

United States
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2019
or

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

For the transition period from to
Commission File Number: 001-37822

Advanced Emissions Solutions, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

27-5472457
(I.R.S. Employer
Identification No.)

640 Plaza Drive, Suite 270, Highlands Ranch, CO
(Address of principal executive offices)

80129
(Zip Code)

(720) 598-3500

(Registrant's telephone number, including area code)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes No

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

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

Class	Trading Symbol	Name of each exchange on which registered
Common stock, par value \$0.001 per share	ADES	NASDAQ Global Market

As of May 1, 2019, there were 18,649,297 outstanding shares of Advanced Emissions Solutions, Inc. common stock, par value \$0.001 per share.

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Part I. – FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements

Advanced Emissions Solutions, Inc. and Subsidiaries Condensed Consolidated Balance Sheets (Unaudited)

<i>(in thousands, except share data)</i>	As of	
	March 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash, cash equivalents and restricted cash	\$ 20,670	\$ 18,577
Receivables, net	7,772	9,554
Receivables, related parties	4,220	4,284
Inventories	18,053	21,791
Prepaid expenses and other assets	5,504	5,570
Total current assets	56,219	59,776
Restricted cash, long-term	5,195	5,195
Property, plant and equipment, net of accumulated depreciation of \$2,830 and \$1,499, respectively	42,423	42,697
Intangible assets, net	4,608	4,830
Equity method investments	46,068	6,634
Deferred tax assets	24,802	32,539
Other long-term assets	14,496	7,993
Total Assets	\$ 193,811	\$ 159,664
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 4,785	\$ 6,235
Accrued payroll and related liabilities	3,779	8,279
Current portion of long-term debt	24,166	24,067
Other current liabilities	7,095	2,138
Total current liabilities	39,825	40,719
Long-term debt	43,999	50,058
Other long-term liabilities	4,071	940
Total Liabilities	87,895	91,717
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock: par value of \$.001 per share, 50,000,000 shares authorized, none outstanding	—	—
Common stock: par value of \$.001 per share, 100,000,000 shares authorized, 22,836,435 and 22,640,677 shares issued, and 18,708,371 and 18,576,489 shares outstanding at March 31, 2019 and December 31, 2018, respectively	23	23
Treasury stock, at cost: 4,128,064 and 4,064,188 shares as of March 31, 2019 and December 31, 2018, respectively	(42,433)	(41,740)
Additional paid-in capital	96,822	96,750
Retained earnings	51,504	12,914
Total stockholders' equity	105,916	67,947
Total Liabilities and Stockholders' Equity	\$ 193,811	\$ 159,664

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Statements of Operations
(Unaudited)

<i>(in thousands, except per share data)</i>	Three Months Ended March 31,	
	2019	2018
Revenues:		
Consumables	\$ 15,109	\$ 621
License royalties, related party	4,220	3,230
Other	—	48
Total revenues	19,329	3,899
Operating expenses:		
Consumables cost of revenue, exclusive of depreciation and amortization	14,108	711
Other sales cost of revenue, exclusive of depreciation and amortization	—	(148)
Payroll and benefits	2,556	2,214
Legal and professional fees	1,976	1,548
General and administrative	2,142	1,170
Depreciation, amortization, depletion and accretion	2,102	116
Total operating expenses	22,884	5,611
Operating loss	(3,555)	(1,712)
Other income (expense):		
Earnings from equity method investments	21,690	12,253
Interest income	70	—
Interest expense	(2,104)	(336)
Other	—	26
Total other income	19,656	11,943
Income before income tax expense	16,101	10,231
Income tax expense	1,699	2,569
Net income	\$ 14,402	\$ 7,662
Earnings per common share (Note 1):		
Basic	\$ 0.79	\$ 0.37
Diluted	\$ 0.78	\$ 0.37
Weighted-average number of common shares outstanding:		
Basic	18,268	20,502
Diluted	18,433	20,584

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Stockholders' Equity
(Unaudited)

<i>(Amounts in thousands, except share data)</i>	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Total Stockholders' Equity
	Shares	Amount	Shares	Amount			
Balances, January 1, 2019	22,640,677	\$ 23	(4,064,188)	\$(41,740)	\$ 96,750	\$ 12,914	\$ 67,947
Cumulative effect of change in accounting principle (Note 1)	—	—	—	—	—	28,817	28,817
Stock-based compensation	218,465	—	—	—	317	—	317
Repurchase of common shares to satisfy minimum tax withholdings	(22,707)	—	—	—	(245)	—	(245)
Cash dividends declared on common stock, \$0.25 per share	—	—	—	—	—	(4,629)	(4,629)
Repurchase of common shares	—	—	(63,876)	(693)	—	—	(693)
Net income	—	—	—	—	—	14,402	14,402
Balances, March 31, 2019	22,836,435	\$ 23	(4,128,064)	\$(42,433)	\$ 96,822	\$ 51,504	\$ 105,916

<i>(Amounts in thousands, except share data)</i>	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount			
Balances, January 1, 2018	22,465,821	\$ 22	(1,713,766)	\$(16,397)	\$ 105,308	\$ (15,478)	\$ 73,455
Cumulative effect from adoption of ASC 606	—	—	—	—	—	2,950	2,950
Stock-based compensation	193,583	1	—	—	335	—	336
Repurchase of shares to satisfy minimum tax withholdings	(22,375)	—	—	—	(267)	—	(267)
Cash dividends declared on common stock, \$0.25 per share	—	—	—	—	(5,189)	—	(5,189)
Repurchase of common shares	—	—	(149,217)	(1,642)	—	—	(1,642)
Net income	—	—	—	—	—	7,662	7,662
Balances, March 31, 2018	22,637,029	\$ 23	(1,862,983)	\$(18,039)	\$ 100,187	\$ (4,866)	\$ 77,305

Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(Unaudited)

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Cash flows from operating activities		
Net income	\$ 14,402	\$ 7,662
Adjustments to reconcile net income to net cash provided by operating activities:		
Decrease in valuation allowance on deferred tax assets	(4,020)	—
Depreciation, amortization, depletion and accretion	2,102	116
Amortization of debt discount and debt issuance costs	381	—
Stock-based compensation expense	317	335
Earnings from equity method investments	(21,690)	(12,253)
Other non-cash items, net	75	163
Changes in operating assets and liabilities:		
Receivables	1,782	(223)
Related party receivables	63	17
Prepaid expenses and other assets	80	185
Costs incurred on uncompleted contracts	—	15,945
Inventories	3,262	—
Deferred tax assets, net	3,343	1,587
Other long-term assets	773	—
Accounts payable	(789)	297
Accrued payroll and related liabilities	(4,500)	(741)
Other current liabilities	2,154	638
Billings on uncompleted contracts	—	(15,945)
Operating lease liabilities	(804)	—
Other long-term liabilities	(401)	(44)
Distributions from equity method investees, return on investment	19,488	2,400
Net cash provided by operating activities	16,018	139
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	—	11,050
Acquisition of business	(661)	—
Acquisition of property, plant, equipment, and intangible assets	(1,087)	(74)
Mine development costs	(324)	—
Net cash (used in) provided by investing activities	(2,072)	10,976
Cash flows from financing activities		
Principal payments on term loan	(6,000)	—
Principal payments on finance lease obligations	(344)	—
Dividends paid	(4,571)	(5,142)
Repurchase of common shares	(693)	(1,642)
Repurchase of shares to satisfy tax withholdings	(245)	(267)
Net cash used in financing activities	(11,853)	(7,051)
Increase in Cash and Cash Equivalents and Restricted Cash	2,093	4,064
Cash and Cash Equivalents and Restricted Cash, beginning of period	23,772	30,693
Cash and Cash Equivalents and Restricted Cash, end of period	\$ 25,865	\$ 34,757
Supplemental disclosure of non-cash investing and financing activities:		
Dividends declared, not paid	\$ 58	\$ 46

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements
(Unaudited)

Note 1 - Basis of Presentation

Nature of Operations

Advanced Emissions Solutions, Inc. ("ADES" or the "Company") is a Delaware corporation with its principal office located in Highlands Ranch, Colorado and operations located in Louisiana. The Company is principally engaged in consumable mercury control options including powdered activated carbon ("PAC") and chemical technologies. The Company's proprietary environmental technologies in the power generation and industrial ("PGI") market enable customers to reduce emissions of mercury and other pollutants, maximize utilization levels and improve operating efficiencies to meet the challenges of existing and pending emission control regulations. The Company generates substantial earnings and tax credits under Section 45 ("Section 45 tax credits") of the Internal Revenue Code ("IRC") from its equity investments in certain entities and earns royalties for technologies that are licensed to Tinum Group, LLC, a Colorado limited liability company ("Tinum Group"). Such technologies allow Tinum Group to provide their customers with various solutions to enhance combustion and reduced emissions of nitrogen oxide ("NOx") and mercury from coal burned to generate electrical power. The Company's sales occur principally throughout the United States. See Note 13 for additional information regarding the Company's operating segments.

On December 7, 2018 (the "Acquisition Date"), the Company acquired (the "Carbon Solutions Acquisition") 100% of the equity interests of ADA Carbon Solutions, LLC ("Carbon Solutions"). Carbon Solutions is a manufacturer and seller of activated carbon ("AC") used in mercury capture for the coal-fired power plant, industrial and water treatment markets. Carbon Solutions also owns an associated lignite mine that supplies the primary raw material for manufacturing powdered activated carbon. Carbon Solutions was formed in 2008 as a 50/50 joint venture by the Company and Energy Capital Partners LLC. The Company relinquished its ownership in 2011 as part of a legal settlement agreement as described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017. The Company acquired Carbon Solutions primarily to expand the Company's product offerings within the mercury control industry and other complementary AC markets.

Basis of Presentation

The accompanying Condensed Consolidated Financial Statements of ADES are unaudited and have been prepared in conformity with accounting principles generally accepted in the United States ("U.S. GAAP") and with Article 10 of Regulation S-X of the Securities and Exchange Commission. In compliance with those instructions, certain information and footnote disclosures normally included in annual consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted.

The unaudited Condensed Consolidated Financial Statements of ADES in this quarterly report ("Quarterly Report") are presented on a consolidated basis and include ADES and its wholly-owned subsidiaries (collectively, the "Company"). Also included within the unaudited Condensed Consolidated Financial Statements are the Company's unconsolidated equity investments, Tinum Group, Tinum Services, LLC ("Tinum Services"), and GWN Manager, LLC ("GWN Manager"), which are accounted for under the equity method of accounting, and Highview Enterprises Limited (the "Highview Investment"), which is accounted for in accordance with U.S. GAAP applicable to equity investments that do not qualify for the equity method of accounting.

Results of operations and cash flows for the interim periods are not necessarily indicative of the results that may be expected for the entire year. All significant intercompany transactions and accounts were eliminated for all periods presented in this Quarterly Report.

In the opinion of management, these Condensed Consolidated Financial Statements include all normal and recurring adjustments considered necessary for a fair presentation of the results of operations, financial position, stockholders' equity and cash flows for the interim periods presented. These Condensed Consolidated Financial Statements of ADES should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended December 31, 2018 (the "2018 Form 10-K"). Significant accounting policies disclosed therein have not changed, except as described later in Note 1.

Earnings Per Share

Basic earnings per share is computed using the two-class method, which is an earnings allocation formula that determines earnings per share for common stock and any participating securities according to dividend and participating rights in undistributed earnings. The Company's restricted stock awards ("RSA's") granted prior to December 31, 2016 contain non-forfeitable rights to dividends or dividend equivalents and are deemed to be participating securities. RSA's granted subsequent to December 31, 2016 do not contain non-forfeitable rights to dividends and are not deemed to be participating securities.

Under the two-class method, net income for the period is allocated between common stockholders and the holders of the participating securities based on the weighted-average number of common shares outstanding during the period, excluding

participating, unvested RSA's ("common shares"), and the weighted-average number of participating unvested RSA's outstanding during the period, respectively. The allocated, undistributed income for the period is then divided by the weighted-average number of common shares and participating, unvested RSA's outstanding during the period to arrive at basic earnings per common share and participating security for the period, respectively. Pursuant to U.S. GAAP, the Company has elected not to separately present basic or diluted earnings per share attributable to participating securities in the Condensed Consolidated Statements of Operations.

Diluted earnings per share is computed in a manner consistent with that of basic earnings per share, while considering other potentially dilutive securities. Potentially dilutive securities consist of both unvested, participating and non-participating RSA's, as well as outstanding options to purchase common stock ("Stock Options") and contingent performance stock units ("PSU's") (collectively, "Potential dilutive shares"). The dilutive effect, if any, for non-participating RSA's, Stock Options and PSU's is determined using the greater of dilution as calculated under the treasury stock method or the two-class method. Potential dilutive shares are excluded from diluted earnings per share when their effect is anti-dilutive. When there is a net loss for a period, all Potential dilutive shares are anti-dilutive and are excluded from the calculation of diluted loss per share for that period.

