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 September 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	**26-3718801**
(State or other jurisdiction of Incorporation or Organization)	**(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	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

As of October 25, 2019, 73,568,310 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 September 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)

	September 30, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 187,289	$ 202,498
Accounts receivable, net	204,591	215,486
Inventories, net	162,122	162,087
Prepaid expenses and other current assets	17,525	17,966
Income tax deposits	2,596	2,200
Total current assets	574,123	600,237
Property, plant and mine development, net	1,776,075	1,826,303
Operating lease right-of-use assets	180,387	—
Goodwill	273,524	261,340
Intangible assets, net	187,364	194,626
Other assets	17,213	18,334
Total assets	$ 3,008,686	$ 2,900,840
LIABILITIES AND STOCKHOLDERS’ EQUITY		
Current Liabilities:		
Accounts payable and accrued expenses	$ 245,247	$ 216,400
Current portion of operating lease liabilities	56,473	—
Current portion of long-term debt	19,475	13,327
Current portion of deferred revenue	17,995	31,612
Total current liabilities	339,190	261,339
Long-term debt, net	1,216,752	1,246,428
Deferred revenue	75,170	81,707
Liability for pension and other post-retirement benefits	64,428	57,194
Deferred income taxes, net	121,931	137,239
Operating lease liabilities	127,181	—
Other long-term liabilities	59,635	64,629
Total liabilities	2,004,287	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 September 30, 2019 and December 31, 2018	—	—
Common stock, $0.01 par value, 500,000,000 shares authorized; 82,549,485 issued and 73,568,325 outstanding at September 30, 2019; 81,811,977 issued and 73,148,853 outstanding at December 31, 2018	821	818
Additional paid-in capital	1,179,779	1,169,383
Retained earnings	17,505	67,854
Treasury stock, at cost, 8,981,160 and 8,663,124 shares at September 30, 2019 and December 31, 2018, respectively	(180,833)	(178,215)
Accumulated other comprehensive loss	(25,421)	(15,020)
Total U.S. Silica Holdings, Inc. stockholders’ equity	991,851	1,044,820
Non-controlling interest	12,548	7,484
Total stockholders' equity	1,004,399	1,052,304
Total liabilities and stockholders’ equity	$ 3,008,686	$ 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 September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Sales:				
Product	$ 287,977	$ 348,635	$ 887,878	$ 989,380
Service	73,837	74,537	247,540	230,538
Total sales	361,814	423,172	1,135,418	1,219,918
Cost of sales (excluding depreciation, depletion and amortization):				
Product	226,797	270,370	687,186	713,845
Service	56,836	51,966	188,145	162,246
Total cost of sales (excluding depreciation, depletion and amortization)	283,633	322,336	875,331	876,091
Operating expenses:				
Selling, general and administrative	40,208	37,980	113,523	114,803
Depreciation, depletion and amortization	47,126	37,150	136,625	102,305
Asset impairment	130	—	130	16,184
Total operating expenses	87,464	75,130	250,278	233,292
Operating (loss) income	(9,283)	25,706	9,809	110,535
Other (expense) income:				
Interest expense	(24,733)	(21,999)	(72,476)	(49,283)
Other income, net, including interest income	3,280	1,062	19,076	2,808
Total other expense	(21,453)	(20,937)	(53,400)	(46,475)
(Loss) income before income taxes	(30,736)	4,769	(43,591)	64,060
Income tax benefit (expense)	7,671	1,547	7,259	(8,806)
Net (loss) income	$ (23,065)	$ 6,316	$ (36,332)	$ 55,254
Less: Net loss attributable to non-controlling interest	(28)	—	(121)	—
Net (loss) income attributable to U.S. Silica Holdings, Inc.	$ (23,037)	$ 6,316	$ (36,211)	$ 55,254
(Loss) earnings per share attributable to U.S. Silica Holdings, Inc.:				
Basic	$ (0.31)	$ 0.08	$ (0.49)	$ 0.71
Diluted	$ (0.31)	$ 0.08	$ (0.49)	$ 0.70
Weighted average shares outstanding:				
Basic	73,328	77,365	73,223	78,209
Diluted	73,328	77,859	73,223	78,676
Dividends declared per share	$ 0.06	$ 0.06	$ 0.19	$ 0.19

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 September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Net (loss) income	$ (23,065)	$ 6,316	$ (36,332)	$ 55,254
Other comprehensive (loss) income:				
Unrealized gain (loss) on derivatives (net of tax of $156 and $193 for the three months ended September 30, 2019 and 2018, respectively, and $(803) and $195 for the nine months ended September 30, 2019 and 2018, respectively)	491	538	(2,520)	544
Foreign currency translation adjustment (net of tax of $(170) and $(135) for the three months ended September 30, 2019 and 2018, respectively, and $(181) and $(144) for the nine months ended September 30, 2019 and 2018, respectively)	(543)	95	(577)	(446)
Pension and other post-retirement benefits liability adjustment (net of tax of $(1,270) and $88 for the three months ended September 30, 2019 and 2018, respectively, and $(2,327) and $1,617 for the nine months ended September 30, 2019 and 2018, respectively)	(3,987)	277	(7,304)	5,075
Comprehensive (loss) income	$ (27,104)	$ 7,226	$ (46,733)	$ 60,427
Less: Comprehensive loss attributable to non-controlling interest	(28)	—	(121)	—
Comprehensive (loss) income attributable to U.S. Silica Holdings, Inc.	$ (27,076)	$ 7,226	$ (46,612)	$ 60,427

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 June 30, 2019	$ 821	$ (180,775)	$ 1,176,057	$ 45,224	$ (21,382)	$ 1,019,945	$ 12,520	$ 1,032,465
Net loss	—	—	—	(23,037)	—	(23,037)	(28)	(23,065)
Unrealized gain on derivatives	—	—	—	—	491	491	—	491
Foreign currency translation adjustment	—	—	—	—	(543)	(543)	—	(543)
Pension and post-retirement liability	—	—	—	—	(3,987)	(3,987)	—	(3,987)
Cash dividend declared ($0.0625 per share)	—	—	—	(4,682)	—	(4,682)	—	(4,682)
Contributions from non-controlling interest	—	—	—	—	—	—	56	56
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	3,722	—	—	3,722	—	3,722
Tax payments related to shares withheld for vested restricted stock and stock units	—	(58)	—	—	—	(58)	—	(58)
Balance at September 30, 2019	$ 821	$ (180,833)	$ 1,179,779	$ 17,505	$ (25,421)	$ 991,851	$ 12,548	$ 1,004,399
Balance at June 30, 2018	$ 815	$ (120,056)	$ 1,160,235	$ 327,173	$ (9,663)	$ 1,358,504	$ —	$ 1,358,504
Net income	—	—	—	6,316	—	6,316	—	6,316
Unrealized gain on derivatives	—	—	—	—	538	538	—	538
Foreign currency translation adjustment	—	—	—	—	95	95	—	95
Pension and post-retirement liability	—	—	—	—	277	277	—	277
Cash dividend declared ($0.0625 per share)	—	—	—	(4,865)	—	(4,865)	—	(4,865)
Contributions from non-controlling interest	—	—	—	—	—	—	3,212	3,212
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	5,427	—	—	5,427	—	5,427
Tax payments related to shares withheld for vested restricted stock and stock units	—	(22)	(1)	—	—	(23)	—	(23)
Balance at September 30, 2018	$ 815	$ (120,078)	$ 1,165,661	$ 328,624	$ (8,753)	$ 1,366,269	$ 3,212	$ 1,369,481

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	—	—	—	(36,211)	—	(36,211)	(121)	(36,332)
Unrealized loss on derivatives	—	—	—	—	(2,520)	(2,520)	—	(2,520)
Foreign currency translation adjustment	—	—	—	—	(577)	(577)	—	(577)
Pension and post-retirement liability	—	—	—	—	(7,304)	(7,304)	—	(7,304)
Cash dividend declared ($0.1875 per share)	—	—	—	(14,138)	—	(14,138)	—	(14,138)
Contributions from non-controlling interest	—	—	—	—	—	—	5,185	5,185
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	10,566	—	—	10,566	—	10,566
Proceeds from options exercised	—	295	(167)	—	—	128	—	128
Tax payments related to shares withheld for vested restricted stock and stock units	3	(2,913)	(3)	—	—	(2,913)	—	(2,913)
Balance at September 30, 2019	$ 821	$ (180,833)	$ 1,179,779	$ 17,505	$ (25,421)	$ 991,851	$ 12,548	$ 1,004,399
Balance at December 31, 2017	$ 812	$ (25,456)	$ 1,147,084	$ 287,992	$ (13,926)	$ 1,396,506	$ —	$ 1,396,506
Net income	—	—	—	55,254	—	55,254	—	55,254
Unrealized gain on derivatives	—	—	—	—	544	544	—	544
Foreign currency translation adjustment	—	—	—	—	(446)	(446)	—	(446)
Pension and post-retirement liability	—	—	—	—	5,075	5,075	—	5,075
Cash dividend declared ($0.1875 per share)	—	—	—	(14,622)	—	(14,622)	—	(14,622)
Contributions from non-controlling interest	—	—	—	—	—	—	3,212	3,212
Common stock-based compensation plans activity:								
Equity-based compensation	—	—	18,612	—	—	18,612	—	18,612
Proceeds from options exercised	—	93	(32)	—	—	61	—	61
Tax payments related to shares withheld for vested restricted stock and stock units	3	(4,216)	(3)	—	—	(4,216)	—	(4,216)
Repurchase of common stock	—	(90,499)	—	—	—	(90,499)	—	(90,499)
Balance at September 30, 2018	$ 815	$ (120,078)	$ 1,165,661	$ 328,624	$ (8,753)	$ 1,366,269	$ 3,212	$ 1,369,481

