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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, 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 Exchange Act). Yes No

As of October 19, 2018, 27,723,920 shares of the registrant's Common Stock, par value \$.01 per share, were outstanding.

CARBO CERAMICS INC.

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## PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS  
CARBO CERAMICS INC.

## CONSOLIDATED BALANCE SHEETS

(\$ in thousands, except per share data)

	September 30, 2018 (Unaudited)	December 31, 2017 (Note 1)
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 48,872	\$ 68,169
Restricted cash	5,932	6,935
Trade accounts and other receivables, net	37,669	37,705
Inventories:		
Finished goods	48,199	59,519
Raw materials and supplies	25,684	19,480
Total inventories	73,883	78,999
Assets held for sale	17,842	—
Prepaid expenses and other current assets	5,366	3,989
Total current assets	189,564	195,797
Restricted cash	3,780	3,281
Income tax receivable	2,296	2,389
Property, plant and equipment:		
Land and land improvements	39,584	41,590
Land-use and mineral rights	19,696	19,696
Buildings	75,814	72,427
Machinery and equipment	432,841	455,863
Construction in progress	29,571	36,138
Total property, plant and equipment	597,506	625,714
Less accumulated depreciation and amortization	316,183	301,528
Net property, plant and equipment	281,323	324,186
Goodwill	3,500	3,500
Intangible and other assets, net	6,280	11,445
Total assets	\$ 486,743	\$ 540,598
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 15,372	\$ 19,417
Accrued payroll and benefits	6,380	6,056
Accrued freight	1,381	2,292
Accrued utilities	903	1,552
Derivative instruments	563	2,537
Notes payable, related parties	27,040	—
Other current liabilities	10,145	10,577
Total current liabilities	61,784	42,431
Deferred income taxes	63	230

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Long-term debt, net	61,211	60,698
Notes payable, related parties	—	27,040
Other long-term liabilities	6,492	4,434
Shareholders' equity:		
Preferred stock, par value \$0.01 per share, 5,000 shares authorized, none outstanding	—	—
Common stock, par value \$0.01 per share, 80,000,000 shares authorized; 27,730,631 and 27,133,614 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	277	271
Additional paid-in capital	131,378	125,715
Retained earnings	225,538	279,779
Total shareholders' equity	357,193	405,765
Total liabilities and shareholders' equity	\$ 486,743	\$ 540,598

The accompanying notes are an integral part of these statements.

## CARBO CERAMICS INC.

## CONSOLIDATED STATEMENTS OF OPERATIONS

(\$ in thousands, except per share data)

(Unaudited)

	Three months ended		Nine months ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Revenues	\$53,819	\$50,173	\$161,175	\$128,415
Cost of sales (exclusive of depreciation and amortization shown below)	50,514	53,805	152,303	142,830
Depreciation and amortization	8,058	10,891	24,793	32,999
Gross loss	(4,753 )	(14,523 )	(15,921 )	(47,414 )
Selling, general and administrative expenses (exclusive of depreciation and amortization shown below)	10,121	9,494	30,412	29,272
Depreciation and amortization	625	641	1,859	1,924
Loss on sale of Russian proppant business	—	26,728	350	26,728
Other operating (income) expense	(718 )	125,738	(777 )	125,738
Operating loss	(14,781)	(177,124)	(47,765 )	(231,076)
Other expense:				
Interest expense, net	(2,292 )	(1,915 )	(6,393 )	(5,630 )
Other, net	166	258	173	448
	(2,126 )	(1,657 )	(6,220 )	(5,182 )
Loss before income taxes	(16,907)	(178,781)	(53,985 )	(236,258)
Income tax benefit	(171 )	(316 )	(164 )	(527 )
Net loss	\$(16,736)	\$(178,465)	\$(53,821 )	\$(235,731)
Loss per share:				
Basic	\$(0.62 )	\$(6.69 )	\$(2.00 )	\$(8.84 )
Diluted	\$(0.62 )	\$(6.69 )	\$(2.00 )	\$(8.84 )
Other information:				
Dividends declared per common share	\$—	\$—	\$—	\$—

The accompanying notes are an integral part of these statements.

## CARBO CERAMICS INC.

## CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(\$ in thousands)

(Unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Net loss	\$(16,736)	\$(178,465)	\$(53,821)	\$(235,731)
Other comprehensive income:				
Foreign currency translation adjustment	—	302	—	979
Reclassification of Russia cumulative translation loss to Net Loss upon sale	—	33,347	—	33,347
Comprehensive loss	\$(16,736)	\$(144,816)	\$(53,821)	\$(201,405)

The accompanying notes are an integral part of these statements.

## CARBO CERAMICS INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(\$ in thousands)

(Unaudited)

	Nine months ended September 30,	
	2018	2017
<b>Operating activities</b>		
Net loss	\$(53,821)	\$(235,731)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	26,652	34,923
Amortization of debt issuance costs and original issue discount	513	882
Provision for doubtful accounts	145	493
Deferred income taxes	(167 )	76
(Gain) loss on disposal or impairment of assets	(1,097 )	125,738
Loss on sale of Russian proppant business	350	25,101
Foreign currency transaction gain, net	—	(35 )
Stock compensation expense	3,027	3,831
PIK accrual on notes payable, related parties	—	997
Change in fair value of derivative instruments	(1,974 )	(575 )
Changes in operating assets and liabilities:		
Trade accounts and other receivables	(109 )	(14,538 )
Inventories	5,132	5,567
Prepaid expenses and other current assets	104	(245 )
Accounts payable	(4,044 )	8,795
Accrued expenses	(2,413 )	3,561
Income tax receivable, net	92	(1,069 )
Other, net	2,757	2,123
Net cash used in operating activities	(24,853)	(40,106 )
<b>Investing activities</b>		
Capital expenditures	(1,668 )	(2,095 )
Net proceeds from asset sales	5,233	21,501
Net cash provided by investing activities	3,565	19,406
<b>Financing activities</b>		
Proceeds from long-term debt	—	12,349
Repayments on long-term debt	—	(3,250 )
Repayments on insurance financing agreement	(941 )	(923 )
Payments of debt issuance costs	—	(989 )
Proceeds from sale of common stock under ATM program	2,849	—
Purchase of common stock	(421 )	(534 )
Net cash provided by financing activities	1,487	6,653
Effect of exchange rate changes on cash	—	246
Net decrease in cash and cash equivalents and restricted cash	(19,801)	(13,801 )

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Cash and cash equivalents and restricted cash at beginning of period	78,385	91,680
Cash and cash equivalents and restricted cash at end of period	\$58,584	\$77,879
Supplemental cash flow information		
Interest paid	\$6,751	\$2,319
Income taxes paid	\$—	\$465

The accompanying notes are an integral part of these statements.