The following table sets forth the calculations of basic and diluted earnings per share:

(in thousands, except per share amounts)	Three Months Ended March 31,	
	2019	2018
Net income	\$ 14,402	\$ 7,662
Less: Dividends and undistributed income allocated to participating securities	20	25
Income attributable to common stockholders	\$ 14,382	\$ 7,637
Basic weighted-average common shares outstanding	18,268	20,502
Add: dilutive effect of equity instruments	165	82
Diluted weighted-average shares outstanding	18,433	20,584
Earnings per share - basic	\$ 0.79	\$ 0.37
Earnings per share - diluted	\$ 0.78	\$ 0.37

For the three months ended March 31, 2019 and 2018, RSA's and Stock Options convertible to 0.3 million and 0.2 million shares, respectively, of common stock for each of the periods presented were outstanding but were not included in the computation of diluted net income per share because the effect would have been anti-dilutive. For the three months ended March 31, 2018, Stock Options to purchase 0.2 million of common stock, which vest based on the Company achieving specified performance targets, were outstanding, but were not included in the computation of diluted net income per share because they were determined not to be contingently issuable.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. There have been no changes in the Company's critical accounting estimates from those that were disclosed in the 2018 Form 10-K. Actual results could differ from these estimates.

Risks and Uncertainties

The Company's earnings are significantly affected by equity earnings it receives from Tinnium Group. As of March 31, 2019, Tinnium Group has 20 invested RC facilities of which 11 are leased to a single customer. A majority of these leases are periodically renewed and the loss of this customer by Tinnium Group would have a significant adverse impact on its financial position, results of operations and cash flows, which in turn would have material adverse impact on the Company's financial position, results of operations and cash flows.

Reclassifications

Certain balances have been reclassified from the prior year to conform to the current year presentation. No reclassifications have any impact to income before income taxes or net income.

New Accounting Standards

Recently Adopted

In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842) ("ASU 2016-2"), which created ASC Topic 842 - *Leases* ("ASC 842"), requiring lessees to recognize a right of use asset and related lease liability for those leases classified as operating leases at the commencement date and have lease terms of more than 12 months. ASC 842 retains the distinction between finance leases (formerly defined as capital leases) and operating leases. On January 1, 2019, the Company adopted ASC 842 retrospectively beginning with the date of adoption. Under this adoption method, the application date is the beginning of the reporting period in which the Company first applies the provisions of ASC 842. Accordingly, the Company's reporting for the comparative periods presented in the financial statements and related disclosures continues in accordance with legacy U.S. GAAP under ASC Topic 840 - *Leases* ("ASC 840"). The adoption of ASC 842 had no impact to the opening balance of retained earnings.

As of the adoption date, the Company recorded \$7.0 million and \$7.0 million of "right of use" assets and incremental lease liabilities, respectively. The cumulative effect of the change from the adoption of ASC 842 to the Consolidated Balance Sheet as of January 1, 2019 is shown in the table that follows:

<i>(in thousands)</i>	Balance as of	Impact of	Balance as of
	December 31, 2018	Adoption	January 1, 2019
Balance Sheet			
Other long-term assets	\$ 7,993	\$ 6,956	\$ 14,949
Other liabilities	\$ 50,058	\$ 3,085	\$ 53,143
Other long-term liabilities	\$ 940	\$ 3,871	\$ 4,811

See Note 6 for additional disclosures required under ASC 842 in the year of adoption.

Additionally, Tuum Group adopted ASU 2014-09 (Topic 606), *Revenue from Contracts with Customers* ("ASU 2014-09") and ASU 2016-02 as of January 1, 2019. As a result of Tuum Group's adoption, the Company recorded a cumulative effect increase of \$28.8 million to Retained earnings as of January 1, 2019 related to the Company's percentage of Tuum Group's cumulative effect adjustment. As a result of this adjustment, the Company increased its investment balance in Tuum Group in the amount of \$37.2 million and established a deferred tax liability of \$8.4 million. The Company no longer has cumulative cash distributions in excess of our cumulative pro-rata share of Tuum Group's net income. Therefore, the Company recognized equity earnings by recording its pro-rata share of Tuum Group's net income rather than based upon cash distributions for the three months ended March 31, 2019.

In June 2018, the FASB issued ASU No. 2018-07-*Compensation-Stock Compensation (Topic 718): Improvements to Non-Employee Share-Based Payment Accounting*, to align accounting for non-employee share-based payment transactions with the guidance for share-based payments to employees. Under the new standard, the measurement of equity-classified non-employee awards will be fixed at the grant date. The Company adopted this standard on January 1, 2019 and it did not have a material impact on the Company's financial statements and disclosures.

Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). The main objective of ASU 2016-13 is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. To achieve this objective, the amendments in ASU 2016-13 replace the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those years, and must be adopted under a modified retrospective method approach. Entities may adopt ASU 2016-13 earlier as of the fiscal years beginning after December 15, 2018, including interim periods within those years. The Company is currently evaluating the provisions of this guidance and assessing its impact on the Company's financial statements and disclosures. The Company does not believe this standard will have a material impact on the Company's financial statements and disclosures.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820) Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"). The amendments in ASU 2018-13 improve the effectiveness of fair value measurement disclosures and modify the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement ("Topic 820"), based on the concepts in FASB Concepts Statement, Conceptual Framework for Financial Reporting - Chapter 8: Notes to Financial Statements, including the consideration of costs and benefits. ASU

2018-13 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The amendments on changes in unrealized gains and losses, the range and weighted-average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted upon issuance of this update. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this update and delay adoption of the additional disclosures until their effective date. The Company is currently evaluating the provisions of this Update and assessing its impact on the Company's financial statement disclosures. The Company does not believe this standard will have a material impact on the Company's financial statement disclosures.

Note 2 - Acquisition

As described in Note 1, on the Acquisition Date, the Company completed the Carbon Solutions Acquisition for a total purchase price of \$75.0 million (the "Purchase Price"). The results of Carbon Solutions have been included in the Company's consolidated financial statements since the Acquisition Date. The fair value of the purchase consideration totaled \$66.5 million and consisted of cash of \$65.8 million and an additional purchase adjustment amount payable to Carbon Solutions' secured lender of \$0.7 million, which was paid in March 2019. The Purchase Price was adjusted by assumed debt and contractual commitments of \$11.8 million, and less cash acquired of \$3.3 million. The Company also paid \$4.5 million in acquisition-related costs (or transaction costs) during the year ended December 31, 2018. The Company funded the cash consideration from cash on hand and the proceeds from the Term Loan and Security Agreement (the "Senior Term Loan") in the principal amount of \$70.0 million, as more fully described in Note 5.

During the three months ended March 31, 2019, there were no material adjustments to the estimated fair values of the assets acquired and liabilities assumed as of the Acquisition Date.

The following table summarizes the estimated fair values of the assets acquired and liabilities assumed as of the Acquisition Date:

Fair value of assets acquired:	Purchase Price Allocation	
Cash	\$	3,284
Receivables		6,409
Inventories		22,100
Prepaid expenses and other current assets		2,992
Spare parts		3,359
Property, plant and equipment		43,033
Mine leases and development		2,500
Intangible assets		4,000
Other assets		168
Amount attributable to assets acquired		87,845
Fair value of liabilities assumed:		
Accounts payable		4,771
Accrued liabilities		7,354
Equipment leases payable		8,211
Mine reclamation liability		626
Other liabilities		437
Amount attributable to liabilities assumed		21,399
Net assets acquired	\$	66,446

The following table represents the intangible assets identified as part of the Carbon Solutions Acquisition:

<i>(in thousands)</i>	Amount	Weighted Average Useful Life (years)
Customer relationships	\$ 2,100	5
Developed technology	1,600	5
Trade name	300	2
Total intangibles acquired	<u>\$ 4,000</u>	

Unaudited Pro Forma Financial Information

The following represents the pro forma effects of the Carbon Solutions Acquisition as if it had occurred on January 1, 2017. The pro forma pre-tax income for the period presented has been calculated after applying the Company's accounting policies in effect for 2017 and 2018. In addition, pro forma net income for the period presented includes: (1) the impact on Carbon Solutions of the adoption of ASC 606 effective January 1, 2018, which resulted in a reclassification of \$2.0 million from Revenues to Cost of Revenue for freight costs billed to customers, with no impact to income from operations; (2) the reduction in depletion, depreciation and amortization resulting from the purchase price adjustments to Property, plant and equipment and Mine development costs; (3) the adjustment to interest expense from the combination of the Senior Term Loan that was used to fund the Carbon Solutions Acquisition and the elimination of certain debt of Carbon Solutions as a result of pay-offs by the Company as of the Acquisition Date; and (4) the removal of \$1.0 million in transaction costs incurred for the three months ended March 31, 2018 together with the income tax effect on (1) through (4). The pro forma results do not include any anticipated synergies or other expected benefits of the Carbon Solutions Acquisition. The unaudited pro forma financial information below is not necessarily indicative of either future results of operations or results that might have been achieved had the Carbon Solutions Acquisition been consummated as of January 1, 2017.

<i>(in thousands)</i>	Three Months Ended	
	March 31, 2018	
Revenues	\$	18,495
Net income	\$	3,727

Note 3 - Inventories

The following table summarizes the Company's inventories recorded at the lower of average cost or net realizable value as of March 31, 2019 and December 31, 2018:

<i>(in thousands)</i>	As of	
	March 31, 2019	December 31, 2018
Product inventory (1)	\$ 16,721	\$ 19,523
Raw material inventory	1,558	2,388
Allowance	(226)	(120)
	<u>\$ 18,053</u>	<u>\$ 21,791</u>

(1) As of March 31, 2019 and December 31, 2018, this amount includes \$1.4 million and \$5.0 million, respectively, attributed to the increase in fair value of inventory acquired from the Carbon Solutions Acquisition.

Note 4 - Equity Method Investments

Tinum Group, LLC

The Company's ownership interest in Tinum Group was 42.5% as of March 31, 2019 and December 31, 2018. Tinum Group supplies technology equipment and technical services at select coal-fired generators, but its primary purpose is to put into operation facilities that produce and sell RC that lower emissions and therefore qualify for Section 45 tax credits. Tinum Group has been determined to be a variable interest entity ("VIE"); however, the Company does not have the power to direct the activities that most significantly impact Tinum Group's economic performance and has therefore accounted for the investment under the equity method of accounting. The Company determined that the voting partners of Tinum Group have identical voting rights, equity control interests and board control interests, and therefore, concluded that the power to direct the activities that most significantly impact Tinum Group's economic performance was shared.

The following table summarizes the results of operations of Tinum Group:

(in thousands)	Three Months Ended March 31,	
	2019	2018
Gross profit	\$ 41,200	\$ 26,413
Operating, selling, general and administrative expenses	6,582	6,007
Income from operations	34,618	20,406
Other income (expenses)	51	(1,869)
Class B preferred return	—	(12)
Loss attributable to noncontrolling interest	15,776	10,775
Net income available to members	\$ 50,445	\$ 29,300
ADES equity earnings from Tinum Group	\$ 19,767	\$ 11,050

The difference between the Company's proportionate share of Tinum Group's net income available to members (at its equity interest of 42.5%) during the three months ended March 31, 2018, as presented in the table below, and the Company's earnings from its Tinum Group equity method investment as reported in the Condensed Consolidated Statements of Operations relates to the Company receiving distributions in excess of the carrying value of the equity investment, and therefore recognizing such excess distributions as equity method earnings in the period the distributions occur, as discussed below.

For periods during which the ending balance of the Company's investment in Tinum Group is zero, the Company only recognizes equity earnings from Tinum Group to the extent that cash distributions are received from Tinum Group during the period. For periods during which the ending balance of the Company's investment is greater than zero (e.g., when the cumulative earnings in Tinum Group exceeds cumulative cash distributions received), the Company recognizes its pro-rata share of Tinum Group's net income available to its members for the period, less any amount necessary to recover the cumulative earnings short-fall balance as of the end of the immediately preceding period. For the three months ended March 31, 2019 and 2018, the Company recognized equity earnings from Tinum Group of \$19.8 million and \$11.1 million, respectively. As of March 31, 2019 and 2018, the Company's carrying value in Tinum Group was \$40.2 million and zero, respectively.

Thus, the amount of equity earnings or loss reported on the Company's Condensed Consolidated Statement of Operations may differ from a mathematical calculation of net income or loss attributable to the equity interest based upon the factor of the equity interest and the net income or loss attributable to members as shown on Tinum Group's statement of operations. Additionally, for periods during which the carrying value of the Company's investment in Tinum Group is greater than zero, distributions from Tinum Group are reported on the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees, return on investment" within Operating cash flows. For periods during which the carrying value of the Company's investment in Tinum Group is zero, such cash distributions are reported on the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees in excess of investment basis" within Investing cash flows.