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)

	Nine Months Ended September 30,	
	2019	**2018**
Operating activities:		
Net (loss) income	$ (36,332)	$ 55,254
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation, depletion and amortization	136,625	102,305
Asset impairment	130	16,184
Gain on valuation change of royalty note payable	(16,104)	—
Debt issuance amortization	4,304	3,953
Original issue discount amortization	792	1,668
Deferred income taxes	(8,489)	7,699
Deferred revenue	(32,379)	(16,565)
Loss (gain) on disposal of property, plant and equipment	58	(5,404)
Equity-based compensation	10,566	18,612
Gain on early extinguishment of debt	(81)	—
Bad debt provision, net of recoveries	3,082	516
Other	(13,197)	3,554
Changes in operating assets and liabilities, net of effects of acquisitions:		
Accounts receivable	3,792	8,177
Inventories	(35)	2,732
Prepaid expenses and other current assets	8,460	(3,057)
Income taxes	(396)	(4,369)
Accounts payable and accrued expenses	39,456	27,866
Short-term and long-term obligations-vendor incentives	4,021	54,632
Liability for pension and other post-retirement benefits	9,063	(730)
Other noncurrent assets and liabilities	3,045	(5,337)
Net cash provided by operating activities	116,381	267,690
Investing activities:		
Capital expenditures	(97,902)	(220,787)
Capitalized intellectual property costs	(3,493)	(7,045)
Acquisition of business, net of cash acquired	—	(743,325)
Proceeds from sale of property, plant and equipment	1,543	26,305
Net cash used in investing activities	(99,852)	(944,852)
Financing activities:		
Dividends paid	(13,880)	(15,068)
Repurchase of common stock	—	(90,499)
Proceeds from options exercised	128	61
Tax payments related to shares withheld for vested restricted stock and stock units	(2,913)	(4,216)
Proceeds from long-term debt	—	1,280,000
Payments on long-term debt	(20,207)	(497,655)
Financing fees paid	—	(37,272)
Contributions from non-controlling interest	5,185	3,212
Principal payments on finance lease obligations	(51)	(385)
Net cash (used in) provided by financing activities	(31,738)	638,178
Net decrease in cash and cash equivalents	(15,209)	(38,984)
Cash and cash equivalents, beginning of period	202,498	384,567
Cash and cash equivalents, end of period	$ 187,289	$ 345,583

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

	Nine Months Ended September 30,	
	2019	**2018**
Supplemental cash flow information:		
Cash paid during the period for:		
Interest	$ 66,429	$ 44,105
Taxes, net of refunds	$ (14,031)	$ 5,003
Related party purchases	$ —	$ 2,233
Non-cash items:		
Accrued capital expenditures	$ 27,357	$ 36,693
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.

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 in 2018, 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 September 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 in the limited liability company 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 September 30, 2019, the VIE had total assets of $19.6 million and total liabilities of $0.2 million. We did not make any capital contributions during the nine months ended September 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 $26.1 million and $73.6 million of our consolidated sales for the three and nine months ended September 30, 2019, respectively; pre-tax income was $3.5 million and $10.3 million for the three and nine months ended September 30, 2019, respectively, and net income was $2.8 million and $8.1 million for the three and nine months ended September 30, 2019, respectively. Foreign operations constituted approximately $28.4 million of consolidated assets as of September 30, 2019.

Foreign sales were approximately $24.8 million and $45.2 million of our consolidated sales for the three and nine months ended September 30, 2018, respectively; pre-tax income was $4.0 million and $7.3 million for the three and nine months ended September 30, 2018, respectively, and net income was $3.1 million and $5.7 million for the three and nine months ended September 30, 2018, respectively. Foreign operations constituted approximately $8.5 million of consolidated assets as of September 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 nine months ended September 30, 2019, and 2018:

In thousands, except per share amounts	**Three Months Ended September 30,**		**Nine Months Ended September 30,**	
	2019	**2018**	**2019**	**2018**
Numerator:				
Net (loss) income attributable to U.S. Silica Holdings, Inc.	$ (23,037)	$ 6,316	$ (36,211)	$ 55,254
Denominator:				
Weighted average shares outstanding	73,328	77,365	73,223	78,209
Diluted effect of stock awards	—	494	—	467
Weighted average shares outstanding assuming dilution	73,328	77,859	73,223	78,676
(Loss) earnings per share attributable to U.S. Silica Holdings, Inc.:				
Basic (loss) earnings per share	$ (0.31)	$ 0.08	$ (0.49)	$ 0.71
Diluted (loss) earnings per share	$ (0.31)	$ 0.08	$ (0.49)	$ 0.70

We excluded potentially dilutive shares of 91 and 191 for the three and nine months ended September 30, 2019, respectively, 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:

In thousands	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Stock options excluded	700	589	716	562
Restricted stock and performance share units awards excluded	265	151	280	289

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 82,549,485 shares issued and 73,568,325 shares outstanding at September 30, 2019. There were 81,811,977 shares issued and 73,148,853 shares outstanding at December 31, 2018.

During the nine months ended September 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
$	0.0625	July 18, 2019	September 13, 2019	October 3, 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 September 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 September 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 nine months ended September 30, 2019:

	For the Nine Months Ended September 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	(2,520)	(577)	(8,248)	(11,345)
Amounts reclassified from accumulated other comprehensive loss	—	—	944	944
Ending Balance	$ (4,141)	$ (1,197)	$ (20,083)	$ (25,421)

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):

Final allocation of purchase price:	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
Prepaids 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 adjustments were 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
	(in thousands)	*(in years)*
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 is 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):

	Nine Months Ended September 30, 2018	
Sales	$	1,302,665
Net Income	$	76,855
Basic earnings per share	$	0.98
Diluted earnings per share	$	0.98

NOTE F—ACCOUNTS RECEIVABLE

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

	September 30, 2019		December 31, 2018	
Trade receivables	$	205,295	$	198,435
Less: Allowance for doubtful accounts		(9,136)		(6,751)
Net trade receivables		196,159		191,684
Other receivables[(1)]		8,432		23,802
Total accounts receivable	$	204,591	$	215,486

(1) At December 31, 2018, other receivables included $16.0 million of refundable alternative minimum tax credits. These credits were refunded during the three months ended September 30, 2019.

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

	September 30, 2019		September 30, 2018	
Beginning balance	$	6,751	$	7,100
Bad debt provision		3,082		516
Write-offs		(697)		(483)
Ending balance	$	9,136	$	7,133

Our ten largest customers accounted for approximately 43% and 42% of total sales for the three and nine months ended September 30, 2019, respectively, and approximately 48% and 50% for the three and nine months ended September 30, 2018, respectively. Sales to one of our customers accounted for 11% and 12% of our total sales for the three and nine months ended September 30, 2019, respectively, and 15% for both the three and nine months ended September 30, 2018. No other customers accounted for 10% or more of our total sales. At September 30, 2019, one of our customer's accounts receivable represented 13% 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 September 30, 2019 and December 31, 2018, inventories (in thousands) consisted of the following:

	September 30, 2019		December 31, 2018	
Supplies	$	50,172	$	41,453
Raw materials and work in process		60,680		68,474
Finished goods		51,270		52,160
Total inventories	$	162,122	$	162,087

NOTE H—PROPERTY, PLANT AND MINE DEVELOPMENT

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

	September 30, 2019	December 31, 2018
Mining property and mine development	$ 992,519	$ 995,759
Asset retirement cost	13,805	12,732
Land	55,355	55,502
Land improvements	71,917	67,729
Buildings	68,985	64,515
Machinery and equipment	1,129,443	958,357
Furniture and fixtures	3,288	3,599
Construction-in-progress	63,341	167,933
	2,398,653	2,326,126
Accumulated depletion, depreciation and amortization	(622,578)	(499,823)
Total property, plant and mine development, net	$ 1,776,075	$ 1,826,303

At September 30, 2019 and December 31, 2018, the aggregate cost of machinery and equipment acquired under finance leases was $0.3 million and $0.5 million, respectively, reduced by accumulated depreciation of $0.2 million and $0.2 million, respectively. The amount of interest costs capitalized in property, plant and mine development was $1.9 million and $5.2 million for the nine months ended September 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 September 30, 2019, vendor incentives of $10.2 million and $20.2 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 the disposal 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 September 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 no impairment existed because it was not more likely than not that the fair value of our reporting units was less than their carrying amount.