CARBO CERAMICS INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(\$ in thousands, except per share and per square foot data)

(Unaudited)

1. Basis of Presentation

The accompanying unaudited consolidated financial statements of CARBO Ceramics Inc. have been prepared in accordance with United States generally accepted accounting principles (“U.S. GAAP”) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and notes required for complete financial statements. In the opinion of management, all adjustments, consisting only of normal recurring adjustments, considered necessary for a fair presentation have been included. The results of the interim periods presented herein are not necessarily indicative of the results to be expected for any other interim period or the full year. The consolidated balance sheet as of December 31, 2017 has been derived from the audited financial statements at that date. These financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended December 31, 2017 included in the annual report on Form 10-K of CARBO Ceramics Inc. for the year ended December 31, 2017.

The consolidated financial statements include the accounts of CARBO Ceramics Inc. and its operating subsidiaries (the “Company”). All significant intercompany transactions have been eliminated.

As of September 30, 2018, the Company was producing ceramic proppants and technology ceramic products from its Eufaula, Alabama manufacturing facility, and processing sand at its Marshfield, Wisconsin facility. As needed, the Company produces ceramic proppant, ceramic media for the industrial markets, and contract manufacturing at our Toombsboro, Georgia and McIntyre, Georgia facilities. Our Millen, Georgia facility is currently mothballed, and we do not expect to resume production or complete the second line of the facility. As of September 30, 2018 the Company was marketing for sale all of the assets associated with the entire Millen, Georgia facility and expects to complete a sale no later than August 1, 2019. These assets met the criteria for held for sale, and accordingly, their carrying value of \$17,842 has been reclassified from net property, plant and equipment (including \$6,753 from construction in progress) to assets held for sale within current assets on the consolidated balance sheets. Completion of the second phase of the retrofit of our Eufaula, Alabama plant with our new KRYPTOSPHERE® technology is suspended until such time that market conditions improve enough to warrant completion. As of September 30, 2018, the value of the second phase of the retrofit of our Eufaula, Alabama plant totaled approximately 81% of the Company’s total construction in progress and we estimate that the project is over 95% complete.

The Company continues to focus on diversifying its revenue streams to include a variety of oilfield technology products, industrial ceramic products, contract manufacturing, and frac sand. As a result of the steps the Company has taken to enhance its liquidity, the Company currently believes that cash on hand will enable the Company to meet its working capital, capital expenditure, debt service and other funding requirements for at least one year from the date of this Form 10-Q. The Company’s view regarding sufficiency of cash and liquidity is primarily based on our financial forecast for the remainder of 2018 and 2019, which is impacted by various assumptions regarding demand and sales prices for our products. Although the Company has observed certain factors that could be indicative of improving industry conditions, its financial forecasts in recent periods have not always been accurate due to the inability to estimate customer demand, which is highly volatile in the current operating environment. The Company has no committed sales backlog from its customers. As a result, there is no guarantee that its financial forecast, which

projects sufficient cash will be available to meet planned operating expenses and other cash needs, will be achieved.

Late in the second quarter of 2018, we settled our dispute with the buyer of our Russian proppant business regarding the additional \$4,000 owed to us. Terms of the settlement required the buyer to pay \$3,650, and as a result we recorded a loss of \$350. In July 2018, we received the settlement proceeds of approximately \$3,650.

#### Deferred Taxes – Valuation Allowance

Accounting Standards Codification (“ASC”) Topic 740, Income Taxes, provides the carrying value of deferred tax assets should be reduced by the amount not expected to be realized. A company should reduce deferred tax assets by a valuation allowance if, based on the weight of all available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. The valuation allowance should be sufficient to reduce the deferred tax asset to the amount that is more likely than not to be realized. ASC 740 requires all available evidence, both positive and negative, be considered to determine whether a valuation allowance for deferred tax assets is needed in the financial statements. Additionally there can be statutory limitations on the deferred tax assets should certain conditions arise. As a result of the significant decline in oil and gas activities and net losses incurred over the

past several years, we believe it is more likely than not that a portion of our deferred tax assets will not be realized in the future. Our valuation allowance against a portion of our deferred tax assets as of September 30, 2018 was \$67,309. Our assessment of the realizability of our deferred tax assets is based on the weight of all available evidence, both positive and negative, including future reversals of deferred tax liabilities. As of September 30, 2018, there have been no changes to the provisional amounts recorded as of December 31, 2017 associated with tax reform under the Tax Cuts and Jobs Act.

#### Restricted Cash

A portion of the Company's cash balance is restricted to its use in order to provide collateral, primarily relating to letters of credit and corporate credit cards. As of September 30, 2018 and December 31, 2017, total restricted cash was \$9,712 and \$10,216, respectively.

#### Lower of Cost and Net Realizable Value Adjustments

As of September 30, 2018, the Company reviewed the carrying values of all inventories and concluded that no adjustments were warranted for finished goods and raw materials intended for use in the Company's manufacturing process.

#### Manufacturing Production Levels Below Normal Capacity

As a result of the Company substantially reducing manufacturing production levels, including by idling certain facilities, certain production costs have been expensed instead of being capitalized into inventory. The Company expenses fixed production overhead amounts in excess of amounts that would have been allocated to each unit of production at normal production levels. For the three months ended September 30, 2018 and 2017, the Company expensed \$7,231 and \$10,890, respectively, in production costs. For the nine months ended September 30, 2018 and 2017, the Company expensed \$23,788 and \$32,899, respectively, in production costs.

#### Long-Lived and Other Noncurrent Assets Impairment

The Company has temporarily idled production at various manufacturing facilities. The Company does not assess temporarily idled assets for impairment unless events or circumstances indicate that the carrying amounts of those assets may not be recoverable. Short-term stoppages of production for less than one year do not generally significantly impact the long-term expected cash flows of the idled facility. As of September 30, 2018, the Company concluded that there were no events or circumstances that would indicate that carrying amounts of long-lived and other noncurrent assets might be impaired. In addition, the Company continues to monitor market conditions closely. Further deterioration of market conditions could result in impairment charges being taken on the Company's long-lived and other noncurrent assets, including the Company's manufacturing plants, goodwill and intangible assets. The Company will evaluate long-lived and other noncurrent assets for impairment at such time that events or circumstances indicate that carrying amounts might be impaired. During the three months ended September 30, 2017, the Company recognized a \$125,759 impairment of long-lived assets, primarily relating to machinery and equipment and construction in progress at the Millen facility. These amounts are included in the line item Other operating (income) expense on the consolidated statement of operations. Also included within this line item is gains and losses relating to asset sales and other operating income and expenses.

#### Reclassification of Prior Period Amounts

Certain prior period financial information has been reclassified to conform to current period presentation.