The following tables present the Company's investment balance, equity earnings and cash distributions in excess of the investment balance for the three months ended March 31, 2019 and 2018 (*in thousands*):

Description	Date(s)	Investment balance	ADES equity earnings (loss)	Cash distributions	Memorandum Account: Cash distributions and equity earnings in (excess) of investment balance
Beginning balance	12/31/2018	\$ —	\$ —	\$ —	\$ (1,672)
Impact of adoption of accounting standards (1)	First Quarter	37,232	—	—	—
ADES proportionate share of income from Tinum Group	First Quarter	21,439	21,439	—	—
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	First Quarter	(1,672)	(1,672)	—	1,672
Cash distributions from Tinum Group	First Quarter	(16,788)	—	16,788	—
Total investment balance, equity earnings (loss) and cash distributions	03/31/19	\$ 40,211	\$ 19,767	\$ 16,788	\$ —

Description	Date(s)	Investment balance	ADES equity earnings (loss)	Cash distributions	Memorandum Account: Cash distributions and equity earnings in (excess) of investment balance
Beginning balance	12/31/2017	\$ —	\$ —	\$ —	\$ (12,218)
ADES proportionate share of income from Tinuum Group (2)	First Quarter	12,458	12,458	—	—
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	First Quarter	(12,218)	(12,218)	—	12,218
Cash distributions from Tinuum Group	First Quarter	(11,050)	—	11,050	—
Adjustment for current year cash distributions in excess of investment balance	First Quarter	10,810	10,810	—	(10,810)
Total investment balance, equity earnings (loss) and cash distributions	3/31/2018	\$ —	\$ 11,050	\$ 11,050	\$ (10,810)

(1) As discussed in Note 1, Tinuum Group adopted ASC 606 and ASC 842 as of January 1, 2019. As a result of Tinuum Group's adoption of these standards, the Company recorded a cumulative adjustment of \$28.8 million, net of the impact of taxes, related to the Company's percentage of Tinuum Group's cumulative effect adjustment that increased the Company's Retained earnings as of January 1, 2019.

(2) For the three months ended March 31, 2018, the amount of the Company's 42.5% proportionate share of net income available to members as shown in the table above may differ from mathematical calculations of the Company's 42.5% equity interest in Tinuum Group multiplied by the amounts of net income available to members as shown in the table above of Tinuum Group results of operations due to adjustments related to the Class B preferred return.

Tinuum Services, LLC

The Company has a 50% voting and economic interest in Tinuum Services, which is equivalent to the voting and economic interest of NexGen Refined Coal, LLC ("NexGen"). The Company has determined that Tinuum Services is not a VIE and has evaluated its consolidation analysis under the voting interest model. Because the Company does not own greater than 50% of the outstanding voting shares, either directly or indirectly, it has accounted for its investment in Tinuum Services under the equity method of accounting. The Company's investment in Tinuum Services as of March 31, 2019 and December 31, 2018 was \$5.8 million and \$6.6 million, respectively.

The following table summarizes the results of operations of Tinuum Services:

(in thousands)	Three Months Ended March 31,	
	2019	2018
Gross loss	\$ (24,735)	\$ (21,006)
Operating, selling, general and administrative expenses	49,450	40,704
Loss from operations	(74,185)	(61,710)
Other expenses	(242)	(58)
Loss attributable to noncontrolling interest	78,270	64,176
Net income	\$ 3,843	\$ 2,408
ADES equity earnings from Tinuum Services	\$ 1,922	\$ 1,204

Included within the Consolidated Statements of Operations of Tinuum Services for the three months ended March 31, 2019 and 2018, respectively, were losses related to VIE's of Tinuum Services. These losses do not impact the Company's equity earnings from Tinuum Services as 100% of those losses are attributable to a noncontrolling interest and eliminated in the calculations of Tinuum Services' net income attributable to the Company's interest.

The following table details the components of the Company's respective equity method investments included within the Earnings from equity method investments line item on the Condensed Consolidated Statements of Operations:

(in thousands)	Three Months Ended March 31,	
	2019	2018
Earnings from Tuum Group	\$ 19,767	\$ 11,050
Earnings from Tuum Services	1,922	1,204
Earnings from other	1	(1)
Earnings from equity method investments	<u>\$ 21,690</u>	<u>\$ 12,253</u>

The following table details the components of the cash distributions from the Company's respective equity method investments included in the Condensed Consolidated Statements of Cash Flows. Distributions from equity method investees are reported in the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees, return on investment" within Operating cash flows until such time as the carrying value in an equity method investee company is reduced to zero; thereafter, such distributions are reported as "Distributions from equity method investees in excess of cumulative earnings" within Investing cash flows.

(in thousands)	Three Months Ended March 31,	
	2019	2018
Distributions from equity method investees, return on investment		
Tuum Group	\$ 16,788	\$ —
Tuum Services	2,700	2,400
	<u>\$ 19,488</u>	<u>\$ 2,400</u>
Distributions from equity method investees in excess of investment basis		
Tuum Group	\$ —	\$ 11,050
	<u>\$ —</u>	<u>\$ 11,050</u>

Note 5 - Debt Obligations

(in thousands)	As of	
	March 31, 2019	December 31, 2018
Senior Term Loan due December 2021, related party	\$ 64,000	\$ 70,000
Less net unamortized debt issuance costs	(1,803)	(1,990)
Less net unamortized debt discount	(1,859)	(2,052)
Senior Term Loan due December 2021, net	60,338	65,958
Finance lease obligations (1)	7,827	8,167
	68,165	74,125
Less: Current maturities	(24,166)	(24,067)
Total long-term debt	<u>\$ 43,999</u>	<u>\$ 50,058</u>

(1) For the year ended December 31, 2018, amounts relate to capital lease obligations.

Senior Term Loan

On December 7, 2018, the Company, and ADA-ES, Inc. ("ADA"), a wholly-owned subsidiary, and certain other subsidiaries of the Company as guarantors, The Bank of New York Mellon as administrative agent, and Apollo Credit Strategies Master Fund Ltd and Apollo A-N Credit Fund (Delaware) L.P. (collectively "Apollo"), affiliates of a beneficial owner of greater than five percent of the Company's common stock and a related party, entered into the Senior Term Loan in the amount of \$70.0 million less original issue discount of \$2.1 million. Proceeds from the Senior Term Loan were used to fund the Carbon Solutions Acquisition as disclosed in Note 2. The Company also paid debt issuance costs of \$2.0 million related to the Senior Term Loan. The Senior Term Loan has a term of 36 months and bears interest at a rate equal to 3-month LIBOR (subject to a 1.5% floor) + 4.75% per annum, which is adjusted quarterly to the current 3-month LIBOR rate, and interest is payable quarterly in arrears. Quarterly principal payments of \$6.0 million were required beginning in March 2019, and the Company may prepay the Senior Term Loan at any time without penalty. The Senior Term Loan is secured by substantially all of the assets of the Company,

including the cash flows from Tinum Group and Tinum Services (collectively, the "Tinum Entities"), but excluding the Company's equity interests in the Tinum entities.

The Senior Term Loan includes, among others, the following covenants: (1) Beginning December 31, 2018 and as of the end of each fiscal quarter thereafter, the Company must maintain a minimum cash balance of \$5.0 million and shall not permit "expected future net cash flows from the refined coal business" (as defined in the Senior Term Loan) to be less than 1.75 times the outstanding principal amount of the Senior Term Loan; (2) Beginning in January 2019, annual collective dividends and buybacks of Company shares in an aggregate amount, not to exceed \$30.0 million, is permitted so long as (a) no default or event of default exists under the Senior Term Loan and (b) expected future net cash flows from the refined coal business as of the end of the most recent fiscal quarter exceed \$100.0 million.

Line of Credit

On September 30, 2018, ADA, as borrower, the Company, as guarantor, and a bank (the "Lender") entered into an amendment (the "Twelfth Amendment") to the 2013 Loan and Security Agreement (the "Line of Credit"). The Twelfth Amendment decreased the borrowing availability of the Line of Credit to \$5.0 million due to decreased collateral requirements, extended the maturity date of the Line of Credit to September 30, 2020 and permitted the Line of Credit to be used as collateral (in place of restricted cash) for letters of credit ("LC's") up to \$5.0 million related to equipment projects and certain other agreements. Under the Twelfth Amendment, there was no minimum balance requirement based on the Company meeting certain conditions and maintaining minimum trailing twelve-month EBITDA (earnings before interest, taxes, depreciation and amortization), as previously defined in the "Eleventh Amendment" to the Line of Credit, of \$24.0 million.

On December 7, 2018, ADA, as borrower, the Company, as guarantor, and the Lender entered into an amendment to the Line of Credit, which provided, among other things, for ADA to be able to enter into the Senior Term Loan as a guarantor so long as the principal amount of the Senior Term Loan does not exceed \$70.0 million. Additionally, the financial covenants in the Line of Credit were amended and restated to be consistent with the aforementioned Senior Term Loan covenants, including maintaining a minimum cash balance of \$5.0 million.

As of March 31, 2019, there were no outstanding borrowings under the Line of Credit.

Note 6 - Leases

The financial statement impact from the adoption of ASC 842 as of January 1, 2019 is due to recording the ROU assets and related lease liabilities for operating lease commitments that were outstanding as of December 31, 2018. The Company has elected the transitional practical expedients allowed under ASC 842, which include among other things that the Company need not reassess: (1) whether any existing contracts are or contain leases, inclusive of land easements; (2) the lease classification or lease term for existing leases; and (3) initial direct costs for any existing leases.

ASC 842 defines a lease as a contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Control over the use of an identified asset means that an entity has both the right to obtain substantially all of the economic benefits from the use of an identified asset and the right to direct the use of that identified asset. The determination of whether a contract contains a lease may require significant assumptions and judgments.

Historically, Carbon Solutions has used leasing to fund the majority of its capital needs for mining and manufacturing equipment. As of March 31, 2019, the Company has obligations under finance and operating leases in the amounts of \$7.8 million and \$6.3 million, respectively. ROU assets under finance leases are primarily mining equipment used at the Company's lignite mine, which provides the key raw materials for manufacturing the Company's products. ROU assets under operating leases are primarily plant equipment used at the Company's manufacturing facility, but also include other office equipment, vehicles and office facilities. As of March 31, 2019, the Company has ROU assets, net of accumulated amortization under finance leases and operating leases of \$7.5 million and \$6.2 million, respectively.

Certain of the finance and operating leases have options permitting renewals for additional periods and buy-out options. Renewal and buy-out options for applicable leases have not been included in the measurement of the respective lease liabilities as the Company is not reasonably certain that it will exercise the respective option or the lessor does not have an exclusive right to exercise the option.

Variable lease payments represent payments made by a lessee for the right to use an underlying asset that vary because of changes in facts or circumstances occurring after the commence date of a lease other than the passage of time. Variable lease payments that are based on an index or rate, calculated by using the index or rate that exists on the lease commencement date are included in the measurement of a lease liability. Certain of the Company's operating leases for office facilities contain variable lease components that are not based on an index or rate and the Company recognizes these payments as lease expense in the period in which the obligation for those payments is incurred.

The Company calculates lease liabilities based on the present value of lease payments discounted by the rate implicit in the lease or, if not readily determinable, the Company's incremental borrowing rate.

The Company records lease liabilities and related ROU assets for all leases that have a term of greater than one year. For short-term leases (leases with terms of less than one year), the Company expenses lease payments on a straight-line basis over the lease term.

Finance leases

Leases classified as capital leases under ASC 840 and the related assets and liabilities were carried forward at their carrying values of \$8.1 million and \$8.2 million, respectively, as of December 31, 2018, and were classified as finance leases as of January 1, 2019. ROU assets under finance leases and finance lease liabilities are included in Property, plant and equipment and Current portion and Long-term portion of borrowings, respectively, in the Condensed Consolidated Balance Sheet as of March 31, 2019.

Finance lease liabilities are subsequently measured by increasing the carrying amount to reflect interest expense on the finance lease liability and reducing the carrying amount of the lease liability to reflect lease payments made during the period. Interest on finance lease liabilities is determined in each period during the lease term as the amount that produces a constant periodic discount rate on the remaining balance of the lease liability. ROU assets under finance leases are amortized over the remaining lease term on a straight-line basis. Interest expense related to finance lease liabilities and amortization of ROU assets under finance leases are included in Interest expense and Depreciation, amortization, depletion and accretion, respectively, in the Condensed Consolidated Statement of Operations for the three months ended March 31, 2019.

Operating leases

Operating lease liabilities as of January 1, 2019 were calculated at the present value, using a discount rate of the lease, of the remaining minimum rental payments (as defined under ASC 840). As the rate implicit in all of the operating leases was not readily determinable, the Company determined its discount rate as of January 1, 2019 based on an estimate of its incremental borrowing rate. This rate was based on the Company's effective borrowing rate on the Senior Term Loan, considering the collateral requirements contained therein, in effect as of January 1, 2019. ROU assets under operating leases as of January 1, 2019 were determined as the calculated value of the operating lease liabilities less accrued lease payments and accrued lease incentives. As of December 31, 2018, the total amount of accrued lease payments and accrued lease incentives was approximately \$0.1 million. ROU assets under operating leases and operating lease liabilities are included in Other long-term assets and Other liabilities and Other long-term liabilities, respectively, in the Condensed Consolidated Balance Sheet as of March 31, 2019.

Operating lease liabilities are subsequently measured at the present value of the lease payments not yet paid discounted using the discount rate for the lease established at the inception date of the lease (or January 1, 2019 for operating leases in effect as of December 31, 2018). ROU assets under operating leases are subsequently measured at the amounts of the related operating lease liability, adjusted for, as applicable, prepaid or accrued lease payments, the remaining balance of any lease incentives received, unamortized initial direct costs and impairment. Lease expense from operating leases is recognized as a single lease cost over the remaining lease term on a straight-line basis. Variable lease payments not included in operating lease liabilities are recognized as expense in the period in which the obligation for those payments is incurred. Lease expense for operating leases for the three months ended March 31, 2019 was \$1.2 million, of which \$1.1 million is included in Consumables - cost of revenue, exclusive of depreciation and amortization and \$0.1 million is included in General and administrative in the Condensed Consolidated Statement of Operations for the three months ended March 31, 2019.

