

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

FORM 10-Q

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

For the quarterly period ended September 30, 2021
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.)**

**8051 E. Maplewood Ave, Suite 210, Greenwood Village,
CO**

(Address of principal executive offices)

80111

(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

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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

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

Yes No

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 November 4, 2021, there were 18,865,140 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	
	September 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash, cash equivalents and restricted cash	\$ 72,139	\$ 30,932
Receivables, net	15,279	13,125
Receivables, related parties	4,165	3,453
Inventories, net	5,569	9,882
Prepaid expenses and other assets	4,614	4,597
Total current assets	101,766	61,989
Restricted cash, long-term	10,000	5,000
Property, plant and equipment, net of accumulated depreciation of \$6,600 and \$3,340, respectively	30,712	29,433
Intangible assets, net	1,452	1,964
Equity method investments	2,884	7,692
Deferred tax assets, net	1,558	10,604
Other long-term assets, net	33,401	29,989
Total Assets	\$ 181,773	\$ 146,671
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 9,125	\$ 7,849
Accrued payroll and related liabilities	4,498	3,257
Current portion of long-term debt	1,033	18,441
Other current liabilities	9,866	12,996
Total current liabilities	24,522	42,543
Long-term debt, net of current portion	3,408	5,445
Other long-term liabilities	12,818	13,473
Total Liabilities	40,748	61,461
Commitments and contingencies (Note 11)		
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, 23,483,286 and 23,141,284 shares issued, and 18,865,140 and 18,523,138 shares outstanding at September 30, 2021 and December 31, 2020, respectively	23	23
Treasury stock, at cost: 4,618,146 and 4,618,146 shares as of September 30, 2021 and December 31, 2020, respectively	(47,692)	(47,692)
Additional paid-in capital	101,660	100,425
Retained earnings	87,034	32,454
Total stockholders' equity	141,025	85,210
Total Liabilities and Stockholders' Equity	\$ 181,773	\$ 146,671

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 September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenues:				
Consumables	\$ 24,689	\$ 15,844	\$ 57,696	\$ 33,231
License royalties, related party	4,165	3,627	11,888	9,986
Total revenues	28,854	19,471	69,584	43,217
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	17,952	15,013	43,726	33,920
Payroll and benefits	2,637	2,285	8,014	8,839
Legal and professional fees	1,106	1,321	4,340	4,386
General and administrative	1,715	1,900	5,223	6,693
Depreciation, amortization, depletion and accretion	2,145	1,777	6,155	5,807
Impairment of long-lived assets	—	—	—	26,103
Gain on change in estimate, asset retirement obligation	—	—	(1,942)	—
Total operating expenses	25,555	22,296	65,516	85,748
Operating income (loss)	3,299	(2,825)	4,068	(42,531)
Other income (expense):				
Earnings from equity method investments	22,195	9,518	61,944	25,959
Gain on extinguishment of debt	3,345	—	3,345	—
Interest expense	(86)	(881)	(1,416)	(3,053)
Other	81	17	652	208
Total other income	25,535	8,654	64,525	23,114
Income (loss) before income tax expense	28,834	5,829	68,593	(19,417)
Income tax expense	4,581	854	14,013	1,315
Net income (loss)	\$ 24,253	\$ 4,975	\$ 54,580	\$ (20,732)
Earnings (loss) per common share (Note 1):				
Basic	\$ 1.33	\$ 0.27	\$ 2.99	\$ (1.15)
Diluted	\$ 1.31	\$ 0.27	\$ 2.96	\$ (1.15)
Weighted-average number of common shares outstanding:				
Basic	18,292	18,093	18,243	18,014
Diluted	18,489	18,103	18,416	18,014

See Notes to the Condensed Consolidated Financial Statements.