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

		September 30, 2019			December 31, 2018		
	Estimated Useful Life	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
	(in years)						
Technology and intellectual property	15	$ 85,744	$ (15,561)	$ 70,183	$ 83,616	$ (11,168)	$ 72,448
Customer relationships	13 - 15	68,599	(17,508)	51,091	68,664	(13,826)	54,838
Total definite-lived intangible assets:		$ 154,343	$ (33,069)	$ 121,274	$ 152,280	$ (24,994)	$ 127,286
Trade names		65,390	—	65,390	66,640	—	66,640
Other		700	—	700	700	—	700
Total intangible assets:		$ 220,433	$ (33,069)	$ 187,364	$ 219,620	$ (24,994)	$ 194,626

Amortization expense was $2.7 million and $8.1 million for the three and nine months ended September 30, 2019, respectively. Amortization expense was $3.2 million and $8.4 million for the three and nine months ended September 30, 2018, respectively.

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

2019	$ 2,719
2020	10,873
2021	10,871
2022	10,856
2023	10,851

NOTE J—DEBT

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

	September 30, 2019	December 31, 2018
Senior secured credit facility:		
Revolver expiring May 1, 2023 (8.5% at September 30, 2019 and December 31, 2018)	$ —	$ —
Term Loan—final maturity May 1, 2025 (6.13% at September 30, 2019 and 6.56% at December 31, 2018)	1,250,800	1,270,400
Less: Unamortized original issue discount	(5,673)	(6,511)
Less: Unamortized debt issuance cost	(26,684)	(31,310)
Note payable secured by royalty interest	11,098	26,511
Insurance financing notes payable	6,467	—
Equipment notes payable	129	321
Finance leases	90	344
Total debt	1,236,227	1,259,755
Less: current portion	(19,475)	(13,327)
Total long-term portion of debt	$ 1,216,752	$ 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 September 30, 2019, and December 31, 2018, we are in compliance with all covenants in accordance with our senior secured Credit Facility.

Term Loan

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

2019	$ 3,200
2020	12,800
2021	12,800
2022	12,800
2023	12,800
Thereafter	1,196,400
Total	$ 1,250,800

During the three months ended September 30, 2019, the Company repurchased outstanding debt under the Term Loan in the amount of $10 million at a rate of 95.5%. Debt issuance costs and original issue discount were recalculated with the reduced future debt payments, and additional costs of approximately $0.4 million were expensed. As a result, we recorded a gain on extinguishment of debt in the amount of $0.1 million. The gain on extinguishment was recorded in Other income, net, including interest income in the Condensed Consolidated Statements of Operations.

Revolving Line-of-Credit

We have a $100.0 million Revolver with zero drawn and $6.5 million allocated for letters of credit as of September 30, 2019, leaving $93.5 million available under the Revolver. Based on our consolidated leverage ratio of 4.40 as of September 30, 2019, we may draw up to $30.0 million without the consent of our lenders. With the consent of our lenders, we have access to the full availability of 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 September 30, 2019, the note payable had a balance of $11.1 million. The decrease in the fair value of the note payable amount is due to changes in estimate of future tonnages and sales related to the sand shipped from our Tyler, Texas facility. These changes in estimate resulted in gains that were recorded in Other income, net, including interest income in the Condensed Consolidated Statement of Operations. Gains in the amounts of $2.0 million and $16.1 million were recorded in the three and nine months ended September 30, 2019, respectively. The effective interest rate based on the updated projected future cash payments was 14% at September 30, 2019. Other changes in fair value of the note payable amount may result if estimates of future tonnages and sales increase or decrease.

Insurance Financing Notes Payable

During September 2019, the Company renewed its insurance policies and financed the payments through notes payable with a stated interest rate of 4.5%. These payments will be made in installments throughout a ten-month period and, as such, have been classified as current debt. As of September 30, 2019, the notes payable had a balance of $6.5 million.

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 September 30, 2019 and December 31, 2018, we had a liability of $20.6 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 nine months ended September 30, 2019 and 2018 are as follows:

	Nine Months Ended September 30,	
	2019	2018
Beginning balance	$ 18,413	$ 19,032
Accretion	1,138	894
Additions and revisions of prior estimates	1,061	(486)
Addition related to EPMH acquisition	—	2,733
Disposal related to sale of transloads	—	(2,116)
Ending balance	$ 20,612	$ 20,057

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 September 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 September 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 September 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 assets or liabilities at their fair values. As of September 30, 2019, the fair value of our two interest rate swaps was a liability of $3.7 million and a liability of $1.7 million and were classified within accounts payable and accrued liabilities on our balance sheet. Our interest rate cap matured on June 30, 2019. 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 were 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 September 30, 2019 and December 31, 2018.

	September 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	$ (3,749)	$ (3,749)	2020	$440 million	$ (1,475)	$ (1,475)
LIBOR[1] interest rate swap agreement	2020	$200 million	$ (1,712)	$ (1,712)	2020	$200 million	$ (663)	$ (663)

[1] Agreements fix the LIBOR interest rate base to 2.74%

During the nine months ended September 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 nine months ended September 30, 2019 and 2018.

	Nine Months Ended September 30,	
	2019	2018
Deferred losses from derivatives in OCI, beginning of period	$ (1,621)	$ (76)
Loss recognized in OCI from derivative instruments	(2,520)	468
Loss reclassified from Accumulated OCI	—	76
Deferred losses from derivatives in OCI, end of period	$ (4,141)	$ 468

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 September 30, 2019, we have 1,739,889 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 nine months ended September 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	(65,338)	$ 25.16	$ —	
Outstanding at September 30, 2019	826,658	$ 28.97	$ —	4.4 years
Exercisable at September 30, 2019	826,658	$ 28.97	$ —	4.4 years

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

There were zero and 10,000 stock options exercised during the three and nine months ended September 30, 2019, respectively. There were zero and 4,167 stock options exercised during the three and nine months ended September 30, 2018, respectively. The total intrinsic value of stock options exercised was $12 thousand for the nine months ended September 30, 2019. The total intrinsic value of stock options exercised was $0.1 million for the nine months ended September 30, 2018. Cash received from stock options exercised during the nine months ended September 30, 2019 was $128 thousand. Cash received from stock options exercised during the nine months ended September 30, 2018 was $61 thousand. The tax benefit realized from stock option exercises was $3 thousand for the nine months ended September 30, 2019. The tax benefit realized from stock option exercises was $14 thousand for the nine months ended September 30, 2018.

As of September 30, 2019, there was no unrecognized compensation expense related to these options. We recognized $0.2 million and $1.1 million of equity-based compensation expense related to options during the three and nine months ended September 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 nine months ended September 30, 2019:

	Number of Shares	Grant Date Weighted Average Fair Value
Unvested, December 31, 2018	586,409	$ 25.18
Granted	791,903	$ 13.60
Vested	(256,489)	$ 28.74
Forfeited	(55,959)	$ 21.67
Unvested, September 30, 2019	1,065,864	$ 15.90

We granted 34,790 and 791,903 restricted stock and restricted stock unit awards during the three and nine months ended September 30, 2019, respectively. We granted 42,187 and 280,118 restricted stock and restricted stock unit awards during the three and nine months ended September 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 $6.4 million of equity-based compensation expense related to restricted stock awards during the three and nine months ended September 30, 2019, respectively. We recognized $1.4 million and $5.2 million of equity-based compensation expense related to restricted stock awards during the three and nine months ended September 30, 2018, respectively. As of September 30, 2019, there was $12.6 million of unrecognized compensation expense related to these restricted stock awards, which is expected to be recognized over a weighted-average period of 2.0 years.

Performance Share Unit Awards

The following table summarizes the status of, and changes in, our performance share unit awards during the nine months ended September 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	(73,245)	$	26.84
Unvested, September 30, 2019	849,975	$	22.85

We granted zero and 607,130 performance share units during the three and nine months ended September 30, 2019, respectively. We granted zero and 201,417 performance share units during the three and nine months ended September 30, 2018, respectively. 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 $1.8 million and $4.3 million of compensation expense related to performance share unit awards during the three and nine months ended September 30, 2019, respectively. We recognized $3.7 million and $12.3 million of compensation expense related to performance share unit awards during the three and nine months ended September 30, 2018, respectively. As of September 30, 2019, there was $9.2 million of unrecognized compensation expense related to these performance share unit awards, which is expected to be recognized over a weighted-average period of 1.9 years.