Lease financial information as of and for the three months ended March 31, 2019 is provided in the following table:

<i>(in thousands)</i>	Lease Cost
Finance lease cost:	
Amortization of right-of-use assets	\$ 536
Interest on lease liabilities	131
Operating lease cost	929
Short-term lease cost	171
Variable lease cost (1)	82
Total lease cost	\$ 1,849
Other Information:	
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	\$ 949
Finance cash flows from finance leases	\$ 344
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 49
Weighted-average remaining lease term - finance leases	4.9 years
Weighted-average remaining lease term - operating leases	2.5 years
Weighted-average discount rate - finance leases	6.1%
Weighted-average discount rate - operating leases	8.6%

(1) Primarily includes common area maintenance, property taxes and insurance payable to lessors.

The following table summarizes the Company's future lease payments under finance and operating leases as of March 31, 2019:

<i>(in thousands)</i>	Operating Lease Commitments	Finance Lease Commitments
2019 (remaining nine months)	\$ 2,823	\$ 1,307
2020	2,328	1,707
2021	1,632	1,802
2022	310	951
2023	221	951
Thereafter	—	2,482
Total lease payments	7,314	9,200
Less: Imputed interest	(1,007)	(1,374)
Present value of lease payments	\$ 6,307	\$ 7,826

Disclosures under ASC 840

Rent expense for the three months ended March 31, 2018 was \$0.1 million and was included in General and administrative expense in the Condensed Consolidated Statement of Operations.

As of December 31, 2018, mining equipment financed under capital leases in the amount of \$8.1 million, net of accumulated amortization of \$0.1 million, was included in Property, plant and equipment in the Condensed Consolidated Balance Sheet.

The following table summarizes the Company's future minimum non-cancellable lease payments due under capital and operating leases as of December 31, 2018:

<i>(in thousands)</i>	Operating Lease Commitments	Capital Lease Commitments
2019	\$ 3,619	\$ 1,749
2020	2,273	1,707
2021	1,632	1,802
2022	310	951
2023	221	951
Thereafter	—	2,482
Total minimum lease payments	<u>\$ 8,055</u>	<u>9,642</u>
Less: Imputed interest		(1,475)
Present value of minimum lease payments		<u>\$ 8,167</u>

Note 7 - Revenues

Contract Assets and Liabilities

Contract assets are comprised of unbilled receivables and are included in Receivables, net in the Condensed Consolidated Balance Sheet. Unbilled receivables represent a conditional right to consideration in exchange for goods or services transferred to a customer.

Trade receivables represent an unconditional right to consideration in exchange for goods or services transferred to a customer. The Company invoices its customers in accordance with the terms of the contract. Credit terms are generally net 30 from the date of invoice. The timing between the satisfaction of performance obligations and when payment is due from the customer is generally not significant. The Company records allowances for doubtful trade receivables when it is probable that the balances will not be collected.

Contract liabilities are comprised of deferred revenue, which represents an obligation to transfer goods or services to a customer for which the Company has received consideration from the customer and, if deliverable within one year or less, is included in Other current liabilities in the Condensed Consolidated Balance Sheet and, if deliverable outside of one year, is included in Other long-term liabilities in the Condensed Consolidated Balance Sheet.

Trade receivables, net

The following table shows the components of Trade receivables, net:

<i>(in thousands)</i>	As of	
	March 31, 2019	December 31, 2018
Trade receivables	\$ 8,339	\$ 10,121
Less: Allowance for doubtful accounts	(567)	(567)
Trade receivables, net	<u>\$ 7,772</u>	<u>\$ 9,554</u>

For the three months ended March 31, 2019 and 2018, the Company recognized zero and \$0.2 million, respectively, related to specific accounts whose ultimate collection was in doubt. During the three months ended March 31, 2018, the Company settled a previously recorded commitment for additional work related to a contract with a customer, which resulted in a reduction to Equipment sales cost of revenue, exclusive of depreciation and amortization of \$0.3 million and bad debt expense of \$0.2 million. Bad debt expense is included within the General and administrative line item in the Consolidated Statements of Operations.

Disaggregation of Revenue

During the three months ended March 31, 2019 and 2018, all performance obligations related to revenues recognized were satisfied at a point in time. The Company disaggregates its revenues by its major components as well as between its two operating segments, which are further discussed in Note 13 to the condensed consolidated financial statements. The following

tables disaggregate revenues by major source for the three months ended March 31, 2019 and 2018 (in thousands):

Revenue component	Three Months Ended March 31, 2019			
	Segment			Total
	PGI	RC	Other	
Consumables	\$ 14,553	\$ —	\$ 556	\$ 15,109
License royalties, related party	—	4,220	—	4,220
Revenues from customers	14,553	4,220	556	19,329
Earnings from equity method investments	—	21,690	—	21,690
Total revenues and earnings from equity method investments	\$ 14,553	\$ 25,910	\$ 556	\$ 41,019

Revenue component	Three Months Ended March 31, 2018			
	Segment			Total
	PGI	RC	Other	
Consumables	\$ 621	\$ —	\$ —	\$ 621
License royalties, related party	—	3,230	—	3,230
Other	48	—	—	48
Revenues from customers	669	3,230	—	3,899
Earnings from equity method investments	—	12,253	—	12,253
Total revenues and earnings from equity method investments	\$ 669	\$ 15,483	\$ —	\$ 16,152

Note 8 - Commitments and Contingencies

Legal Proceedings

The Company is from time to time subject to, and is presently involved in, various pending or threatened legal actions and proceedings, including those that arise in the ordinary course of its business. Such matters are subject to many uncertainties and to outcomes, the financial impacts of which are not predictable with assurance and that may not be known for extended periods of time. The Company records a liability in its consolidated financial statements for costs related to claims, settlements, and judgments where management has assessed that a loss is probable and an amount can be reasonably estimated. There were no significant legal proceedings as of March 31, 2019.

Restricted Cash

As of March 31, 2019 and December 31, 2018, the Company had long-term restricted cash of \$5.2 million and \$5.2 million, respectively, which primarily consisted of minimum cash balance requirements under the Senior Term Loan. As of March 31, 2019 and December 31, 2018, the Company had short-term restricted cash of \$0.1 million and \$0.1 million, respectively, related to other commitments.

Tinum Group

The Company also has certain limited obligations contingent upon future events in connection with the activities of Tinum Group. The Company, NexGen and two entities affiliated with NexGen have provided an affiliate of the Goldman Sachs Group, Inc. with limited guaranties (the "Tinum Group Party Guaranties") related to certain losses it may suffer as a result of inaccuracies or breach of representations and covenants. The Company also is a party to a contribution agreement with NexGen under which any party called upon to pay on a Tinum Group Party Guaranty is entitled to receive contributions from the other party equal to 50% of the amount paid. No liability or expense provision has been recorded by the Company related to this contingent obligation as the Company believes that it is not probable that a loss will occur with respect to Tinum Group Party Guaranties.

Note 9 - Stockholders' Equity

Stock Repurchase Programs

In November 2018, the Company's Board of Directors (the "Board") authorized the Company to purchase up to \$20.0 million of its outstanding common stock. This stock repurchase program will remain in effect until December 31, 2019 unless otherwise modified by the Board. Previously, the Board had authorized the Company to purchase up to \$20.0 million of its outstanding common stock under a separate repurchase program that was in effect until July 31, 2018.

For the three months ended March 31, 2019 and 2018 under the collective stock repurchase programs authorized by the Board, the Company purchased 63,876 and 149,217 shares of its common stock for cash of \$0.7 million and \$1.6 million, respectively, inclusive of commissions and fees.

Quarterly Cash Dividend

Dividends declared by the Board, and paid quarterly per share on all outstanding shares of common stock during the three months ended March 31, 2019 and 2018 were as follows:

	2019		2018	
	Per share	Date paid	Per share	Date paid
Dividends declared during quarter ended:				
March 31	\$ 0.25	March 7, 2019	\$ 0.25	March 8, 2018

A portion of the dividends declared remains accrued subsequent to the payment dates and represents dividends accumulated on nonvested shares of common stock held by employees and directors of the Company that contain forfeitable dividend rights that are not payable until the underlying shares of common stock vest. These amounts are included in both Other current liabilities and Other long-term liabilities on the Condensed Consolidated Balance Sheet as of March 31, 2019.

Tax Asset Protection Plan

U.S. federal income tax rules, and Section 382 of the Internal Revenue Code in particular, could substantially limit the use of net operating losses and other tax assets if the Company experiences an "ownership change" (as defined in the Internal Revenue Code). In general, an ownership change occurs if there is a cumulative change in the ownership of the Company by "5 percent stockholders" that exceeds 50 percentage points over a rolling three-year period.

On May 5, 2017, the Board approved the declaration of a dividend of rights to purchase Series B Junior Participating Preferred Stock for each outstanding share of common stock as part of a tax asset protection plan (the "Tax Asset Protection Plan") designed to protect the Company's ability to utilize its net operating losses and tax credits. The Tax Asset Protection Plan is intended to act as a deterrent to any person acquiring beneficial ownership of 4.99% or more of the Company's outstanding common stock.

On April 6, 2018, the Board approved the First Amendment to the Tax Asset Protection Plan (the "First Amendment") that amends the Tax Asset Protection Plan dated May 5, 2017. The Amendment amends the definition of "Final Expiration Date" under the Tax Asset Protection Plan to extend the duration of the TAPP and makes associated changes in connection therewith.

At the Company's 2018 annual meeting of stockholders, the Company's stockholders approved the Amendment, thus the Final Expiration Date will be the close of business on December 31, 2019.

On April 5, 2019, the Board approved the Second Amendment to the Tax Asset Protection Plan (the "Second Amendment") that amends the Tax Asset Protection Plan dated May 5, 2017, as amended by the First Amendment to Tax Asset Protection Plan, dated April 6, 2018 (the "TAPP") between the Company and the Rights Agent. The Second Amendment amends the definition of "Final Expiration Date" under the TAPP to extend the duration of the TAPP and makes associated changes in connection therewith. Pursuant to the Second Amendment, the Final Expiration Date shall be the close of business on the earlier of (i) December 31, 2020 or (ii) December 31, 2019 if stockholder approval for the Second Amendment has not been obtained prior to such date.

Note 10 - Stock-Based Compensation

The Company grants equity-based awards to employees, non-employee directors, and consultants that may include, but are not limited to RSA's, restricted stock units ("RSU's") and stock options. Stock-based compensation expense related to employees is included within the Payroll and benefits line item in the Condensed Consolidated Statements of Operations. Stock-based compensation expense related to non-employee directors and consultants is included within the General and administrative line item in the Condensed Consolidated Statements of Operations.

Total stock-based compensation expense for the three months ended March 31, 2019 and 2018 was as follows:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
RSA expense	\$ 317	\$ 277
Stock option expense	—	58
Total stock-based compensation expense	\$ 317	\$ 335

The amount of unrecognized compensation cost as of March 31, 2019, and the expected weighted-average period over which the cost will be recognized is as follows:

<i>(in thousands)</i>	As of March 31, 2019	
	Unrecognized Compensation Cost	Expected Weighted-Average Period of Recognition (in years)
RSA expense	\$ 3,818	2.13
Total unrecognized stock-based compensation expense	\$ 3,818	2.13

Restricted Stock

Restricted stock is typically granted with vesting terms of three years. The fair value of RSA's and RSU's is determined based on the closing price of the Company's common stock on the authorization date of the grant multiplied by the number of shares subject to the stock award. Compensation expense for RSA's is generally recognized on a straight-line basis over the entire vesting period. Compensation expense for RSU's is generally recognized on a straight-line basis over the service period of the award. A summary of RSA and RSU activity under the Company's various stock compensation plans for the three months ended March 31, 2019 is presented below:

<i>(in thousands, except for share and per share amounts)</i>	Restricted Stock		Weighted-Average Grant Date Fair Value	
	Awards	Units	RSA's	RSU's
Non-vested at January 1, 2019	280,852	20,000	\$ 9.92	\$ 10.52
Granted	218,465	—	\$ 10.84	\$ —
Vested	(69,345)	—	\$ 9.33	\$ —
Forfeited	—	—	\$ —	\$ —
Non-vested at March 31, 2019	429,972	20,000	\$ 10.48	\$ 10.52

Stock Options

Stock options generally vest over three years or upon satisfaction of performance-based conditions and have a contractual limit of five years from the date of grant to exercise. The fair value of stock options granted is determined on the date of grant using the Black-Scholes option pricing model and the related expense is recognized on a straight-line basis over the entire vesting period.

A summary of stock option activity for the three months ended March 31, 2019 is presented below:

	Number of Options Outstanding and Exercisable	Weighted- Average Exercise Price	Aggregate Intrinsic Value (in thousands)	Weighted- Average Remaining Contractual Term (in years)
Options outstanding, January 1, 2019	529,780	\$ 12.23		
Options granted	—	—		
Options exercised	—	—		
Options expired / forfeited	—	—		
Options outstanding, March 31, 2019	529,780	\$ 12.23	\$ 508	1.21
Options exercisable, March 31, 2019	529,780	\$ 12.23	\$ 508	1.21

Note 11 - Supplemental Financial Information

Supplemental Balance Sheet Information

The following table summarizes the components of Prepaid expenses and other assets and Other long-term assets as presented in the Condensed Consolidated Balance Sheets:

<i>(in thousands)</i>	As of	
	March 31, 2019	December 31, 2018
Prepaid expenses and other assets:		
Prepaid expenses	\$ 1,400	\$ 1,233
Prepaid income taxes	2,597	2,940
Other	1,507	1,397
	<u>\$ 5,504</u>	<u>\$ 5,570</u>
Other long-term assets:		
Spare parts	\$ 3,255	\$ 3,278
Mine development costs, net	2,802	2,531
Prepaid royalty expense, long-term	955	955
Highview Investment	552	552
Right of use assets, operating leases, net	6,230	—
Other long-term assets	702	677
	<u>\$ 14,496</u>	<u>\$ 7,993</u>

Spare parts include critical spares required to support plant operations. Parts and supply costs are determined using the lower of cost or estimated replacement cost. Parts are recorded as maintenance expenses in the period in which they are consumed.