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

	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Total Stockholders' Equity
	Shares	Amount	Shares	Amount			
<i>(Amounts in thousands, except share data)</i>							
Balances, January 1, 2021	23,141,284	\$ 23	(4,618,146)	\$(47,692)	\$ 100,425	\$ 32,454	\$ 85,210
Stock-based compensation	381,339	—	—	—	421	—	421
Repurchase of common shares to satisfy minimum tax withholdings	(40,975)	—	—	—	(216)	—	(216)
Net income	—	—	—	—	—	13,737	13,737
Balances, March 31, 2021	23,481,648	\$ 23	(4,618,146)	\$(47,692)	\$ 100,630	\$ 46,191	\$ 99,152
Stock-based compensation	(25,330)	—	—	—	566	—	566
Repurchase of common shares to satisfy minimum tax withholdings	(3,833)	—	—	—	(25)	—	(25)
Net income	—	—	—	—	—	16,590	16,590
Balances, June 30, 2021	23,452,485	\$ 23	(4,618,146)	\$(47,692)	\$ 101,171	\$ 62,781	\$ 116,283
Stock-based compensation	30,801	—	—	—	489	—	489
Net income	—	—	—	—	—	24,253	24,253
Balances, September 30, 2021	<u>23,483,286</u>	<u>\$ 23</u>	<u>(4,618,146)</u>	<u>\$(47,692)</u>	<u>\$ 101,660</u>	<u>\$ 87,034</u>	<u>\$ 141,025</u>

	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Total Stockholders' Equity
	Shares	Amount	Shares	Amount			
<i>(Amounts in thousands, except share data)</i>							
Balances, January 1, 2020	22,960,157	\$ 23	(4,597,533)	\$(47,533)	\$ 98,466	\$ 57,336	\$ 108,292
Stock-based compensation	218,259	—	—	—	506	—	506
Repurchase of common shares to satisfy minimum tax withholdings	(64,198)	—	—	—	(376)	—	(376)
Cash dividends declared on common stock	—	—	—	—	—	(4,590)	(4,590)
Repurchase of common shares	—	—	(20,613)	(159)	—	—	(159)
Net loss	—	—	—	—	—	(1,893)	(1,893)
Balances, March 31, 2020	23,114,218	\$ 23	(4,618,146)	\$(47,692)	\$ 98,596	\$ 50,853	\$ 101,780
Stock-based compensation	(3,549)	—	—	—	1,138	—	1,138
Repurchase of common shares to satisfy minimum tax withholdings	(384)	—	—	—	(2)	—	(2)
Net loss	—	—	—	—	—	(23,814)	(23,814)
Balances, June 30, 2020	23,110,285	\$ 23	(4,618,146)	\$(47,692)	\$ 99,732	\$ 27,039	\$ 79,102
Stock-based compensation	87,701	—	—	—	426	—	426
Repurchase of common shares to satisfy minimum tax withholdings	(31,953)	—	—	—	(153)	—	(153)
Net income	—	—	—	—	—	4,975	4,975
Balances, September 30, 2020	<u>23,166,033</u>	<u>\$ 23</u>	<u>(4,618,146)</u>	<u>\$(47,692)</u>	<u>\$ 100,005</u>	<u>\$ 32,014</u>	<u>\$ 84,350</u>

See Notes to the Condensed Consolidated Financial Statements.

