIE had total assets of \$19.7 million and total liabilities of \$0.3 million. We did not make any capital contributions during the six months ended June 30, 2019.

Throughout this report we refer to (i) our unaudited Condensed Consolidated Balance Sheets as our “Balance Sheets,” (ii) our unaudited Condensed Consolidated Statements of Operations as our “Income Statements,” and (iii) our unaudited Condensed Consolidated Statements of Cash Flows as our “Cash Flows.”

NOTE B—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates and Assumptions

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the related disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. The more significant areas requiring the use of management estimates and assumptions relate to the purchase price allocation for businesses acquired; mineral reserves that are the basis for future cash flow estimates utilized in impairment calculations and units-of-production amortization calculations; environmental, reclamation and closure obligations; estimates of recoverable minerals; estimates of allowance for doubtful accounts; estimates of fair value for certain reporting units and asset impairments (including impairments of goodwill, intangible assets and other long-lived assets); write-downs of inventory

to net realizable value; equity-based compensation expense; post-employment, post-retirement and other employee benefit liabilities; valuation allowances for deferred tax assets; contingent considerations; reserves for contingencies and litigation and the fair value and accounting treatment of financial instruments, including derivative instruments. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances. Accordingly, actual results may differ significantly from these estimates under different assumptions or conditions.

Leases

We lease railroad cars, office space, mining property, mining/processing equipment and transportation and other equipment. Operating leases are included in operating lease right-of-use (“ROU”) assets, current portion of operating lease liabilities, and operating lease liabilities in our consolidated balance sheets. Finance leases are included in property, plant and mine development, current portion of long-term debt, and long-term debt in our consolidated balance sheets. Leases with an initial term of 12 months or less are not recorded on the balance sheet. 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 liabilities are recognized at the commencement date of the lease 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. The ROU assets also include any lease payments made at or before the commencement date of the lease and excludes 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. Lease expense for lease payments is recognized on a straight-line basis over the lease term. We have lease agreements with lease and non-lease components, the latter of which are generally accounted for separately. See Note Q - Leases.

Foreign Operations

Foreign sales were approximately \$16.6 million and \$31.9 million of our consolidated sales for the three and six months ended June 30, 2019, respectively; pre-tax income was \$2.6 million and \$4.5 million for the three and six months ended June 30, 2019, respectively, and net income was \$2.1 million and \$3.7 million for the three and six months ended June 30, 2019, respectively. Foreign operations constituted approximately \$10.9 million of consolidated assets as of June 30, 2019. We had no significant foreign operations during the three and six months ended June 30, 2018.

New Accounting Pronouncements Recently Adopted

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) and issued ASU 2018-11 Leases (Topic 842): Targeted Improvements. The new standard(s) established a ROU model that requires a lessee to record an ROU asset and a corresponding lease liability on the balance sheet for all leases with terms greater than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition. Similarly, lessors will be required to classify leases as sales-type, finance or operating, with classification affecting the pattern of income recognition. Classification for both lessees and lessors will be based on an assessment of whether the lease risks and rewards, as well as substantive control, have been transferred through a lease contract.

On January 1, 2019, we adopted the new accounting standard using the modified retrospective approach. We elected the package of practical expedients permitted under the transition guidance, which allowed us to account for our existing operating leases without reassessing (a) whether the contracts contain a lease under the new standard, (b) whether classification of the operating leases would be different in accordance with the new standard, or (c) whether the unamortized initial direct costs before transition adjustments would have met the definition of initial direct costs in the new standard at lease commencement. Adoption of the new standard resulted in the recognition of operating lease ROU assets of \$223.0 million and lease liabilities of \$222.7 million. The standard did not have a material impact on our consolidated statements of operations or cash flows. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. See Note Q - Leases.

In February 2018, the FASB issued Accounting Standards Update ASU 2018-02, Income Statement-Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. The ASU provides that the stranded tax effects from the Tax Cuts and Jobs Act of 2017 in accumulated other comprehensive loss may be reclassified to retained earnings. The ASU is effective January 1, 2019, with early adoption permitted. We adopted the new accounting standard on January 1, 2019, and we do not intend to exercise the option to reclassify stranded tax effects within accumulated other comprehensive income.

New Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. The new guidance requires a customer in a cloud computing arrangement (i.e., hosting arrangement) that is a service contract to follow the internal-use software guidance in ASC 350-40 to determine which implementation costs to capitalize as assets or expense as incurred. Capitalized implementation costs related to a hosting arrangement that is a service contract will be amortized over the term of the hosting arrangement, beginning when the module or component of the hosting arrangement is ready for its intended use. The update is effective for calendar-year public business entities in 2020. For all other calendar-year entities, it is effective for annual periods beginning in 2021 and interim periods in 2022. Early adoption is permitted. We are currently evaluating the adoption of this standard and the impact to our consolidated financial statements.

In November 2018, FASB issued ASU 2018-19, Codification Improvements to Topic 326, Financial Instruments-Credit Losses. The amendments in this ASU clarified issues related to Topic 326. In Issue 1, the amendment in this ASU mitigates transition complexity by requiring that for nonpublic business entities the amendments in ASU 2016-13 are effective for fiscal years after December 15, 2021, including interim periods within those fiscal years. In Issue 2, the amendment clarifies that receivables arising from operating leases are not within the scope of Subtopic 326-20. Impairment of receivables arising from operating leases should be accounted for in accordance with Topic 842, Leases. The ASU is effective for all entities for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted for any eliminated or modified disclosures upon issuance of this ASU. We are currently evaluating the adoption of this standard and the impact to our consolidated financial statements.

NOTE C—EARNINGS PER SHARE

Basic earnings per common share is computed by dividing income available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted earnings per common share is computed similarly to basic earnings per common share except that the weighted average number of common shares outstanding is increased to include the number of additional common shares that would have been outstanding if the potentially dilutive common shares had been issued.

Diluted net earnings per share assumes the conversion of contingently convertible securities and stock options under the treasury stock method, if dilutive. Contingently convertible securities and stock options are excluded from the calculation of fully diluted earnings per share if they are anti-dilutive, including when we incur a loss from continuing operations.

The following table shows the computation of basic and diluted earnings per share for the three and six months ended June 30, 2019, and 2018:

<i>In thousands, except per share amounts</i>	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Numerator:				
Net income (loss) attributable to U.S. Silica Holdings, Inc.	\$ 6,150	\$ 17,644	\$ (13,174)	\$ 48,938
Denominator:				
Weighted average shares outstanding	73,301	77,784	73,165	78,636
Diluted effect of stock awards	204	696	—	692
Weighted average shares outstanding assuming dilution	73,505	78,480	73,165	79,328
Earnings (loss) per share attributable to U.S. Silica Holdings, Inc.:				
Basic earnings (loss) per share	\$ 0.08	\$ 0.23	\$ (0.18)	\$ 0.62
Diluted earnings (loss) per share	\$ 0.08	\$ 0.22	\$ (0.18)	\$ 0.62

We excluded potentially dilutive shares of 222 for the six months ended June 30, 2019 from the calculation of diluted weighted average shares outstanding and diluted earnings per share because we were in a net loss position.

Certain stock options, restricted stock awards and performance share units were excluded from the computation of diluted earnings per share because their effect would have been anti-dilutive. Stock awards excluded from the calculation of diluted earnings per common share were as follows:

<i>In thousands</i>	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2019	2018	2019	2018
Stock options excluded	689	426	712	427
Restricted stock and performance share units awards excluded	254	264	298	319

NOTE D—CAPITAL STRUCTURE AND ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Common Stock

Our Amended and Restated Certificate of Incorporation authorizes up to 500,000,000 shares of common stock, par value of \$0.01. Subject to the rights of holders of any series of preferred stock, all of the voting power of the stockholders of Holdings shall be vested in the holders of the common stock. There were 82,549,488 shares issued and 73,579,691 shares outstanding at June 30, 2019. There were 81,811,977 shares issued and 73,148,853 shares outstanding at December 31, 2018.

During the six months ended June 30, 2019, our Board of Directors declared quarterly cash dividends as follows:

Dividends per Common Share	Declaration Date	Record Date	Payable Date
\$ 0.0625	February 15, 2019	March 14, 2019	April 4, 2019
\$ 0.0625	May 13, 2019	June 14, 2019	July 5, 2019

All dividends were paid as scheduled.

Any determination to pay dividends and other distributions in cash, stock, or property by Holdings in the future will be at the discretion of our Board of Directors and will be dependent on then-existing conditions, including our business and financial condition, results of operations, liquidity, capital requirements, contractual restrictions including restrictive covenants contained in our debt agreements, and other factors. Additionally, because we are a holding company, our ability to pay dividends on our common stock may be limited by restrictions on the ability of our subsidiaries to pay dividends or make distributions to us, including restrictions under the terms of the agreements governing our indebtedness.

Preferred Stock

Our Amended and Restated Certificate of Incorporation authorizes our Board of Directors to issue up to 10,000,000 shares, in the aggregate, of preferred stock, par value of \$0.01 in one or more series, to fix the powers, preferences and other rights of such series, and any qualifications, limitations or restrictions thereof, including the dividend rate, conversion rights, voting rights, redemption rights and liquidation preference, and to fix the number of shares to be included in any such series, without any further vote or action by our stockholders.

There were no shares of preferred stock issued or outstanding at June 30, 2019 or December 31, 2018. At present, we have no plans to issue any preferred stock.

Share Repurchase Program

In May 2018, our Board of Directors authorized the repurchase of up to \$200 million of our common stock from time to time on the open market or in privately negotiated transactions. Stock repurchases, if any, will be funded using our available liquidity. The timing and amount of stock repurchases will depend on a variety of factors, including the market conditions as well as corporate and regulatory considerations. As of June 30, 2019, we have repurchased a total of 5,036,139 shares of our common stock at an average price of \$14.59 and have \$126.5 million of remaining availability under this program.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss consists of fair value adjustments associated with cash flow hedges, accumulated adjustments for net experience losses and prior service costs related to employee benefit plans and foreign currency translation adjustments, net of tax. The following table presents the changes in accumulated other comprehensive loss by component (in thousands) during the six months ended June 30, 2019:

	For the Six Months Ended June 30, 2019			
	Unrealized loss on cash flow hedges	Foreign currency translation adjustments	Pension and other post-retirement benefits liability	Total
Beginning Balance	\$ (1,621)	\$ (620)	\$ (12,779)	\$ (15,020)
Other comprehensive loss before reclassifications	(3,011)	(34)	(3,946)	(6,991)
Amounts reclassified from accumulated other comprehensive loss	—	—	629	629
Ending Balance	\$ (4,632)	\$ (654)	\$ (16,096)	\$ (21,382)

Amounts reclassified from accumulated other comprehensive loss related to cash flow hedges are included in interest expense in our Income Statements and amounts reclassified related to pension and other post-retirement benefits are included in the computation of net periodic benefit costs at their pre-tax amounts.

NOTE E—BUSINESS COMBINATIONS

2018 Acquisition:

On May 1, 2018, we completed the acquisition of all of the outstanding capital stock of EP Acquisition Parent, Inc., a Delaware corporation ("EPAP"), and the ultimate parent of EP Minerals, LLC ("EPM"). Contemporaneous with the merger, EPAP was renamed EP Minerals Holdings, Inc. ("EPMH"). The consideration paid consisted of \$743.2 million of cash, net of cash acquired of \$19.1 million, including \$0.5 million of post-closing adjustments. EPM is a global producer of engineered materials derived from industrial minerals, including diatomaceous earth, clay (calcium bentonite and calcium montmorillonite) and perlite. EPM's industrial minerals are used as filter aids, absorbents and functional additives for a variety of industries including food and beverage, biofuels, recreational water, oil and gas, farm and home, landscape, sports turf, paint, plastics, and insecticides. The acquisition of EPM increased our industrial materials product offering in our Industrial & Specialty Products business segment.

We have accounted for the acquisition of EPMH under the acquisition method of accounting in accordance with ASC 805, Business Combinations, and have accounted for measurement period adjustments in accordance with ASU 2015-16, Simplifying the Accounting for Measurement-Period Adjustments. Estimates of fair value included in the Consolidated Financial Statements represent our best estimates and valuations. In accordance with the acquisition method of accounting, the allocation of consideration value was subject to adjustment until we completed our analysis, in a period of time not to exceed one year after the date of acquisition, or May 1, 2019, in order to provide us with the time to complete the valuation of its assets and liabilities.

The following table sets forth the final allocation of the purchase price to EPMH's identifiable tangible and intangible assets acquired and liabilities assumed, including measurement period adjustments (in thousands):

<i>Preliminary allocation of purchase price:</i>	Estimate as of December 31, 2018	Measurement Period Adjustments⁽¹⁾	Purchase Price Allocation
Accounts receivable, net	\$ 43,305	\$ —	\$ 43,305
Inventories	86,112	—	86,112
Property, plant and mine development	148,495	(1,937)	146,558
Mineral rights	419,469	(10,580)	408,889
Identifiable intangible assets - finite lived	10,270	(1,500)	8,770
Identifiable intangible assets - indefinite lived	38,050	(1,250)	36,800
Prepays and deposits	2,072	(245)	1,827
Other assets	7,474	—	7,474
Goodwill	150,628	12,184	162,812
Total assets acquired	905,875	(3,328)	902,547
Accounts payable	13,435	—	13,435
Accrued expenses and other current liabilities	10,304	—	10,304
Deferred tax liabilities	122,811	(3,328)	119,483
Long term liabilities	16,076	—	16,076
Total liabilities assumed	\$ 162,626	\$ (3,328)	\$ 159,298
Net assets acquired	\$ 743,249	\$ —	\$ 743,249

⁽¹⁾ Measurement period adjustment recorded during the three months ended March 31, 2019.

The acquired intangible assets and the related estimated useful lives consist of the following:

	Approximate Fair Value	Estimated Useful Life
	<i>(in thousands)</i>	<i>(in years)</i>
Technology and intellectual property	\$ 1,400	15
Customer relationships	7,370	15
Total identifiable intangible assets - finite lived	\$ 8,770	
Trade names	\$ 36,800	
Total identifiable intangible assets - indefinite lived	\$ 36,800	

Goodwill represents the excess of the purchase price over the fair value of the underlying net assets acquired. Goodwill in this transaction is attributable to planned growth in our industrial materials product offering in our Industrial & Specialty Products business segment. Intangibles and goodwill are not expected to be deductible for tax purposes.