Mine development costs include acquisition costs, the cost of other development work and mitigation costs related to the Company's mining operations. Costs are amortized over the estimated life of the related mine reserves, which is 18 years. The Company performs an evaluation of the recoverability of the carrying value of mine development costs to determine if facts and circumstances indicate that their carrying value may be impaired and if any adjustment is warranted. There were no indicators of impairment as of March 31, 2019.

Included within Highview Investment is the Company's investment ("Highview Investment") in Highview Enterprises Limited ("Highview"), a London, England based developmental stage company specializing in power storage. In November 2014, the Company acquired an 8% ownership interest in the common stock of Highview for \$2.8 million in cash. The Company accounts for the Highview Investment as an investment recorded at cost, less impairment, plus or minus observable changes in price for identical or similar investments of the same issuer.

The Highview Investment is evaluated for indicators of impairment such as an event or change in circumstances that may have a significant adverse effect on the fair value of the investment. There were no changes to the carrying value of the Highview Investment for the three months ended March 31, 2019 as there were no indicators of impairment or observable price changes for equity issued by Highview.

The following table details the components of Other current liabilities and Other long-term liabilities as presented in the Condensed Consolidated Balance Sheets:

<i>(in thousands)</i>	As of	
	March 31, 2019	December 31, 2018
Other current liabilities:		
Accrued interest	\$ 727	\$ 407
Income and other taxes payable	2,602	479
Current portion of operating lease obligations	3,004	—
Other	762	1,252
	<u>\$ 7,095</u>	<u>\$ 2,138</u>
Other long-term liabilities:		
Operating lease obligations, long-term	\$ 3,302	\$ —
Deferred rent	—	106
Mine reclamation liability	684	624
Other long-term liabilities	85	210
	<u>\$ 4,071</u>	<u>\$ 940</u>

Supplemental Condensed Consolidated Statements of Operations Information

The following table details the components of Interest expense in the Condensed Consolidated Statements of Operations:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
453A interest	\$ 322	\$ 336
Interest on Senior Term Loan	1,270	—
Debt discount and debt issuance costs	381	—
Other	131	—
	<u>\$ 2,104</u>	<u>\$ 336</u>

Note 12 - Income Taxes

For the three months ended March 31, 2019 and 2018, the Company's income tax expense and effective tax rates based on forecasted pre-tax income were:

<i>(in thousands, except for rate)</i>	Three Months Ended March 31,	
	2019	2018
Income tax expense	\$ 1,699	\$ 2,569
Effective tax rate	11%	25%

The effective tax rate for the three months ended March 31, 2019 was different from the federal statutory rate primarily due to a net reduction in the valuation allowance against deferred tax assets. Additionally, the effective tax rates for the three months ended March 31, 2019 and 2018 were different from the federal statutory rates as a result of state income tax expense, net of federal benefit. As of March 31, 2019, we reduced the valuation allowance by \$4.0 million primarily from changes in forecasts of future taxable income, which included the impact of an additional RC invested facility that was closed during the three months ended March 31, 2019.

The income tax expense recorded for the three months ended March 31, 2019 was comprised of estimated federal income tax expense of \$0.8 million and estimated state income tax expense of \$0.9 million. The income tax expense recorded for the three months ended March 31, 2018 was comprised of estimated federal income tax expense of \$2.1 million and estimated state income tax expense of \$0.5 million.

The Company assesses the valuation allowance recorded against deferred tax assets at each reporting date. The determination of whether a valuation allowance for deferred tax assets is appropriate requires the evaluation of positive and negative evidence that can be objectively verified. Consideration must be given to all sources of taxable income available to realize the deferred tax asset, including, as applicable, the future reversal of existing temporary differences, future taxable income forecasts exclusive of the reversal of temporary differences and carryforwards, taxable income in carryback years and tax planning strategies. In estimating income taxes, the Company assesses the relative merits and risks of the appropriate income tax treatment of transactions taking into account statutory, judicial, and regulatory guidance.

Note 13 - Business Segment Information

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by a company's chief operating decision maker ("CODM"), or a decision-making group, in deciding how to allocate resources and in assessing financial performance. As of March 31, 2019, the Company's CODM was the Company's CEO. The Company's operating and reportable segments are identified by products and services provided.

As of March 31, 2019, the Company has two reportable segments: (1) Refined Coal ("RC"); and (2) Power Generation and Industrials ("PGI").

The business segment measurements provided to and evaluated by the CODM are computed in accordance with the principles listed below:

- The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies in the 2018 Form 10-K.
- Segment revenues include equity method earnings and losses from the Company's equity method investments.
- Segment operating income (loss) includes segment revenues and allocation of certain "Corporate general and administrative expenses," which include Payroll and benefits, Rent and occupancy, Legal and professional fees and General and administrative.
- RC segment operating income includes interest expense directly attributable to the RC segment.

As of March 31, 2019 and December 31, 2018, substantially all of the Company's material assets are located in the U.S. and all significant customers are U.S. companies. The following table presents the Company's operating segment results for the three months ended March 31, 2019 and 2018:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Revenues:		
Refined Coal:		
Earnings in equity method investments	\$ 21,690	\$ 12,253
Royalties, related party	4,220	3,230
	<u>25,910</u>	<u>15,483</u>
Power Generation and Industrials:		
Consumables	14,553	621
Other	—	48
	<u>14,553</u>	<u>669</u>
Total segment reporting revenues	<u>40,463</u>	<u>16,152</u>
Adjustments to reconcile to reported revenues:		
Earnings in equity method investments	(21,690)	(12,253)
Corporate and other	556	—
Total reported revenues	<u>\$ 19,329</u>	<u>\$ 3,899</u>
Segment operating income (loss):		
Refined Coal (1)	\$ 25,383	\$ 14,702
Power Generation and Industrials (2)	(3,462)	(938)
Total segment operating income	<u>\$ 21,921</u>	<u>\$ 13,764</u>

(1) Included within the RC segment operating income for the three months ended March 31, 2019 and 2018 is 453A interest expense of \$0.3 million and \$0.3 million, respectively.

(2) Included within the PGI segment operating loss for the three months ended March 31, 2019 was \$3.4 million of costs recognized as a result of the step-up in inventory fair value recorded from the Carbon Solutions Acquisition. Also included within the PGI segment operating loss for the three months ended March 31, 2019 was \$2.0 million of depreciation, amortization, and depletion expense on mine and plant long-lived assets.

A reconciliation of reportable segment operating income to the Company's consolidated net income is as follows:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Total reported segment operating income	\$ 21,921	\$ 13,764
Other operating loss	(398)	—
	21,523	13,764
Adjustments to reconcile to net income attributable to the Company:		
Corporate payroll and benefits	(432)	(1,147)
Corporate legal and professional fees	(1,961)	(1,448)
Corporate general and administrative	(1,434)	(941)
Corporate depreciation and amortization	(13)	(52)
Corporate interest (expense) income, net	(1,651)	—
Other income (expense), net	69	55
Income tax expense	(1,699)	(2,569)
Net income	\$ 14,402	\$ 7,662

Corporate general and administrative expenses include certain costs that benefit the business as a whole but are not directly related to one of the Company's segments. Such costs include, but are not limited to, accounting and human resources staff, information systems costs, legal fees, facility costs, audit fees and corporate governance expenses.

A reconciliation of reportable segment assets to the Company's consolidated assets is as follows:

<i>(in thousands)</i>	As of	
	March 31, 2019	December 31, 2018
Assets:		
Refined Coal (1)	\$ 50,802	\$ 11,468
Power Generation and Industrials	82,818	85,786
Total segment assets	133,620	97,254
All Other and Corporate (2)	60,191	62,410
Consolidated	\$ 193,811	\$ 159,664

(1) Includes \$46.1 million and \$6.6 million of investments in equity method investees, respectively.

(2) Includes the Company's deferred tax assets.

Note 14 - Fair Value Measurements

Fair value of financial instruments

The carrying amounts of financial instruments, including cash, cash equivalents and restricted cash, accounts receivable, accounts payable and accrued expenses, approximate fair value due to the short maturity of these instruments. Accordingly, these instruments are not presented in the table below. The following table provides the estimated fair values of the remaining financial instruments:

<i>(in thousands)</i>	As of March 31, 2019		As of December 31, 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Instruments:				
Highview Investment	\$ 552	\$ 552	\$ 552	\$ 552
Highview Obligation	\$ 219	\$ 219	\$ 213	\$ 213

Concentration of credit risk

The Company's financial instruments that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents. The Company holds cash and cash equivalents at five financial institutions as of March 31, 2019. If that institution

was unable to perform its obligations, the Company would be at risk regarding the amount of cash and investments in excess of the Federal Deposit Insurance Corporation limits (currently \$250 thousand) that would be returned to the Company.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

As of March 31, 2019 and December 31, 2018, the Company had no financial instruments carried and measured at fair value on a recurring basis.

Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

The Company completed the Carbon Solutions Acquisition, in which the fair value of the purchase consideration totaled \$66.5 million. The Company's estimated fair values of the assets acquired and liabilities assumed are disclosed in Note 2.

The fair value measurements represent Level 3 measurements as they are based on significant inputs not observable in the market.

Note 15 - Restructuring

In December 2018, the Company recorded restructuring charges in connection with the departures of certain executives of Carbon Solutions in conjunction with the Carbon Solutions Acquisition. As part of the Carbon Solutions Acquisition, the Company also assumed a salary severance liability for an additional executive of Carbon Solutions in the amount of \$0.6 million. Additionally, the Company recorded restructuring charges in 2018 in connection with a reduction in force that commenced in May 2018 as part of the Company's further alignment of the business with strategic objectives, which included the departure of certain executive officers. These charges related to cash severance arrangements with departing employees and executives, as well as stock-based compensation charges related to the acceleration of vesting of certain stock awards.

Restructuring charges, net of change in estimates, were \$0.1 million during the three months ended March 31, 2019. There were no material restructuring charges during the three months ended March 31, 2018.

The following table summarizes the Company's change in restructuring accruals for the three months ended March 31, 2019:

<i>(in thousands)</i>	Employee Severance
Remaining accrual as of December 31, 2018	\$ 2,208
Expense provision	172
Cash payments and other	(740)
Change in estimates	(104)
Remaining accrual as of March 31, 2019	<u>\$ 1,536</u>

Restructuring accruals are included within the Accrued payroll and related liabilities line item in the Condensed Consolidated Balance Sheets. Restructuring expenses are included within the Payroll and benefits line item in the Condensed Consolidated Statements of Operations.

Note 16 - Subsequent Events

Unless disclosed elsewhere within the notes to the Condensed Consolidated Financial Statements, the following are the significant matters that occurred subsequent to March 31, 2019.

Dividends

On May 6, 2019, the Company's Board declared a quarterly dividend of \$0.25 per share of common stock, which is payable on June 7, 2019 to stockholders of record at the close of business on May 20, 2019.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of the financial condition and results of our operations should be read together with the unaudited Condensed Consolidated Financial Statements and notes of Advanced Emissions Solutions, Inc. ("ADES" or the "Company") included elsewhere in Item 1 of Part I of this Quarterly Report and with the audited consolidated financial statements and the related notes of ADES included in the 2018 Form 10-K.

Overview

We provide environmental solutions to customers in coal-fired power generation, municipal water and other industries primarily through emissions and water purification control technologies of our subsidiaries and joint ventures. Our proprietary technologies and associated product offerings provide pollutant control solutions to enable coal-fired power generators, industrials and municipal water to reduce emissions of mercury and other air pollutants and to assist in the purification of water.

We operate two segments: Refined Coal ("RC") and Power Generation and Industrials ("PGI") (f/k/a "Emissions Control" or "EC"). Our RC segment is comprised of our equity ownership in Tinum Group, LLC ("Tinum Group"), an unconsolidated entity that provides reduction of mercury and nitrogen oxide ("NOX") emissions at select coal-fired power generators through the production and sale of RC that qualifies for tax credits under the Internal Revenue Code ("IRC") Section 45 - Production Tax Credit ("Section 45 tax credits"). We benefit from Tinum Group's production and sale of RC, which generates tax credits, as well as the revenue from selling or leasing RC facilities to tax equity investors.

Our PGI segment includes the sale of products that provide mercury control and other air and water contaminants control to coal-fired power generators and other industrial companies. Our primary products are produced from lignite coal, which creates activated carbon ("AC"). From AC, we manufacture various forms of AC that include powdered activated carbon ("PAC") and granular activated carbon ("GAC"). There are three primary consumable products that work in conjunction with the installed equipment at coal-fired utilities to control mercury: PAC, coal additives and scrubber additives. In many cases these three consumable products can be used together or in many circumstances substituted for each other. However, activated carbon is typically the most efficient and effective way to capture mercury and currently accounts for over 50% of the mercury control consumables North American market.