## 2. Loss Per Share

The following table sets forth the computation of basic and diluted loss per share under the two-class method:

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Numerator for basic and diluted loss per share:				
Net loss	\$(16,736 )	\$(178,465 )	\$(53,821 )	\$(235,731 )
Effect of reallocating undistributed earnings				
of participating securities	—	—	—	—
Net loss available under the two-class method	\$(16,736 )	\$(178,465 )	\$(53,821 )	\$(235,731 )
Denominator:				
Denominator for basic loss per share--weighted-average				
shares	27,169,301	26,690,799	26,964,330	26,654,728
Effect of dilutive potential common shares	—	—	—	—
Denominator for diluted loss per share--adjusted				
weighted-average shares	27,169,301	26,690,799	26,964,330	26,654,728
Basic loss per share	\$(0.62 )	\$(6.69 )	\$(2.00 )	\$(8.84 )
Diluted loss per share	\$(0.62 )	\$(6.69 )	\$(2.00 )	\$(8.84 )

## 3. Natural Gas Derivative Instruments

Natural gas is used to fire the kilns at the Company's domestic manufacturing plants. In an effort to mitigate potential volatility in the cost of natural gas purchases and reduce exposure to short-term spikes in the price of this commodity, from time to time, the Company enters into contracts to purchase a portion of the anticipated monthly natural gas requirements at specified prices. Contracts are geographic by plant location. As a result of the Company's significantly reducing production levels and not taking delivery of all of the contracted natural gas quantities, the Company accounts for relevant contracts as derivative instruments.

Derivative accounting requires the natural gas contracts to be recognized as either assets or liabilities at fair value with an offsetting entry in earnings. The Company uses the income approach in determining the fair value of these derivative instruments. The model used considers the difference, as of each balance sheet date, between the contracted prices and the New York Mercantile Exchange ("NYMEX") forward strip price for each contracted period. The estimated cash flows from these contracts are discounted using a discount rate of 8.0%, which reflects the nature of the contracts as well as the timing and risk of estimated cash flows associated with the contracts. The discount rate had an immaterial impact on the fair value of the contracts for the nine months ended September 30, 2018. The last of these natural gas contracts will expire in December 2018. During the three months ended September 30, 2018 and 2017, the Company recognized a \$217 gain and \$285 gain, respectively, in cost of sales on derivative instruments. During the nine months ended September 30, 2018 and 2017, the Company recognized an \$847, gain and \$916 loss, respectively, in cost of sales on derivative instruments. The cumulative present value of these natural gas derivative contracts as of September 30, 2018 are presented as current liabilities in the Consolidated Balance Sheet.

At September 30, 2018, the Company had contracted for delivery a total of 480,000 MMBtu of natural gas at an average price of \$4.31 per MMBtu through December 31, 2018. Contracts covering 450,000 MMBtu are subject to accounting as derivative instruments. Future decreases in the NYMEX forward strip prices will result in additional derivative losses while future increases in the NYMEX forward strip prices will result in derivative gains. Future gains or losses will approximate the change in NYMEX natural gas prices relative to the total quantity of natural gas under contracts now subject to accounting as derivatives. The historical average NYMEX natural gas contract settlement prices for the three months ended September 30, 2018 and 2017 were \$2.90 per MMBtu and \$3.00 per MMBtu, respectively.

#### 4. Fair Value Measurements

The Company's derivative instruments are measured at fair value on a recurring basis. U.S. GAAP establishes a fair value hierarchy that has three levels based on the reliability of the inputs used to determine the fair value. These levels include: (1) Level 1, defined as inputs such as unadjusted quoted prices in active markets for identical assets or liabilities; (2) Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and (3) Level 3, defined as unobservable inputs for use when little or no market data exists, therefore requiring an entity to develop its own assumptions.

The Company's natural gas derivative instruments are included within Level 2 of the fair value hierarchy (see Note 3 herein for additional information on the derivative instruments). The following table sets forth by level within the fair value hierarchy the Company's assets and liabilities that were accounted for at fair value:

	Fair value as of			Total
	September 30, 2018			
	Level 1	Level 2	Level 3	
<b>Liabilities:</b>				
Derivative instruments	—	(563)	—	(563)
<b>Total fair value</b>	<b>\$—</b>	<b>\$(563)</b>	<b>\$—</b>	<b>\$(563)</b>

	Fair value as of			Total
	December 31, 2017			
	Level 1	Level 2	Level 3	
<b>Liabilities:</b>				
Derivative instruments	—	(2,537)	—	(2,537)
<b>Total fair value</b>	<b>\$—</b>	<b>\$(2,537)</b>	<b>\$—</b>	<b>\$(2,537)</b>

At September 30, 2018, the fair value of the Company's long-term debt approximated the carrying value.

#### 5. Stock Based Compensation

The Amended and Restated 2014 CARBO Ceramics Inc. Omnibus Incentive Plan (the "Amended and Restated 2014 Omnibus Incentive Plan") provides for granting of cash-based awards, stock options (both non-qualified and incentive) and other equity-based awards (including stock appreciation rights, phantom stock, restricted stock, restricted stock units, performance shares, deferred share units or share-denominated performance units) to employees and non-employee directors. As of September 30, 2018, 462,113 shares were available for issuance under the Amended and Restated 2014 Omnibus Incentive Plan.

A summary of restricted stock activity and related information for the nine months ended September 30, 2018 is presented below:

	Weighted-Average	
	Grant-Date	
	Fair Value	
	Shares	Per Share
Nonvested at January 1, 2018	441,119	\$ 14.87
Granted	334,638	\$ 12.16
Vested	(200,394)	\$ 18.20
Forfeited	(14,033 )	\$ 12.00
Nonvested at September 30, 2018	561,330	\$ 12.14

As of September 30, 2018, there was \$4,583 of total unrecognized compensation cost related to restricted shares granted under the Amended and Restated 2014 Omnibus Incentive Plan. That cost is expected to be recognized over a weighted-average period of 1.8 years. The total fair value of shares vested during the nine months ended September 30, 2018 was \$1,567.

The Company made market-based cash awards to certain executives of the Company pursuant to the Amended and Restated 2014 Omnibus Incentive Plan. As of September 30, 2018, the total target award outstanding was \$3,210. The payout of awards can range from 0% to 200% based on the Company's Relative Total Shareholder Return calculated over a three year period beginning January 1 of the year each grant was made. During the nine months ended September 30, 2018, a total of \$526 was paid relating to the 2015 grant, which was approximately 76% of the total target award.

The Company also granted phantom stock and cash-settled restricted stock units (collectively discussed as "phantom stock") to certain key employees pursuant to the Amended and Restated 2014 Omnibus Incentive Plan. The units subject to a phantom stock

award vest and cease to be forfeitable in equal annual installments over a three-year period. Participants awarded units of phantom stock are entitled to a lump sum cash payment equal to the fair market value of a share of Common Stock on the vesting date. In no event will Common Stock of the Company be issued with regard to outstanding phantom stock awards. As of September 30, 2018, there were 214,616 units of phantom stock granted under the Amended and Restated 2014 Omnibus Incentive Plan, of which 54,020 have vested and 23,511 have been forfeited. As of September 30, 2018, nonvested units of phantom stock under the Amended and Restated 2014 Omnibus Incentive Plan had a total value of \$994, a portion of which is accrued as a liability within Accrued Payroll and Benefits. Compensation expense for these units of phantom stock will be recognized over the three-year vesting period. The amount of compensation expense recognized each period will be based on the fair value of the Company's common stock at the end of each period.