Unaudited Pro Forma Results

The results of EPMH's operations have been included in our consolidated financial statements subsequent to the acquisition date. EPMH's fiscal year end was November 30 and the Company's fiscal year end was December 31. Under SEC regulations, if a target's fiscal year end varies by more than 93 days from the acquirer's fiscal year end, it is required to adjust interim periods until it is within 93 days. Since EPMH's fiscal year end was within 93 days of the Company's fiscal year end, no adjustment is necessary and EPMH's fiscal year end and interim period ends are used as if they coincided with the Company's fiscal year end and interim period end. The following unaudited pro forma consolidated financial information reflects the results of operations as if the EPMH acquisition had occurred on January 1, 2018, after giving effect to certain purchase accounting adjustments. Material non-recurring transaction costs attributable to the business combination were \$15.2 million. Pro forma net income includes incremental interest expense due to the related debt financing, incremental depreciation and depletion expense related to the fair value adjustment of property, plant and mine development, amortization expense related to identifiable intangible assets, and tax expense related to the combined tax provisions. This information does not purport to be indicative of the actual results that would have occurred if the acquisition had actually been completed on the date indicated, nor is it necessarily indicative of the future operating results or the financial position of the combined company (in thousands, except per share amounts):

	Three Months Ended June 30, 2018	Six Months Ended June 30, 2018
Sales	\$ 451,566	\$ 879,493
Net Income	\$ 19,693	\$ 70,539
Basic earnings per share	\$ 0.25	\$ 0.90
Diluted earnings per share	\$ 0.25	\$ 0.89

NOTE F—ACCOUNTS RECEIVABLE

At June 30, 2019 and December 31, 2018, accounts receivable (in thousands) consisted of the following:

	June 30, 2019	December 31, 2018
Trade receivables	\$ 223,523	\$ 198,435
Less: Allowance for doubtful accounts	(9,071)	(6,751)
Net trade receivables	214,452	191,684
Other receivables ⁽¹⁾	22,941	23,802
Total accounts receivable	\$ 237,393	\$ 215,486

(1) At both June 30, 2019 and December 31, 2018, other receivables included \$16.0 million of refundable alternative minimum tax credits.

Changes in our allowance for doubtful accounts (in thousands) during the six months ended June 30, 2019 and 2018 are as follows:

	June 30, 2019	June 30, 2018
Beginning balance	\$ 6,751	\$ 7,780
Bad debt provision	2,399	387
Write-offs	(79)	(394)
Ending balance	\$ 9,071	\$ 7,773

Our ten largest customers accounted for approximately 41% of total sales for both the three and six months ended June 30, 2019, and approximately 49% and 50% for the three and six months ended June 30, 2018, respectively. Sales to one of our customers accounted for 11% and 12% of our total sales for the three and six months ended June 30, 2019, respectively, and 14% for both the three and six months ended June 30, 2018. No other customers accounted for 10% or more of our total sales. At June 30, 2019, one of our customers' accounts receivable represented 14% of our total trade accounts receivable, net of allowance. At December 31, 2018, the same customer's accounts receivable represented 18% of our total trade accounts receivable, net of allowance. No other customers accounted for 10% or more of our total trade accounts receivable.

NOTE G—INVENTORIES

At June 30, 2019 and December 31, 2018, inventories (in thousands) consisted of the following:

	June 30, 2019	December 31, 2018
Supplies	\$ 47,684	\$ 41,453
Raw materials and work in process	59,966	68,474
Finished goods	40,747	52,160
Total inventories	\$ 148,397	\$ 162,087

NOTE H—PROPERTY, PLANT AND MINE DEVELOPMENT

At June 30, 2019 and December 31, 2018, property, plant and mine development (in thousands) consisted of the following:

	June 30, 2019	December 31, 2018
Mining property and mine development	\$ 991,639	\$ 995,759
Asset retirement cost	13,805	12,732
Land	55,355	55,502
Land improvements	69,226	67,729
Buildings	68,490	64,515
Machinery and equipment	1,087,605	958,357
Furniture and fixtures	3,547	3,599
Construction-in-progress	93,874	167,933
	<u>2,383,541</u>	<u>2,326,126</u>
Accumulated depletion, depreciation and amortization	(580,338)	(499,823)
Total property, plant and mine development, net	<u>\$ 1,803,203</u>	<u>\$ 1,826,303</u>

At June 30, 2019 and December 31, 2018, the aggregate cost of machinery and equipment acquired under finance leases was \$0.3 million and \$0.9 million, respectively, reduced by accumulated depreciation of \$0.1 million and \$0.2 million, respectively. The amount of interest costs capitalized in property, plant and mine development was \$1.8 million and \$3.3 million for the six months ended June 30, 2019 and 2018, respectively.

On March 21, 2018, we completed the sale of three transload facilities located in the Permian, Eagle Ford, and Marcellus Basins to CIG Logistics (“CIG”) for total consideration of \$86.1 million, including the assumption by CIG of \$2.2 million of Company obligations. Total cash consideration was \$83.9 million. The consideration includes receipt of a vendor incentive from CIG to enter into master transloading service arrangements. Of the total consideration, \$25.8 million was allocated to the fair value of the transload facilities, which had a net book value of \$20.0 million and resulted in a gain on sale of \$5.8 million. The consideration included a related asset retirement obligation of \$2.1 million and an equipment note of \$0.1 million assumed by CIG. In addition, \$60.3 million of the consideration received in excess of the facilities’ fair value was allocated to vendor incentives to be recognized as a reduction of costs using a service-level methodology over the contract lives of the transloading service arrangements. At June 30, 2019, vendor incentives of \$7.1 million and \$27.0 million were classified in accounts payable and accrued expenses and in other long-term liabilities, respectively, on our balance sheet.

Separately, on March 21, 2018, we accrued \$7.9 million in contract termination costs for facilities contracts operated by third-parties, which did not transfer to CIG. During the second quarter of 2018, as a result of the final settlement of these contracts, we recorded a \$2.7 million credit in selling, general and administrative expenses on our Income Statement.

During 2019, management approved to dispose of certain non-operating parcels of land. The assets, which have a combined carrying value of approximately \$1.3 million, have been classified as assets held for sale and are presented within Prepaid expenses and other current assets in the Condensed Consolidated Balance Sheets. The proceeds of the disposals are expected to exceed the net carrying value of the assets and, accordingly, no impairment loss has been recognized on these assets held for sale. Both assets were previously classified as Land, therefore, no adjustments were needed for depreciation of these assets. We expect to dispose of these assets within one year of the balance sheet date.

NOTE I—GOODWILL AND INTANGIBLE ASSETS

The changes in the carrying amount of goodwill (in thousands) by business segment consisted of the following:

	Oil & Gas Proppants Segment			Industrial & Specialty Products Segment			Totals
	Goodwill	Impairments		Goodwill	Impairments		
Balance at December, 2018	\$ 250,267	\$ (164,167)	\$ 86,100	\$ 175,240	\$ —	\$ 175,240	\$ 261,340
EPM acquisition measurement period adjustment ⁽¹⁾	—	—	—	12,184	—	12,184	12,184
Balance at June 30, 2019	\$ 250,267	\$ (164,167)	\$ 86,100	\$ 187,424	\$ —	\$ 187,424	\$ 273,524

⁽¹⁾ Measurement period adjustment was recorded during the three months ended March 31, 2019.

Goodwill and trade names are evaluated for impairment annually as of October 31, or more frequently when indicators of impairment exist. We evaluated events and circumstances since the date of our last qualitative assessment, including macroeconomic conditions, industry and market conditions, and our overall financial performance. After assessing the totality of the events and circumstances, we determined that it was not more likely than not that the fair value of our reporting units was less than their carrying amount and no impairment existed.

The changes in the carrying amount of intangible assets (in thousands) consisted of the following:

	Estimated Useful Life (in years)	June 30, 2019			December 31, 2018		
		Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Technology and intellectual property	15	\$ 84,871	\$ (14,075)	\$ 70,796	\$ 83,616	\$ (11,168)	\$ 72,448
Customer relationships	13 - 15	68,599	(16,278)	52,321	68,664	(13,826)	54,838
Total definite-lived intangible assets:		\$ 153,470	\$ (30,353)	\$ 123,117	\$ 152,280	\$ (24,994)	\$ 127,286
Trade names		65,390	—	65,390	66,640	—	66,640
Other		700	—	700	700	—	700
Total intangible assets:		\$ 219,560	\$ (30,353)	\$ 189,207	\$ 219,620	\$ (24,994)	\$ 194,626

Amortization expense was \$2.7 million and \$5.4 million for the three and six months ended June 30, 2019, respectively. Amortization expense was \$2.9 million and \$5.2 million for the three and six months ended June 30, 2018, respectively.

The estimated amortization expense related to definite-lived intangible assets (in thousands) for the five succeeding years is as follows:

2019	\$ 5,401
2020	10,800
2021	10,798
2022	10,783
2023	10,778

NOTE J—DEBT

At June 30, 2019 and December 31, 2018, debt (in thousands) consisted of the following:

	June 30, 2019	December 31, 2018
Senior secured credit facility:		
Revolver expiring May 1, 2023 (8.5% at June 30, 2019 and December 31, 2018)	\$ —	\$ —
Term Loan—final maturity May 1, 2025 (6.50% at June 30, 2019 and 6.56% December 31, 2018)	1,264,000	1,270,400
Less: Unamortized original issue discount	(5,983)	(6,511)
Less: Unamortized debt issuance cost	(28,670)	(31,310)
Note payable secured by royalty interest	13,239	26,511
Equipment notes payable	193	321
Finance leases	134	344
Total debt	1,242,913	1,259,755
Less: current portion	(13,093)	(13,327)
Total long-term portion of debt	\$ 1,229,820	\$ 1,246,428

Senior Secured Credit Facility

On May 1, 2018, we entered into a Third Amended and Restated Credit Agreement (the "Credit Agreement"), which increased our existing senior debt by entering into a new \$1.380 billion senior secured credit facility, consisting of a \$1.280 billion term loan (the "Term Loan") and a \$100 million revolving credit facility (the "Revolver") (collectively the "Credit Facility") that may also be used for swingline loans or letters of credit, and we may elect to increase the term loan in accordance with the terms of the Credit Agreement. Borrowings under the Credit Agreement will bear interest at variable rates as determined at our election, at LIBOR or a base rate, in each case, plus an applicable margin. In addition, under the Credit Agreement, we are required to pay a per annum facility fee and fees for letters of credit. The Credit Agreement is secured by substantially all of our assets and of our domestic subsidiaries' assets and a pledge of the equity interests in such entities. The Term Loan matures on May 1, 2025, and the Revolver expires May 1, 2023. We capitalized \$38.7 million in debt issuance costs and original issue discount as a result of the new Credit Agreement.

The Credit Facility contains covenants that, among other things, limit our ability, and certain of our subsidiaries' abilities, to create, incur or assume indebtedness and liens, to make acquisitions or investments, to sell assets and to pay dividends. The Credit Agreement also requires us to maintain a consolidated leverage ratio of no more than 3.75:1.00 as of the last day of any fiscal quarter whenever usage of the Revolver (other than certain undrawn letters of credit) exceeds 30% of the Revolver commitment. These covenants are subject to a number of important exceptions and qualifications. The Credit Agreement includes events of default and other affirmative and negative covenants that are usual for facilities and transactions of this type. As of June 30, 2019, and December 31, 2018, we are in compliance with all covenants in accordance with our senior secured Credit Facility.

Term Loan

At June 30, 2019, contractual maturities of our Term Loan (in thousands) are as follows:

2019	\$ 6,400
2020	12,800
2021	12,800
2022	12,800
2023	12,800
Thereafter	1,206,400
Total	\$ 1,264,000

Revolving Line-of-Credit

We have a \$100.0 million Revolver with zero drawn and \$4.8 million allocated for letters of credit as of June 30, 2019, leaving \$95.2 million available under the Revolver.

Note Payable Secured by Royalty Interest

In conjunction with the acquisition of New Birmingham, Inc. in August 2016, we assumed a note payable secured by a royalty interest. The monthly royalty payment is calculated based on future tonnages and sales related to the sand shipped from our Tyler, Texas facility. The note payable is due by June 30, 2032. The note does not provide a stated interest rate. The minimum payments (in thousands) for the next five years required by the note are as follows:

2019	\$	1,750
2020		1,750
2021		1,750
2022		1,750
2023		1,750

Under this agreement once a certain number of tons have been shipped from the Tyler facility, the minimum payments will decrease to \$0.5 million per year, subject to proration in the period this threshold is met.

The royalty note payable fair value was estimated to be \$22.5 million on the acquisition date. The estimate was made using a discounted cash flow model, which calculated the present value of projected future cash payments required under the agreement using a discounted rate of 14%. As of June 30, 2019, the note payable had a balance of \$13.2 million. The decrease in the fair value of the note payable amount is due to a change in estimate of future tonnages and sales related to the sand shipped from our Tyler, Texas facility. This change in estimate resulted in a gain of \$14.1 million, which is recorded in Other income, net, including interest income in the Condensed Consolidated Statement of Operations. The effective interest rate based on the updated projected future cash payments was 14% at June 30, 2019. Other changes in fair value of the note payable amount may result if estimates of future tonnages and sales increase or decrease.

NOTE K—ASSET RETIREMENT OBLIGATIONS

Mine reclamation or future remediation costs for inactive mines are accrued based on management's best estimate at the end of each period of the costs expected to be incurred at such site. Such cost estimates include, where applicable, ongoing care, maintenance and monitoring costs. Changes in estimates at inactive mines are reflected in earnings in the period an estimate is revised.

As of June 30, 2019 and December 31, 2018, we had a liability of \$20.2 million and \$18.4 million respectively, in other long-term liabilities related to our asset retirement obligations. Changes in the asset retirement obligations (in thousands) during the six months ended June 30, 2019 and 2018 are as follows:

	Six Months Ended June 30,	
	2019	2018
Beginning balance	\$ 18,413	\$ 19,032
Accretion	745	611
Additions and revisions of prior estimates	1,061	(487)
Addition related to EPMH acquisition	—	2,733
Disposal related to sale of transloads	—	(2,116)
Ending balance	\$ 20,219	\$ 19,773

NOTE L—FAIR VALUE ACCOUNTING

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

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

Level 2—Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

Cash Equivalents

Due to the short-term maturity, we believe our cash equivalent instruments at June 30, 2019 and December 31, 2018, approximate their reported carrying values.

Long-Term Debt, Including Current Maturities

We believe that the fair values of our long-term debt, including current maturities, approximate their carrying values based on their effective interest rates compared to current market rates.

Changes in the fair value of the royalty note payable utilize Level 3 inputs, such as estimates of future tonnages sold and average sales price. See Note J - Debt for more information on the change in fair value during the three months ended June 30, 2019.

Derivative Instruments

The estimated fair value of our derivative instruments are recorded at each reporting period and are based upon widely accepted valuation techniques, including discounted cash flow analysis on the expected cash flows of each derivative contract. This analysis reflects the contractual terms of the derivatives, including the period to maturity, and uses observable market-based inputs, including interest rate curves and implied volatilities. We also incorporate credit valuation adjustments to appropriately reflect both our nonperformance risk as well as that of the respective counterparty in the fair value measurements.

Although we have determined that the majority of the inputs used to value our derivatives fall within Level 2 of the fair value hierarchy, the credit valuation adjustments associated with our derivatives utilize Level 3 inputs, such as estimates of current credit spreads to evaluate the likelihood of default of ourselves and our counterparties. However, as of June 30, 2019, we have assessed that the impact of the credit valuation adjustments on the overall valuation of our derivative positions is not significant. As a result, we have determined that our derivative valuations in their entirety are classified in Level 2 of the fair value hierarchy. See Note M - Derivative Instruments for more information.