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

<i>(in thousands)</i>	Nine Months Ended September 30,	
	2021	2020
Cash flows from operating activities		
Net income (loss)	\$ 54,580	\$ (20,732)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Deferred income tax expense	9,046	10,724
Depreciation, amortization, depletion and accretion	6,155	5,807
Gain on extinguishment of debt	(3,345)	—
Impairment of long-lived assets	—	26,103
Operating lease expense	1,481	3,130
Amortization of debt discount and debt issuance costs	945	1,064
Gain on change in estimate, asset retirement obligation	(1,942)	—
Stock-based compensation expense	1,476	2,070
Earnings from equity method investments	(61,944)	(25,959)
Other non-cash items, net	(352)	45
Changes in operating assets and liabilities:		
Receivables and related party receivables	(2,835)	(1,331)
Prepaid expenses and other assets	(16)	(9,056)
Inventories, net	3,658	4,688
Other long-term assets, net	2,383	(1,908)
Accounts payable	1,147	(1,123)
Accrued payroll and related liabilities	1,241	1,089
Other current liabilities	(3,489)	(220)
Operating lease liabilities	(2,514)	(1,678)
Other long-term liabilities	(3,031)	(23)
Distributions from equity method investees, return on investment	22,044	42,228
Net cash provided by operating activities	24,688	34,918
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	44,707	—
Acquisition of property, plant, equipment, and intangible assets, net	(5,403)	(4,879)
Mine development costs	(1,262)	(723)
Proceeds from sale of property and equipment	895	—
Net cash provided by (used in) investing activities	38,937	(5,602)
Cash flows from financing activities		
Principal payments on term loan	(16,000)	(18,000)
Principal payments on finance lease obligations	(1,085)	(1,026)
Dividends paid	(92)	(4,956)
Repurchase of common shares	—	(159)
Repurchase of common shares to satisfy tax withholdings	(241)	(531)
Borrowings from Paycheck Protection Program Loan	—	3,305
Net cash used in financing activities	(17,418)	(21,367)
Increase in Cash and Cash Equivalents and Restricted Cash	46,207	7,949
Cash and Cash Equivalents and Restricted Cash, beginning of period	35,932	17,080
Cash and Cash Equivalents and Restricted Cash, end of period	\$ 82,139	\$ 25,029
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property, plant and equipment through accounts payable	\$ 128	\$ 446
Dividends payable	\$ —	\$ 47

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 Greenwood Village, Colorado and operations located in Louisiana. The Company is principally engaged in the sale of consumable air and water treatment options including activated carbon ("AC") and chemical technologies. The Company's proprietary technologies in the advanced purification technologies ("APT") market enable customers to reduce air and water contaminants, including mercury and other pollutants, to maximize utilization levels and improve operating efficiencies to meet the challenges of existing and pending emission control regulations. Through its wholly-owned subsidiary, ADA Carbon Solutions, LLC ("Carbon Solutions"), the Company manufactures and sells AC used to capture and remove contaminants for coal-fired power plants and industrial and water treatment markets. Carbon Solutions also owns an associated lignite mine that supplies the primary raw material for manufacturing AC.

Through its equity ownership in Tinium Group, LLC ("Tinium Group") and Tinium Services, LLC ("Tinium Services"), both of which are unconsolidated entities, the Company generates substantial earnings. Tinium Group provides reduction of mercury and nitrogen oxide ("NO_x") emissions at select coal-fired power generators through the production and sale of refined coal ("RC") that qualifies for tax credits under the Internal Revenue Code ("IRC") Section 45 - Production Tax Credit ("Section 45 tax credits"). The Company also earns royalties for technologies that are licensed to Tinium Group and used at certain RC facilities to enhance combustion and reduced emissions of NO_x and mercury from coal burned to generate electrical power. Tinium Services operates and maintains the RC facilities under operating and maintenance agreements with Tinium Group and owners or lessees of the RC facilities. Both Tinium Group and Tinium Services are significantly winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As such, the Company's earnings and distributions from our RC segment will substantially cease as of December 31, 2021.

The Company's sales occur principally in the United States. See Note 17 for additional information regarding the Company's operating segments.

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: Tinium Group, Tinium 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 in consolidation 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 should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended December 31, 2020 (the "2020 Form 10-K"). Significant accounting policies disclosed therein have not changed.

Earnings (Loss) Per Share

Basic earnings (loss) per share is computed using the two-class method, which is an earnings allocation formula that determines earnings (loss) per share for common stock and any participating securities according to dividend and participating rights in undistributed earnings (losses). 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.