On December 7, 2018 (the "Acquisition Date"), we acquired (the "Carbon Solutions Acquisition") 100% of the equity interests of ADA Carbon Solutions, LLC ("Carbon Solutions"). Carbon Solutions is a manufacturer and seller of AC and a leader in mercury capture using PAC for the coal-fired power plant, industrial and water treatment markets. Carbon Solutions also owns an associated lignite mine that supplies the primary raw material for manufacturing powdered activated carbon plant. Carbon Solutions was formed in 2008 as a 50/50 joint venture by the Company and Energy Capital Partners LLC. The Company relinquished its ownership in 2011 as part of a legal settlement agreement as described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017. The Company acquired Carbon Solutions primarily to expand the Company's product offerings within the mercury control industry and other complimentary AC markets.

Results of Operations

For the three months ended March 31, 2019, we recognized net income of \$14.4 million compared to net income of \$7.7 million for the three months ended March 31, 2018.

The operating results for the three months ended March 31, 2019 are primarily attributable to a combination of factors, including:

- Continued performance in our RC business segment, principally related to distributions, equity earnings and royalties from our Tinum Group and Tinum Services, LLC ("Tinum Services") equity investments;
- Performance in our PGI business segment, principally related to the Carbon Solutions Acquisition, which we completed on December 7, 2018.

The following sections provide additional information regarding these comparative periods. For comparability purposes, the following tables set forth our results of operations for the periods presented in the Condensed Consolidated Financial Statements included in Item 1 of this Quarterly Report. The period-to-period comparison of financial results may not be indicative of financial results to be achieved in future periods.

Comparison of the Three Months Ended March 31, 2019 and 2018

Total Revenue and Cost of Revenue

A summary of the components of our revenues and cost of revenue for the three months ended March 31, 2019 and 2018 is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended March 31,		Change	
	2019	2018	(\$)	(%)
Revenues:				
Consumables	\$ 15,109	\$ 621	\$ 14,488	2,333 %
License royalties, related party	4,220	3,230	990	31 %
Other	—	48	(48)	(100)%
Total revenues	\$ 19,329	\$ 3,899	\$ 15,430	396 %
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	\$ 14,108	\$ 711	\$ 13,397	1,884 %
Other sales cost of revenue, exclusive of depreciation and amortization	\$ —	\$ (148)	\$ 148	(100)%

Consumables and consumables cost of revenue

For the three months ended March 31, 2019 and 2018, consumables revenues increased quarter over quarter primarily due to Carbon Solutions' operations. These operations also increased the total pounds of our consumables sold, and gross margins increased quarter over quarter.

Consumables cost of revenue was negatively impacted during the three months ended March 31, 2019 due to \$3.6 million of costs recognized as a result of the step-up in inventory fair value recorded from the Carbon Solutions Acquisition. Consumables gross margins will continue to be negatively impacted during 2019 by the remaining step-up in inventory, which was \$1.4 million as of March 31, 2019.

Consumables revenue is impacted based on electricity demand driven by seasonal weather and related power generation needs as well as competitor prices related to alternative power generation sources.

License royalties, related party

For the three months ended March 31, 2019 and 2018, there were 10.9 million tons and 7.7 million tons, respectively, of RC produced using M-45TM and M-45-PCTM technologies ("M-45 Technology"), which Tinum Group licenses from us ("M-45 License"). The increase in license royalties was primarily due to Tinum Group obtaining additional third-party investors for two new RC facilities, one each during the second and fourth quarters of 2018, as well as an additional RC facility during the first quarter of 2019, all of which use our M-45 License. The addition of these new invested RC facilities resulted in an increase in both payments to Tinum Group and the related tons subject to the M-45 License.

Additional information related to revenue concentrations and contributions by class and reportable segment can be found within the Business Segments discussion and in Note 13 to the Condensed Consolidated Financial Statements.

Other Operating Expenses

A summary of the components of our operating expenses, exclusive of cost of revenue items (presented above), for the three months ended March 31, 2019 and 2018 is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended March 31,		Change	
	2019	2018	(\$)	(%)
Operating expenses:				
Payroll and benefits	\$ 2,556	\$ 2,214	\$ 342	15%
Legal and professional fees	1,976	1,548	428	28%
General and administrative	2,142	1,170	972	83%
Depreciation, amortization, depletion and accretion	2,102	116	1,986	1,712%
	\$ 8,776	\$ 5,048	\$ 3,728	74%

Payroll and benefits

Payroll and benefits expenses, which represent costs related to selling, general and administrative personnel, increased during the three months ended March 31, 2019 compared to the same quarter in 2018 due an increase in headcount of personnel from the Carbon Solutions Acquisition.

Legal and professional fees

Legal and professional fees increased during the three months ended March 31, 2019 compared to the same quarter in 2018 due to legal and professional services costs associated with the integration of the Carbon Solutions as well as expenses incurred related to on-going legal matters.

General and administrative

General and administrative expenses increased during the three months ended March 31, 2019 compared to the same quarter in 2018 due to an increase in general operating expenses, including an increase in outsourced IT costs, travel, insurance and recruiting expenses. Further increases were for rent and occupancy expense due to additional square feet of leased office and warehouse space from the Carbon Solutions Acquisition.

Depreciation, amortization, depletion and accretion

Depreciation and amortization expense increased during the three months ended March 31, 2019 compared to the same quarter in 2018 due to the addition of long-lived assets and intangible assets acquired as part of the Carbon Solutions Acquisition, which contributed approximately \$1.7 million and \$0.2 million of depreciation and amortization expense, respectively, for the three months ended March 31, 2019.

Other Income (Expense), net

A summary of the components of our other income (expense), net for the three months ended March 31, 2019 and 2018 is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended March 31,		Change	
	2019	2018	(\$)	(%)
Other income (expense):				
Earnings from equity method investments	\$ 21,690	\$ 12,253	\$ 9,437	77 %
Interest income	70	—	70	*
Interest expense	(2,104)	(336)	(1,768)	526 %
Other	—	26	(26)	(100)%
Total other income	\$ 19,656	\$ 11,943	\$ 7,713	65 %

* Calculation not meaningful

Earnings from equity method investments

The following table details the components of our respective equity method investments included within the Earnings from equity method investments line item in the Condensed Consolidated Statements of Operations:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Earnings from Tinnuum Group	\$ 19,767	\$ 11,050
Earnings from Tinnuum Services	1,922	1,204
Earnings from other	1	(1)
Earnings from equity method investments	\$ 21,690	\$ 12,253

Earnings from equity method investments, and changes related thereto, are impacted by our most significant equity method investees: Tinnuum Group and Tinnuum Services. Earnings from equity method investments increased during the three months ended March 31, 2019 compared to the same quarter in 2018 primarily due to Tinnuum Group completing a sale of an RC facility to a third-party investor during the three months ended March 31, 2019. Under Tinnuum Group's revenue recognition policy pursuant to its adoption of ASU 2014-09 (Topic 606), Revenue from Contracts with Customers ("ASU 2014-09") and ASU 2016-02 as of January 1, 2019, this sale was recognized at a point in time as opposed to over time under Tinnuum's legacy revenue recognition policy.

During the three months ended March 31, 2019, we recognized \$19.8 million in equity earnings from Tinum Group, which was equal to our proportionate share of Tinum Group's net income of \$21.4 million for the quarter less the recovery of the cash distributions in excess of cumulative earnings as of December 31, 2018. During the three months ended March 31, 2018, we recognized \$11.1 million in equity earnings from Tinum Group compared to our proportionate share of Tinum Group's net income of \$12.5 million for the quarter. The difference between our pro-rata share of Tinum Group's net income and our earnings from our Tinum Group equity method investment as reported on the Condensed Consolidated Statements of Operations for the three months ended March 31, 2018 is the result of cumulative distributions received from Tinum Group being in excess of the carrying value of the investment, and therefore we recognize such excess distributions as equity method earnings in the period the distributions occur, as discussed in more detail below.

The carrying value of our investment in Tinum Group was \$40.2 million as of March 31, 2019, as our cumulative share of pro-rata Tinum Group's income exceeded the amount of its cumulative cash distributions as a result of Tinum Group's adoption of ASU 2014-09 and ASU 2016-02 as of January 1, 2019, in which we recorded a cumulative adjustment of \$28.8 million related to the Company's percentage of Tinum Group's cumulative effect adjustment that increased the Company's retained earnings as of January 1, 2019. As part of this adjustment, we increased the carrying value of our investment in Tinum Group by \$37.2 million. Throughout 2018, the Company's carrying value had been reduced to zero, as cumulative cash distributions received from Tinum Group exceeded the Company's pro-rata share of cumulative earnings in Tinum Group. For quarterly periods during which the ending balance of our investment is greater than zero (e.g., when the cumulative earnings in Tinum Group exceeds cumulative cash distributions received), we recognize our pro-rata share of Tinum Group's net income for the period, less any amount necessary to recover the cumulative earnings short-fall balance as of the end of the immediately preceding quarter. For quarterly periods during which the ending balance of our investment in Tinum Group is zero, we only recognize equity earnings from Tinum Group to the extent that cash distributions are received from Tinum Group during the period. The carrying value of our investment in Tinum Group will be zero when the cumulative amount of distributions received from Tinum Group exceeds our cumulative pro-rata share of Tinum Group's net income. See additional information related to our investment balance, equity earnings (losses) and cash distributions in Note 4 of the Condensed Consolidated Financial Statements.

As of March 31, 2019 and 2018, Tinum Group had 20 and 17 invested RC facilities, respectively, that were generating revenues. There were no 100% retained RC facilities as of March 31, 2019 or March 31, 2018, except for temporary operations of a retained RC facility prior to its lease or sale or our ownership in GWN Manager, LLC.

Equity earnings from our interest in Tinum Services increased by \$0.7 million during the three months ended March 31, 2019 compared to the three months ended March 31, 2018, and for those quarters, Tinum Services provided operating and maintenance services to 19 and 16 operating RC facilities, respectively. Tinum Services derives earnings both from fixed-fee arrangements as well as fees that are based on actual RC production, depending upon the specific RC facility operating and maintenance agreement.

We earned the following Section 45 tax credits related to the production of RC that may be available for future benefit:

(in thousands)	Three Months Ended March 31,	
	2019	2018
Section 45 tax credits earned	\$ 988	\$ 1,730

The decrease in Section 45 tax credits earned during the three months ended March 31, 2019 compared to the three months ended March 31, 2018 was due to a decrease in production of RC related to our membership interest in GWN Manager, LLC ("GWN Manager") and Tinum Group's partial ownership in a single RC facility that is generating tax credits.

Interest expense

During the three months ended March 31, 2019, interest expense increased \$1.8 million compared to the three months ended March 31, 2018 primarily due to interest expense related to the Senior Term Loan entered into on December 7, 2018 to fund the Carbon Solutions Acquisition in the amount of \$1.3 million and related amortization expense of debt discount and debt issuance costs of \$0.4 million for the three months ended March 31, 2019.

Income tax expense

For the three months ended March 31, 2019, we recorded income tax expense of \$1.7 million compared to income tax expense of \$2.6 million for the three months ended March 31, 2018. The income tax expense recorded for the three months ended March 31, 2019 was comprised of estimated federal income tax expense of \$0.8 million and estimated state income tax expense of \$0.9 million. The income tax expense recorded for the three months ended March 31, 2018 was comprised of estimated federal income tax expense of \$2.1 million and estimated state income tax expense of \$0.5 million. The net decrease in income tax expense quarter over quarter was primarily due to a \$4.0 million decrease in the valuation allowance against our deferred tax assets during the three months ended March 31, 2019, offset by an increase in income tax expense for 2019 based on higher

forecasted pretax accounting income for 2019 compared to 2018. The decrease in the valuation allowance was primarily due to changes in forecasts of future taxable income, which included the impact of an additional RC invested facility that was closed during the three months ended March 31, 2019.

Non-GAAP Financial Measures

To supplement the Company's financial information presented in accordance with U.S. generally accepted accounting principles, or GAAP, we are providing non-GAAP measures of certain financial performance. These non-GAAP measures include Consolidated EBITDA and Segment EBITDA. The Company included non-GAAP measures because management believes that they help to facilitate comparison of operating results between periods. The Company believes the non-GAAP measures provide useful information to both management and users of the financial statements by excluding certain expenses, gains and losses that may not be indicative of core operating results and business outlook. These non-GAAP measures are not in accordance with, or an alternative to, measures prepared in accordance with GAAP and may be different from non-GAAP measures used by other companies. In addition, these non-GAAP measures are not based on any comprehensive set of accounting rules or principles. These measures should only be used to evaluate the Company's results of operations in conjunction with the corresponding GAAP measures.

The Company has defined Consolidated EBITDA as net income, adjusted for the impact of the following items that are either non-cash or that the Company does not consider representative of its ongoing operating performance: depreciation, amortization, depletion and accretion, interest expense, net and income tax expense. Because Consolidated EBITDA omits certain non-cash items, the Company believes that the measure is less susceptible to variances that affect the Company's operating performance.