NOTE M—DERIVATIVE INSTRUMENTS

Cash Flow Hedges of Interest Rate Risk

We enter into interest rate swap agreements in connection with our Term Loan to add stability to interest expense and to manage our exposure to interest rate movements. The derivative instruments are recorded on the balance sheet within other long-term assets or liabilities at their fair values. As of June 30, 2019, the fair value of our two interest rate swaps was a liability of \$4.2 million and a liability of \$1.9 million and classified within other long-term liabilities on our balance sheet, and the fair value of our interest rate cap was zero. At December 31, 2018, the fair value of our two interest rate swaps was a liability of \$1.5 million and a liability of \$0.7 million and classified within other long-term liabilities on our balance sheet, and the fair value of our interest rate cap was zero. We have designated the interest rate swap agreements as qualified cash flow hedges. Accordingly, the effective portion of the gain or loss on the derivative instrument is reported as a component of other comprehensive income and recognized in earnings in the same period or periods during which the hedged transaction affects earnings.

The following table summarizes the fair value of our derivative instruments (in thousands, except contract/notional amount). See Note L - Fair Value Accounting for more information regarding the estimated fair values of our derivative instruments at June 30, 2019 and December 31, 2018.

	June 30, 2019				December 31, 2018			
	Maturity Date	Contract/Notional Amount	Carrying Amount	Fair Value	Maturity Date	Contract/Notional Amount	Carrying Amount	Fair Value
LIBOR ⁽¹⁾ interest rate swap agreement	2020	\$440 million	\$ (4,210)	\$ (4,210)	2020	\$440 million	\$ (1,475)	\$ (1,475)
LIBOR ⁽¹⁾ interest rate swap agreement	2020	\$200 million	\$ (1,898)	\$ (1,898)	2020	\$200 million	\$ (663)	\$ (663)
LIBOR interest rate cap agreement	2019	\$249 million	\$ —	\$ —	2019	\$249 million	\$ —	\$ —

⁽¹⁾ Agreements fix the LIBOR interest rate base to 2.74%

During the six months ended June 30, 2019 we had no ineffectiveness for the interest rate swap derivatives.

The following table summarizes the effect of derivative instruments (in thousands) on our income statements and our consolidated statements of comprehensive income for the six months ended June 30, 2019 and 2018.

	Six Months Ended June 30,	
	2019	2018
Deferred losses from derivatives in OCI, beginning of period	\$ (1,621)	\$ (76)
Loss recognized in OCI from derivative instruments	(3,011)	—
Loss reclassified from Accumulated OCI	—	6
Deferred losses from derivatives in OCI, end of period	\$ (4,632)	\$ (70)

NOTE N—EQUITY-BASED COMPENSATION

In July 2011, we adopted the U.S. Silica Holdings, Inc. 2011 Incentive Compensation Plan (the “2011 Plan”), which was amended and restated in May 2015. The 2011 Plan provides for grants of stock options, restricted stock, performance share units and other incentive-based awards. We believe our 2011 Plan aligns the interests of our employees and directors with those of our common stockholders. At June 30, 2019, we have 1,740,814 shares of common stock that may be issued under the 2011 Plan. We use a combination of treasury stock and new shares if necessary to satisfy option exercises or vesting of restricted awards and performance share units.

Stock Options

The following table summarizes the status of, and changes in, our stock option awards during the six months ended June 30, 2019:

	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value	Weighted Average Remaining Contractual Term in Years
Outstanding at December 31, 2018	901,996	\$ 28.52	\$ 18,566	4.8 years
Granted	—	\$ —	\$ —	
Exercised	(10,000)	\$ 12.87	\$ 11,557	
Forfeited	—	\$ —	\$ —	
Expired	(59,998)	\$ 24.59	\$ —	
Outstanding at June 30, 2019	831,998	\$ 28.99	\$ 297,475	4.6 years
Exercisable at June 30, 2019	831,998	\$ 28.99	\$ 297,475	4.6 years

There were no grants of stock options during the three and six months ended June 30, 2019 and 2018.

There were zero and 10,000 stock options exercised during the three and six months ended June 30, 2019, respectively. There were 4,167 stock options exercised during the three and six months ended June 30, 2018. The total intrinsic value of stock options exercised was \$12 thousand for the six months ended June 30, 2019. The total intrinsic value of stock options exercised was \$0.1 million for the three and six months ended June 30, 2018. Cash received from stock options exercised during the six months ended June 30, 2019 was \$128 thousand. Cash received from stock options exercised during the three and six months ended June 30, 2018 was \$62 thousand. The tax benefit realized from stock option exercises was \$3 thousand for the six months ended June 30, 2019. The tax benefit realized from stock option exercises was \$14 thousand for the three and six months ended June 30, 2018.

As of June 30, 2019, there was no unrecognized compensation expense related to these options. We recognized \$0.4 million and \$0.9 million of equity-based compensation expense related to options during the three and six months ended June 30, 2018, respectively. We account for forfeitures as they occur.

Restricted Stock and Restricted Stock Unit Awards

The following table summarizes the status of, and changes in, our unvested restricted stock awards during the six months ended June 30, 2019:

	Number of Shares	Grant Date Weighted Average Fair Value
Unvested, December 31, 2018	586,409	\$ 25.18
Granted	757,113	\$ 13.67
Vested	(237,876)	\$ 29.02
Forfeited	(35,811)	\$ 25.45
Unvested, June 30, 2019	1,069,835	\$ 16.18

We granted 24,253 and 757,113 restricted stock and restricted stock unit awards during the three and six months ended June 30, 2019, respectively. We granted 234,079 and 237,931 restricted stock and restricted stock unit awards during the three and six months ended June 30, 2018, respectively. The fair value of the awards was based on the market price of our stock at date of grant.

We recognized \$2.0 million and \$4.3 million of equity-based compensation expense related to restricted stock awards during the three and six months ended June 30, 2019, respectively. We recognized \$2.0 million and \$3.8 million of equity-based compensation expense related to restricted stock awards during the three and six months ended June 30, 2018, respectively. As of June 30, 2019, there was \$14.4 million of unrecognized compensation expense related to these restricted stock awards, which is expected to be recognized over a weighted-average period of 2.2 years.

Performance Share Unit Awards

The following table summarizes the status of, and changes in, our performance share unit awards during the six months ended June 30, 2019:

	Number of Shares	Grant Date Weighted Average Fair Value
Unvested, December 31, 2018	838,188	\$ 39.44
Granted	607,130	\$ 15.58
Vested	(522,098)	\$ 37.76
Forfeited/Cancelled	(68,527)	\$ 27.14
Unvested, June 30, 2019	854,693	\$ 24.72

We granted zero and 607,130 performance share units during the three and six months ended June 30, 2019, respectively. We granted 201,417 performance share units during both the three and six months ended June 30, 2018. The grant date fair value for these awards was estimated using a Monte Carlo simulation model. The Monte Carlo simulation model requires the use of highly subjective assumptions. Our key assumptions in the model included the price and the expected volatility of our common stock and our self-determined peer group companies' stock, risk-free rate of interest, dividend yields and cross-correlations between our common stock and our self-determined peer group companies' stock.

We recognized \$0.8 million and \$2.6 million of compensation expense related to performance share unit awards during the three and six months ended June 30, 2019, respectively. We recognized \$4.5 million and \$8.6 million of compensation expense related to performance share unit awards during the three and six months ended June 30, 2018, respectively. As of June 30, 2019, there was \$11.0 million of unrecognized compensation expense related to these performance share unit awards, which is expected to be recognized over a weighted-average period of 2.0 years.

NOTE O—COMMITMENTS AND CONTINGENCIES

Future Minimum Annual Commitments at June 30, 2019 (in thousands):

Year ending December 31,	Minimum Purchase Commitments
2019	\$ 11,990
2020	15,094
2021	9,253
2022	6,900
2023	6,900
Thereafter	5,879
Total future purchase commitments	\$ 56,016

Minimum Purchase Commitments

We enter into service agreements with our transload and transportation service providers. Some of these agreements require us to purchase a minimum amount of services over a specific period of time. Any inability to meet these minimum contract requirements requires us to pay a shortfall fee, which is based on the difference between the minimum amount contracted for and the actual amount purchased.

Contingent Liability on Royalty Agreement

On May 17, 2017, we purchased reserves in Crane County, Texas, for \$94.4 million cash consideration plus contingent consideration. The contingent consideration is a royalty that is based on the tonnage shipped to third-parties. Because the contingent consideration is dependent on future tonnage sold, the amounts of which are uncertain, it is not currently possible to estimate the fair value of these future payments. The contingent consideration will be capitalized at the time a payment is probable and reasonably estimable, and the related depletion expense will be adjusted prospectively.

Other Commitments and Contingencies

Our operating subsidiary, U.S. Silica Company (“U.S. Silica”), has been named as a defendant in various product liability claims alleging silica exposure causing silicosis. During the six months ended June 30, 2019, one new claim was brought against U.S. Silica. As of June 30, 2019, there were 58 active silica-related products liability claims pending in which U.S. Silica is a defendant. Although the outcomes of these claims cannot be predicted with certainty, in the opinion of management, it is not reasonably possible that the ultimate resolution of these matters will have a material adverse effect on our financial position or results of operations that exceeds the accrual amounts.

We have recorded estimated liabilities for these claims in other long-term liabilities as well as estimated recoveries under the indemnity agreement and an estimate of future recoveries under insurance in other assets on our consolidated balance sheets. As of both June 30, 2019 and December 31, 2018, other non-current assets included zero for insurance for third-party products liability claims. As of June 30, 2019 and December 31, 2018 other long-term liabilities included \$1.0 million and \$1.0 million, respectively, for third-party products liability claims.

One of our subsidiaries has also been named as a defendant in lawsuits regarding certain labor practices. If we are unsuccessful in defending the litigation, these cases could result in a material liability for us.

Obligations under Guarantees

We have indemnified our insurers against any loss they may incur in the event that holders of surety bonds, issued on our behalf, execute the bonds. As of June 30, 2019, there was \$41.9 million in bonds outstanding. The majority of these bonds, \$30.4 million, relate to reclamation requirements issued by various governmental authorities. Reclamation bonds remain outstanding until the mining area is reclaimed and the authority issues a formal release. The remaining bonds relate to such indefinite purposes as licenses, permits, and tax collection.

NOTE P—PENSION AND POST-RETIREMENT BENEFITS

We maintain single-employer noncontributory defined benefit pension plans covering certain employees. There have been no new entrants to the U. S. Silica Company plan since May 2009 and to the EP Management Corporation plan since January 2007 for salaried participants and January 2010 for hourly participants when the plans were frozen to all new employees. The plans provide benefits based on each covered employee’s years of qualifying service. Our funding policy is to contribute amounts within the range of the minimum required and maximum deductible contributions for the plans consistent with a goal of appropriate minimization of the unfunded projected benefit obligations. The pension plans use a benefit level per year of service for covered hourly employees and a final average pay method for covered salaried employees. The plans use the projected unit credit cost method to determine the actuarial valuation.

In addition, we provide defined benefit post-retirement health care and life insurance benefits to some employees. Covered employees become eligible for these benefits at retirement after meeting minimum age and service requirements. The projected future cost of providing post-retirement benefits, such as healthcare and life insurance, is recognized as an expense as employees render services. We previously maintained a Voluntary Employees’ Beneficiary Association trust that was used to partially fund health care benefits for future retirees. Benefits were funded to the extent contributions were tax deductible, which under current legislation is limited. In 2017, the trust terminated upon depletion of its assets, which were used in accordance with trust terms. In general, retiree health benefits are paid as covered expenses are incurred.

Net pension benefit cost (in thousands) consisted of the following for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Service cost	\$ 156	\$ 322	\$ 742	\$ 601
Interest cost	726	1,158	3,310	2,136
Expected return on plan assets	(834)	(1,491)	(4,018)	(2,734)
Net amortization and deferral	222	631	846	1,264
Net pension benefit costs	\$ 270	\$ 620	\$ 880	\$ 1,267

Net post-retirement benefit cost (in thousands) consisted of the following for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Service cost	\$ 23	\$ 27	\$ 47	\$ 54
Interest cost	194	188	390	376
Expected return on plan assets	—	—	—	(1)
Net post-retirement benefit costs	\$ 217	\$ 215	\$ 437	\$ 429

We contributed \$0.9 million and \$1.7 million to the qualified pension plans for the three and six months ended June 30, 2019, respectively. We contributed \$0.5 million and \$0.8 million to the qualified pension plans for the three and six months ended June 30, 2018, respectively. Our best estimate of expected contributions to the pension and post-retirement medical benefit plans for the 2019 fiscal year are \$4.8 million and \$1.4 million, respectively.

We contribute to three multiemployer defined benefit pension plans under the terms of collective-bargaining agreements for union-represented employees. A multiemployer plan is subject to collective bargaining for employees of two or more unrelated companies. These plans allow multiple employers to pool their pension resources and realize efficiencies associated with the daily administration of the plan. Multiemployer plans are generally governed by a board of trustees composed of management and labor representatives and are funded through employer contributions. However, in most cases, management is not directly represented. Our contributions to individual multiemployer pension funds did not exceed 5% of the fund's total contributions for the three and six months ended June 30, 2019 and 2018. Additionally, our contributions to multiemployer post-retirement benefit plans were immaterial for all periods presented in the accompanying consolidated financial statements.

We also sponsor a defined contribution plan covering certain employees. We contribute to the plan in two ways. For certain employees not covered by the defined benefit plan, we make a contribution equal to 4% of their salary. We may also contribute an employee discretionary match of 50 cents for each dollar contributed by an employee, up to 4% of their earnings. Finally, for some employees, we make a catch-up match of one dollar for each dollar contributed by an employee, up to 6% of catch-up contributions. Contributions were \$1.1 million and \$2.4 million for the three and six months ended June 30, 2019, respectively, and \$0.9 million and \$1.6 million for the three and six months ended and June 30, 2018, respectively.

NOTE Q— LEASES

We lease railroad cars, office space, mining property, mining/processing equipment and transportation and other equipment. The majority of our leases have remaining lease terms of one year to 20 years. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. 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. We have lease agreements with lease and non-lease components, the latter of which are generally accounted for separately.

Supplemental balance sheet information related to leases was as follows:

Leases	Classification	June 30, 2019
Assets		
Operating	Operating lease right-of-use assets	\$ 196,660
Total leased assets		\$ 196,660
Liabilities		
Current		
Operating	Current portion of operating lease liabilities	\$ 59,479
Non-current		
Operating	Operating lease liabilities	139,379
Total lease liabilities		\$ 198,858
Lease Term and Discount Rate		
Weighted average remaining lease term (years):		
Operating leases		4.7 years
Weighted average discount rate:		
Operating leases		5.7%

The components of lease expense were as follows:

Lease Costs	Classification	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
Operating lease costs ⁽¹⁾	Cost of sales	\$ 22,645	\$ 47,760
Operating lease costs ⁽²⁾	Selling, general and administrative	1,068	2,237
		\$ 23,713	\$ 49,997

- (1) Includes short-term operating lease costs of \$4.5 million and \$11.1 million for the three and six months ended June 30, 2019, respectively.
(2) Includes short-term operating lease costs of \$0.2 million and \$0.4 million for the three and six months ended June 30, 2019, respectively.