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

Diluted earnings (loss) per share is computed in a manner consistent with that of basic earnings per share, while considering other potentially dilutive securities. For the three and nine months ended September 30, 2021, potentially dilutive securities consist of unvested non-participating restricted stock awards ("RSA's"), as well as contingent performance stock units ("PSU's"). For the three and nine months ended September 30, 2020, 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 PSU's.

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. Potentially dilutive securities are excluded from diluted earnings per share when their effect is anti-dilutive. When there is a net loss for a period, all potentially dilutive securities 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 (loss) per share:

<i>(in thousands, except per share amounts)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net income (loss)	\$ 24,253	\$ 4,975	\$ 54,580	\$ (20,732)
Less: Dividends and undistributed income (loss) allocated to participating securities	—	—	—	(10)
Income (loss) attributable to common stockholders	\$ 24,253	\$ 4,975	\$ 54,580	\$ (20,722)
Basic weighted-average common shares outstanding	18,292	18,093	18,243	18,014
Add: dilutive effect of equity instruments	197	10	173	—
Diluted weighted-average shares outstanding	18,489	18,103	18,416	18,014
Earnings (loss) per share - basic	\$ 1.33	\$ 0.27	\$ 2.99	\$ (1.15)
Earnings (loss) per share - diluted	\$ 1.31	\$ 0.27	\$ 2.96	\$ (1.15)

For the three and nine months ended September 30, 2021 and 2020, potentially dilutive securities convertible to zero and 0.5 million and 0.1 million and 0.9 million shares of common stock, respectively, were outstanding but were not included in the calculation of diluted net income (loss) per share because the effect would have been anti-dilutive.

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 2020 Form 10-K. Actual results could differ from these estimates.

Due to the coronavirus ("COVID-19") pandemic, there has been uncertainty and disruption in the global economy and financial markets. Additionally, due to COVID-19, overall power generation and coal-fired power demand may decline, which could have a material adverse effect on the Company. The Company is not aware of any specific event or circumstance due to COVID-19 that would require an update to its estimates or judgments or a revision of the carrying values of its assets or liabilities through the date of this Quarterly Report. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

Risks and Uncertainties

The Company's earnings are significantly affected by equity earnings from Tinuum Group. As of September 30, 2021, Tinuum Group has 16 invested RC facilities, of which 5 are leased to a single customer. Both Tinuum Group and Tinuum Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As of September 30, 2021, Tinuum Group ceased operating seven RC facilities, with the remaining RC facilities expected to cease operations during the fourth quarter of 2021. The loss of Tinuum Group's customers, reduction in revenue streams as a result of lease renewals and the expiration of Section 45 tax credits will have a significant adverse impact on Tinuum Group's financial position, results of operations and cash flows, which in turn will have a material adverse impact on the Company's financial position, results of operations and cash flows.

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

The Company's revenues, sales volumes, earnings and cash flows are significantly affected by prices of competing power generation sources such as natural gas and renewable energy. During periods of low natural gas prices, natural gas provides a competitive alternative to coal-fired power generation and therefore, coal consumption may be reduced, which in turn reduces the demand for the Company's products. However, during periods of higher prices for competing power generation sources, there is an increase in coal consumption and thus demand for the Company's products also increase. In addition, coal consumption and demand for the Company's products are also affected by the demand for electricity, which is higher in the warmer and colder months of the year. Abnormal temperatures during the summer and winter months may significantly affect coal consumption and thus the demand for the Company's products.

Reclassifications

Certain balances have been reclassified from the prior year to conform to the current year presentation. Such reclassifications had no effect on the Company's results of operations or financial position in any of the periods presented.

New Accounting Standards

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 form credit loss estimates. ASU 2016-13 is effective for "smaller reporting companies" (as defined by the Securities and Exchange Commission) for fiscal years beginning after December 15, 2022, including interim periods within those years, and must be adopted under a modified retrospective method approach. The Company is currently evaluating the provisions of this guidance and assessing the impact on its financial statements and disclosures and does not believe this standard will have a material impact on its financial statements and disclosures.