Segment EBITDA is calculated as Segment operating income (loss) adjusted for the impact of the following items that are either non-cash or that the Company does not consider representative of its ongoing operating performance: depreciation, amortization, depletion and accretion and interest expense, net. When used in conjunction with GAAP financial measures, Segment EBITDA is a supplemental measure of operating performance that management believes is a useful measure related to the Company's PGI segment performance relative to the performance of its competitors as well as performance period over period. Additionally, the Company believes the measure is less susceptible to variances that affect its operating performance results.

The Company presents Consolidated EBITDA and Segment EBITDA because the Company believes they are useful as supplemental measures in evaluating the performance of the Company's operating performance and provide greater transparency into the results of operations. The Company's management uses Consolidated EBITDA and Segment EBITDA as factors in evaluating the performance of its business.

The adjustments to Consolidated EBITDA and Segment EBITDA in future periods are generally expected to be similar. Consolidated EBITDA and Segment EBITDA have limitations as analytical tools, and you should not consider these measures in isolation or as a substitute for analyzing the Company's results as reported under GAAP.

Consolidated EBITDA

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Net income	\$ 14,402	\$ 7,662
Depreciation, amortization, depletion and accretion	2,102	116
Interest expense, net	2,034	336
Income tax expense	1,699	2,569
Consolidated EBITDA	<u>\$ 20,237</u>	<u>\$ 10,683</u>

Consolidated EBITDA was \$20.2 million, an increase of \$9.6 million over the first quarter of 2018, driven by higher net income, as well as higher expenses related to interest and depreciation, amortization, depletion and accretion, offset by lower income tax expense.

Business Segments

As of March 31, 2019, we have two reportable segments: (1) RC and (2) PGI. The business segment measurements provided to and evaluated by our chief operating decision maker are computed in accordance with the principles listed below:

- The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies in the 2018 Form 10-K.
- Segment revenues include equity method earnings and losses from our equity method investments.
- Segment operating income (loss) includes segment revenues and allocation of certain "Corporate general and administrative expenses," which include Payroll and benefits, Rent and occupancy, Legal and professional fees, and General and administrative.
- RC segment operating income includes interest expense directly attributable to the RC segment.

The principal products and services of our segments are:

1. RC - Our RC segment derives its earnings from equity method investments as well as royalty payment streams and other revenues related to enhanced combustion of and reduced emissions of both NO_x and mercury from the burning of coal. Our equity method investments related to the RC segment include Tinium Group, Tinium Services and other immaterial equity method investments. Segment revenues include our equity method earnings (losses) from our equity method investments and royalty earnings from Tinium Group. These earnings are included within the Earnings from equity method investments and License royalties, related party line items in the Condensed Consolidated Statements of Operations. Key drivers to the RC segment performance are the produced and sold RC from both operating and retained RC facilities, royalty-bearing tonnage, and the number of operating (leased or sold) and retained RC facilities. These key drivers impact our earnings and cash distributions from equity method investments.
2. PGI - Our PGI segment primarily includes revenues and related expenses from the sale of consumable products that utilize PAC chemical technologies. These options provide coal-powered utilities and industrial boilers with mercury control solutions working in conjunction with activated carbon injection ("ACI") and dry sorbent injection ("DSI") systems and other pollution control equipment, generally without the requirement for significant ongoing capital outlays. These amounts are included within the respective revenues and cost of revenue line items in the Condensed Consolidated Statements of Operations.

Management uses segment operating income (loss) to measure profitability and performance at the segment level. Management believes segment operating income (loss) provides investors with a useful measure of our operating performance and underlying trends of the businesses. Segment operating income (loss) may not be indicative of our overall consolidated performance and therefore, should be read in conjunction with our Condensed Consolidated Statements of Operations.

The following table presents our operating segment results for the three months ended March 31, 2019 and 2018:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Revenues:		
Refined Coal:		
Earnings in equity method investments	\$ 21,690	\$ 12,253
Royalties, related party	4,220	3,230
	<u>25,910</u>	<u>15,483</u>
Power Generation and Industrials:		
Consumables	14,553	621
Other	—	48
	<u>14,553</u>	<u>669</u>
Total segment reporting revenues	<u>40,463</u>	<u>16,152</u>
Adjustments to reconcile to reported revenues:		
Earnings in equity method investments	(21,690)	(12,253)
Corporate and other	556	—
Total reported revenues	<u>\$ 19,329</u>	<u>\$ 3,899</u>
Segment operating income (loss):		
Refined Coal (1)	\$ 25,383	\$ 14,702
Power Generation and Industrials (2)	(3,462)	(938)
Total segment operating income	<u>\$ 21,921</u>	<u>\$ 13,764</u>

(1) Included within the RC segment operating income for the three months ended March 31, 2019 and 2018 is 453A interest expense of \$0.3 million and \$0.3 million, respectively.

(2) Included within the PGI segment operating loss for the three months ended March 31, 2019 was approximately \$3.4 million of costs recognized as a result of the step-up in inventory fair value recorded from the Carbon Solutions Acquisition. Also included within the PGI segment operating loss for the three months ended March 31, 2019 was \$2.0 million of depreciation, amortization, and depletion expense on mine- and plant-related long-lived assets.

RC

The following table details the segment revenues of our respective equity method investments:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Earnings from Tinnium Group	\$ 19,767	\$ 11,050
Earnings from Tinnium Services	1,922	1,204
Earnings from other	1	(1)
Earnings from equity method investments	<u>\$ 21,690</u>	<u>\$ 12,253</u>

For the three months ended March 31, 2019 and March 31, 2018

RC earnings increased primarily due to an increase in equity earnings in Tinnium Group during the three months ended March 31, 2019 compared to the same quarter in 2018, as presented above. Our equity earnings increased primarily due to completing a sale of an RC facility to a third-party investor during three months ended March 31, 2019, which was recognized in Tinnium earnings during the period. As a result of accounting standards adopted by Tinnium Group on January 1, 2019, which resulted in an increase in our investment in Tinnium Group, we recognized our proportionate share of earnings as reported by Tinnium Group beginning on January 1, 2019, as we had earnings in excess of cumulative distributions.

Earnings from Tinnium Services for the three months ended March 31, 2019 increased compared to the same quarter in 2018 primarily due to an increase in the number of operating RC facilities from 16 to 19 for which Tinnium Services provides operating and maintenance services.

RC earnings were positively impacted during the three months ended March 31, 2019 by an increase in royalties related to Tinum Group's use of our M-45 License. During the three months ended March 31, 2019 and 2018, there were 10.9 million tons and 7.7 million tons, respectively, of RC produced using the M-45 Technology. The increase in Royalty revenue was driven by an increase in rent payments to Tinum Group and the related tons subject to the M-45 License.

Additional discussion of our equity method investments is included above within our consolidated results and in Note 4 of the Condensed Consolidated Financial Statements.

PGI

Discussion of revenues derived from our PGI segment and costs related thereto are included above within our consolidated results.

For the three months ended March 31, 2019 and March 31, 2018

PGI segment operating income decreased during the three months ended March 31, 2019 compared to the three months ended March 31, 2018 primarily due to an additional \$3.4 million of cost of revenue sold expense related to the step up in basis of acquired finished goods inventory related to the Carbon Solutions Acquisition. This decrease was offset by an increase in operating income due to the operations of Carbon Solutions.

PGI Segment EBITDA

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Segment operating loss	\$ (3,462)	\$ (938)
Depreciation, amortization, depletion and accretion	1,959	43
Interest expense, net	131	—
Segment EBITDA	<u>\$ (1,372)</u>	<u>\$ (895)</u>

PGI Segment EBITDA loss was \$1.4 million, inclusive of a \$3.4 million adjustment to cost of revenue due to the step-up in basis of inventory acquired related to the Carbon Solutions Acquisition. PGI Segment EBITDA loss increased by \$0.5 million over the first quarter of 2018, mostly driven by an increase in segment operating loss of \$2.5 million, which was offset by additional depreciation, amortization, depletion and accretion expense of \$1.9 million related to assets acquired from the Carbon Solutions Acquisition.

Liquidity and Capital Resources

Overview of Factors Affecting Our Liquidity

During the three months ended March 31, 2019, our liquidity position was positively affected primarily due to distributions from Tinum Group and Tinum Services, royalty payments from Tinum Group and borrowing availability under our bank ("Lender") line of credit ("Line of Credit").

Our principal sources of cash include:

- cash on hand;
- distributions from Tinum Group and Tinum Services;
- royalty payments from Tinum Group; and
- operations of the PGI segment.

Our principal uses of cash during the three months ended March 31, 2019 included:

- repurchases of shares of common stock;
- payment of dividends;
- payment of debt principal and interest;
- our business operating expenses, including federal and state tax payments and cash severance payments; and
- delivering on our existing contracts and customer commitments.

Our ability to continue to generate sufficient cash flow required to meet ongoing operational needs and obligations, as well as future expected dividend payments and potential future share repurchases, depends upon several factors, including executing on our contracts and initiatives, receiving royalty payments from Tinum Group and distributions from Tinum Group and Tinum Services, and increasing our share of the market for PGI consumables, as well as expansion of our overall PAC business into additional adjacent markets. Increased distributions from Tinum Group will likely be dependent upon both preserving existing

contractual relationships and the securing of additional tax equity investors for those Tinnuum Group facilities that are currently not operating.

Due to the Carbon Solutions Acquisition, we expect that use of liquidity for capital expenditures will increase in future periods. Carbon Solutions has historically incurred costs for capital expenditures related to its PAC manufacturing facility under normal operations and planned outages and for mine development at its lignite mine. Going forward, we anticipate additional material capital resources will be needed to maintain or improve capital assets. We have planned maintenance to our manufacturing facility during the three months ended June 30, 2019.

Tinnuum Group and Tinnuum Services Distributions

The following table summarizes the cash distributions from our equity method investments that most significantly affected our consolidated cash flow results, for the three months ended March 31, 2019 and 2018:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Tinnuum Group	\$ 16,788	\$ 11,050
Tinnuum Services	2,700	2,400
Distributions from equity method investees	<u>\$ 19,488</u>	<u>\$ 13,450</u>

Future cash flows from Tinnuum through 2021 are expected to range from \$200 to \$225 million, and key drivers in achieving these future cash flows are based on the following:

- 20 invested facilities as of March 31, 2019 and inclusive of all net Tinnuum cash flows (distributions and license royalties), offset by estimated federal and state income tax payments and 453A interest payments.

Expected future cash flows from Tinnuum Group are based on the following key assumptions:

- Tinnuum Group continues to not operate retained facilities;
- Tinnuum Group does not have material unexpected capital expenditures or unusual operating expenses;
- Tax equity lease renewals on invested facilities are not terminated or repriced; and
- Coal-fired power generation remains constant.

Future incremental invested RC facilities would positively impact our expectation of future cash flows.

Senior Term Loan

On December 7, 2018, we and ADA-ES, Inc. ("ADA"), a wholly-owned subsidiary, and certain other subsidiaries of the Company as guarantors, The Bank of New York Mellon as administrative agent, and Apollo Credit Strategies Master Fund Ltd and Apollo A-N Credit Fund (Delaware) L.P. (collectively "Apollo"), affiliates of a beneficial owner of greater than five percent of our common stock and a related party, entered into the Term Loan and Security Agreement (the "Senior Term Loan") in the amount of \$70.0 million, less original issue discount of \$2.1 million. Proceeds from the Senior Term Loan were used to fund the Carbon Solutions Acquisition as disclosed in Note 2. We also paid debt issuance costs of \$2.0 million related to the Senior Term Loan. The Senior Term Loan has a term of 36 months and bears interest at a rate equal to 3-month LIBOR (subject to a 1.5% floor) + 4.75% per annum, which is adjusted quarterly to the current 3-month LIBOR rate, and interest is payable quarterly in arrears. Quarterly principal payments of \$6.0 million are required and commenced in March 2019, and we may prepay the Senior Term Loan at any time without penalty. The Senior Term Loan is secured by substantially all of our assets, including the cash flows from Tinnuum Group and Tinnuum Services (collectively, the "Tinnuum Entities"), but excluding our equity interests in those Tinnuum entities.

The Senior Term Loan includes, among others, the following covenants: (1) Beginning December 31, 2018 and as of the end of each fiscal quarter thereafter, we must maintain a minimum cash balance of \$5.0 million and shall not permit "expected future net cash flows from the refined coal business" (as defined in the Senior Term Loan) to be less than 1.75 times the outstanding principal amount of the Senior Term Loan; (2) Beginning in January 2019, annual collective dividends and buybacks of shares of our common stock in an aggregate amount, not to exceed \$30.0 million, is permitted so long as (a) no default or event of default exists under the Senior Term Loan and (b) expected future net cash flows from the refined coal business as of the end of the most recent fiscal quarter exceed \$100.0 million.

Stock Repurchases and Dividends

In November 2018, the Board of Directors (the "Board") authorized us to purchase up to \$20.0 million of our outstanding common stock. This stock repurchase program will remain in effect until December 31, 2019 unless otherwise modified by the Board. Previously, in December 2017, the Board had authorized us to purchase up to \$20.0 million of our outstanding common stock under a separate repurchase program that was in effect until July 31, 2018. During the year ended December 31, 2018, under these two stock repurchase programs, we purchased 2,350,422 shares of our common stock for cash of \$25.3 million, inclusive of commissions and fees.

During the three months ended March 31, 2019 and 2018, we declared and paid quarterly cash dividends to stockholders of \$4.6 million and \$5.1 million, respectively, which were paid on March 7, 2019 and March 8, 2018, respectively.