Supplemental cash flow information related to leases was as follows:

	<u>Six Months Ended June 30, 2019</u>
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for operating leases	\$ 35,941
Right-of-use assets obtained in exchange for new lease liabilities:	
Operating leases	\$ 226,950

Maturities of lease liabilities as of June 30, 2019:

<i>Maturities of lease liabilities</i>	<u>Operating leases</u>
2019	\$ 37,147
2020	61,094
2021	42,077
2022	32,008
2023	22,380
Thereafter	38,520
Total lease payments	\$ 233,226
Less: Interest	34,368
Total	<u>\$ 198,858</u>

NOTE R— INCOME TAXES

For interim period reporting, we record income taxes using an estimated annual effective tax rate based upon projected annual income, forecasted permanent tax differences, discrete items and statutory rates in states in which we operate. At the end of each interim period, we update the estimated annual effective tax rate, and if the estimated tax rate changes based on new information, we make a cumulative adjustment in the period. We record the tax effect of an unusual or infrequently occurring item in the interim period in which it occurs as a discrete item of tax.

For the three and six months ended June 30, 2019, we had tax expense of \$2.4 million and \$0.4 million, respectively. For the three and six months ended June 30, 2018, we had tax expense of \$2.8 million and \$10.4 million, respectively. The effective tax rate was 28% and (3)% for the three and six months ended June 30, 2019, respectively. The effective tax rate was 14% and 17% for the three and six months ended June 30, 2018, respectively. The effective tax rate for the three and six months ended June 30, 2019 would have been 18% and 36%, respectively without the below items recorded discretely. The effective tax rate for the three and six months ended June 30, 2018 would have been 13% and 16%, respectively, without the below items recorded discretely.

During the three and six months ended June 30, 2019, we recorded tax expense of \$0.5 million and \$4.5 million, respectively, related to equity compensation pursuant to ASU 2016-09. During the three and six months ended June 30, 2018, we recorded tax expense of \$0.2 million and \$0.7 million, respectively, related to equity compensation pursuant to ASU 2016-09.

Historically, our actual effective tax rates have differed from the statutory effective rate primarily due to the benefit received from statutory percentage depletion allowances. The deduction for statutory percentage depletion does not necessarily change proportionately to changes in income before income taxes.

NOTE S— REVENUE

We consider sales disaggregated at the product and service level by business segment to depict how the nature, amount, timing and uncertainty of revenues and cash flow are impacted by changes in economic factors. The following table disaggregates our sales by major source for the three and six months ended June 30, 2019 and 2018 (in thousands):

Category	Three Months Ended June 30, 2019			Three Months Ended June 30, 2018		
	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales
Product	\$ 181,251	\$ 121,790	\$ 303,041	\$ 242,587	\$ 103,370	\$ 345,957
Service	91,813	—	91,813	81,476	—	81,476
Total Sales	<u>\$ 273,064</u>	<u>\$ 121,790</u>	<u>\$ 394,854</u>	<u>\$ 324,063</u>	<u>\$ 103,370</u>	<u>\$ 427,433</u>

Category	Six Months Ended June 30, 2019			Six Months Ended June 30, 2018		
	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales
Product	\$ 359,838	\$ 240,063	\$ 599,901	\$ 481,009	\$ 159,736	\$ 640,745
Service	173,703	—	173,703	155,984	17	156,001
Total Sales	<u>\$ 533,541</u>	<u>\$ 240,063</u>	<u>\$ 773,604</u>	<u>\$ 636,993</u>	<u>\$ 159,753</u>	<u>\$ 796,746</u>

The following tables reflect the changes in our contract assets, which we classify as unbilled receivables and our contract liabilities, which we classify as deferred revenues, for the six months ended June 30, 2019 (in thousands):

	Unbilled Receivables
December 31, 2018	\$ 90
Reclassifications to billed receivables	(1,660)
Revenues recognized in excess of period billings	3,134
June 30, 2019	<u>\$ 1,564</u>

	Deferred Revenue
December 31, 2018	\$ 113,319
Revenues recognized from balances held at the beginning of the period	(15,830)
Revenues deferred from period collections on unfulfilled performance obligations	12,225
Revenues recognized from period collections	(1,649)
June 30, 2019	<u>\$ 108,065</u>

We have elected to use the practical expedients allowed under ASC 606-10-50-14, pursuant to which we have excluded disclosures of transaction prices allocated to remaining performance obligations and when we expect to recognize such revenue. The majority of our remaining performance obligations are primarily comprised of unfulfilled product, transportation service, and labor service orders, all of which hold a remaining duration of less than one year. The long-term portion of deferred revenue primarily represents a combination of refundable and nonrefundable customer prepayments for which related current performance obligations do not yet exist, but are expected to arise, before the expiration of the contract. Our residual unfulfilled performance obligations are comprised primarily of long-term equipment rental arrangements in which we recognize revenues equal to what we have a right to invoice. Generally, no variable consideration exists related to our remaining performance obligations and no consideration is excluded from the associated transaction prices.

NOTE T— RELATED PARTY TRANSACTIONS

A former employee, who was an officer of one of our operating subsidiaries prior to the third quarter of 2018, held an ownership interest in a transportation brokerage and logistics services vendor, from which we made purchases of approximately \$0.9 million and \$1.8 million for the three and six months ended June 30, 2018, respectively. There were no related party transactions during the six months ended June 30, 2019.

NOTE U— SEGMENT REPORTING

Our business is organized into two reportable segments, Oil & Gas Proppants and Industrial & Specialty Products, based on end markets. The reportable segments are consistent with how management views the markets that we serve and the financial information reviewed by the chief operating decision maker. We manage our Oil & Gas Proppants and Industrial & Specialty Products businesses as components of an enterprise for which separate information is available and is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and assess performance.

In the Oil & Gas Proppants segment, we serve the oil and gas recovery market primarily by providing and delivering fracturing sand, or “frac sand,” which is pumped down oil and natural gas wells to prop open rock fissures and increase the flow rate of oil and natural gas from the wells.

The Industrial & Specialty Products segment consists of over 400 product types and materials used in a variety of industries, including container glass, fiberglass, specialty glass, flat glass, building products, fillers and extenders, foundry products, chemicals, recreation products and filtration products.

An operating segment's performance is primarily evaluated based on segment contribution margin, which excludes certain corporate costs not directly related to the operations of the segment. These corporate costs are separately stated below and include costs that are related to functional areas such as operations management, corporate purchasing, accounting, treasury, information technology, legal and human resources. We believe that segment contribution margin, as defined above, is an appropriate measure for evaluating the operating performance of our segments. However, segment contribution margin is a non-GAAP measure and should be considered in addition to, not a substitute for, or superior to, net income (loss) or other measures of financial performance prepared in accordance with GAAP. The other accounting policies of each of the two reportable segments are the same as those in Note B - Summary of Significant Accounting Policies to the Consolidated Financial Statements in Item 8 of our 2018 Annual Report on Form 10-K.

The following table presents sales and segment contribution margin (in thousands) for the reportable segments and other operating results not allocated to the reportable segments for the three and six months ended June 30, 2019 and 2018:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Sales:				
Oil & Gas Proppants	\$ 273,064	\$ 324,063	\$ 533,541	\$ 636,993
Industrial & Specialty Products	121,790	103,370	240,063	159,753
Total sales	394,854	427,433	773,604	796,746
Segment contribution margin:				
Oil & Gas Proppants	71,456	114,607	130,044	214,041
Industrial & Specialty Products	50,145	41,301	94,706	61,831
Total segment contribution margin	121,601	155,908	224,750	275,872
Operating activities excluded from segment cost of sales	(20,907)	(21,320)	(42,844)	(32,881)
Selling, general and administrative	(38,659)	(42,232)	(73,315)	(76,823)
Depreciation, depletion and amortization	(44,899)	(36,563)	(89,499)	(65,155)
Asset impairment	—	(16,184)	—	(16,184)
Interest expense	(23,765)	(20,214)	(47,743)	(27,284)
Other income, net, including interest income	15,074	1,081	15,796	1,746
Income tax expense	(2,384)	(2,832)	(412)	(10,353)
Net income (loss)	\$ 6,061	\$ 17,644	\$ (13,267)	\$ 48,938
Less: Net loss attributable to non-controlling interest	(89)	—	(93)	—
Net income (loss) attributable to U.S. Silica Holdings, Inc.	\$ 6,150	\$ 17,644	\$ (13,174)	\$ 48,938

Asset information, including capital expenditures and depreciation, depletion, and amortization, by segment is not included in reports used by management in its monitoring of performance and, therefore, is not reported by segment. At June 30, 2019, goodwill of \$273.5 million has been allocated to these segments with \$86.1 million assigned to Oil & Gas Proppants and \$187.4 million to Industrial & Specialty Products. At December 31, 2018, goodwill of \$261.3 million had been allocated to these segments with \$86.1 million assigned to Oil & Gas Proppants and \$175.2 million to Industrial & Specialty Products.

NOTE V— SUBSEQUENT EVENTS

On July 5, 2019, we paid a cash dividend of \$4.6 million or \$0.0625 per share to common stockholders of record on June 14, 2019, which had been declared by our Board of Directors on May 13, 2019.

On July 18, 2019, our Board of Directors declared a cash dividend of \$0.0625 per share to common stockholders on record as of the close of business on September 13, 2019, payable on October 3, 2019.

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

The following discussion and analysis of our financial condition and results of operations should be read together with the unaudited condensed consolidated financial statements and the accompanying notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q as well as the consolidated financial statements, the accompanying notes and the related Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A"), contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (the "2018 Annual Report").

This discussion contains forward-looking statements as discussed below and elsewhere in this report. These statements are based on current expectations and assumptions and are subject to risks and uncertainties. Actual results could differ materially from those discussed in or implied by forward-looking statements.

Adjusted EBITDA and segment contribution margin as used herein are non-GAAP measures. For a detailed description of Adjusted EBITDA and segment contribution margin and reconciliations to their most comparable GAAP measures, please see the discussion below under "How We Evaluate Our Business."

Forward Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Section 27A of the Securities Act of 1933, as amended. All statements other than statements of historical fact included in this Quarterly Report on Form 10-Q are forward-looking statements. Forward-looking statements give our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business. These statements may include words such as "anticipate," "estimate," "expect," "project," "plan," "intend," "believe," "may," "will," "should," "could," "can have," "likely" and other words and terms of similar meaning.

For example, all statements we make relating to our estimated and projected costs; reserve and finished products estimates; demand for our products; the strategies of our customers; anticipated expenditures, cash flows, growth rates and financial results; our plans and objectives for future operations, growth or initiatives; strategies and their anticipated effect on our performance and liquidity; and the expected outcome or impact of pending or threatened litigation are forward-looking statements.

All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expect, including but not limited to: global economic conditions; fluctuations in demand for commercial silica, diatomaceous earth, perlite, clay and cellulose; fluctuations in demand for frac sand or the development of either effective alternative proppants or new processes to replace hydraulic fracturing; changes in production spending by companies in the oil and gas industry and changes in the level of oil and natural gas exploration and development; general economic, political and business conditions in key regions of the world; pricing pressure; weather and seasonal factors; the cyclical nature of our customers' business; our inability to meet our financial and performance targets and other forecasts or expectations; our substantial indebtedness and pension obligations, including restrictions on our operations imposed by our indebtedness; operational modifications, delays or cancellations; prices for electricity, natural gas and diesel fuel; our ability to maintain our transportation network; changes in government regulations and regulatory requirements, including those related to mining, explosives, chemicals, and oil and gas production; silica-related health issues and corresponding litigation; and other risks and uncertainties detailed in this Quarterly Report on Form 10-Q and our most recent Forms 10-K, 10-Q, and 8-K filed with or furnished to the U.S. Securities and Exchange Commission ("SEC").

We derive many of our forward-looking statements from our operating budgets and forecasts, which are based on many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of the known factors described above, and it is impossible for us to anticipate all factors that could affect our actual results. As a result, forward-looking statements are not guarantees of future performance, and you should not place undue reliance on any forward-looking statements we make. If one or more of the risks described above or other risks or uncertainties materialize (or the consequences of any such development changes), or should our underlying assumptions prove incorrect, actual outcomes may vary materially from those reflected in our forward-looking statements. The forward-looking statements included in this Quarterly Report on Form 10-Q are made only as of the date hereof. We disclaim any intention or obligation to update publicly or revise such statements, whether as a result of new information, future events or otherwise. All written and

oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by these cautionary statements as well as other cautionary statements that are made from time to time in our other filings with the SEC, and our other public communications.

Overview

We are a performance materials company and one of the largest domestic producers of commercial silica used in the oil and gas industry and in a wide range of industrial applications. In addition, through our acquisition of EP Minerals, LLC ("EPM") and its affiliated companies, we are an industry leader in the production of industrial minerals, including diatomaceous earth, clay (calcium bentonite and calcium montmorillonite) and perlite.

During our 119-year history, we have developed core competencies in mining, processing, logistics and materials science that enable us to produce and cost-effectively deliver over 400 diversified product types to customers across our end markets. As of June 30, 2019, we operated 27 production facilities across the United States. We control 575 million tons of reserves of commercial silica, which can be processed to make 239 million tons of finished products that meet API frac sand specifications, and 59 million tons of reserves of diatomaceous earth, perlite, and clays.

Our operations are organized into two reportable segments based on end markets served and the manner in which we analyze our operating and financial performance: (1) Oil & Gas Proppants and (2) Industrial & Specialty Products. We believe our segments are complementary because our ability to sell to a wide range of customers across end markets in these segments allows us to maximize recovery rates in our mining operations and optimize our asset utilization.

Acquisitions

For a description of our key business acquisitions during the year see Note E - Business Combinations to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information.

Recent Trends and Outlook

Oil and gas proppants end market trends

Increased demand for frac sand has historically been driven by the growth in the use of hydraulic fracturing as a means to extract hydrocarbons from shale formations. According to Rystad Energy's "Activity Metrics 3Q 2019 - Interim Update," published on July 4, 2019, U.S. raw sand proppant demand will be 5% higher in 2019 than 2018, and is expected to continue to grow in 2020. Oil and gas horizontal rig count increased during 2017 and 2018, leading to more well completion activity. We continue to expect long-term growth in oil and gas drilling in North American shale basins.

Sales and tons sold increased sequentially during the three months ended June 30, 2019, compared to the three months ended March 31, 2019, mainly due to more tons produced and sold in-basin in West Texas, as summarized below.