NOTE O—COMMITMENTS AND CONTINGENCIES

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

Year ending December 31,		Minimum Purchase Commitments
2019	$	6,060
2020		14,619
2021		9,253
2022		6,900
2023		6,900
Thereafter		5,879
Total future purchase commitments	$	49,611

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 nine months ended September 30, 2019, one new claim was brought against U.S. Silica. As of September 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 September 30, 2019 and December 31, 2018, other non-current assets included zero for insurance for third-party products liability claims. As of September 30, 2019 and December 31, 2018 other long-term liabilities included $1.0 million and $0.9 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 September 30, 2019, there was $42.4 million in bonds outstanding. The majority of these bonds, $30.9 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 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 nine months ended September 30, 2019 and 2018:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Service cost	$ 323	$ 355	$ 1,065	$ 956
Interest cost	1,503	1,193	4,813	3,329
Expected return on plan assets	(1,727)	(1,627)	(5,745)	(4,361)
Net amortization and deferral	459	806	1,305	2,068
Net pension benefit costs	$ 558	$ 727	$ 1,438	$ 1,992

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

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2019		2018		2019		2018	
Service cost	$	20	$	33	$	67	$	87
Interest cost		182		173		572		549
Expected return on plan assets		—	$	—		—		—
Unrecognized net (gain)/loss		(7)	$	—		(7)		—
Net post-retirement benefit costs	$	195	$	206	$	632	$	636

We contributed $2.1 million and $3.8 million to the qualified pension plans for the three and nine months ended September 30, 2019, respectively. We contributed $1.5 million and $2.6 million to the qualified pension plans for the three and nine months ended September 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 nine months ended September 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 $1.5 million and $4.8 million for the three and nine months ended September 30, 2019, respectively, and $0.9 million and $2.6 million for the three and nine months ended and September 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	September 30, 2019	
Assets			
Operating	Operating lease right-of-use assets	$	180,387
Total leased assets		$	180,387
Liabilities			
Current			
Operating	Current portion of operating lease liabilities	$	56,473
Non-current			
Operating	Operating lease liabilities		127,181
Total lease liabilities		$	183,654
Lease Term and Discount Rate			
Weighted average remaining lease term (years):			
Operating leases			4.6 years
Weighted average discount rate:			
Operating leases			5.7%

The components of lease expense were as follows:

Lease Costs	Classification	Three Months Ended September 30, 2019		Nine Months Ended September 30, 2019	
Operating lease costs[1]	Cost of sales	$	21,787	$	69,547
Operating lease costs[2]	Selling, general and administrative		1,044		3,281
		$	22,831	$	72,828

(1) Includes short-term operating lease costs of $4.0 million and $15.1 million for the three and nine months ended September 30, 2019, respectively.

(2) Includes short-term operating lease costs of $0.2 million and $0.6 million for the three and nine months ended September 30, 2019, respectively.

Supplemental cash flow information related to leases was as follows:

	Nine Months Ended September 30, 2019	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	$	57,523
Right-of-use assets obtained in exchange for new lease liabilities:		
Operating leases	$	229,557

Maturities of lease liabilities as of September 30, 2019:

Maturities of lease liabilities	**Operating leases**	
2019	$	18,087
2020		62,302
2021		43,195
2022		32,836
2023		22,380
Thereafter		38,520
Total lease payments	$	217,320
Less: Interest		33,666
Total	$	183,654

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 nine months ended September 30, 2019, we had a tax benefit of $7.7 million and $7.3 million, respectively. For the three and nine months ended September 30, 2018, we had a tax benefit of $1.5 million and tax expense of $8.8 million, respectively. The effective tax rate was 25% and 17% for the three and nine months ended September 30, 2019, respectively. The effective tax rate was (32)% and 14% for the three and nine months ended September 30, 2018, respectively. Without discrete items, which primarily consist of tax expense related to equity compensation, the effective tax rate for the three and nine months ended September 30, 2019 would have been 27% and 29%, respectively. Without the discrete items, which primarily consist of tax expense related to equity compensation, the effective tax rate for the three and nine months ended September 30, 2018 would have been (52)% and 11%, respectively.

During the three and nine months ended September 30, 2019, we recorded tax expense related to equity compensation of $0.1 million and $4.5 million, respectively. During the three and nine months ended September 30, 2018, we recorded tax expense related to equity compensation of $0.0 million and $0.7 million, respectively.

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 nine months ended September 30, 2019 and 2018 (in thousands):

	Three Months Ended September 30, 2019						Three Months Ended September 30, 2018					
Category	**Oil & Gas Proppants**		**Industrial & Specialty Products**		**Total Sales**		**Oil & Gas Proppants**		**Industrial & Specialty Products**		**Total Sales**	
Product	$	168,870	$	119,107	$	287,977	$	227,915	$	120,720	$	348,635
Service		73,837		—		73,837		74,537		—		74,537
Total Sales	$	242,707	$	119,107	$	361,814	$	302,452	$	120,720	$	423,172

Category	Nine Months Ended September 30, 2019			Nine Months Ended September 30, 2018		
	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales	Oil & Gas Proppants	Industrial & Specialty Products	Total Sales
Product	$ 528,708	$ 359,170	$ 887,878	$ 708,924	$ 280,456	$ 989,380
Service	247,540	—	247,540	230,521	17	230,538
Total Sales	$ 776,248	$ 359,170	$ 1,135,418	$ 939,445	$ 280,473	$ 1,219,918

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 nine months ended September 30, 2019 (in thousands):

	Unbilled Receivables
December 31, 2018	$ 90
Reclassifications to billed receivables	(3,183)
Revenues recognized in excess of period billings	3,893
September 30, 2019	$ 800

	Deferred Revenue
December 31, 2018	$ 113,319
Revenues recognized from balances held at the beginning of the period	(24,241)
Revenues deferred from period collections on unfulfilled performance obligations	12,225
Revenues recognized from period collections	(8,138)
September 30, 2019	$ 93,165

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 $0.7 million and $2.5 million for the three and nine months ended September 30, 2018, respectively. There were no related party transactions during the nine months ended September 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 selling, general, and administrative costs, corporate costs, plant capacity expansion expenses, and facility closure costs. 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 nine months ended September 30, 2019 and 2018:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Sales:				
Oil & Gas Proppants	$ 242,707	$ 302,452	$ 776,248	$ 939,445
Industrial & Specialty Products	119,107	120,720	359,170	280,473
Total sales	361,814	423,172	1,135,418	1,219,918
Segment contribution margin:				
Oil & Gas Proppants	50,557	89,550	180,601	303,591
Industrial & Specialty Products	44,397	48,697	139,103	110,528
Total segment contribution margin	94,954	138,247	319,704	414,119
Operating activities excluded from segment cost of sales	(16,773)	(37,411)	(59,617)	(70,292)
Selling, general and administrative	(40,208)	(37,980)	(113,523)	(114,803)
Depreciation, depletion and amortization	(47,126)	(37,150)	(136,625)	(102,305)
Asset impairment	(130)	—	(130)	(16,184)
Interest expense	(24,733)	(21,999)	(72,476)	(49,283)
Other income, net, including interest income	3,280	1,062	19,076	2,808
Income tax benefit (expense)	7,671	1,547	7,259	(8,806)
Net (loss) income	$ (23,065)	$ 6,316	$ (36,332)	$ 55,254
Less: Net loss attributable to non-controlling interest	(28)	—	(121)	—
Net (loss) income attributable to U.S. Silica Holdings, Inc.	$ (23,037)	$ 6,316	$ (36,211)	$ 55,254

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 September 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 October 3, 2019, we paid a cash dividend of $4.6 million or $0.0625 per share to common stockholders of record as of the close of business on September 13, 2019, which had been declared by our Board of Directors on July 18, 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 in 2018, 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 September 30, 2019, we operated 26 production facilities across the United States. We control 554 million tons

of reserves of commercial silica, which we believe can be processed to make 234 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 periods presented, 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

Demand for frac sand is driven by the use of hydraulic fracturing as a means to extract hydrocarbons from shale formations. According to Rystad Energy's "ShaleIntel Proppant Market - 4Q 2019," published on September 16, 2019, U.S. raw sand proppant demand is expected to be 2% 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 average selling price per ton decreased sequentially during the three months ended September 30, 2019, compared to the three months ended June 30, 2019, as summarized below. The decreases were mainly due to more tons produced and sold in-basin in West Texas, fewer tons delivered to well sites, and decreased sand pricing.

Amounts in thousands, except per ton data	Three Months Ended				Percentage Change		
Oil & Gas Proppants	**September 30, 2019**	**June 30, 2019**	**March 31, 2019**	**December 31, 2018**	**September 30, 2019 vs. June 30, 2019**	**June 30, 2019 vs. March 31, 2019**	**March 31, 2019 vs. December 31, 2018**
Sales	$ 242,707	$ 273,064	$ 260,477	$ 243,546	(11)%	5%	7%
Tons Sold	3,896	3,932	3,864	3,704	(1)%	2%	4%
Average Selling Price per Ton	$ 62.30	$ 69.45	$ 67.41	$ 65.75	(10)%	3%	3%

If oil and gas drilling and completion activity does not grow or if frac sand supply remains greater than demand, then we may sell fewer tons, sell 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 material asset impairments. If these events occur, we may evaluate actions to reduce cost and improve liquidity.

Fluctuations in frac sand demand and price may occur as the market adjusts to supply and demand due to energy pricing fluctuations. Fluctuations in price may also occur as the supply of local in-basin sand changes.

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. Over the past year, this trend of customers preferring local in-basin sand has accelerated. 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.