#### 6. Long-Term Debt and Notes Payable

On March 2, 2017, the Company entered into an Amended and Restated Credit Agreement (the "New Credit Agreement"), as last amended on June 7, 2018, with Wilks Brothers, LLC ("Wilks") to replace its term loan with Wells Fargo Bank, National Association ("Wells Fargo") and provide the Company with additional liquidity for a longer term. The New Credit Agreement is a \$65,000 facility maturing on December 31, 2022. The Company's obligations bear interest at 9.00% and are guaranteed by its two domestic operating subsidiaries. No principal repayments are required until maturity (except in unusual circumstances), and there are no financial covenants. In lieu of making cash interest payments, the Company has the option during the first two years of the loan to make interest payments as payment-in-kind, or PIK, by applying an 11.00% rate to the interest payment due (instead of the 9.00% cash interest rate) and capitalizing the resulting amount to the outstanding principal balance of the loan. The Company is required to provide Wilks 30 day notice of its intent to exercise this option for an interest payment. The Company does not anticipate utilizing this option and has therefore accrued interest expense using the 9.00% cash interest rate.

As of September 30, 2018, the Company's outstanding debt under its New Credit Agreement was \$65,000. As of September 30, 2018, the Company had \$725 of unamortized debt issuance costs relating to the New Credit Agreement that are presented as a direct reduction from the carrying amount of the long-term debt obligation. The Company had \$7,775 and \$9,230 in standby letters of credit issued through its banks as of September 30, 2018 and December 31, 2017, respectively, primarily as collateral relating to our natural gas commitments and railcar leases.

On March 2, 2017, in connection with entry into the New Credit Agreement, the Company issued a Warrant (the "Warrant") to Wilks. Subject to the terms of the Warrant, the Warrant entitles the holder thereof to purchase up to 523,022 shares of the Common Stock, at an exercise price of \$14.91 per share, payable in cash. The Warrant expires on December 31, 2022. Based on a Form 4 filing with the SEC on December 29, 2017, as of September 30, 2018, Wilks owned approximately 11.1% of the Company's outstanding common stock, and should Wilks fully exercise the Warrant to purchase an additional 523,022 shares, it would hold approximately 12.8% of the Company's outstanding common stock. Upon issuance of the Warrant, the Company recorded an increase to additional paid-in capital of \$3,871. As of September 30, 2018, the unamortized original issue discount was \$3,064.

In May 2016, the Company received proceeds of \$25,000 from the issuance of separate unsecured Promissory Notes (the "Notes") to two of the Company's Directors. Each Note matures on April 1, 2019 and bears interest at 7.00%. On March 2, 2017, in connection with the New Credit Agreement, the Notes were amended to provide for payment-in-kind, or PIK, interest payments at 8.00% until the lenders under the New Credit Agreement receive two consecutive semi-annual cash interest payments. During 2017, the Company made \$2,040 interest payments as PIK, and capitalized the resulting amount to the outstanding principal balance. As of October 25, 2018, the outstanding principal balance of the Notes was \$27,040.

Interest expense for the nine months ended September 30, 2018 and 2017 was \$6,482 and \$5,966, respectively. Interest expense primarily relates to interest on our debts as well as amortization of debt issuance costs and amortization of the original issue discount associated with the New Credit Agreement and Warrant.

## 7. Equity Offering

On July 28, 2016, the Company filed a prospectus supplement and associated sales agreement related to an at-the-market (“ATM”) equity offering program pursuant to which the Company may sell, from time to time, common stock having an aggregate offering price of up to \$75,000 through Cowen and Company LLC, as sales agent, for general corporate purposes. No sales occurred during the third quarter 2018. During the nine months ended September 30, 2018, the Company sold a total of 300,227 shares of its common stock under the ATM program for \$2,914, or an average of \$9.71 per share, and received proceeds of \$2,849, net of commissions of \$65. As of September 30, 2018, the Company had sold a total of 3,705,936 shares of its common stock under the ATM program for \$49,527, or an average of \$13.36 per share, and received proceeds of \$48,412, net of commissions of \$1,114.

### 8. Disaggregated Revenue

The following table disaggregates our revenue by product line for the three and nine months ended September 30, 2018 and 2017:

	Three Months Ended		Nine Months Ended	
	September 30, 2018	2017	September 30, 2018	2017
Technology products and services	\$12,922	\$10,813	\$35,578	\$28,543
Industrial products and services	4,153	2,955	10,714	7,372
Base ceramic and sand proppants	27,520	31,079	90,558	75,754
Oilfield and Industrial technologies and services segment	44,595	44,847	136,850	111,669
Environmental technologies and services segment	9,224	5,326	24,325	16,746
	\$53,819	\$50,173	\$161,175	\$128,415

### 9. New Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)," which amends current lease guidance. This guidance requires, among other things, that lessees recognize the following for all leases (with the exception of short-term leases) at the commencement date: (1) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (2) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Lessees and lessors must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. In July 2018, the FASB issued ASU No. 2018-11, "Leases (Topic 842): Targeted Improvements", which simplifies the implementation by allowing entities the option to instead apply the provisions of the new guidance at the effective date, without adjusting the comparative periods presented. The new lease guidance will be effective for the interim and annual periods beginning after December 15, 2018 with early adoption permitted. Upon initial evaluation, the Company expects an impact to our consolidated balance sheets and related disclosures, as our operating leases will require adjustments to record a right to use asset and related lease liability. The balance of the right of use asset and lease liability has not yet been quantified. We have selected a lease accounting system, and our implementation of it is substantially complete. The Company is in the process of evaluating the potential impact to the consolidated statement of operations and consolidated statement of cash flows. We are finalizing our internal controls over financial reporting related to the adoption of this new accounting pronouncement.

In June 2018, the FASB issued ASU No. 2018-07, "Compensation – Stock Compensation (Topic 718) – Improvements to Nonemployee Share-Based Payment Accounting". The amendments in this Update expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. The ASU will be effective for the interim and annual periods beginning after December 15, 2018, with early adopting permitted. The Company does not expect a material impact to our consolidated financial statements or related disclosures.

### 10. Segment Information

The Company has two operating segments: 1) oilfield and industrial technologies and services and 2) environmental technologies and services. Discrete financial information is available for each operating segment. Management of each operating segment reports to our Chief Executive Officer, the Company's chief operating decision maker, who regularly evaluates income before income taxes as the measure to evaluate segment performance and to allocate resources. The accounting policies of each segment are the same as those described in the summary of significant

accounting policies in Note 1 of the consolidated financial statements included in the annual report on Form 10-K for the year ended December 31, 2017.

The Company's oilfield and industrial technologies and services segment manufactures and sells technology ceramic products and services, base ceramic proppant and frac sand for both the oilfield and industrial sectors. These products have different technology features and product characteristics, which vary based on the application for which they are intended to be used. The various ceramic products' manufacturing processes are similar.