Amounts in thousands, except per ton data

Oil & Gas Proppants	Three Months Ended			Percentage Change	
	June 30, 2019	March 31, 2019	December 31, 2018	June 30, 2019 vs. March 31, 2019	March 31, 2019 vs. December 31, 2018
Sales	\$ 273,064	\$ 260,477	\$ 243,546	5%	7%
Tons Sold	3,932	3,864	3,704	2%	4%
Average Selling Price per Ton	\$ 69.45	\$ 67.41	\$ 65.75	3%	3%

If oil and gas drilling and completion activity does not continue to grow, demand for frac sand may decline, which could result in us selling fewer tons, selling tons at lower prices, or both. If we sell less frac sand, or sell frac sand at lower prices, our revenue, net income, cash generated from operating activities, and liquidity would be adversely affected, and we could incur asset impairments. If these events occur, we may evaluate actions to reduce cost and improve liquidity. For instance, depending on market conditions, we could reduce our capital spending by delaying or canceling capital projects.

Oil and natural gas exploration and production companies' and oilfield service providers' preferences and expectations have been evolving in recent years. A proppant supplier's logistics capabilities have become an important differentiating factor when competing for business, on both a spot and contract basis. Many of our customers increasingly seek convenient in-basin and wellhead proppant delivery capability from their proppant supplier. We believe that, over time, proppant customers will prefer to consolidate their purchases across a smaller group of suppliers with robust logistics capabilities and a broad offering of proppants.

Fluctuations in frac sand demand and price may occur as the market adjusts to changing supply and demand due to energy pricing fluctuations. Fluctuations in price may also occur as the supply of local in-basin sand changes. Over the past year, this trend of customers preferring local in-basin sand has accelerated.

Industrial and specialty products end market trends

Demand in the industrial and specialty products end markets has been relatively stable in recent years and is primarily influenced by key macroeconomic drivers such as housing starts, population growth, light vehicle sales, beer and wine production, repair and remodel activity and industrial production. The primary end markets served by our Industrial & Specialty Products segment are building and construction products, fillers and extenders, filtration, glassmaking, absorbents, foundry, and sports and recreation. We have been increasing our value-added product offerings in the industrial and specialty products end markets organically as well as through acquisitions, such as White Armor and EPM. Sales of these new higher margin products have increased our Industrial & Specialty Products segment's profitability in recent periods.

Our Business Strategy

The key drivers of our growth strategy include:

- increasing our presence and product offering in specialty products end markets;
- optimizing our product mix and further developing value-added capabilities to maximize margins;
- effectively positioning our Oil & Gas Proppants facilities to optimally serve our customers;
- optimizing our supply chain network and leveraging our logistics capabilities to meet our customers' needs; and
- evaluating both Greenfield and Brownfield expansion opportunities and other acquisitions; and maintaining financial strength and flexibility.

How We Generate Our Sales

Products

We derive our product sales by mining and processing minerals that our customers purchase for various uses. Our product sales are primarily a function of the price per ton and the number of tons sold. We primarily sell our products through individual purchase orders executed under short-term price agreements or at prevailing market rates. The amount invoiced reflects product, transportation and additional handling services as applicable, such as storage, transloading the product from railcars to trucks and last mile logistics to the customer site. We invoice most of our product customers on a per shipment basis, although for some larger customers we consolidate invoices weekly or monthly. Standard collection terms are net 30 days, although extended terms are offered in competitive situations.

Services

We derive our service sales primarily through the provision of transportation, equipment rental, and contract labor services to companies in the oil and gas industry. Transportation services typically consist of transporting customer proppant from storage facilities to proximal well-sites and are contracted through work orders executed under established pricing agreements. The amount invoiced reflects transportation services rendered. Equipment rental services provide customers with use of either dedicated or nonspecific wellhead proppant delivery equipment solutions for contractual periods defined either through formal lease agreements or executed work orders under established pricing agreements. The amounts invoiced reflect the length of time the equipment set was utilized in the billing period. Contract labor services provide customers with proppant delivery equipment operators through work orders executed under established pricing agreements. The amounts invoiced reflect the amount of time our labor services were utilized in the billing period. We typically invoice our customers on a weekly or monthly basis; however, some customers receive invoices upon well-site operation completion. Standard collection terms are net 30 days, although extended terms are offered in competitive situations.

Our ten largest customers accounted for approximately 41% of total sales for both the three and six months ended June 30, 2019, and approximately 49% and 50% for the three and six months ended June 30, 2018, respectively. Sales to one of our customers accounted for 11% and 12% of our total sales for the three and six months ended June 30, 2019, respectively, and

14% for both the three and six months ended June 30, 2018. No other customers accounted for 10% or more of our total sales. At June 30, 2019, one of our customer's accounts receivable represented 14% of our total trade accounts receivable, net of allowance. At December 31, 2018, the same customer's accounts receivable represented 18% of our total trade accounts receivable, net of allowance. No other customers accounted for 10% or more of our total trade accounts receivable.

For a limited number of customers, we sell under long-term, minimum purchase supply agreements. These agreements define, among other commitments, the volume of product that our customers must purchase, the volume of product that we must provide and the price that we will charge and that our customers will pay for each product. Prices under these agreements are generally fixed and subject to certain contractual adjustments. Sometimes these agreements may undergo negotiations regarding pricing and volume requirements, which may occur in volatile market conditions. When these negotiations are occurring, we may deliver sand at prices or at volumes below the requirements in our existing supply agreements. We do not consider these agreements solely representative of contracts with customers. An executed order specifying the type and quantity of product to be delivered, in combination with the noted agreements, comprise our contracts in these arrangements. Selling more tons under supply contracts enables us to be more efficient from a production, supply chain and logistics standpoint. As discussed in Part I, Item 1A., Risk Factors of our 2018 Annual Report on Form 10-K, these customers may not continue to purchase the same levels of product in the future due to a variety of reasons, contract requirements notwithstanding.

As of June 30, 2019, we have twenty-one minimum purchase supply agreements in the Oil & Gas Proppants segment with initial terms expiring between 2019 and 2034. As of June 30, 2018, we had twenty-five minimum purchase supply agreements in the Oil & Gas Proppants segment with initial terms expiring between 2018 and 2022. Collectively, sales to customers with minimum purchase supply agreements accounted for 41% of Oil & Gas Proppants segment sales for both the three and six months ended June 30, 2019, and 56% and 54% for the three and six months ended June 30, 2018, respectively. Although sales under minimum purchase supply agreements may result in us realizing lower margins than we otherwise might during periods of high market prices, we believe such lower margins are offset by the benefits derived from the product mix and sales volume stability afforded by such supply agreements, which helps us lower market risk arising from adverse changes in spot prices and market conditions.

In the industrial and specialty products end markets we have not historically entered into long-term minimum purchase supply agreements with our customers because of the high cost to our customers of switching providers. We may periodically do so when capital or other investment is required to meet customer needs. Instead, we often enter into supply agreements with our customers with targeted volumes and terms of one to five years. Prices under these agreements are generally fixed and subject to annual increases.

The Costs of Conducting Our Business

The principal expenses involved in conducting our business are transportation costs, labor costs, electricity and drying fuel costs, and maintenance and repair costs for our mining and processing equipment and facilities. Transportation and related costs include freight charges, fuel surcharges, transloading fees, switching fees, railcar lease costs, demurrage costs, storage fees and labor costs. We believe the majority of our operating costs are relatively stable in price, but they can vary significantly based on the volume of product produced. We benefit from owning the majority of the mineral deposits that we mine and having long-term mineral rights leases or supply agreements for our other primary sources of raw material, which limits royalty payments.

Additionally, we incur expenses related to our corporate operations, including costs for sales and marketing; research and development; and the finance, legal, environmental, health and safety functions of our organization. These costs are principally driven by personnel expenses.

How We Evaluate Our Business

Our management team evaluates our business using a variety of financial and operating metrics. We evaluate the performance of our two segments based on their tons sold, average selling price and contribution margin earned. Additionally, we consider a number of factors in evaluating the performance of our business as a whole, including total tons sold, average selling price, total segment contribution margin, and Adjusted EBITDA. We view these metrics as important factors in evaluating our profitability and review these measurements frequently to analyze trends and make decisions, and we believe the presentation of these metrics provides useful information to our investors regarding our financial condition and results of operations for the same reasons.

Segment Contribution Margin

Segment contribution margin, a non-GAAP measure, is a key metric that management uses to evaluate our operating performance and to determine resource allocation between segments. Segment contribution margin excludes certain corporate costs not directly related to the operations of the segment. These unallocated costs include costs that are related to corporate functional areas such as operations management, corporate purchasing, accounting, treasury, information technology, legal and human resources.

Segment contribution margin is not a measure of our financial performance under GAAP and should not be considered an alternative or superior to measures derived in accordance with GAAP. Our measure of segment contribution margin is not necessarily comparable to other similarly titled captions of other companies due to potential inconsistencies in the methods of calculation. For more information about segment contribution margin, including a reconciliation of this measure to its most directly comparable GAAP financial measure, net income (loss), see Note U - Segment Reporting to our Consolidated Financial Statements in Part I, Item 1. of this Quarterly Report on Form 10-Q.

Adjusted EBITDA

Adjusted EBITDA, a non-GAAP measure, is included in this report because it is a key metric used by management to assess our operating performance and by our lenders to evaluate our covenant compliance. Adjusted EBITDA excludes certain income and/or costs, the removal of which improves comparability of operating results across reporting periods. Our target performance goals under our incentive compensation plan are tied, in part, to our Adjusted EBITDA.

Adjusted EBITDA is not a measure of our financial performance or liquidity under GAAP and should not be considered as an alternative or superior to net income (loss) as a measure of operating performance, cash flows from operating activities as a measure of liquidity or any other performance measure derived in accordance with GAAP. Additionally, Adjusted EBITDA is not intended to be a measure of free cash flow for management's discretionary use, as it does not consider certain cash requirements such as interest payments, tax payments and debt service requirements. Adjusted EBITDA contains certain other limitations, including the failure to reflect our cash expenditures, cash requirements for working capital needs and cash costs to replace assets being depreciated and amortized, and excludes certain charges that may recur in the future. Management compensates for these limitations by relying primarily on our GAAP results and by using Adjusted EBITDA only supplementally. Our measure of Adjusted EBITDA is not necessarily comparable to other similarly titled captions of other companies due to potential inconsistencies in the methods of calculation.

The following table sets forth a reconciliation of net income (loss), the most directly comparable GAAP financial measure, to Adjusted EBITDA.

(amounts in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income (loss) attributable to U.S. Silica Holdings, Inc.	\$ 6,150	\$ 17,644	\$ (13,174)	\$ 48,938
Total interest expense, net of interest income	23,053	16,490	45,973	22,344
Provision for taxes	2,384	2,832	412	10,353
Total depreciation, depletion and amortization expenses	44,899	36,563	89,499	65,155
EBITDA	76,486	73,529	122,710	146,790
Non-cash incentive compensation ⁽¹⁾	2,799	6,931	6,844	13,185
Post-employment expenses (excluding service costs) ⁽²⁾	323	554	875	1,109
Merger and acquisition related expenses ⁽³⁾	6,091	17,624	10,874	20,131
Plant capacity expansion expenses ⁽⁴⁾	3,740	10,721	12,311	20,101
Contract termination expenses ⁽⁵⁾	—	—	1,000	—
Asset impairments ⁽⁶⁾	—	16,184	—	16,184
Business optimization projects ⁽⁷⁾	—	—	6	—
Facility closure costs ⁽⁸⁾	4,654	—	7,081	—
Gain on valuation change of royalty note payable ⁽⁹⁾	(14,100)	—	(14,100)	—
Other adjustments allowable under the Credit Agreement ⁽¹⁰⁾	5,527	(1,932)	6,740	1,477
Adjusted EBITDA	\$ 85,520	\$ 123,611	\$ 154,341	\$ 218,977

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- (1) Reflects equity-based, non-cash compensation expense.
 - (2) Includes net pension cost and net post-retirement cost relating to pension and other post-retirement benefit obligations during the applicable period, but in each case excluding the service cost relating to benefits earned during such period. Non-service net periodic benefit costs are not considered reflective of our operating performance because these costs do not exclusively originate from employee services during the applicable period and may experience periodic fluctuations as a result of changes in non-operating factors, including changes in discount rates, changes in expected returns on benefit plan assets, and other demographic actuarial assumptions. See Note P - Pension and Post-Retirement Benefits to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information.
 - (3) Merger and acquisition related expenses include legal fees, consulting fees, bank fees, severance costs, certain purchase accounting items such as the amortization of inventory fair value step-up, information technology integration costs and similar charges. While these costs are not operational in nature and are not expected to continue for any singular transaction on an ongoing basis, similar types of costs, expenses and charges have occurred in prior periods and may recur in the future as we continue to integrate prior acquisitions and pursue any future acquisitions.
 - (4) Plant capacity expansion expenses include expenses that are not inventoriable or capitalizable as related to plant expansion projects greater than \$5 million in capital expenditures or plant start up projects. While these expenses are not operational in nature and are not expected to continue for any singular project on an ongoing basis, similar types of expenses have occurred in prior periods and may recur in the future if we continue to pursue future plant capacity expansion.
 - (5) Reflects contract termination expenses related to strategically exiting a service contract. While these expenses are not operational in nature and are not expected to continue for any singular event on an ongoing basis, similar types of expenses have occurred in prior periods and may recur in the future as we continue to strategically evaluate our contracts.
 - (6) Reflects a \$16.2 million asset impairment related to the closure of our resin coating facility and associated product portfolio.
 - (7) Reflects costs incurred related to business optimization projects within our corporate center, which aim to measure and improve the efficiency, productivity and performance of our organization. While these costs are not operational in nature and are not expected to continue for any singular project on an ongoing basis, similar types of expenses may recur in the future.
 - (8) Reflects costs incurred related to idled sand facilities and closed corporate offices, including severance costs and remaining contracted costs such as office lease costs, maintenance, and utilities. While these costs are not operational in nature and are not expected to continue for any singular event on an ongoing basis, similar types of expenses may recur in the future.
 - (9) Gain on valuation change of royalty note payable due to a change in estimate of future tonnages and sales related to the sand shipped from our Tyler, Texas facility. This gain is not operational in nature and is not expected to continue for any singular event on an ongoing basis.
 - (10) Reflects miscellaneous adjustments permitted under the Credit Agreement. The three months ended June 30, 2019 includes \$4.2 million of loss contingencies reserve. The six months ended June 30, 2019 includes \$6.4 million of loss contingencies reserve, partially offset by insurance proceeds of \$2.2 million. The three months ended June 30, 2018 includes a \$2.7 million credit as a result of the final settlement of contract termination costs related to the divestiture of assets in the first quarter of 2018. The six months ended June 30, 2018 includes a net loss of \$0.7 million on divestiture of assets, consisting of \$5.2 million of contract termination costs and \$1.3 million of divestiture related expenses such as legal fees and consulting fees, partially offset by a \$5.8 million gain on sale of assets.