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

Note 2 - Customer Supply Agreement

On September 30, 2020, the Company and Cabot Norit Americas, Inc., ("Cabot") entered into a supply agreement (the "Supply Agreement") pursuant to which the Company agreed to sell and deliver to Cabot, and Cabot agreed to purchase and accept from the Company certain lignite-based AC products ("Furnace Products").

As part of the Supply Agreement, the Company and Cabot agreed to additional terms whereby Cabot reimburses the Company for certain capital expenditures incurred by the Company that are necessary to manufacture the Furnace Products, and both the Company and Cabot must mutually agree on these capital expenditures in advance of procurement and commissioning. Capital expenditures incurred that benefit both the Company and Cabot ("Shared Capital") are partially reimbursable by Cabot and recognized as revenues based on a formula contained in the Supply Agreement. Revenues from, and reimbursements of, Shared Capital are recognized and billable, respectively, beginning on the first day of a half year (January 1 and July 1 of a calendar year) following the placed in service date of a Shared Capital asset(s).

Capital expenditures incurred that benefit Cabot exclusively ("Specific Capital") are fully reimbursable by Cabot and recognized as revenues based on a formula contained in the Supply Agreement. Revenues earned from Specific Capital are recognized beginning on the first day of a half year following the placed in service date of a Specific Capital asset(s). Reimbursements of Specific Capital are billable in quarterly installments beginning on the first day of a half year following the placed in service date of a Specific Capital asset(s). In the event that Cabot ceases to make purchases under the Supply Agreement, Cabot is obligated to pay the balance of any outstanding amounts for Specific Capital.

Revenues earned from both Shared Capital and Specific Capital are reported in the Consumables revenue line item in the Statements of Operations.

Note 3 - Acquisition of Marshall Mine

Concurrently with the execution of the Supply Agreement, on September 30, 2020 (the "Acquisition Date"), the Company entered into an agreement to purchase from Cabot 100% of the membership interests in Marshall Mine, LLC (the "Marshall Mine Purchase Agreement") for a nominal cash purchase price. Marshall Mine, LLC owns a lignite mine located outside of Marshall, Texas (the "Marshall Mine"). The Company concluded that the Marshall Mine did not have any remaining economic reserves and independently determined to immediately commence activities to shutter it. On the Acquisition Date, the Company entered into a reclamation contract (the "Reclamation Contract") with a third party that provided a capped cost agreement, subject to certain contingencies, in the amount of approximately \$19.7 million plus an obligation to pay certain direct costs estimated to be \$3.6 million (collectively, the "Reclamation Costs") over the estimated reclamation period of 10 years (the "Reclamation Period"). Under the terms of the Supply Agreement, Cabot is obligated to reimburse the Company for \$10.2 million of Reclamation Costs (the "Reclamation Reimbursements"), which are payable semi-annually over 13 years and inclusive of interest. In the event that Cabot has a change in control as described in the Supply Agreement, all outstanding balances of the Reclamation Reimbursements shall be due and payable in full. See further discussion of the Reclamation Costs and Reclamation Reimbursements in Note 4.

The Marshall Mine Purchase Agreement included the acquisition of certain assets that will be consumed and the assumption of certain liabilities that are to be paid in reclamation of the Marshall Mine in addition to the incurrence of an obligation for the Reclamation Costs. The Company accounted for the Marshall Mine Purchase Agreement as an asset acquisition.

As the Marshall Mine Purchase Agreement represents a transaction with a customer of net assets acquired and liabilities assumed from Cabot, the Company accounted for the excess of the fair value of liabilities assumed over assets acquired as upfront consideration transferred to a customer, Cabot (the "Upfront Customer Consideration"). The amount of the Upfront Customer Consideration was also recognized net of an additional asset recognized in the Marshall Mine Acquisition, which was comprised of a receivable from Cabot (the "Cabot Receivable") for the Reclamation Reimbursements. The Cabot Receivable is further discussed in Note 4.