Oilfield ceramic technology products, base ceramic proppant and frac sand proppant are manufactured and sold to pressure pumping companies and oil and gas operators for use in the hydraulic fracturing of natural gas and oil wells. This segment also promotes increased production and Estimated Ultimate Recovery ("EUR") of oil and natural gas by providing industry-leading technology to Design, Build, and Optimize the Frac™. Through our wholly-owned subsidiary StrataGen, Inc., we sell one of the most widely used fracture stimulation software under the brand FracPro® and provide fracture design and consulting services to oil and natural gas E&P companies under the brand StrataGen.

Our industrial ceramic technology products are manufactured and sold to industrial companies. These products are designed for use in various industrial technology applications, including, but not limited to, casting and milling.

Our environmental technologies and services segment designs, manufactures and sells products and services intended to protect operators' assets, minimize environmental risks, and lower lease operating expense ("LOE"). AGPI, a wholly-owned subsidiary of ours, provides spill prevention, containment and countermeasure systems for the oil and gas industry. AGPI uses proprietary technology designed to enable its clients to extend the life of their storage assets, reduce the potential for hydrocarbon spills and provide containment of stored materials.

Summarized financial information for the Company's operating segments for the three and nine months ended September 30, 2018 and 2017 is shown in the following tables. Intersegment sales are not material.

	Oilfield and Industrial Technologies and Services	Environmental Technologies and Services	Total
Three Months Ended September 30, 2018			
Revenue from external customers	\$ 44,595	\$ 9,224	\$ 53,819
(Loss) income before income taxes	(17,904 )	997	(16,907 )
Depreciation and amortization	8,372	311	8,683
Three Months Ended September 30, 2017			
Revenue from external customers	\$ 44,847	\$ 5,326	\$ 50,173
Loss before income taxes	(178,603 )	(178 )	(178,781 )
Depreciation and amortization	11,223	309	11,532
Nine Months Ended September 30, 2018			
Revenue from external customers	\$ 136,850	\$ 24,325	\$ 161,175
(Loss) income before income taxes	(56,217 )	2,232	(53,985 )
Depreciation and amortization	25,755	897	26,652
Nine Months Ended September 30, 2017			
Revenue from external customers	\$ 111,669	\$ 16,746	\$ 128,415
Loss before income taxes	(235,803 )	(455 )	(236,258 )
Depreciation and amortization	33,947	976	34,923

#### 11. Legal Proceedings

The Company is subject to legal proceedings, claims and litigation arising in the ordinary course of business. While the outcome of these matters is currently not determinable, management does not expect that the ultimate costs to resolve these matters will have a material adverse effect on the Company's consolidated financial position, results of operations, or cash flows.

#### 12. Subsequent Events

In October 2018, the Company signed a non-binding Letter of Intent to sell its Millen, Georgia plant for \$26,000. The transaction is expected to close before year-end.

In October 2018, the Company signed a non-binding Letter of Intent to contribute certain idled assets for a minority ownership in PicOnyx, Inc., developer of M-Tone™, a new family of functional pigments for the plastics, paints, ink, coatings and adhesives markets. The transaction is expected to close before year-end.

Also in October 2018, the CEO temporarily and voluntarily reduced his base pay to \$750 effective November 1, 2018. Future adjustments to the CEO's base pay may occur as revenues and financial metrics continue to improve. The CEO's employment contract has not been amended in connection with this voluntary change.

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

### Overview

CARBO Ceramics Inc. (“we,” “us,” “our” or our “Company”) is a global technology company that provides products and services to the oil and gas, industrial, and environmental markets to enhance value for its clients. The Company conducts its business within two operating segments: 1) oilfield and industrial technologies and services and 2) environmental technologies and services.

The Company’s oilfield and industrial technologies and services segment manufactures and sells technology ceramic products and services, base ceramic proppant and frac sand for both the oilfield and industrial sectors. The products have different technology features and product characteristics, which vary based on the application for which they are intended to be used. The various ceramic products’ manufacturing processes are similar.

Oilfield ceramic technology products, base ceramic proppant and frac sand proppant are manufactured and sold to pressure pumping companies and oil and gas operators for use in the hydraulic fracturing of natural gas and oil wells. Hydraulic fracturing is the most widely used method of increasing production from oil and natural gas wells. The hydraulic fracturing process consists of pumping fluids down a natural gas or oil well at pressures sufficient to create fractures in the hydrocarbon-bearing rock formation. A granular material, called proppant, is suspended and transported in the fluid and fills the fracture, “propping” it open once high-pressure pumping stops. The proppant filled fracture creates a conductive channel through which the hydrocarbons can flow more freely from the formation to the well and then to the surface.

There are three primary types of proppant that can be utilized in the hydraulic fracturing process: sand, resin coated sand and ceramic. Sand is the least expensive proppant, resin-coated sand is more expensive and ceramic proppant is typically the most expensive. The higher initial cost of ceramic proppant is justified by the fact that its use in certain well conditions results in an increase in the production rate of oil and natural gas, an increase in the total oil or natural gas that can be recovered from the well and, consequently, an increase in cash flow for the operators of the well. The increased production rates are primarily attributable to the higher strength and more uniform size and shape of ceramic proppant versus alternative materials. We are one of the world’s largest suppliers of ceramic proppant.

Through our wholly-owned subsidiary StrataGen, Inc., we promote increased production and EUR of oil and natural gas by selling a widely used fracture stimulation software under the brand FracPro®, and providing fracture design and consulting services to oil and natural gas E&P companies under the brand StrataGen.

FracPro® provides a suite of stimulation software solutions used for designing fracture treatments and for on-site real-time analysis. Use of FracPro has enabled our clients to recognize and remedy potential stimulation problems. FracPro has been integrated with third-party reservoir simulation software, furthering its reach and utility.

The StrataGen consulting team works with operators around the world to help optimize well placement, fracture treatment design and production enhancement. The broad range of expertise of the StrataGen consultants includes: fracture treatment design; completion support; on-site treatment supervision; quality control; post-treatment evaluation and optimization; reservoir and fracture studies; rock mechanics and software application and training.

Our industrial ceramic technology products are manufactured and sold to industrial companies. These products are designed for use in various industrial technology applications, including but not limited to casting and milling.

We also produce industrial products at our manufacturing facilities for third parties under tolling arrangements. These products so far have been primarily used in industrial, or agricultural applications. Contract manufacturing has led to

increased revenue generation. We continue to develop additional opportunities within the industrial, agricultural and oil and gas industries to grow revenue, and reduce our slowing and idling costs.

Our environmental technologies and services segment is intended to protect operators' assets, minimize environmental risks, and lower lease operating expense ("LOE"). Asset Guard Products Inc. ("AGPI"), the only subsidiary of ours to operate in this segment, provides spill prevention, containment and countermeasure systems for the oil and gas industry. AGPI uses proprietary technology to make products designed to enable its clients to extend the life of their storage assets, reduce the potential for hydrocarbon spills and provide containment of stored materials. AGPI was formerly known as Falcon Technologies and Services, Inc.