Adjusted EBITDA-Trailing Twelve Months

Our revolving credit facility (the "Revolver") contains a consolidated total net leverage ratio that we must meet as of the last day of any fiscal quarter whenever usage of the Revolver (other than certain undrawn letters of credit) exceeds 30% of the Revolver commitment, which is calculated based on our Adjusted EBITDA for the trailing twelve months. Noncompliance with this financial ratio covenant could result in the acceleration of our obligations to repay all amounts outstanding under the Revolver and the term loan (the "Term Loan") (collectively the "Credit Facility"). Moreover, the Revolver and the Term Loan contain covenants that restrict, subject to certain exceptions, our ability to make permitted acquisitions, incur additional indebtedness, make restricted payments (including dividends) and retain excess cash flow based, in some cases, on our ability to meet leverage ratios calculated based on our Adjusted EBITDA for the trailing twelve months.

See the description under “Adjusted EBITDA” above for certain important information about Adjusted EBITDA-trailing twelve months, including certain limitations and management’s use of this metric in light of its status as a non-GAAP measure.

As of June 30, 2019, we are in compliance with all covenants in accordance with our Credit Facility. The Credit Facility requires us to maintain a consolidated leverage ratio of no more than 3.75:1.00 as of the last day of any fiscal quarter whenever usage of the Revolver (other than certain undrawn letters of credit) exceeds 30% of the Revolver commitment. As of June 30, 2019, our Revolver usage was zero (other than certain undrawn letters of credit). Since the Revolver usage did not exceed 30% of the Revolver commitment, the consolidated leverage ratio covenant did not apply. The calculation of the consolidated leverage ratio incorporates the Adjusted EBITDA-trailing twelve months as follows:

<i>(All amounts in thousands, except calculated ratio)</i>	June 30, 2019
Total debt	\$ 1,242,779
Finance leases	134
Total consolidated debt	<u>\$ 1,242,913</u>
Adjusted EBITDA-trailing twelve months	\$ 327,873
Pro forma Adjusted EBITDA including impact of acquisitions ⁽¹⁾	—
Other adjustments for covenant calculation ⁽²⁾	265
Total Adjusted EBITDA-trailing twelve months for covenant calculation	<u>\$ 328,138</u>
Consolidated leverage ratio ⁽³⁾	3.79

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- (1) Covenant calculation allows for the Adjusted EBITDA-trailing twelve months to include the impact of acquisitions on a pro forma basis.
- (2) Covenant calculation excludes activity at legal entities above the operating company, which is mainly interest income offset by public company operating expenses.
- (3) Calculated by dividing total consolidated debt by total Adjusted EBITDA-trailing twelve months for covenant calculation.

Results of Operations for the Three Months Ended June 30, 2019 and 2018

Sales

(In thousands except per ton data)

	Three Months Ended June 30,		Percent Change
	2019	2018	'19 vs. '18
Sales:			
Oil & Gas Proppants	\$ 273,064	\$ 324,063	(16)%
Industrial & Specialty Products	121,790	103,370	18 %
Total sales	\$ 394,854	\$ 427,433	(8)%
Tons:			
Oil & Gas Proppants	3,932	3,465	13 %
Industrial & Specialty Products	972	1,024	(5)%
Total Tons	4,904	4,489	9 %
Average Selling Price per Ton:			
Oil & Gas Proppants	\$ 69.45	\$ 93.52	(26)%
Industrial & Specialty Products	125.30	100.95	24 %
Overall Average Selling Price per Ton	\$ 80.52	\$ 95.22	(15)%

Total sales decreased 8% for the three months ended June 30, 2019 compared to the three months ended June 30, 2018, driven by a 15% decrease in overall average selling price, partially offset by a 9% increase in total tons sold.

The decrease in total sales was driven by Oil & Gas Proppants sales, which decreased 16% for the three months ended June 30, 2019 compared to the three months ended June 30, 2018. Oil & Gas Proppants average selling price decreased 26% and tons sold increased 13%. The decrease in average selling price was mainly driven by more tons sold from local in-basin plants which have lower logistics costs, increased proppant supply, and decreased sand pricing. The increase in tons sold was mainly due to more tons produced and sold in-basin in West Texas.

The decrease in total sales was partially offset by Industrial & Specialty Products sales, which increased 18% for the three months ended June 30, 2019 compared to the three months ended June 30, 2018. Industrial & Specialty Products average selling price increased 24% and tons sold decreased 5%. The increase in average selling price was due to the acquisition of EPM in May 2018, additional higher-margin product sales and price increases. The decrease in tons sold was mainly due to our strategic shift among customers and products.

Cost of Sales (excluding depreciation, depletion, and amortization)

Cost of sales increased by \$1.4 million, or 0%, to \$294.2 million for the three months ended June 30, 2019 compared to \$292.8 million for the three months ended June 30, 2018. These changes result from the main components of cost of sales as discussed below. As a percentage of sales, cost of sales represented 74% for the three months ended June 30, 2019 compared to 69% for the same period in 2018.

We incurred \$135.4 million and \$138.1 million of transportation and related costs for the three months ended June 30, 2019 and 2018, respectively. The \$2.7 million decrease was mainly due to a decline in demand for Northern White sand caused by some of our customers shifting to local in-basin frac sands with lower logistics costs, partially offset by costs related to additional Sandbox operations and the acquisition of EPM. As a percentage of sales, transportation and related costs represented 34% for the three months ended June 30, 2019 compared to 32% for the same period in 2018.

We incurred \$46.9 million and \$50.8 million of operating labor costs for the three months ended June 30, 2019 and 2018, respectively. The \$3.9 million decrease in labor costs incurred was due to lower SandBox driver costs and idled sand facilities, partially offset by more tons sold and the acquisition of EPM. As a percentage of sales, operating labor costs represented 12% for the three months ended June 30, 2019 compared to 12% for the same period in 2018.

We incurred \$11.2 million and \$12.5 million of electricity and drying fuel (principally natural gas) costs for the three months ended June 30, 2019 and 2018, respectively. The \$1.3 million decrease in electricity and drying fuel costs incurred was due to idled sand facilities, partially offset by more tons sold and the acquisition of EPM. As a percentage of sales, electricity and drying fuel costs represented 3% for the three months ended June 30, 2019 compared to 3% for the same period in 2018.

We incurred \$22.7 million and \$26.2 million of maintenance and repair costs for the three months ended June 30, 2019 and 2018, respectively. The \$3.5 million decrease in maintenance and repair costs incurred was due to idled sand facilities, partly offset by higher production volume, additional Sandbox operations and the acquisition of EPM. As a percentage of sales, maintenance and repair costs represented 6% for the three months ended June 30, 2019 compared to 6% for the same period in 2018.

Segment Contribution Margin

Industrial & Specialty Products contribution margin increased by \$8.8 million to \$50.1 million for the three months ended June 30, 2019 compared to \$41.3 million for the three months ended June 30, 2018, driven by a \$18.4 million increase in revenue, partially offset by \$9.6 million in higher cost of sales. The increase in segment contribution margin was due to the acquisition of EPM in May 2018, new higher-margin product sales and price increases.

Oil & Gas Proppants contribution margin decreased by \$43.1 million to \$71.5 million for the three months ended June 30, 2019 compared to \$114.6 million for the three months ended June 30, 2018, driven by a \$51.0 million decrease in sales, partially offset by a \$7.9 million decrease in cost of sales. The decrease in segment contribution margin was mainly driven by the decrease in average selling price due to more tons sold from local in-basin plants which have lower logistics costs, increased proppant supply, and decreased sand pricing.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased by \$3.5 million, or 8%, to \$38.7 million for the three months ended June 30, 2019 compared to \$42.2 million for the three months ended June 30, 2018. The net decrease was primarily due to the following factors:

- Compensation related expense increased by \$0.2 million for the three months ended June 30, 2019 compared to the three months ended June 30, 2018.
- Merger and acquisition related expense decreased by \$7.4 million to \$1.5 million for the three months ended June 30, 2019 compared to \$8.9 million for the three months ended June 30, 2018. The decrease was mainly due to costs related to the acquisition of EPM during the three months ended June 30, 2018 that did not recur during the three months ended June 30, 2019.
- A \$2.7 million credit during the three months ended June 30, 2018 that did not recur during the three months ended June 30, 2019. The credit resulted from the final settlement of contract termination costs related to the divestiture of assets in the first quarter of 2018.

In total, our selling, general and administrative expenses represented approximately 10% and 10% of our sales for the three months ended June 30, 2019 and 2018, respectively.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization expense increased by \$8.3 million, or 23%, to \$44.9 million for the three months ended June 30, 2019 compared to \$36.6 million for the three months ended June 30, 2018. The increase was mainly driven by our plant capacity expansions and our acquisition of EPM in May 2018, as well as other continued capital spending. Depreciation, depletion and amortization expense represented approximately 11% and 9% of our sales for the three months ended June 30, 2019 and 2018, respectively.

Asset Impairment

No asset impairment charges occurred during the three months ended June 30, 2019. During the three months ended June 30, 2018, we recorded a \$16.2 million asset impairment related to the closure of our resin coating facility and associated product portfolio.

Operating Income

Operating income decreased by \$22.5 million to \$17.1 million for the three months ended June 30, 2019 compared to operating income of \$39.6 million for the three months ended June 30, 2018. The decrease was mainly driven by an 8% decrease in sales and a 23% increase in depreciation, depletion and amortization expense, partially offset by an 8% decrease in selling, general and administrative expenses and no asset impairment charges during the three months ended June 30, 2019.

Interest Expense

Interest expense increased by \$3.6 million, or 18%, to \$23.8 million for the three months ended June 30, 2019 compared to \$20.2 million for the three months ended June 30, 2018, mainly driven by the increase in our Credit Facility to finance the acquisition of EPM.

Other income, net, including interest income

Other income, net, increased by \$14.0 million, or 1,294%, to \$15.1 million for the three months ended June 30, 2019 compared to \$1.1 million for the three months ended June 30, 2018, primarily driven by the change in valuation of the royalty note payable.

Provision for Income Taxes

For the three months ended June 30, 2019, we had tax expense of \$2.4 million. For the three months ended June 30, 2018, we had tax expense of \$2.8 million. The effective tax rate was 28% and 14% for the three months ended June 30, 2019 and 2018, respectively. The effective tax rate for the three months ended June 30, 2019 and 2018 would have been 18% and 13%, respectively, without the below items recorded discretely.

During the three months ended June 30, 2019 and 2018, we recorded tax expense of \$0.5 million and \$0.2 million, respectively, related to equity compensation pursuant to ASU 2016-09.

Historically, our actual effective tax rates have differed from the statutory effective rate primarily due to the benefit received from statutory percentage depletion allowances. The deduction for statutory percentage depletion does not necessarily change proportionately to changes in income before income taxes.

Net Income (Loss)

Net income attributable to U.S. Silica Holdings, Inc., was \$6.2 million and \$17.6 million for the three months ended June 30, 2019 and 2018, respectively. The year over year changes were due to the factors noted above.

Results of Operations for the Six Months Ended June 30, 2019 and 2018

Sales

(In thousands except per ton data)

	Six Months Ended June 30,		Percent Change
	2019	2018	'19 vs. '18
Sales:			
Oil & Gas Proppants	\$ 533,541	\$ 636,993	(16)%
Industrial & Specialty Products	240,063	159,753	50 %
Total sales	\$ 773,604	\$ 796,746	(3)%
Tons:			
Oil & Gas Proppants	7,796	6,716	16 %
Industrial & Specialty Products	1,938	1,902	2 %
Total Tons	9,734	8,618	13 %
Average Selling Price per Ton:			
Oil & Gas Proppants	\$ 68.44	\$ 94.85	(28)%
Industrial & Specialty Products	123.87	83.99	47 %
Overall Average Selling Price per Ton	\$ 79.47	\$ 92.45	(14)%

Total sales decreased 3% for the six months ended June 30, 2019 compared to the six months ended June 30, 2018, driven by a 14% decrease in overall average selling price, partially offset by a 13% increase in total tons sold.

The decrease in total sales was driven by Oil & Gas Proppants sales, which decreased 16% for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. Oil & Gas Proppants average selling price decreased 28% and tons sold increased 16%. The decrease in average selling price was mainly driven by more tons sold from local in-basin plants which have lower logistics costs, increased proppant supply, and decreased sand pricing. The increase in tons sold was driven by year over year growth in demand for our frac sand and more tons produced and sold in-basin in West Texas.

The decrease in total sales was partially offset by Industrial & Specialty Products sales, which increased 50% for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. Industrial & Specialty Products average selling price increased 47% and tons sold increased 2%. The increase in average selling price was due to the acquisition of EPM, additional higher-margin product sales and price increases. The increase in tons sold was mainly due to the acquisition of EPM.

Cost of Sales (excluding depreciation, depletion, and amortization)

Cost of sales increased by \$37.9 million, or 7%, to \$591.7 million for the six months ended June 30, 2019 compared to \$553.8 million for the six months ended June 30, 2018. These changes result from the main components of cost of sales as discussed below. As a percentage of sales, cost of sales represented 76% for the six months ended June 30, 2019 compared to 70% for the same period in 2018.

We incurred \$265.2 million and \$272.4 million of transportation and related costs for the six months ended June 30, 2019 and 2018, respectively. This decrease was mainly due to a decline in demand for Northern White sand caused by some of our customers shifting to local in-basin frac sands with lower logistics costs, partially offset by costs related to additional Sandbox operations and the acquisition of EPM. As a percentage of sales, transportation and related costs represented 34% for the six months ended June 30, 2019 compared to 34% for the same period in 2018.

We incurred \$100.6 million and \$95.7 million of operating labor costs for the six months ended June 30, 2019 and 2018, respectively. The \$4.9 million increase in labor costs incurred was due to more tons sold and the acquisition of EPM, partially offset by lower SandBox driver costs and idled sand facilities. As a percentage of sales, operating labor costs represented 13% for the six months ended June 30, 2019 compared to 12% for the same period in 2018.

We incurred \$27.4 million and \$22.5 million of electricity and drying fuel (principally natural gas) costs for the six months ended June 30, 2019 and 2018, respectively. The \$4.9 million increase in electricity and drying fuel costs incurred was due to more tons sold and the acquisition of EPM, partially offset by idled sand facilities. As a percentage of sales, electricity and drying fuel costs represented 4% for the six months ended June 30, 2019 compared to 3% for the same period in 2018.

We incurred \$46.1 million and \$45.3 million of maintenance and repair costs for the six months ended June 30, 2019 and 2018, respectively. The increase in maintenance and repair costs incurred was due to higher production volume, additional Sandbox operations and the acquisition of EPM, partially offset by idled sand facilities. As a percentage of sales, maintenance and repair costs represented 6% for the six months ended June 30, 2019 compared to 6% for the same period in 2018.

Segment Contribution Margin

Industrial & Specialty Products contribution margin increased by \$32.9 million to \$94.7 million for the six months ended June 30, 2019 compared to \$61.8 million for the six months ended June 30, 2018, driven by a \$80.3 million increase in revenue, partially offset by \$47.4 million in higher cost of sales. The increase in segment contribution margin was due to the acquisition of EPM, new higher-margin product sales and price increases.