The total Upfront Customer Consideration is being amortized as a reduction to revenues on a straight-line basis over the expected 15-year contractual period of the Supply Agreement.

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As part of the Marshall Mine Purchase Agreement, the Company assumed liabilities, whose fair value exceeded the fair value of assets acquired. A summary of the net assets acquired and liabilities assumed and the additional assets recorded in the Marshall Mine Purchase Agreement as of the Acquisition Date are shown in the table below. The Company completed additional analysis of the assets acquired and liabilities assumed and recorded adjustments as of December 31, 2020 as shown in the table below.

<i>(in thousands)</i>	As Originally Reported	Adjustments	As Adjusted
Assets acquired:			
Receivables	\$ —	\$ 513	\$ 513
Property, plant and equipment	3,863	—	3,863
Spare parts	100	—	100
Liabilities assumed:			
Accounts payable and accrued expenses	(673)	160	(513)
Asset retirement obligation	(21,328)	—	(21,328)
Net assets acquired and liabilities assumed from Marshall Mine acquisition	(18,038)	673	(17,365)
Cabot Receivable	9,749	—	9,749
Upfront Customer Consideration	<u>\$ 8,289</u>	<u>\$ (673)</u>	<u>\$ 7,616</u>

The Company also evaluated Marshall Mine, LLC as a potential variable interest entity ("VIE"), and determined that it was a VIE and the Company was its primary beneficiary. Therefore, the Company consolidates Marshall Mine, LLC's assets and liabilities in its consolidated financial statements.

Note 4 - Marshall Mine Asset Retirement Obligation and Cabot Receivable

Asset Retirement Obligation

As of the Acquisition Date, the Company recorded an asset retirement obligation (the "Marshall Mine ARO") for the total Reclamation Costs of \$21.3 million as measured at the expected future cash flows of \$23.7 million, inclusive of contingency costs, discounted to their present value using a discount rate based on a credit-adjusted, risk-free rate of 7.0%. As of September 30, 2021 and December 31, 2020, the carrying value of the Marshall Mine ARO was \$9.4 million and \$18.1 million, respectively.

As of June 30, 2021, the Company revised its estimate of future obligations owed for the reclamation of the Marshall Mine primarily based on scope reductions related to future reclamation requirements. As a result, the Company reduced the Marshall Mine ARO by \$1.9 million as of June 30, 2021 and recorded a corresponding gain on change in estimate for the three months ended June 30, 2021. This is included as "Gain on change in estimate, asset retirement obligation" in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2021.

Cabot Receivable

As of the Acquisition Date, the Company recorded the Cabot Receivable at its estimated fair value of \$9.7 million, reflecting a discount rate of approximately 1.5% or \$0.5 million. There were no significant related fees or costs associated with the Cabot Receivable. The Company did not elect the fair value option in its initial or subsequent accounting for the Cabot Receivable.

The Cabot Receivable requires Cabot to pay the Reclamation Reimbursements to the Company in the amount of \$10.2 million inclusive of interest based on a mutually agreed-upon payment schedule through 2033. Interest is accreted on the Cabot Receivable and recognized as interest income. An allowance for the Cabot Receivable asset is assessed periodically, and no allowance was deemed necessary as of September 30, 2021 and December 31, 2020.

Surety Bond

As the owner of the Marshall Mine, the Company is required to post a surety bond to ensure performance of its reclamation activities. On the Acquisition Date, the Company and a third party entered into a surety bond indemnification agreement (the "Surety Agreement") pursuant to which the Company secured and posted a \$30.0 million surety bond (the "Bond") with the local regulatory agency. On June 7, 2021, the third party agreed to reduce the Surety Bond amount to \$16.6 million. The Bond will remain in place until the Marshall Mine is fully reclaimed, and may be further reduced in amount from time to time as the Company progresses with its reclamation activities. As of September 30, 2021, the Company was required to post collateral of

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\$10.0 million for the obligations due under the Reclamation Contract, which is recorded as long-term restricted cash on the Condensed Consolidated Balance Sheet.