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 the price of the product, transportation, surcharges, 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 43% and 42% of total sales for both the three and nine months ended September 30, 2019, respectively, and approximately 48% and 50% for the three and nine months ended September 30, 2018, respectively. Sales to one of our customers accounted for 11% and 12% of our total sales for the three and nine months ended September 30, 2019, respectively, and 15% for both the three and nine months ended September 30, 2018. No other customers accounted for 10% or more of our total sales. At September 30, 2019, one of our customer's accounts receivable represented 13% 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, particularly in volatile market conditions. When these negotiations occur, 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 September 30, 2019, we had twenty-two minimum purchase supply agreements in the Oil & Gas Proppants segment with initial terms expiring between 2019 and 2034. As of September 30, 2018, we had twenty-four minimum purchase supply agreements in the Oil & Gas Proppants segment with initial terms expiring between 2018 and 2034. Collectively, sales to customers with minimum purchase supply agreements accounted for 61% of Oil & Gas Proppants segment sales for both the three and nine months ended September 30, 2019, and 68% and 54% for the three and nine months ended September 30, 2018, respectively.

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 selling, general, and administrative costs, corporate costs, plant capacity expansion expenses, and facility closure costs.

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 (loss) income, the most directly comparable GAAP financial measure, to Adjusted EBITDA.

(amounts in thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net (loss) income attributable to U.S. Silica Holdings, Inc.	$ (23,037)	$ 6,316	$ (36,211)	$ 55,254
Total interest expense, net of interest income	23,711	20,899	69,683	43,243
Provision for taxes	(7,671)	(1,547)	(7,259)	8,806
Total depreciation, depletion and amortization expenses	47,126	37,150	136,625	102,305
EBITDA	40,129	62,818	162,838	209,608
Non-cash incentive compensation [1]	3,722	5,427	10,566	18,612
Post-employment expenses (excluding service costs) [2]	426	544	1,301	1,653
Merger and acquisition related expenses [3]	4,873	8,303	15,747	28,434
Plant capacity expansion expenses [4]	3,918	24,999	16,229	45,100
Contract termination expenses [5]	60	—	1,060	—
Asset impairments [6]	130	—	130	16,184
Business optimization projects [7]	49	1,926	55	1,926
Facility closure costs [8]	3,523	—	10,604	—
Gain on valuation change of royalty note payable[9]	(2,004)	—	(16,104)	—
Other adjustments allowable under the Credit Agreement [10]	3,583	1,525	10,323	3,001
Adjusted EBITDA	$ 58,409	$ 105,542	$ 212,749	$ 324,518

(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) The three months and nine months ended September 30, 2019 reflect a $0.1 million asset impairment related to rail cars that will not be utilized before the end of their leases. The nine months ended September 30, 2018 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, such as recruiting fees and relocation costs. The nine months ended September 30, 2019 also includes $6.2 million of loss contingencies reserve, partially offset by insurance proceeds of $2.2 million. The three months ended September 30, 2018 includes storm damage costs, recruiting fees and relocation costs. The nine months ended September 30, 2018 also 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 of no more than 3.75:1.00 that, unless we have the consent of our lenders, 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. This ratio 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 September 30, 2019, we are in compliance with all covenants under our Credit Facility, and 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. Based on our consolidated leverage ratio of 4.40 as of September 30, 2019, we may draw up to $30.0 million without the consent of our lenders. With the consent of our lenders, we have access to the full availability of the Revolver. The calculation of the consolidated leverage ratio incorporates the Adjusted EBITDA-trailing twelve months as follows:

(All amounts in thousands, except calculated ratio)		**September 30, 2019**
Total debt	$	1,236,137
Finance leases		90
Total consolidated debt	$	1,236,227
Adjusted EBITDA-trailing twelve months	$	280,740
Pro forma Adjusted EBITDA including impact of acquisitions [1]		—
Other adjustments for covenant calculation [2]		268
Total Adjusted EBITDA-trailing twelve months for covenant calculation	$	281,008
Consolidated leverage ratio[3]		4.40

(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 September 30, 2019 and 2018

Sales

(In thousands except per ton data)	Three Months Ended September 30,		Percent Change
	2019	2018	'19 vs.'18
Sales:			
Oil & Gas Proppants	$ 242,707	$ 302,452	(20)%
Industrial & Specialty Products	119,107	120,720	(1)%
Total sales	$ 361,814	$ 423,172	(14)%
Tons:			
Oil & Gas Proppants	3,896	3,821	2 %
Industrial & Specialty Products	954	983	(3)%
Total Tons	4,850	4,804	1 %
Average Selling Price per Ton:			
Oil & Gas Proppants	$ 62.30	$ 79.16	(21)%
Industrial & Specialty Products	124.85	122.81	2 %
Overall Average Selling Price per Ton	$ 74.60	$ 88.09	(15)%

Total sales decreased 14% for the three months ended September 30, 2019 compared to the three months ended September 30, 2018, driven by a 15% decrease in overall average selling price, partially offset by a 1% increase in total tons sold.

The decrease in total sales was mainly driven by Oil & Gas Proppants sales, which decreased 20% for the three months ended September 30, 2019 compared to the three months ended September 30, 2018. Oil & Gas Proppants average selling price decreased 21% and tons sold increased 2%. The decrease in average selling price was mainly driven by more tons sold from local in-basin plants which have lower logistics costs, increased in-basin 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 also partially driven by Industrial & Specialty Products sales, which decreased 1% for the three months ended September 30, 2019 compared to the three months ended September 30, 2018. Industrial & Specialty Products average selling price increased 2% and tons sold decreased 3%. The increase in average selling price was due to additional higher-margin product sales and price increases. The decrease in tons sold was mainly driven by a decrease in low-margin tons sold.

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

Cost of sales decreased by $38.7 million, or 12%, to $283.6 million for the three months ended September 30, 2019 compared to $322.3 million for the three months ended September 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 78% for the three months ended September 30, 2019 compared to 76% for the same period in 2018.

We incurred $131.5 million and $145.3 million of transportation and related costs for the three months ended September 30, 2019 and 2018, respectively. The $13.8 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. As a percentage of sales, transportation and related costs represented 36% for the three months ended September 30, 2019 compared to 34% for the same period in 2018.

We incurred $50.5 million and $53.6 million of operating labor costs for the three months ended September 30, 2019 and 2018, respectively. The $3.1 million decrease in labor costs was due to idled sand facilities and lower SandBox driver costs. As a percentage of sales, operating labor costs represented 14% for the three months ended September 30, 2019 compared to 13% for the same period in 2018.

We incurred $13.4 million and $15.8 million of electricity and drying fuel (principally natural gas) costs for the three months ended September 30, 2019 and 2018, respectively. The $2.4 million decrease in electricity and drying fuel costs was mainly due to idled sand facilities. As a percentage of sales, electricity and drying fuel costs represented 4% for both of the three months ended September 30, 2019 and 2018.

We incurred $26.4 million and $36.8 million of maintenance and repair costs for the three months ended September 30, 2019 and 2018, respectively. The $10.4 million decrease in maintenance and repair costs was due to idled sand facilities and a decrease in plant capacity expansion expenses. As a percentage of sales, maintenance and repair costs represented 7% for the three months ended September 30, 2019 compared to 9% for the same period in 2018.

Segment Contribution Margin

Industrial & Specialty Products contribution margin decreased by $4.3 million to $44.4 million for the three months ended September 30, 2019 compared to $48.7 million for the three months ended September 30, 2018, driven by a $1.6 million decrease in revenue and $2.7 million in higher cost of sales.

Oil & Gas Proppants contribution margin decreased by $39.0 million to $50.6 million for the three months ended September 30, 2019 compared to $89.6 million for the three months ended September 30, 2018, driven by a $59.7 million decrease in sales, partially offset by a $20.8 million decrease in cost of sales. The decrease in segment contribution margin was mainly driven by decreased sand pricing, partially offset by $9.4 million in customer shortfall penalties and other contractual fees that were settled.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased by $2.2 million, or 6%, to $40.2 million for the three months ended September 30, 2019 compared to $38.0 million for the three months ended September 30, 2018. The net increase was primarily due to the following factors:

- Compensation related expense increased by $1.6 million for the three months ended September 30, 2019 compared to the three months ended September 30, 2018.
- Merger and acquisition related expense decreased by $1.3 million to $0.6 million for the three months ended September 30, 2019 compared to $1.9 million for the three months ended September 30, 2018. The decrease was mainly due to costs related to the acquisition of EPM during the three months ended September 30, 2018 that did not recur during the three months ended September 30, 2019.
- During the three months ended September 30, 2019 the corporate office in Frederick, Maryland was closed, resulting in $2.2 million of remaining contracted costs incurred such as office lease costs, maintenance, and utilities.

In total, our selling, general and administrative expenses represented approximately 11% and 9% of our sales for the three months ended September 30, 2019 and 2018, respectively.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization expense increased by $9.9 million, or 27%, to $47.1 million for the three months ended September 30, 2019 compared to $37.2 million for the three months ended September 30, 2018. The increase was mainly driven by our plant capacity expansions as well as other continued capital spending. Depreciation, depletion and amortization expense represented approximately 13% and 9% of our sales for the three months ended September 30, 2019 and 2018, respectively.