Late in the second quarter of 2018, we settled our dispute with the buyer of our Russian proppant business regarding the additional \$4.0 million owed to us. Terms of the settlement required the buyer to pay us \$3.65 million, and as a result we recorded a loss of \$0.35 million during the second quarter of 2018. In July 2018, we received the settlement proceeds of \$3.65 million.

#### Industry Conditions

During the three months ended September 30, 2018, the average price of West Texas Intermediate ("WTI") crude oil increased 45% to \$69.76 per barrel compared to \$48.16 per barrel during the same period in 2017. The average North American rig count increased 9% during the three months ended September 30, 2018 to 1,259 rigs compared to 1,155 rigs during the same period in 2017. Although

commodity prices have increased in the last year, they remain at significantly lower levels than prior to the severe industry downturn that began in late 2014, which has not encouraged a broad move away from low-cost completions. E&P operators that are existing or target customers of ours continued to use more frac sand than ceramic or resin-coated proppants as a percentage of overall proppant consumption during the three months ended September 30, 2018. In addition, customers' shift to less expensive sand from the recent expansion of competitor regional sand supply has negatively impacted our frac sand revenue. We expect this trend to continue in the current commodity price environment as our customers are under increasing pressure to consider lower up-front cost alternatives, notwithstanding the superior performance results of our ceramic products.

Generally, demand for most of our products and services depends primarily upon the supply of and demand for natural gas and oil and on the number of natural gas and oil wells drilled, completed or re-completed worldwide. More specifically, the demand for most of our products and services is dependent on the number of oil and natural gas wells that are hydraulically fractured to stimulate production. Because the demand for these products and services is also dependent on the commodity price of oil and natural gas, lower commodity prices result in fewer of our premium products being purchased. In addition to rig counts and commodity prices, our results of operations are also significantly affected by a host of other factors, including but not limited to (a) well completions activity, which is not necessarily correlated with rig count, (b) customer preferences, (c) new product and technology adoption (including of our KRYPTOSPHERE, CARBOAIR and SCALEGUARD technologies), (d) imports and competition, (e) changes in the product mix of what we sell, (f) costs of developing our products and services and running our business, and (g) changes in our strategy and execution. Current demand for proppant is extremely dynamic, but even if rig count and commodity prices remain constant, our business results are also highly dependent on these additional factors.

#### Critical Accounting Policies

The consolidated financial statements are prepared in accordance with U.S. GAAP, which require us to make estimates and assumptions (see Note 1 to the consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2017). We believe that some of our accounting policies involve a higher degree of judgment and complexity than others. As of December 31, 2017, our critical accounting policies included revenue recognition, estimating the recoverability of accounts receivable, inventory valuation, accounting for income taxes, accounting for long-lived assets, accounting for derivative instruments, and accounting for abnormally low production levels. These critical accounting policies are discussed more fully in our annual report on Form 10-K for the year ended December 31, 2017.

There have been no changes in our evaluation of our critical accounting policies since December 31, 2017.

#### Results of Operations

##### Three Months Ended September 30, 2018

**Revenues.** Oilfield and industrial technologies and services segment revenues of \$44.6 million for the three months ended September 30, 2018 decreased 1% compared to \$44.8 million for the same period in 2017. The decrease was mainly attributable to a 5% decrease in base ceramic revenue and an 18% decrease in frac sand related revenue, which in turn was attributable to customers' shift from Northern White Sand to lower cost regional sand alternatives, partially offset by a 41% increase in industrial products and services revenue and a 20% increase in technology products and services revenue.

Environmental technologies and services segment revenues of \$9.2 million for the three months ended September 30, 2018 increased 73% compared to \$5.3 million in the same period in 2017. The increase was mainly attributable to improved product sales and new client growth combined with an increase in oil and natural gas industry activity.

Gross Loss. Oilfield and industrial technologies and services segment gross loss for the three months ended September 30, 2018 was \$6.6 million, or 15% of revenues, compared to gross loss of \$15.1 million, or 34% of revenues, for the same period in 2017. Gross loss improved primarily due to a shift in sales mix to more profitable technology and industrial products and lower slowing and idling production costs.

Environmental technologies and services segment gross profit for the three months ended September 30, 2018 was \$1.8 million compared to gross profit of \$0.6 million for the same period in 2017. This increase in gross profit was primarily the result of the increase in sales.

Depreciation and amortization expense was \$8.1 million for the three months ended September 30, 2018 compared to \$10.9 million for the same period in 2017. This decrease was largely due to the impairment recorded on our Millen facility during the third quarter of 2017. As of September 30, 2018, the Millen facility carrying value was reclassified to assets held for sale.

Selling, General and Administrative (SG&A) and Other Operating Expenses. Oilfield and industrial technologies and services segment SG&A (exclusive of depreciation and amortization) totaled \$9.4 million for the three months ended September 30, 2018

compared to \$8.9 million for the same period in 2017, primarily due to increased sales and marketing expenses resulting from growing industrial sales. Other operating income of \$0.7 million for the three months ended September 30, 2018 was primarily related to the sale of one of the Company's distribution centers, offset by \$0.3 million in other operating expenses. Other operating expense of \$125.8 million for the three months ended September 30, 2017 was primarily related to the impairment on our Millen, Georgia proppant manufacturing facility.

Environmental technologies and services segment SG&A (exclusive of depreciation and amortization) was \$0.7 million for the three months ended September 30, 2018 compared to \$0.6 million for the three months ended September 30, 2017. This increase was primarily due to increase sales and marketing expenses associated with the increased sales.

**Income Taxes.** Accounting Standards Codification ("ASC") Topic 740, Income Taxes, provides the carrying value of deferred tax assets should be reduced by the amount not expected to be realized. A company should reduce deferred tax assets by a valuation allowance if, based on the weight of all available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. The valuation allowance should be sufficient to reduce the deferred tax asset to the amount that is more likely than not to be realized. ASC 740 requires all available evidence, both positive and negative, be considered to determine whether a valuation allowance for deferred tax assets is needed in the financial statements. Additionally there can be statutory limitations on the deferred tax assets should certain conditions arise. As a result of the significant decline in oil and gas activities and net losses incurred over the past several years, we believe it is more likely than not that a portion of our deferred tax assets will not be realized in the future. Our valuation allowance against a portion of our deferred tax assets as of September 30, 2018 was \$67.3 million. Our assessment of the realizability of our deferred tax assets is based on the weight of all available evidence, both positive and negative, including future reversals of deferred tax liabilities. As a result, income tax benefit was \$0.2 million, or 1.0% of pretax loss, for the three months ended September 30, 2018 compared to \$0.3 million, or 0.2% of pretax loss, for the same period in 2017.

#### Nine Months Ended September 30, 2018

**Revenues.** Oilfield and industrial technologies and services segment revenues of \$136.9 million for the nine months ended September 30, 2018 increased 23% compared to \$111.7 million for the same period in 2017. The increase was mainly attributable to a 63% increase in frac sand related revenue, a 25% increase in technology products and services revenue, and a 45% increase in industrial products and services revenue. These increases were partially offset by a 15% decrease in base ceramic revenue.