Line of Credit

As of March 2019, there were no outstanding borrowings under the Line of Credit.

On September 30, 2018, ADA, as borrower, we, as guarantor, and the Lender entered into an amendment (the "Twelfth Amendment") to the Line of Credit. The Twelfth Amendment decreased the borrowing availability of the Line of Credit to \$5.0 million due to decreased collateral requirements, extended the maturity date of the Line of Credit to September 30, 2020 and permitted the Line of Credit to be used as collateral (in place of restricted cash) for letters of credit ("LC's") up to \$5.0 million related to equipment projects and certain other agreements. Under the Twelfth Amendment, there was no minimum balance requirement based on us meeting certain conditions and maintaining minimum trailing twelve-month EBITDA (earnings before interest, taxes, depreciation and amortization), as previously defined in the "Eleventh Amendment" to the Line of Credit, of \$24.0 million.

On December 7, 2018, ADA, as borrower, we, as guarantor, and the Lender entered into an amendment to the Line of Credit, which provided, among other things, for ADA to be able to enter into the Senior Term Loan as a guarantor so long as the principal amount of the Senior Term Loan does not exceed \$70.0 million. Additionally, the financial covenants in the Line of Credit were amended and restated to be consistent with the aforementioned Senior Term Loan covenants, including maintaining a minimum cash balance of \$5.0 million.

Sources and Uses of Cash

Three Months Ended March 31, 2019 vs. Three Months Ended March 31, 2018

Cash, cash equivalents and restricted cash increased from \$23.8 million as of December 31, 2018 to \$25.9 million as of March 31, 2019. The following table summarizes our cash flows for the three months ended March 31, 2019 and 2018, respectively:

<i>(in thousands)</i>	Three Months Ended March 31,		
	2019	2018	Change
Cash and cash equivalents and restricted cash provided by (used in):			
Operating activities	\$ 16,018	\$ 139	\$ 15,879
Investing activities	(2,072)	10,976	(13,048)
Financing activities	(11,853)	(7,051)	(4,802)
Net change in cash and cash equivalents and restricted cash	\$ 2,093	\$ 4,064	\$ (1,971)

Additionally, the following table summarizes the cash flows of Tinuum Group, whose cash distributions most significantly impact our consolidated cash flow results, for the three months ended March 31, 2019 and 2018, respectively:

<i>(in thousands)</i>	Three Months Ended March 31,	
	2019	2018
Tinuum Group cash, beginning of year	\$ 26,211	\$ 13,309
Cash provided by (used in):		
Operating activities	30,478	10,323
Investing activities (1)	(3,814)	(1,719)
Financing activities	(24,247)	(13,375)
Net change in cash	2,417	(4,771)
Tinuum Group cash, end of period	\$ 28,628	\$ 8,538

(1) During the three months ended March 31, 2019 and 2018, Tinuum Group's use of cash related to RC facilities in the engineering and installation phase.

Cash flow from operating activities

Cash flows provided by operating activities for the three months ended March 31, 2019 were \$16.0 million and changed by \$15.9 million compared to the three months ended March 31, 2018. Cash flows from operating activities were positively impacted primarily by the following: (1) net income of \$14.4 million, which was primarily due to earnings from equity method investees of \$21.7 million and license royalties earned from Tinuum Group of \$4.2 million; (2) distributions from equity method investees, return on investment of \$19.5 million; (3) a decrease in deferred tax assets, exclusive of valuation allowance changes, of \$3.3 million; (4) depreciation, amortization, depletion, and accretion of \$2.1 million; and a net decrease in working capital of \$2.1 million. Included in distributions from equity method investees, return on investment is \$16.8 million of distributions received from Tinuum Group. During three months ended March 31, 2018, the carrying value of our investment in Tinuum Group was zero and all cash distributions were reported as distributions in excess of cumulative earnings, which is reported as cash flows from investing activities. Due to the increase in the balance of our investment in Tinuum Group during the three months ended March 31, 2019, all distributions during the period were reported as return on investment. Offsetting these increases to operating cash flows were earnings from equity method investees of \$21.7 million and a decrease in valuation allowance on deferred tax assets of \$4.0 million.

Cash flows used in operating activities for the three months ended March 31, 2018 were \$0.1 million and were positively impacted primarily by the following: (1) net income of \$7.7 million, which was primarily due to earnings from equity method investees of \$12.3 million and license royalties earned from Tinuum Group of \$3.2 million; (2) distributions from equity method investees, return on investment of \$2.4 million; (3) a decrease in deferred tax assets of \$1.6 million, primarily from the recognition of deferred income tax expense during the three months ended March 31, 2018; and (4) a net increase in working capital of \$0.2 million, primarily from insurance recoveries received on various legal matters. Offsetting these increases to operating cash flows were primarily earnings from equity method investees of \$12.3 million.

Cash flow from investing activities

Distributions from equity method investees

Distributions received from our equity method investees reported as return in excess of investment basis within investing cash flows decreased by \$11.1 million for the three months ended March 31, 2019 compared to the three months ended March 31, 2018. The decrease was driven primarily by the effect of an increase in our equity investment in Tinuum Group, which resulted in all cash distributions reported as return on investment during the three months ended March 31, 2019. In total, cash distributions increased quarter over quarter due to additional invested RC facilities in the second half of 2018 and first half of 2019.

Acquisition of business

During the three months ended March 31, 2019, we funded the remaining consideration payable of \$0.7 million for the Carbon Solutions Acquisition.

Acquisition of property, equipment, and intangible assets

Current period expenditures for property, equipment, and intangible assets primarily relates to capital expenditures at our AC manufacturing facility in anticipation of the planned outages that had been delayed prior to the Carbon Solutions Acquisition. These expenditures approximated \$1.0 million during the three months ended March 31, 2019.

Mine development costs

During the three months ended March 31, 2019, we incurred costs related to development work and mitigation costs for our mining operations.

Cash flow from financing activities

Principal payments on term loan

During three months ended March 31, 2019, we made a required principal payment of \$6.0 million related to the Senior Term Loan.

Cash dividends paid

During the three months ended March 31, 2019 and 2018, we made payments of \$4.6 million and \$5.1 million, respectively, related to dividends declared on our common stock.

Repurchase of common stock

As described in Note 9 of the Condensed Consolidated Financial Statements, during the three months ended March 31, 2019 and under a stock repurchase program authorized by the Board, we purchased 63,876 shares of our common stock for cash of \$0.7 million, inclusive of commissions and fees. During the three months ended March 31, 2018, we repurchased 149,217 shares of our common stock for cash of \$1.6 million.

Equity award activity

During the three months ended March 31, 2019 and 2018, we used \$0.2 million and \$0.3 million, respectively, for the repurchase of shares to satisfy tax withholdings upon the vesting of equity-based awards.

Contractual Obligations

During the three months ended March 31, 2019, there were no material changes to our contractual obligations outside of the ordinary course of business from those reported as of December 31, 2018.

Off-Balance Sheet Arrangements

During the three months ended March 31, 2019, we did not engage in any off-balance sheet arrangements except those discussed in Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the 2018 10-K.

Critical Accounting Policies and Estimates

Except for the adoption of ASC 842 related to leases, our significant accounting policies and estimates have not changed from those reported in Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the 2018 10-K.

Recently Issued Accounting Standards

Refer to Note 1 of the Condensed Consolidated Financial Statements included in Item 1 of this Quarterly Report for new accounting standards applicable to us that were issued during the three months ended March 31, 2019 and subsequent thereto through the date of this Quarterly Report.

Forward-Looking Statements Found in this Report

This Quarterly Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that involve risks and uncertainties. In particular, such forward-looking statements are found in this Part I, Item 2 above. Words or phrases such as "anticipates," "believes," "expects," "intends," "plans," "estimates," "predicts," the negative expressions of such words, or similar expressions are used in this Quarterly Report to identify forward-looking statements, and such forward-looking statements include, but are not limited to, statements or expectations regarding:

- (a) the scope and impact of mercury and other regulations or pollution control requirements, including the impact of the final MATS;
- (b) the production and sale of RC that the RC facilities will qualify for Section 45 tax credits;
- (c) expected growth or contraction in and potential size of our target markets;
- (d) expected supply and demand for our products and services;
- (e) increasing competition in the PGI market;
- (f) future level of research and development activities;
- (g) the effectiveness of our technologies and the benefits they provide;
- (h) Tinnuum Group's ability to profitably sell and/or lease additional RC facilities and/or RC facilities that may be returned to Tinnuum Group, or to recognize the tax benefits from production and sale of RC on retained RC facilities;
- (i) probability of any loss occurring with respect to certain guarantees made by Tinnuum Group ("Party Guarantees");
- (j) the timing of awards of, and work and related testing under, our contracts and agreements and their value;
- (k) the timing and amounts of or changes in future revenues, royalties earned, backlog, funding for our business and projects, margins, expenses, earnings, tax rates, cash flows, royalty payment obligations, working capital, liquidity and other financial and accounting measures;
- (l) the outcome of current and pending legal proceedings;
- (m) awards of patents designed to protect our proprietary technologies both in the U.S. and other countries; and
- (n) whether any legal challenges or EPA actions will have a material impact on the implementation of the MATS or other regulations and on our ongoing business.

The forward-looking statements included in this Quarterly Report involve risks and uncertainties. Actual events or results could differ materially from those discussed in the forward-looking statements as a result of various factors including, but not limited to, timing of new and pending regulations and any legal challenges to or extensions of compliance dates of them; the U.S.

government's failure to promulgate regulations or appropriate funds that benefit our business; changes in laws and regulations, accounting rules, prices, economic conditions and market demand; impact of competition; availability, cost of and demand for alternative energy sources and other technologies; technical, start up and operational difficulties; failure of the RC facilities to produce RC; termination of or amendments to the contracts for sale or lease of RC facilities or such facilities to qualify for Section 45 tax credits; decreases in the production of RC; our inability to commercialize our technologies on favorable terms; our inability to ramp up our operations to effectively address recent and expected growth in our business; loss of key personnel; potential claims from any terminated employees, customers or vendors; availability of materials and equipment for our businesses; intellectual property infringement claims from third parties; pending litigation; as well as other factors relating to our business, as described in our filings with the SEC, with particular emphasis on the risk factor disclosures contained in those filings. You are cautioned not to place undue reliance on the forward-looking statements made in this Quarterly Report and to consult filings we have made and will make with the SEC for additional discussion concerning risks and uncertainties that may apply to our business and the ownership of our securities. The forward-looking statements contained in this Quarterly Report are presented as of the date hereof, and we disclaim any duty to update such statements unless required by law to do so.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

The information under this Item is not required to be provided by smaller reporting companies.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we have evaluated, under the supervision of and with the participation of our management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in 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. Based upon this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of March 31, 2019.

Changes in Internal Control Over Financial Reporting

On December 7, 2018, we acquired Carbon Solutions and excluded their business from our assessment of internal control over financial reporting as of December 31, 2018, as allowed under general guidance issued by the Staff of the Securities and Exchange Commission. Except for the acquisition of Carbon Solutions, there have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are involved in litigation, claims and other proceedings related to the conduct of our business. Litigation and other disputes are inherently unpredictable and subject to substantial uncertainties and unfavorable resolutions could occur. None of these matters, either individually or in the aggregate, currently is material to us.

Item 1A. Risk Factors

There are no material updates to our risk factors as disclosed in our 2018 Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

Period	(a) Total number of shares purchased	(b) Average price paid per share	(c) Total number of shares purchased as part of publicly announced programs	(d) Maximum number (or approximate dollar value) of shares that may yet be purchased under the plans or programs (in thousands)
January 1 to January 31, 2019	54,053	\$ 10.83	54,053	\$ —
February 1 to February 28, 2019	801	11.26	801	—
March 1 to March 31, 2019	9,022	10.97	9,022	5,132
Total	63,876	\$ 10.86	63,876	\$ 5,132

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

The statement 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 is included in Exhibit 95 to this Report.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit No.	Description	Form	File No.	Incorporated by Reference Exhibit	Filing Date
4.1	<u>Second Amendment to Tax Asset Protection Plan dated as of April 5, 2019, by and between the Company and Computershare Trust Company, N.A., as rights agent</u>	8-K	001-37822	4.3	April 11, 2019
31.1	<u>Certification of Principal Executive Officer of Advanced Emissions Solutions, Inc. Pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a)*</u>				
31.2	<u>Certification of Principal Financial Officer of Advanced Emissions Solutions, Inc. Pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a)*</u>				
32.1	<u>Certification of Principal Executive Officer and Principal Financial Officer of Advanced Emissions Solutions, Inc. Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*</u>				
95	<u>Mine Safety Disclosure Exhibit*</u>				
101.INS	XBRL Instance Document				
101.SCH	XBRL Schema Document				
101.CAL	XBRL Calculation Linkbase Document				
101.LAB	XBRL Label Linkbase Document				
101.PRE	XBRL Presentation Linkbase Document				
101.DEF	Taxonomy Extension Definition Linkbase Document				

Notes:

* – Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Advanced Emissions Solutions, Inc.
(Registrant)

May 6, 2019

By: /s/ L. Heath Sampson
L. Heath Sampson
Chief Executive Officer
(Principal Executive Officer)

May 6, 2019

By: /s/ Greg P. Marken
Greg P. Marken
Chief Financial Officer
(Principal Financial and Accounting Officer)