Asset Impairment

During the three months ended September 30, 2019, we recorded a $0.1 million asset impairment charge related to rail cars that will not be utilized before the end of their leases.

Operating Income (Loss)

Operating loss for the three months ended September 30, 2019 was $9.3 million compared to operating income of $25.7 million for the three months ended September 30, 2018. The change was mainly driven by a 14% decrease in sales and a

27% increase in depreciation, depletion and amortization expense, and a 6% increase in selling, general and administrative expenses, partially offset by a 12% decrease in cost of sales.

Interest Expense

Interest expense increased by $2.7 million, or 12%, to $24.7 million for the three months ended September 30, 2019 compared to $22.0 million for the three months ended September 30, 2018, mainly due to a decrease in interest costs capitalized in property, plant and mine development.

Other Income, Net, Including Interest Income

Other income, net, increased by $2.2 million, to $3.3 million for the three months ended September 30, 2019 compared to $1.1 million for the three months ended September 30, 2018, primarily driven by the change in valuation of the royalty note payable.

Provision for Income Taxes

For the three months ended September 30, 2019, we had a tax benefit of $7.7 million. For the three months ended September 30, 2018, we had a tax benefit of $1.5 million. The effective tax rate was 25% and (32)% for the three months ended September 30, 2019 and 2018, respectively. Without discrete items, which primarily consist of tax expense related to equity compensation, the effective tax rate for the three months ended September 30, 2019 and 2018 would have been 27% and (52)%, respectively.

During the three months ended September 30, 2019 and 2018, we recorded tax expense related to equity compensation of $0.1 million and $0.0 million, respectively.

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 (loss) income attributable to U.S. Silica Holdings, Inc., was a net loss of $23.0 million and net income of $6.3 million for the three months ended September 30, 2019 and 2018, respectively. The year over year changes were due to the factors noted above.

Results of Operations for the Nine Months Ended September 30, 2019 and 2018

Sales

(In thousands except per ton data)	Nine Months Ended September 30,		Percent Change
	2019	2018	'19 vs.'18
Sales:			
Oil & Gas Proppants	$ 776,248	$ 939,445	(17)%
Industrial & Specialty Products	359,170	280,473	28 %
Total sales	$ 1,135,418	$ 1,219,918	(7)%
Tons:			
Oil & Gas Proppants	11,692	10,537	11 %
Industrial & Specialty Products	2,892	2,885	— %
Total Tons	14,584	13,422	9 %
Average Selling Price per Ton:			
Oil & Gas Proppants	$ 66.39	$ 89.16	(26)%
Industrial & Specialty Products	124.19	97.22	28 %
Overall Average Selling Price per Ton	$ 77.85	$ 90.89	(14)%

Total sales decreased 7% for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, driven by a 14% 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 17% for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018. Oil & Gas Proppants average selling price decreased 26% and tons sold increased 11%. The decrease in average selling price was mainly driven by more tons sold from local in-basin plants which have lower logistics costs, increased in-basin 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 28% for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018. Industrial & Specialty Products average selling price increased 28%. The increase in average selling price was due to the acquisition of EPM, additional higher-margin product sales and price increases.

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

Cost of sales decreased by $0.8 million, or 0%, to $875.3 million for the nine months ended September 30, 2019 compared to $876.1 million for the nine months ended September 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 77% for the nine months ended September 30, 2019 compared to 72% for the same period in 2018.

We incurred $396.7 million and $417.7 million of transportation and related costs for the nine months ended September 30, 2019 and 2018, respectively. The $21.0 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 35% for the nine months ended September 30, 2019 compared to 34% for the same period in 2018.

We incurred $156.7 million and $149.4 million of operating labor costs for the nine months ended September 30, 2019 and 2018, respectively. The $7.3 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 14% for the nine months ended September 30, 2019 compared to 12% for the same period in 2018.

We incurred $42.5 million and $38.3 million of electricity and drying fuel (principally natural gas) costs for the nine months ended September 30, 2019 and 2018, respectively. The $4.2 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 nine months ended September 30, 2019 compared to 3% for the same period in 2018.

We incurred $74.0 million and $82.2 million of maintenance and repair costs for the nine months ended September 30, 2019 and 2018, respectively. The $8.2 million decrease in maintenance and repair costs incurred was mainly due to idled sand facilities and a decrease in plant capacity expansion expenses, partly offset by higher production volume, additional SandBox operations and the acquisition of EPM. As a percentage of sales, maintenance and repair costs represented 7% for both of the nine months ended September 30, 2019 and 2018.

Segment Contribution Margin

Industrial & Specialty Products contribution margin increased by $28.6 million to $139.1 million for the nine months ended September 30, 2019 compared to $110.5 million for the nine months ended September 30, 2018, driven by a $78.7 million increase in revenue, partially offset by $50.1 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 $123.0 million to $180.6 million for the nine months ended September 30, 2019 compared to $303.6 million for the nine months ended September 30, 2018, driven by a $163.2 million decrease in sales, partially offset by a $40.2 million decrease in cost of sales. The decrease in segment contribution margin was mainly driven by decreased sand pricing.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased by $1.3 million, or 1%, to $113.5 million for the nine months ended September 30, 2019 compared to $114.8 million for the nine months ended September 30, 2018. The net decrease was primarily due to the following factors:

- Compensation related expense increased by $7.1 million for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, mainly due to the acquisition of EPM.
- Merger and acquisition related expense decreased by $10.8 million to $2.5 million for the nine months ended September 30, 2019 compared to $13.3 million for the nine months ended September 30, 2018. The decrease was mainly due to costs related to the acquisition of EPM during the nine months ended September 30, 2018 that did not recur during the nine months ended September 30, 2019.
- During the nine months ended September 30, 2019, $6.3 million of costs were incurred related to closing the corporate office in Frederick, Maryland. These costs included severance and remaining contracted costs such as office lease costs, maintenance, and utilities.
- Business optimization costs of $1.9 million incurred during the nine months ended September 30, 2018 did not recur during the nine months ended September 30, 2019.
- A net loss of $0.7 million during the nine months ended September 30, 2018 did not recur during the nine months ended September 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 10% and 9% of our sales for the nine months ended September 30, 2019 and 2018, respectively.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization expense increased by $34.3 million, or 34%, to $136.6 million for the nine months ended September 30, 2019 compared to $102.3 million for the nine months ended September 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 nine months ended September 30, 2019 and 2018, respectively.

Asset Impairment

During the nine months ended September 30, 2019, we recorded a $0.1 million asset impairment charge related to rail cars that will not be utilized before the end of their leases. During the nine months ended September 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 $100.7 million to $9.8 million for the nine months ended September 30, 2019 compared to operating income of $110.5 million for the nine months ended September 30, 2018. The decrease was driven by a 7% decrease in sales and a 34% increase in depreciation, depletion and amortization expense, partially offset by a 1% decrease in selling, general and administrative expenses and a $16.1 million decrease in asset impairment charges during the nine months ended September 30, 2019.

Interest Expense

Interest expense increased by $23.2 million, or 47%, to $72.5 million for the nine months ended September 30, 2019 compared to $49.3 million for the nine months ended September 30, 2018, mainly driven by the increase in our Credit Facility to finance the acquisition of EPM as well as a decrease in interest costs capitalized in property, plant and mine development.

Other Income, Net, Including Interest Income

Other income, net, increased by $16.3 million to $19.1 million for the nine months ended September 30, 2019 compared to $2.8 million for the nine months ended September 30, 2018, primarily driven by the change in valuation of the royalty note payable.

Provision for Income Taxes

For the nine months ended September 30, 2019, we had a tax benefit of $7.3 million. For the nine months ended September 30, 2018, we had tax expense of $8.8 million. The effective tax rate was 17% and 14% for the nine months ended September 30, 2019 and 2018, respectively. Without discrete items, which primarily consist of tax expense related to equity compensation, the effective tax rate for the nine months ended September 30, 2019 and 2018 would have been 29% and 11%, respectively.

During the nine months ended September 30, 2019 and 2018, we recorded tax expense related to equity compensation of $4.5 million and $0.7 million, respectively.

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 $36.2 million and net income of $55.3 million for the nine months ended September 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 September 30, 2019, our working capital was $234.9 million and we had $93.5 million of availability under the Revolver. Based on our consolidated leverage ratio of 4.40 as of September 30, 2019, we may draw up to $30.0 million without the consent of our lenders. With the consent of our lenders, we have access to the full availability of 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.