Oil & Gas Proppants contribution margin decreased by \$84.0 million to \$130.0 million for the six months ended June 30, 2019 compared to \$214.0 million for the six months ended June 30, 2018, driven by a \$103.5 million decrease in sales, partially offset by a \$19.5 million decrease in cost of sales. The decrease in segment contribution margin was mainly driven by the decrease in average selling price due to more tons sold from local in-basin plants which have lower logistics costs, increased proppant supply, and decreased sand pricing.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased by \$3.5 million, or 5%, to \$73.3 million for the six months ended June 30, 2019 compared to \$76.8 million for the six months ended June 30, 2018. The net decrease was primarily due to the following factors:

- Compensation related expense increased by \$5.5 million for the six months ended June 30, 2019 compared to the six months ended June 30, 2018, mainly due to the acquisition of EPM.
- Merger and acquisition related expense decreased by \$9.5 million to \$1.9 million for the six months ended June 30, 2019 compared to \$11.4 million for the six months ended June 30, 2018. The decrease was mainly due to costs related to the acquisition of EPM during the six months ended June 30, 2018 that did not recur during the six months ended June 30, 2019.
- A net loss of \$0.7 million during the six months ended June 30, 2018 that did not recur during the six months ended June 30, 2019. The loss related to the divestiture of assets, consisting of \$5.2 million of contract termination costs and \$1.3 million of divestiture related expenses such as legal fees and consulting fees, partially offset by a \$5.8 million gain on sale of assets.

In total, our selling, general and administrative expenses represented approximately 9% and 10% of our sales for the six months ended June 30, 2019 and 2018, respectively.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization expense increased by \$24.3 million, or 37%, to \$89.5 million for the six months ended June 30, 2019 compared to \$65.2 million for the six months ended June 30, 2018. The increase was mainly driven by our plant capacity expansions and our acquisition of EPM, as well as other continued capital spending. Depreciation, depletion and amortization expense represented approximately 12% and 8% of our sales for the six months ended June 30, 2019 and 2018, respectively.

Asset Impairment

No asset impairment charges occurred during the six months ended June 30, 2019. During the six months ended June 30, 2018, we recorded a \$16.2 million asset impairment related to the closure of our resin coating facility and associated product portfolio.

Operating Income

Operating income decreased by \$65.7 million to \$19.1 million for the six months ended June 30, 2019 compared to operating income of \$84.8 million for the six months ended June 30, 2018. The decrease was driven by a 3% decrease in sales, a 7% increase in cost of sales, and a 37% increase in depreciation, depletion and amortization expense, partially offset by a 5% decrease in selling, general and administrative expenses and no asset impairment charges during the six months ended June 30, 2019.

Interest Expense

Interest expense increased by \$20.4 million, or 75%, to \$47.7 million for the six months ended June 30, 2019 compared to \$27.3 million for the six months ended June 30, 2018, mainly driven by the increase in our Credit Facility to finance the acquisition of EPM.

Other income, net, including interest income

Other income, net, increased by \$14.1 million, or 805%, to \$15.8 million for the six months ended June 30, 2019 compared to \$1.7 million for the six months ended June 30, 2018, primarily driven by the change in valuation of the royalty note payable.

Provision for Income Taxes

For the six months ended June 30, 2019, we had tax expense of \$0.4 million. For the six months ended June 30, 2018, we had tax expense of \$10.4 million. The effective tax rate was (3)% and 17% for the six months ended June 30, 2019 and 2018, respectively. The effective tax rate for the six months ended June 30, 2019 and 2018 would have been 36% and 16%, respectively, without the below items recorded discretely.

During the six months ended June 30, 2019 and 2018, we recorded tax expense of \$4.5 million and \$0.7 million, respectively, related to equity compensation pursuant to ASU 2016-09.

Historically, our actual effective tax rates have differed from the statutory effective rate primarily due to the benefit received from statutory percentage depletion allowances. The deduction for statutory percentage depletion does not necessarily change proportionately to changes in income before income taxes.

Net (Loss) Income

Net (loss) income attributable to U.S. Silica Holdings, Inc., was a net loss of \$13.2 million and net income of \$48.9 million for the six months ended June 30, 2019 and 2018, respectively. The year over year changes were due to the factors noted above.

Liquidity and Capital Resources

Overview

Our principal liquidity requirements have historically been to service our debt, to meet our working capital, capital expenditure and mine development expenditure needs, to return cash to our stockholders, and to pay for acquisitions. We have historically met our liquidity and capital investment needs with funds generated through operations. We have historically funded our acquisitions through cash on hand, borrowings under our credit facilities, or equity issuances. Our working capital is the amount by which current assets exceed current liabilities and is a measure of our ability to pay our liabilities as they become due. As of June 30, 2019, our working capital was \$260.1 million and we had \$95.2 million of availability under the Revolver.

In connection with the EPMH acquisition, on May 1, 2018, we entered into the Credit Agreement with BNP Paribas, as administrative agent, and the lenders named therein. The Credit Agreement increases our existing senior debt by entering into a new \$1.380 billion senior secured Credit Facility, consisting of a \$1.280 billion Term Loan and a \$100 million Revolver that may also be used for swingline loans or letters of credit, and we may elect to increase the Term Loan in accordance with the terms of the Credit Agreement. The amounts owed under the Credit Agreement use LIBOR as a benchmark for establishing the rate at which interest accrues. LIBOR is the subject of recent national, international and other regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to disappear entirely or to perform differently than in the past. The consequences of these developments cannot be entirely predicted but could include an increase in the cost to us of this indebtedness. For more information on the Credit Agreement see Note J - Debt to our Consolidated Financial Statements in Part I, Item 1. of this Quarterly Report on Form 10-Q.

We believe that cash on hand, cash generated through operations and cash generated from financing arrangements will be sufficient to meet our working capital requirements, anticipated capital expenditures, scheduled debt payments and any dividends declared for at least the next 12 months.

Management and our Board remain committed to evaluating additional ways of creating shareholder value. Any determination to pay dividends or other distributions in cash, stock, or property in the future or otherwise return capital to our stockholders, including decisions about existing or new share repurchase programs, will be at the discretion of our Board and will be dependent on then-existing conditions, including industry and market conditions, our financial condition, results of operations, liquidity and capital requirements, contractual restrictions including restrictive covenants contained in debt agreements, and other factors. Additionally, because we are a holding company, our ability to pay dividends on our common stock may be limited by restrictions on the ability of our subsidiaries to pay dividends or make distributions to us, including restrictions under the terms of the agreements governing our indebtedness.

Cash Flow Analysis

A summary of operating, investing and financing activities (in thousands) is shown in the following table:

	Six Months Ended June 30,	
	2019	2018
Net cash provided by (used in):		
Operating activities	\$ 82,488	\$ 172,943
Investing activities	(80,363)	(879,721)
Financing activities	(15,235)	644,568

Net Cash Provided by / Used in Operating Activities

Operating activities consist primarily of net income adjusted for certain non-cash and working capital items. Adjustments to net income for non-cash items include depreciation, depletion and amortization, deferred revenue, deferred income taxes, equity-based compensation and bad debt provision. In addition, operating cash flows include the effect of changes in operating assets and liabilities, principally accounts receivable, inventories, prepaid expenses and other current assets, income taxes payable and receivable, accounts payable and accrued expenses.

Net cash provided by operating activities was \$82.5 million for the six months ended June 30, 2019. This was mainly due to a \$13.3 million net loss adjusted for non-cash items, including \$89.5 million in depreciation, depletion and amortization, a \$14.1 million gain on valuation change of royalty note payable, \$0.9 million in deferred income taxes, \$6.8 million in equity-based compensation, \$17.5 million in deferred revenue, and \$2.8 million in other miscellaneous non-cash items. Also contributing to the change was a \$28.3 million increase in accounts receivable, a \$13.7 million decrease in inventories, a \$6.1 million decrease in prepaid expenses and other current assets, a \$26.1 million increase in accounts payable and accrued liabilities, and \$7.6 million in other operating assets and liabilities.

Net cash provided by operating activities was \$172.9 million for the six months ended June 30, 2018. This was mainly due to \$48.9 million in net income adjusted for non-cash items, including \$65.2 million in depreciation, depletion and amortization, \$16.2 million asset impairment related to the closure of our resin coating facility and associated product portfolio, \$11.0 million in deferred income taxes, \$13.2 million in equity-based compensation, \$7.0 million in deferred revenue, \$5.6 million mainly related to the gain on sale of three transload facilities, and \$0.9 million in other miscellaneous non-cash items. Also contributing to the change was a \$24.5 million increase in accounts receivable, a \$6.0 million decrease in inventories, a \$2.9 million decrease in accounts payable and accrued liabilities, \$54.6 million in short-term and long-term vendor incentives, and \$3.1 million in other operating assets and liabilities. The primary driver of the change in accounts receivable was a 49% increase in sales.

Net Cash Provided by / Used in Investing Activities

Investing activities consist primarily of cash consideration paid to acquire businesses and capital expenditures for growth and maintenance.

Net cash used in investing activities was \$80.4 million for the six months ended June 30, 2019. This was mainly due to capital expenditures of \$78.5 million, and capitalized intellectual property costs of \$2.6 million. Capital expenditures for the six months ended June 30, 2019 were mainly for engineering, procurement and construction of our growth projects, primarily Lamesa and equipment to expand our Sandbox operations, and other maintenance and cost improvement capital projects.

Net cash used in investing activities was \$879.7 million for the six months ended June 30, 2018. This was mainly due to capital expenditures of \$159.2 million and cash consideration of \$742.8 million paid for the EPMH acquisition, partially offset by proceeds from the sale of three transload facilities of \$26.2 million. Capital expenditures for the six months ended June 30, 2018 were mainly for engineering, procurement and construction of our growth projects, primarily Crane and Lamesa, equipment to expand our Sandbox operations, and other maintenance and cost improvement capital projects.

Subject to our continuing evaluation of market conditions, we anticipate that our capital expenditures in 2019 will be approximately \$125 million, which is primarily associated with previously announced growth projects and other maintenance and cost improvement capital projects. We expect to fund our capital expenditures through cash on hand and cash generated from our operations.

Net Cash Provided by / Used in Financing Activities

Financing activities consist primarily of equity issuances, dividend payments, share repurchases, borrowings and repayments related to the Revolver and Term Loan, as well as fees and expenses paid in connection with our credit facilities.

Net cash used in financing activities was \$15.2 million for the six months ended June 30, 2019. This was mainly due to \$8.2 million of long-term debt payments, \$9.4 million of dividends paid, and \$2.9 million of tax payments related to shares withheld for vested restricted stock and stock units, partially offset by \$5.1 million of capital contribution from a non-controlling interest.

Net cash provided by financing activities was \$644.6 million for the six months ended June 30, 2018. This was mainly due to \$1.280 billion of proceeds from long-term debt borrowings and \$37.3 million of fees paid to finance the EPMH acquisition, \$493.2 million of long-term debt payments, \$90.5 million in common stock repurchases, \$10.1 million of dividends paid, and \$4.2 million of tax payments related to shares withheld for vested restricted stock and restricted stock units.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements that have a current material effect or are reasonably likely to have a future material effect on our financial condition, changes in financial condition, sales, expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

There have been no significant changes outside of the ordinary course of business to our "Contractual Obligations" table in Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," of our 2018 Annual Report on Form 10-K. For more details on future minimum annual purchase commitments and operating leases commitments, please see accompanying Note O - Commitments and Contingencies and Note Q - Leases to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Environmental Matters

We are subject to various federal, state and local laws and regulations governing, among other things, hazardous materials, air and water emissions, environmental contamination and reclamation and the protection of the environment and natural resources. We have made, and expect to make in the future, expenditures to comply with such laws and regulations, but cannot predict the full amount of such future expenditures. As of June 30, 2019, we had \$20.2 million accrued for future reclamation costs, as compared to \$18.4 million as of December 31, 2018.

We discuss certain environmental matters relating to our various production and other facilities, certain regulatory requirements relating to human exposure to crystalline silica and our mining activity and how such matters may affect our business in the future under Item 1, "Business", Item 1A, "Risk Factors", Item 3, "Legal Proceedings" and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations-Environmental Matters" in our 2018 Annual Report.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported revenues and expenses during the reporting periods. We evaluate these estimates and assumptions on an ongoing basis and base our estimates on historical experience, current conditions and various other assumptions that are believed to be reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying values of assets and liabilities as well as identifying and assessing the accounting treatment with respect to commitments and contingencies. Our actual results may materially differ from these estimates.

A summary of our significant accounting policies, including certain critical accounting policies and estimates, are included in Note B - Summary of Significant Accounting Policies to the Consolidated Financial Statements in Item 8 of our 2018 Annual Report on Form 10-K. Management believes that the application of these policies on a consistent basis enables us to provide the users of the Consolidated Financial Statements with useful and reliable information about our operating results and financial condition.

Recent Accounting Pronouncements

New accounting pronouncements that have been recently adopted are described in Note B - Summary of Significant Accounting Policies to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Availability of Reports; Website Access; Other Information

Our Internet address is <http://www.ussilica.com>. Through "Investors" — "SEC Filings" on our home page, we make available free of charge our annual reports on Form 10-K, our quarterly reports on Form 10-Q, our proxy statements, our current reports on Form 8-K, SEC Forms 3, 4 and 5 and any amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our reports filed with the SEC are also available on its website at <http://www.sec.gov>.

Stockholders may also request a free copy of these documents from: U.S. Silica Holdings, Inc., attn.: Investor Relations, 24275 Katy Freeway, Suite 600, Katy, Texas 77494 or view them on our website at <http://www.ussilica.com/investors>.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

We are exposed to certain market risks, which exist as a part of our ongoing business operations. Such risks arise from adverse changes in market rates, prices and conditions. We address such market risks in "Recent Trends and Outlook" and "How We Generate Our Sales" in Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Interest Rate Risk

We are exposed to interest rate risk arising from adverse changes in interest rates. As of June 30, 2019, we had \$1.264 billion of debt outstanding under the Credit Agreement. Assuming LIBOR is greater than the 1.0% minimum base rate on the Term Loan, a hypothetical increase in interest rates by 1.0% would have changed our interest expense by \$12.6 million per year.

We use interest rate derivatives in the normal course of our business to manage both our interest cost and the risks associated with changing interest rates. We do not use derivatives for trading or speculative purposes. As of June 30, 2019, the fair value of our interest rate swaps was a liability of \$4.2 million and \$1.9 million and classified within other long-term liabilities on our balance sheet, and the fair value of our interest rate cap was zero. For more information see Note M - Derivative Instruments to our Consolidated Financial Statements in Part I, Item 1. of this Quarterly Report on Form 10-Q.

Credit Risk

We are subject to risks of loss resulting from nonpayment or nonperformance by our customers. We examine the creditworthiness of third-party customers to whom we extend credit and manage our exposure to credit risk through credit

analysis, credit approval, credit limits and monitoring procedures, and for certain transactions, we may request letters of credit, prepayments or guarantees, although collateral is generally not required.