Environmental technologies and services segment revenues of \$24.3 million for the nine months ended September 30, 2018 increased 45% compared to \$16.7 million in the same period in 2017. The increase was mainly attributable to improved product sales and new client growth combined with an increase in oil and natural gas industry activity.

**Gross Loss.** Oilfield and industrial technologies and services segment gross loss for the nine months ended September 30, 2018 was \$20.5 million, or 15% of revenues, compared to gross loss of \$49.4 million, or 44% of revenues, for the same period in 2017. Gross loss improved primarily due to a shift in sales mix to more profitable technology and industrial products and lower slowing and idling production costs and derivative gains in the year due to changes in the NYMEX forward strip prices.

Environmental technologies and services segment gross profit for the nine months ended September 30, 2018 was \$4.6 million compared to gross profit of \$2.0 million for the same period in 2017. This increase in gross profit was primarily the result of the increase in sales.

Depreciation and amortization expense was \$24.8 million for the nine months ended September 30, 2018 compared to \$33.0 million for the same period in 2017. This decrease was largely due to the impairment recorded on our Millen facility during the third quarter of 2017. As of September 30, 2018, the Millen facility carrying value was reclassified to assets held for sale.

Selling, General and Administrative and Other Operating Expenses. Oilfield and industrial technologies and services segment SG&A (exclusive of depreciation and amortization) totaled \$28.4 million for the nine months ended September 30, 2018 compared to \$27.3 million for the same period in 2017, primarily due to increased sales and marketing expenses associated with growing industrial sales. The \$0.35 million loss on sale of Russian proppant business was related to settling the receivable owed to us from the buyer of our Russian proppant business for \$0.35 million less than was owed to us in order to limit additional legal expenses resulting from the disagreement. Other operating income of \$0.8 million for the nine months ended September 30, 2018 was primarily related to the sale of one of the Company's distribution centers, offset by \$0.3 million in other operating expense. Other operating expense of \$125.8 million for the nine months ended September 30, 2017 was primarily related to the impairment on our Millen, Georgia proppant manufacturing facility.

Environmental technologies and services segment SG&A (exclusive of depreciation and amortization) was flat at \$2.0 million for the nine months ended September 30, 2018 and 2017.

Income Taxes. Accounting Standards Codification Topic 740, Income Taxes, provides the carrying value of deferred tax assets should be reduced by the amount not expected to be realized. A company should reduce deferred tax assets by a valuation allowance if, based on the weight of all available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. The valuation allowance should be sufficient to reduce the deferred tax asset to the amount that is more likely than not to be realized. ASC 740 requires all available evidence, both positive and negative, be considered to determine whether a valuation allowance for deferred tax assets is needed in the financial statements. Additionally there can be statutory limitations on the deferred tax assets should certain conditions arise. As a result of the significant decline in oil and gas activities and net losses incurred over the past several years, we believe it is more likely than not that a portion of our deferred tax assets will not be realized in the future. Our valuation allowance against a portion of our deferred tax assets as of September 30, 2018 was \$67.3 million. Our assessment of the realizability of our deferred tax assets is based on the weight of all available evidence, both positive and negative, including future reversals of deferred tax liabilities. As a result, income tax expense was \$0.2 million, or 0.3% of pretax loss, for the nine months ended September 30, 2018 compared to \$0.5 million, or 0.2% of pretax loss, for the same period in 2017.

## Outlook

In North America, the combination of lower completion activity, customers' budget exhaustion, and additional regional sand capacity coming online, leads us to estimate our full year 2018 consolidated revenue will approximate \$210 million. The main driver for the reduced revenue forecast for the full year 2018, is softening industry demand for both our base ceramic and frac sand proppants.

We continue to be very encouraged by customer interest in our three sectors' technology products, increasing international activity, and the expected recovery in the North American oilfield in 2019. We expect our efforts to reduce working capital levels and the sale of the Millen plant to strengthen cash levels and maintain a strong balance sheet.

We expect our ceramic technology sales to finish the year strong relative to the third quarter of 2018 driven by sales of KRYPTOSPHERE, the Guard family, NRT and CARBOAIR products.

Demand for STRATAGEN's consulting services is expected to stay healthy during the fourth quarter of 2018. We have seen our client list expand as operators rely on STRATAGEN to provide consulting services to optimize their well completions and enhance production.

Our software business is expected to be steady during the fourth quarter of 2018, following the modest growth pattern we have seen in Fracpro sales throughout the year. We continue to look for new opportunities to grow our software business.

Due to the well-publicized lower completion activity in the industry, we now believe our full year revenues for base ceramic and sand proppants to be down 20% to 25% from where we anticipated as we exited the second quarter of 2018. In base ceramic proppants, one of our strategies to reduce working capital is to change the traditional business model from manufacturing and stocking of inventory, to one which incorporates production on demand along with upfront cash commitments. For frac sand, we are pleased to have signed a contract for an estimated 550,000 tons of annual capacity during the third quarter of 2018, which will offset some of the softening demand we encountered during the quarter. The benefits of the contract include the use of our sand facility, rail cars and distribution center.

We anticipate our industrial revenues to increase year-on-year during the fourth quarter driven by increased industrial ceramic media sales along with continued contract manufacturing revenue.

The client gains we have made in industrial ceramic and contract manufacturing is building a growing base of business for 2019. The Industrial sector outlook through 2019 is positive and we should continue to see double digit revenue growth along with strong margins.

ASSETGUARD continues to perform well and its profitability has significantly improved year-on-year. Given the recent slowdown in oil and gas activity, we believe the fourth quarter will result in more modest growth year-on-year than what we witnessed in the third quarter of 2018. We expect continued growth in industrial applications for ASSETGUARD's products.

As demonstrated by our evolving revenue mix, our long term growth strategy to diversify our revenue streams across multiple industries is proving to be successful. Swings in oilfield activity have a significant impact on us today but successful execution of our transformation strategy will help lessen the negative impact of those swings and improve our profitability. Maintaining healthy cash levels during this transformation is key and we continue to take actions to maintain a strong balance sheet.

### Liquidity and Capital Resources

At September 30, 2018, we had cash and cash equivalents and restricted cash of \$58.6 million compared to cash and cash equivalents and restricted cash of \$78.4 million at December 31, 2017. During the nine months ended September 30, 2018, we received proceeds of \$5.2 million relating to the asset sales and \$2.8 million relating to sales of common stock under our ATM program. Uses of cash included \$24.9 million used in operating activities, \$1.7 million for capital expenditures, \$0.4 million for purchases of our common stock, and \$0.9 million in repayments on an insurance financing agreement.

We estimate that capital expenditures for the remainder of 2018 will be less than \$1.0 million. Due to market conditions, the completion of the second phase of a plant retrofit with KRYPTOSPHERE® technology has been suspended until such time that market conditions warrant completion. In addition, we are marketing our Millen, Georgia facility for sale.