During the three months ended September 30, 2019, the Company repurchased outstanding debt under the Term Loan in the amount of $10 million at a rate of 95.5%. Debt issuance costs and original issue discount were recalculated with the reduced future debt payments, and additional costs of approximately $0.4 million were expensed. As a result, we recorded a gain on extinguishment of debt in the amount of $0.1 million. 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:

	Nine Months Ended September 30,	
	2019	**2018**
Net cash provided by (used in):		
Operating activities	$ 116,381	$ 267,690
Investing activities	(99,852)	(944,852)
Financing activities	(31,738)	638,178

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 or loss 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 $116.4 million for the nine months ended September 30, 2019. This was mainly due to a $36.3 million net loss adjusted for non-cash items, including $136.6 million in depreciation, depletion and amortization, a $16.1 million gain on valuation change of royalty note payable, $8.5 million in deferred income taxes, $10.6 million in equity-based compensation, $32.4 million in deferred revenue, and $4.9 million in other miscellaneous non-cash items. Also contributing to the change was a $3.8 million decrease in accounts receivable, $4.0 million received related to vendor incentives, an $8.5 million decrease in prepaid expenses and other current assets, a $39.5 million increase in accounts payable and accrued liabilities, and $11.7 million in other operating assets and liabilities.

Net cash provided by operating activities was $267.7 million for the nine months ended September 30, 2018. This was mainly due to $55.3 million in net income adjusted for non-cash items, including $102.3 million in depreciation, depletion and amortization, $16.2 million asset impairment related to the closure of our resin coating facility and associated product portfolio, $7.7 million in deferred income taxes, $18.6 million in equity-based compensation, $16.6 million in deferred revenue, $5.4 million mainly related to the gain on sale of three transload facilities, and $9.7 million in other miscellaneous non-cash items. Also contributing to the change was an $8.2 million decrease in accounts receivable, a $2.7 million decrease in inventories, a $3.1 million increase in prepaid and other current assets, a $4.4 million decrease in income taxes, a $27.9 million increase in accounts payable and accrued liabilities, $54.6 million in short-term and long-term vendor incentives, and $6.1 million in other operating assets and liabilities.

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 $99.9 million for the nine months ended September 30, 2019. This was mainly due to capital expenditures of $97.9 million, and capitalized intellectual property costs of $3.5 million. Capital expenditures for the nine months ended September 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 $944.9 million for the nine months ended September 30, 2018. This was mainly due to capital expenditures of $220.8 million and cash consideration of $743.3 million paid for the EPMH acquisition, partially offset by proceeds from the sale of three transload facilities of $26.3 million. Capital expenditures for the nine months ended September 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 $31.7 million for the nine months ended September 30, 2019. This was mainly due to $20.2 million of long-term debt payments, including approximately $9.6 million for outstanding debt repurchase, $13.9 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 $5.2 million of capital contribution from a non-controlling interest.

Net cash provided by financing activities was $638.2 million for the nine months ended September 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, $497.7 million of long-term debt payments, $90.5 million of common stock repurchases, $15.1 million of dividends paid, $4.2 million of tax payments related to shares withheld for vested restricted stock and restricted stock units, and a $3.2 million capital contributions from a non-controlling interest.

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 September 30, 2019, we had $20.6 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.

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 September 30, 2019, we had $1.251 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 $12.5 million per year.

LIBOR is expected to be discontinued after 2021 and there can be no assurance as to what alternative base rate may replace LIBOR in the event it is discontinued, or whether such base rate will be more or less favorable to the Company. The Company intends to monitor the developments with respect to LIBOR and work with its lenders, including under the Credit Agreement, to ensure any transition away from LIBOR will have a minimal impact on its financial condition, but can provide no assurances regarding the impact of the discontinuation of LIBOR.

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 September 30, 2019, the fair value of our interest rate swaps was a liability of $3.7 million and a liability of $1.7 million and were classified within accounts payable and accrued liabilities on our balance sheet. Our interest rate cap matured on June 30, 2019. 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 September 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 September 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 existing 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 September 30, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

As of September 30, 2019 we have integrated 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 nine months ended September 30, 2019, one new claim was brought against U.S. Silica. As of September 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 September 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 third quarter of 2019, the average price paid per share, the number of shares that we repurchased as part of our share 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 share repurchase program:

Period	Total Number of Shares Withheld or Forfeited		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)]
July 1, 2019 - July 31, 2019	2,883	(2)	$ 12.78	—	126,540,060
August 1, 2019 - August 31, 2019	856	(2)	$ 12.09	—	126,540,060
September 1, 2019 - September 30, 2019	8,324	(2)	$ 10.03	—	126,540,060
Total	12,063		$ 12.34	—	

(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 July 31, August 31, and September 30, 2019, respectively.

We did not repurchase any shares of common stock under our share repurchase program during the three months ended September 30, 2019.

From September 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
3.1	Third Amended and Restated Certificate of Incorporation of U.S. Silica Holdings, Inc., effective May 4, 2017.	8-K	001-35416	3.1	May 10, 2017
3.2	Third Amended and Restated Bylaws of U.S. Silica Holdings, Inc., effective May 4, 2017.	8-K	001-35416	3.2	May 10, 2017
10.1*	Consent and Amendment Agreement, dated as of August 23, 2019, among U.S. Silica Company and BNP Paribas, as administrative agent and the lenders named therein, amending that certain Third Amended and Restated Credit Agreement, dated as of May 1, 2018.				
31.1*	Rule 13a-14(a)/15(d)-14(a) Certification by Bryan A. Shinn, Chief Executive Officer.				
31.2*	Rule 13a-14(a)/15(d)-14(a) Certification by Donald A. Merril, Chief Financial Officer.				
32.1*	Section 1350 Certification by Bryan A. Shinn, Chief Executive Officer.				
32.2*	Section 1350 Certification by Donald A. Merril, Chief Financial Officer.				
95.1*	Mine Safety Disclosure.				
99.1*	Consent of Rystad Energy.				
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 Inline XBRL Taxonomy Extension Schema				
	101.CAL Inline XBRL Taxonomy Extension Calculation				
	101.LAB Inline XBRL Taxonomy Extension Labels				
	101.PRE Inline XBRL Taxonomy Extension Presentation				
	101.DEF Inline XBRL Taxonomy Extension Definition				
104*	Cover Page from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 formatted Inline XBRL (and contained in Exhibit 101)				

* 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 October, 2019.

U.S. Silica Holdings, Inc.

/s/ DONALD A. MERRIL

Name:	Donald A. Merril
Title:	Executive Vice President & Chief Financial Officer (Authorized Signatory)

CERTAIN INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS NOT MATERIAL AND WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED

Information excluded from this exhibit is marked with [***]

Exhibit 10.1

CONSENT AND AMENDMENT AGREEMENT

This **CONSENT AND AMENDMENT AGREEMENT** (this "**Agreement**") is made as of August 23, 2019, among U.S. SILICA COMPANY, a Delaware corporation ("**Company**"), each Lender listed on the signature pages hereto and BNP PARIBAS, as administrative agent (in such capacity, "**Administrative Agent**").

R E C I T A L S

(A) **WHEREAS**, Company, USS Holdings, Inc., a Delaware corporation, the subsidiary guarantors listed on the signature pages thereof, the financial institutions listed on the signature pages thereof as lenders ("**Lenders**") and Administrative Agent are party to the Third Amended and Restated Credit Agreement, dated as of May 1, 2018 (as amended, restated, supplemented or otherwise modified from time to time prior to the date hereof, the "**Existing Credit Agreement**", and as further modified by this Agreement, the "**Credit Agreement**").

(B) **WHEREAS**, Company, by written notice to Administrative Agent, has requested (i) the consent of Requisite Lenders to the Specified Disposition [***] and (ii) the amendment of certain provisions of the Credit Agreement as set forth in Section 3 herein.

(C) **WHEREAS**, pursuant to Section 9.6 of the Credit Agreement, no amendment of any provision of the Credit Agreement and no consent to any departure by Company therefrom, shall in any event be effective without the written concurrence of Company and Requisite Lenders.

(D) **WHERES**, Lenders party to this Agreement, constituting Requisite Lenders, and Administrative Agent have agreed to permit the Specified Disposition and amend certain provisions of the Credit Agreement, each as set forth herein.

NOW, THEREFORE, in consideration of the premises and the covenants and agreements contained herein, the parties hereto hereby agree as follows:

1 Definitions

Capitalized terms used in this Agreement but not defined herein shall have the meanings given to such terms in the Credit Agreement.

In this Agreement:

"**Specified Disposition**" means [***].

2 Consent

Notwithstanding Article VI of the Credit Agreement or any other provision in the Loan Documents to the contrary, each Lender party hereto hereby consents to the Specified Disposition; **provided** that the Specified Disposition shall be an Asset Sale and the Net Asset Sale Proceeds thereof shall be subject to Section 2.4(b)(iii)(A) of the Credit Agreement.

3 Amendment

The first paragraph of Section 2.4(b)(v) of the Existing Credit Agreement is hereby amended by deleting the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~) as follows:

> **Acquisition of Term Loans by a Loan Party** Notwithstanding anything to the contrary contained in this Section 2.4 or any other provision of this Agreement, ~~so long as Requisite Lenders have given prior written consent,~~ Parent, Company or any Restricted Subsidiary may repurchase outstanding Term Loans pursuant to this Section 2.4(b)(v) on the following basis:

4 Conditions to Effectiveness

The consent and amendment set forth herein shall become effective on the date on which the following conditions have been satisfied or waived (in each case as determined by Administrative Agent):

4.1 **Costs and Expenses** Payment of all costs, expenses and other amounts due and owing to Administrative Agent, including reimbursement or payment of all out-of-pocket expenses (including fees, expenses and disbursements of its counsel) required to be reimbursed or paid by Company under the Credit Agreement or under any other Loan Document that have been invoiced to Company.