Despite enhancing our examination of our customers' creditworthiness, we may still experience delays or failures in customer payments. Some of our customers have reported experiencing financial difficulties. With respect to customers that may file for bankruptcy protection, we may not be able to collect sums owed to us by these customers and we also may be required to refund pre-petition amounts paid to us during the preference period (typically 90 days) prior to the bankruptcy filing.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2019. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Based on the evaluation of our disclosure controls and procedures as of June 30, 2019, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, and not absolute, assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the quarter ended June 30, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

During the quarter ended June 30, 2019 we continue to integrate EPM processes, information technology systems and other components of internal control over financial reporting into our internal control structure.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

In addition to the matters described below, we are subject to various legal proceedings, claims, and governmental inspections, audits or investigations incidental to our business, which can cover general commercial, governmental regulations, antitrust and trade regulations, product liability, environmental, intellectual property, employment and other matters. Although the outcomes of these ordinary routine claims cannot be predicted with certainty, in the opinion of management, the ultimate resolution of these matters will not have a material adverse effect on our financial position or results of operations.

Prolonged inhalation of excessive levels of respirable crystalline silica dust can result in silicosis, a disease of the lungs. Breathing large amounts of respirable silica dust over time may injure a person's lungs by causing scar tissue to form. Crystalline silica in the form of quartz is a basic component of soil, sand, granite and most other types of rock. Cutting, breaking, crushing, drilling, grinding and abrasive blasting of or with crystalline silica containing materials can produce fine silica dust, the inhalation of which may cause silicosis, lung cancer and possibly other diseases including immune system disorders such as scleroderma. Sources of exposure to respirable crystalline silica dust include sandblasting, foundry manufacturing, crushing and drilling of rock, masonry and concrete work, mining and tunneling, and cement and asphalt pavement manufacturing.

Since at least 1975, we and/or our predecessors have been named as a defendant, usually among many defendants, in numerous lawsuits brought by or on behalf of current or former employees of our customers alleging damages caused by silica exposure. Prior to 2001, the number of silicosis lawsuits filed annually against the commercial silica industry remained relatively stable and was generally below 100, but between 2001 and 2004 the number of silicosis lawsuits filed against the commercial silica industry substantially increased. This increase led to greater scrutiny of the nature of the claims filed, and in June 2005 the U.S. District Court for the Southern District of Texas issued an opinion in the former federal silica multi-district litigation remanding almost all of the 10,000 cases then pending in the multi-district litigation back to the state courts from which they originated for further review and medical qualification, leading to a number of silicosis case dismissals across the United States. In conjunction with this and other favorable court rulings establishing "sophisticated user" and "no duty to warn" defenses for silica producers, several states, including Texas, Ohio and Florida, have passed medical criteria legislation that requires proof of actual impairment before a lawsuit can be filed.

As a result of the above developments, the filing rate of new claims against us over the past few years has decreased to below pre-2001 levels, and we were named as a defendant in 20, zero and two new silicosis cases filed in 2018, 2017 and 2016, respectively. The main driver of the increase in cases filed in 2018 was 16 claims arising out of a single location in Mississippi. During the six months ended June 30, 2019, one new claim was brought against U.S. Silica. As of June 30, 2019, there were 58 active silica-related product liability claims pending in which U.S. Silica is a defendant. Almost all of the claims pending against us arise out of the alleged use of our silica products in foundries or as an abrasive blast media and involve various other defendants. Prior to the fourth quarter of 2012, we had insurance policies for both our predecessors that cover certain claims for alleged silica exposure for periods prior to certain dates in 1985 and 1986 (with respect to certain insurance). As a result of a settlement with a former owner and its insurers in the fourth quarter of 2012, some of these policies are no longer available to us and we will not seek reimbursement for any defense costs or claim payments from these policies. Other insurance policies, however, continue to remain available to us and will continue to make such payments on our behalf.

The silica-related litigation brought against us to date has not resulted in material liability to us. However, we continue to have silica-related product liability claims filed against us, including claims that allege silica exposure for periods for which we do not have insurance coverage. Although the outcomes of these claims cannot be predicted with certainty, in the opinion of management, it is not reasonably possible that the ultimate resolution of these matters will have a material adverse effect on our financial position or results of operations that exceeds the accrual amounts.

For more information regarding silica-related litigation, see Part I, Item 1A. Risk Factors of our 2018 Annual Report on Form 10-K.

One of our subsidiaries has also been named as a defendant in lawsuits regarding certain labor practices. If we are unsuccessful in defending the litigation, these cases could result in material liability for us.

ITEM 1A. RISK FACTORS

As of June 30, 2019 there have been no material changes to the risk factors disclosed in Part I, Item 1A. Risk Factors of our 2018 Annual Report on Form 10-K.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS**Share Repurchase Program**

The following table presents the total number of shares of our common stock that we repurchased during the second quarter of 2019, the average price paid per share, the number of shares that we repurchased as part of our publicly announced repurchase program, and the approximate dollar value of shares that still could have been repurchased at the end of the applicable fiscal period pursuant to our publicly announced share repurchase program:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Program⁽¹⁾	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Program⁽¹⁾
April 1, 2019 - April 30, 2019	36,132 ⁽²⁾	\$ 17.25	—	126,540,060
May 1, 2019 - May 31, 2019	2,107 ⁽²⁾	\$ 12.03	—	126,540,060
June 1, 2019 - June 30, 2019	137 ⁽²⁾	\$ 12.21	—	126,540,060
Total	38,376	\$ 16.94	—	—

(1) In May 2018, our Board of Directors authorized and announced the repurchase of up to \$200 million of our common stock.

(2) Shares withheld by U.S. Silica to pay taxes due upon the vesting of employee restricted stock and restricted stock units for the months ended April 30, May 31, and June 30, 2019, respectively.

From June 30, 2019 to the date of the filing of this Quarterly Report on Form 10-Q, we have not repurchased any shares of our common stock except in connection with the vesting of employee restricted stock and restricted stock units.

For more details on the stock repurchase program, see Note D - Capital Structure and Accumulated Comprehensive Income (Loss) to our Financial Statements in Part I, Item I of this Quarterly Report on Form 10-Q.

ITEM 3. DEFAULT UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Safety is one of our core values and we strive to achieve a workplace free of injuries and occupational illnesses. Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104) is included in Exhibit 95.1 to this Quarterly Report filed on Form 10-Q.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

The information called for by this Item is incorporated herein by reference from the Exhibit Index included in this Quarterly Report on Form 10-Q.

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
<u>3.1</u>	<u>Third Amended and Restated Certificate of Incorporation of U.S. Silica Holdings, Inc., effective May 4, 2017.</u>	8-K	001-35416	3.1	May 10, 2017
<u>3.2</u>	<u>Third Amended and Restated Bylaws of U.S. Silica Holdings, Inc., effective May 4, 2017.</u>	8-K	001-35416	3.2	May 10, 2017
<u>31.1*</u>	<u>Rule 13a-14(a)/15(d)-14(a) Certification by Bryan A. Shinn, Chief Executive Officer.</u>				
<u>31.2*</u>	<u>Rule 13a-14(a)/15(d)-14(a) Certification by Donald A. Merrill, Chief Financial Officer.</u>				
<u>32.1*</u>	<u>Section 1350 Certification by Bryan A. Shinn, Chief Executive Officer.</u>				
<u>32.2*</u>	<u>Section 1350 Certification by Donald A. Merrill, Chief Financial Officer.</u>				
<u>95.1*</u>	<u>Mine Safety Disclosure.</u>				
<u>99.1*</u>	<u>Consent of Rystad Energy.</u>				
101*	101.INS XBRL Instance - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				
	101.SCH XBRL Taxonomy Extension Schema				
	101.CAL XBRL Taxonomy Extension Calculation				
	101.LAB XBRL Taxonomy Extension Labels				
	101.PRE XBRL Taxonomy Extension Presentation				
	101.DEF XBRL Taxonomy Extension Definition				

* Filed herewith

We will furnish to any of our stockholders a copy of any of the above exhibits upon the written request of such stockholder.

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, this 30th day of July, 2019.

U.S. Silica Holdings, Inc.

/s/ DONALD A. MERRIL

Name: Donald A. Merrill
Executive Vice President & Chief
Title: Financial Officer

CERTIFICATION

I, Bryan A. Shinn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of U.S. Silica Holdings, Inc. (the “Company”) for the quarter ended June 30, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Dated: July 30, 2019

/s/ BRYAN A. SHINN

Name: Bryan A. Shinn

Title: President and Chief Executive Officer

CERTIFICATION

I, Donald A. Merrill, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of U.S. Silica Holdings, Inc. (the “Company”) for the quarter ended June 30, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Dated: July 30, 2019

/s/ DONALD A. MERRIL

Name: Donald A. Merrill

Title: Executive Vice President and Chief
Financial Officer

SECTION 1350 CERTIFICATION

I, Bryan A. Shinn, Chief Executive Officer, U.S. Silica Holdings, Inc. (the "Company"), hereby certify, on the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- i. The Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- ii. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: July 30, 2019

/s/ BRYAN A. SHINN

Name: Bryan A. Shinn

Title: President and Chief Executive Officer

A signed copy of this original statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff on request.

SECTION 1350 CERTIFICATION

I, Donald A. Merrill, Chief Financial Officer, U.S. Silica Holdings, Inc. (the "Company"), hereby certify, on the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- i. The Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- ii. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: July 30, 2019

/s/ DONALD A. MERRIL

Name: Donald A. Merrill

Title: Executive Vice President and Chief
Financial Officer

A signed copy of this original statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff on request.

Mine Safety Disclosure

The following disclosures are provided pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Act”) and Item 104 of Regulation S-K, which requires certain disclosures by companies required to file periodic reports under the Securities Exchange Act of 1934, as amended, that operate mines regulated under the Federal Mine Safety and Health Act of 1977 (the “Mine Act”).

Mine Safety Information. Whenever the Federal Mine Safety and Health Administration (“MSHA”) believes a violation of the Mine Act, any health or safety standard or any regulation has occurred, it may issue a citation which describes the alleged violation and fixes a time within which the U.S. mining operator must abate the alleged violation. In some situations, such as when MSHA believes that conditions pose a hazard to miners, MSHA may issue an order removing miners from the area of the mine affected by the condition until the alleged hazards are corrected. When MSHA issues a citation or order, it generally proposes a civil penalty, or fine, as a result of the alleged violation, that the operator is ordered to pay. Citations and orders can be contested and appealed, and as part of that process, are often reduced in severity and amount, and are sometimes dismissed. The number of citations, orders and proposed assessments vary depending on the size and type (underground or surface) of the mine as well as by the MSHA inspector(s) assigned.

The following table details the violations, citations and orders issued to us by MSHA during the quarter ended June 30, 2019:

Mine(a)	Section 104 S&S Citations(#)	Section 104(b) Orders (#)	Section 104(d) Citations and Orders (#)	Section 110(b)(2) Violations (#)	Section 107(a) Orders (#)	Proposed Assessments(b) (\$, amounts in dollars)	Mining Related Fatalities (#)
Ottawa, IL	—	—	—	—	—	\$ —	—
Mill Creek, OK	1	—	—	—	—	548	—
Pacific, MO	—	—	—	—	—	—	—
Berkeley Springs, WV	—	—	—	—	—	—	—
Mapleton Depot, PA	—	—	—	—	—	667	—
Kosse, TX	—	—	—	—	—	—	—
Mauricetown, NJ	—	—	—	—	—	—	—
Port Elizabeth, NJ	—	—	—	—	—	—	—
Columbia, SC	—	—	—	—	—	—	—
Montpelier, VA	—	—	—	—	—	129	—
Rockwood, MI	—	—	—	—	—	—	—
Jackson, TN	—	—	—	—	—	—	—
Dubberly, LA	—	—	—	—	—	—	—
Hurtsboro, AL	—	—	—	—	—	129	—
Sparta, WI	—	—	—	—	—	258	—
Voca, TX	—	—	—	—	—	—	—
Peru, IL	—	—	—	—	—	—	—
Utica, IL	—	—	—	—	—	129	—
Tyler, TX	2	—	—	—	—	—	—
Festus, MO	—	—	—	—	—	—	—
Seagraves, TX	—	—	—	—	—	—	—
Lamesa, TX	2	—	—	—	—	1,879	—
Crane County, TX	—	—	—	—	—	—	—
Jackson, MS	—	—	—	—	—	—	—
Middletown, TN	—	—	—	—	—	—	—
Clark, NV	—	—	—	—	—	—	—
Lovelock, NV	9	—	—	—	1	57,156	—
Fernley, NV	1	—	—	—	—	—	—
Vale, OR	1	—	—	—	—	—	—
Fowlkes Mine, MS	—	—	—	—	—	—	—
Hazen Mine, NV	—	—	—	—	—	—	—
Popcorn Mine, NV	—	—	—	—	—	—	—
Colado Mine, NV	—	—	—	—	—	—	—
Celatom Mine, OR	—	—	—	—	—	—	—
Cheto Mine - AZ	—	—	—	—	—	—	—

(a) The definition of mine under section 3 of the Mine Act includes the mine, as well as other items used in, or to be used in, or resulting from, the work of extracting minerals, such as land, structures, facilities, equipment, machines, tools and minerals preparation facilities. Unless otherwise indicated, any of these other items associated with a single mine have been aggregated in the totals for that mine. MSHA assigns an identification number to each mine and may or may not assign separate identification numbers to related facilities such as preparation facilities. We are providing the information in the table by mine rather than MSHA identification number because that is how we manage and operate our mining

business and we believe this presentation will be more useful to investors than providing information based on MSHA identification numbers.

- (b) Represents the total dollar value of proposed assessments from MSHA under the Mine Act relating to any type of citation or order issued during the quarter ended June 30, 2019.

Pattern or Potential Pattern of Violations. During the quarter ended June 30, 2019, none of the mines operated by us received written notice from MSHA of (a) a pattern of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of mine health or safety hazards under section 104(e) of the Mine Act or (b) the potential to have such a pattern.

Pending Legal Actions. There were 63 legal actions pending before the Federal Mine Safety and Health Review Commission (the "Commission") as of June 30, 2019, each of which is a contest proceeding filed by us to challenge a citation or order issued by MSHA under the Mine Act and includes 11 contests challenging Section 104 S&S citations. During the quarter ended June 30, 2019, no legal actions were instituted and 12 legal actions were resolved. Citation, order and proposed fine totals for EP Minerals sites include enforcement activities commenced prior to the acquisition. The Commission is an independent adjudicative agency established by the Mine Act that provides administrative trial and appellate review of legal disputes arising under the Mine Act.

CONSENT OF RYSTAD ENERGY.

We hereby consent to the references to our company's name in the Quarterly Report on Form 10-Q for the Quarterly Period Ended June 30, 2019 (the "Quarterly Report") of U.S. Silica Holdings, Inc. (the "Company") and the quotation by the Company of our "Activity Metrics 3Q 2019 - Interim Update," published on July 4, 2019. We also hereby consent to the filing of this letter as an exhibit to the Quarterly Report.

RYSTAD ENERGY

By: /s/ Chris Campbell

Name: Chris Campbell

Title: Business Development Manager

July 30, 2019