We anticipate that cash on hand will be sufficient to meet planned operating expenses and other cash needs for at least one year from the date of this Form 10-Q. Our view regarding sufficiency of cash and liquidity is primarily based on our financial forecast for 2018 and 2019, which is impacted by various assumptions regarding demand and sales prices for our products. Generally, we expect demand for our products and the sales prices to increase. Although we have observed certain factors that could be indicative of improving industry conditions, our financial forecasts are based on estimates of customer demand, which is highly volatile in the current operating environment, and we have no committed sales backlog with our customers. As a result, there is inherent uncertainty in our forecasts.

### Off-Balance Sheet Arrangements

The Company had no off-balance sheet arrangements as of September 30, 2018.

## Forward-Looking Information

The statements in this Quarterly Report on Form 10-Q that are not historical statements, including statements regarding our future financial and operating performance and liquidity and capital resources, are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements describe future expectations, plans, results or strategies and can often be identified by the use of terminology such as “may”, “will”, “estimate”, “intend”, “continue”, “believe”, “expect”, “anticipate”, “should”, “could”, “potential”, “opportunity”, or other similar terminology. All forward-looking statements are based on management's current expectations and estimates, which involve risks and uncertainties that could cause actual results to differ materially from those expressed in forward-looking statements. Among these factors are:

- changes in the cost of raw materials and natural gas used in manufacturing our products;
- risks related to our ability to access needed cash and capital;
  - our ability to meet our current and future debt service obligations, including our ability to maintain compliance with our debt covenants;
- our ability to manage distribution costs effectively;
- our ability to successfully implement strategic changes in our business;
- changes in demand and prices charged for our products;
- changes in the demand for, or price of, oil and natural gas;
- changes in overall economic conditions;
- technological, manufacturing and product development risks;
- our dependence on and loss of key customers and end users;
  - potential declines or increased volatility in oil and natural gas prices that adversely affect our customers, the energy industry or our production costs;
- potential reductions in spending on exploration and development drilling in the oil and natural gas industry that could reduce demand for our products and services;
- seasonal sales fluctuations;
- an increase in competition in the proppant market, including imports from foreign countries;
- logistical and distribution challenges relating to certain resource plays that do not have the type of infrastructure systems that are needed to efficiently support oilfield services activities;
- the development of alternative stimulation techniques that would not benefit from the use of our existing products and services, such as extraction of oil or gas without fracturing;
- changes in foreign and domestic governmental regulations, including environmental restrictions on operations and regulation of hydraulic fracturing;
- increased regulation of emissions from our manufacturing facilities;
- the development and utilization of alternative proppants for use in hydraulic fracturing;
- general global economic and business conditions;
- weather-related risks;
- changes in foreign and domestic political and legislative risks;
- risks of war and international and domestic terrorism;
- risks associated with foreign operations and foreign currency exchange rates and controls;
- the potential expropriation of assets by foreign governments; and
- other risks and uncertainties.

Additional factors that could affect our future results or events are described from time to time in our reports filed with the Securities and Exchange Commission (the “SEC”). Please see the discussion set forth under the caption “Risk Factors” in our annual report on Form 10-K for the fiscal year ended December 31, 2017, under the caption “Risk Factors” in this report, and similar disclosures in subsequently filed reports with the SEC. We assume no obligation to update forward-looking statements, except as required by law.



### ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk in the price of natural gas, which is used in production by our domestic manufacturing facilities and is subject to volatility. In an effort to mitigate potential volatility in the cost of natural gas purchases and reduce exposure to short-term spikes in the price of the commodity, from time to time, we enter into contracts to purchase a portion of our anticipated monthly natural gas requirements at specified prices. At September 30, 2018, we had contracted for a total of 480,000 MMBtu of natural gas at an average price of \$4.31 per MMBtu through December 31, 2018.

### ITEM 4. CONTROLS AND PROCEDURES

#### (a) Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports filed or submitted under the Securities Exchange Act of 1934 (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 in the reports filed under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

As of September 30, 2018, management had carried out an evaluation, under the supervision and with the participation of the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurances of achieving their control objectives. Based upon and as of the date of that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective to ensure that information required to be disclosed by the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and to ensure that information we are required to disclose in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

#### (b) Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the quarter ended September 30, 2018 that materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

## PART II. OTHER INFORMATION

## ITEM 1. LEGAL PROCEEDINGS

We are subject to legal proceedings, claims and litigation arising in the ordinary course of business. While the outcome of these matters is currently not determinable, we do not expect that the ultimate costs to resolve these matters will have a material adverse effect on our consolidated financial position, results of operations, or cash flows.

## ITEM 1A. RISK FACTORS

There have been no material changes to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2017.

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

The following table provides information about our repurchases of Common Stock during the quarter ended September 30, 2018:

## ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan <sup>(1)</sup>	Maximum Number of Shares that May be Purchased Under the Plan <sup>(1)</sup>
07/01/18 to 07/31/18	—	—	—	2,000,000
08/01/18 to 08/31/18	—	—	—	2,000,000
09/01/18 to 09/30/18	—	—	—	2,000,000
Total	—	—	—	—

(1) On January 28, 2015, we announced the authorization by our Board of Directors for the repurchase of up to two million shares of our Common Stock. The Plan is effective until all shares have been purchased under the Plan, or until such date that our Board of Directors cancels the Plan. No shares have been purchased under the Plan.

## ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

## ITEM 4. MINE SAFETY DISCLOSURE

Our U.S. manufacturing facilities process mined minerals, and therefore are viewed as mine operations subject to regulation by the federal Mine Safety and Health Administration under the Federal Mine Safety and Health Act of 1977. 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 the recently proposed Item 106 of Regulation S-K (17 CFR 229.106) is included in Exhibit 95 to this quarterly report.

## ITEM 5. OTHER INFORMATION

Not applicable.



ITEM 6. EXHIBITS

The following exhibits are filed as part of, or incorporated by reference into, this Quarterly Report on Form 10-Q:

- \*10.1 Letter Agreement, executed September 26, 2018, by and between Carbo Ceramics Inc. and Buyer.
- 31.1 Rule 13a-14(a)/15d-14(a) Certification by Gary A. Kolstad
- 31.2 Rule 13a-14(a)/15d-14(a) Certification by Ernesto Bautista III
- 32 Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 95 Mine Safety Disclosure
- 101 The following financial information from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, formatted in XBRL: (i) Consolidated Balance Sheets; (ii) Consolidated Statements of Operations; (iii) Consolidated Statements of Comprehensive Loss; (iv) Consolidated Statements of Cash Flows; and (v) Notes to the Consolidated Financial Statements.

\*Pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, confidential portions of these exhibits have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.

EXHIBIT INDEX

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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.

CARBO CERAMICS INC.

/s/ Gary A. Kolstad  
Gary A. Kolstad  
President and Chief Executive Officer

/s/ Ernesto Bautista III  
Ernesto Bautista III  
Chief Financial Officer

Date: October 25, 2018