4.2 **Counterparts to this Agreement** The execution and delivery of a counterpart (including a facsimile or other electronic counterpart) of this Agreement by each of Company, Requisite Lenders and Administrative Agent.

5 Miscellaneous

5.1 This Agreement shall be a “Loan Document” as defined in the Credit Agreement.

5.2 The provisions of the Credit Agreement and each other Loan Document shall, save as modified by this Agreement, continue in full force and effect, and references in the Credit Agreement to “this Agreement”, “hereunder”, “hereof” and “herein”, and in the other Loan Documents to the “Credit Agreement”, or words of like import referring to the Credit Agreement shall mean and be a reference to the Credit Agreement, as modified by this Agreement.

5.3 In case any provision in or obligation under this Agreement shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

5.4 The execution, delivery, and effectiveness of this Agreement shall be limited precisely as written and, except as expressly provided herein, shall not be deemed to (a) be a consent to any waiver or modification of any other term or condition of the Credit Agreement or any of the instruments or documents referred to therein, (b) create, or be evidence of, alone or taken with any consent to, waiver or modification of, or other amendment of the provisions of the Credit Agreement or any of the instruments or documents referred to therein, a course of conduct, or (c) prejudice any

right or rights which Secured Parties may now have or may have in the future under or in connection with the Credit Agreement or any of the instruments or documents referred to therein.

5.5 **THIS AGREEMENT, AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (INCLUDING SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW OF THE STATE OF NEW YORK), WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES THAT WOULD REQUIRE APPLICATION OF ANOTHER LAW.**

5.6 This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument; signature pages may be detached from multiple separate counterparts and attached to a single counterpart so that all signature pages are physically attached to the same document. This Agreement shall become effective upon the execution of a counterpart hereof by each of the parties hereto.

[*Signature pages follow*]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first written above.

U.S. SILICA COMPANY,

as Company

By /s/ Bryan A. Shinn

Name: Bryan A. Shinn
Title: President and Chief Executive Officer

BNP PARIBAS,

as Administrative Agent

By /s/ Yung Wu

Name: Yung Wu

Title: Vice President

By /s/ Kwang Kyun Choi

Name: Kwang Kyun Choi

Title: Vice President

[VARIOUS LENDERS]

as Lender

By __

Name:

Title:

Exhibit 31.1

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 September 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: October 30, 2019

/s/ BRYAN A. SHINN

Name: Bryan A. Shinn

Title: President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Donald A. Merril, 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 September 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: October 30, 2019

/s/ DONALD A. MERRIL

Name: Donald A. Merril

Title: Executive Vice President and Chief Financial Officer

Exhibit 32.1

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 September 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: October 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.

Exhibit 32.2

SECTION 1350 CERTIFICATION

I, Donald A. Merril, 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 September 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: October 30, 2019

/s/ DONALD A. MERRIL

Name: Donald A. Merril

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.

Exhibit 95.1

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. Due to timing and other factors, the data below may not agree with the mine data retrieval system maintained by the MSHA at www.MSHA.gov

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

(*whole dollars*)

Mine or Operating Name/MSHA Identification Number	Section 104 S&S Citations	Section 104(b) Orders	Section 104(d) Citations and Orders	Section 110(b)(2) Violations	Section 107(a) Orders	Total Dollar Value of MSHA Assessments Proposed (1)	Total Number of Mining Related Fatalities	Received Notice of Pattern of Violations Under Section 104(e) (yes/no)	Received Notice of Potential to Have Pattern Under Section 104(e) (yes/no)	Legal Actions Pending as of Last Day of Period	Legal Actions Initiated During Period	Legal Actions Resolved During Period
Berkley Springs, WV / 4602805	3	0	0	0	0	$3,128.00	0	No	No	0	0	26
Cadre Brady Plant, TX / 4104855	0	0	0	0	0	$0.00	0	No	No	0	0	0
Celatom Mine, OR / 3503237	0	0	0	0	0	$0.00	0	No	No	0	0	0
Celatom Plant, OR / 3503236	0	0	0	0	0	$1,210.00	0	No	No	0	0	0
Cheto Mine, AZ / 0200103	0	0	0	0	0	$0.00	0	No	No	0	0	0
Clark, NV / 2600677	0	0	0	0	0	$0.00	0	No	No	0	0	0
Columbia, SC / 3800138	0	0	0	0	0	$0.00	0	No	No	0	0	0
Crane, TX / 4105331	3	0	0	0	0	$0.00*	0	No	No	0	0	0
Dubberly, LA / 1600489	0	0	0	0	0	$0.00	0	No	No	0	0	1
Fernley, NV / 2601950	0	0	0	0	0	$0.00	0	No	No	0	0	0
Festus, MO / 2302377	0	0	0	0	0	$0.00	0	No	No	0	0	0
Fowlkes Mine, MS / 2200460	0	0	0	0	0	$0.00	0	No	No	0	0	0
Hazen Mine, NV/ 2600679	0	0	0	0	0	$0.00	0	No	No	0	0	0
Hurtsboro, AL / 100617	0	0	0	0	0	$0.00	0	No	No	0	0	1
Jackson, MS / 2200415	0	0	0	0	0	$0.00	0	No	No	0	0	0
Jackson, TN / 4002937	0	0	0	0	0	$0.00	0	No	No	0	0	0
Kosse, TX / 4100262	1	0	0	0	0	$0.00*	0	No	No	0	0	0
Lamesa, TX / 4105363	0	1	0	0	0	$0.00*	0	No	No	8	0	0
Lovelock (Colado Plant) / 2600680	0	0	0	0	0	$0.00*	0	No	No	13	0	0
Lovelock, NV (Colado Mine) / 2600672	0	0	0	0	0	$0.00	0	No	No	0	0	0
Mapleton, PA / 3603122	0	0	0	0	0	$0.00	0	No	No	0	0	1
Mauricetown, NJ / 2800526	0	0	0	0	0	$0.00	0	No	No	0	0	0
Middletown, TN / 4002968	0	0	0	0	0	$0.00	0	No	No	0	0	0
Mill Creek Mine, OK / 3400836	0	0	0	0	0	$0.00	0	No	No	0	0	0
Mill Creek Plant, OK / 3400377	0	0	0	0	0	$0.00	0	No	No	3	1	0
Millen, GA / 0901232	0	0	0	0	0	$0.00	0	No	No	0	0	0
Montpelier, VA / 4402829	0	0	0	0	0	$0.00	0	No	No	1	0	0
Ottawa, IL / 1101013	0	0	0	0	0	$1,027.00	0	No	No	0	0	4
Pacific, MO / 2300544	0	0	0	0	0	$0.00	0	No	No	0	0	8
Peru, IL / 1103269	0	0	0	0	0	$0.00	0	No	No	0	0	1
Popcorn Mine, NV / 2602236	0	0	0	0	0	$0.00	0	No	No	0	0	0
Port Elizabeth, NJ / 2800510	0	0	0	0	0	$242.00	0	No	No	0	0	0
Rockwood, MI / 2000608	1	0	0	0	0	$0.00*	0	No	No	0	0	1
Seagraves, TX / 4105004	0	0	0	0	0	$0.00	0	No	No	0	0	0
Sparta, WI / 4703644	0	0	0	0	0	$0.00	0	No	No	0	0	4
Tyler, TX /4104182	0	0	0	0	0	$0.00	0	No	No	3	0	0
Utica, IL / 1103268	1	0	0	0	0	$0.00	0	No	No	0	0	1
Voca, TX / 4104855	0	0	0	0	0	$0.00	0	No	No	0	0	0

Amounts included are the total dollar value of proposed assessments received from MSHA on or before September 30, 2019, regardless of whether the assessment has been challenged or appealed. Citations and orders can be contested and appealed, and as part of that process, are sometimes reduced in severity and amount, and sometimes dismissed. The number of citations, orders, and proposed assessments vary by inspector and vary depending on the size and type of the operation

* As of September 30, 2019 MSHA had not yet proposed an assessment for 9 non-S&S and 3 S&S citations at Crane, TX.
* As of September 30, 2019 MSHA had not yet proposed an assessment for 1 S&S citation at Kosse, TX.
* As of September 30, 2019 MSHA had not yet proposed an assessment for 1 104(b) citation at Lamesa, TX.
* As of September 30, 2019 MSHA had not yet proposed an assessment for 2 non-S&S citations at Lovelock Plant, NV.
* As of September 30, 2019 MSHA had not yet proposed an assessment for 4 non-S&S and 1 S&S citation at Rockwood, MI.
* As of September 30, 2019 MSHA had not yet proposed an assessment for 1 S&S citation at Utica, IL.

Exhibit 99.1

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 September 30, 2019 (the "Quarterly Report") of U.S. Silica Holdings, Inc. (the "Company") and the quotation by the Company of our "ShaleIntel Proppant Market - 4Q 2019," published on September 16, 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

October 30, 2019