Note 5 - COVID-19

In March 2020, the federal government passed the Coronavirus Aid, Relief, and Security Act (the "CARES Act"), which provided among other things the creation of the Paycheck Protection Plan ("PPP"), which is sponsored and administered by the U.S. Small Business Administration ("SBA"). On April 20, 2020, the Company executed a loan agreement (the "PPP Loan") under the PPP, evidenced by a promissory note, with BOK, NA dba Bank of Oklahoma ("BOK"), providing for \$3.3 million in proceeds, which was funded to the Company on April 21, 2020. The PPP Loan was scheduled to mature on April 21, 2022, unless forgiven subject to terms and conditions established by the SBA. The Company initially recorded the PPP Loan as a debt obligation and accrued interest over its term.

On July 27, 2021, the Company received formal notification in the form of a letter dated July 19, 2021 from BOK that the SBA approved the Company's PPP Loan forgiveness application for the PPP Loan in the amount of \$3.3 million (including accrued interest). For the three and nine months ended September 30, 2021, the Company recorded a gain on extinguishment of the PPP Loan in the amount of \$3.3 million in the Condensed Consolidated Statements of Operations, which is included as a component of "Other income (expense)."

The CARES Act also provided for the deferral of payroll tax payments for all payroll taxes incurred through December 31, 2020. The Company elected to defer payments of payroll taxes for the periods allowed under the CARES Act and will repay 50% by December 31, 2021 and 50% by December 31, 2022. As of September 30, 2021, the Company has deferred \$0.4 million of payroll tax payments under the CARES Act.

Note 6 - Equity Method Investments

Tinum Group, LLC

As of September 30, 2021 and December 31, 2020, the Company's ownership interest in Tinum Group was 42.5%. 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 also qualify for Section 45 tax credits. The Company concluded that Tinum Group was a VIE, but the Company does not have the power to direct the activities that most significantly impact Tinum Group's economic performance, as the voting partners of Tinum Group have identical voting rights, equity control interests and board control interests, and therefore power is shared. Accordingly, the Company has accounted for its investment in Tinum Group under the equity method of accounting since inception.

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

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Gross (loss) profit	\$ (3,226)	\$ 101	\$ 8,269	\$ 11,979
Operating, selling, general and administrative expenses	12,077	13,781	38,308	38,476
Loss from operations	(15,303)	(13,680)	(30,039)	(26,497)
Other income (expenses), net	6,027	5,739	10,030	11,526
Loss attributable to noncontrolling interest	34,551	25,023	99,167	63,117
Net income available to members	\$ 25,275	\$ 17,082	\$ 79,158	\$ 48,146
ADES equity earnings from Tinum Group	\$ 19,975	\$ 7,260	\$ 55,462	\$ 20,462

For the three and nine months ended September 30, 2021, the Company recognized earnings from Tinum Group's net income available to members that were different from its pro-rata share of Tinum Group's net income available to members, as cash distributions for the three and nine months ended September 30, 2021 exceeded the carrying value of the Tinum Group equity investment. For 2021, the Company expects to recognize such excess contributions as equity method earnings in the period the distributions occur, limited to the carrying value of the Tinum Group equity investment. For the three and nine months ended September 30, 2020, the Company recognized its pro-rata share of Tinum Group's net income available to its members for the respective period.

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The following tables present the Company's investment balance, equity earnings and cash distributions in excess of the investment balance, if any, for the three and nine months ended September 30, 2021 and 2020 *(in thousands)*:

Description	Date(s)	Investment balance	ADES equity earnings	Cash distributions	Memorandum Account: Cash distributions and equity earnings in (excess) of investment balance
Beginning balance	12/31/2020	\$ 3,387	\$ —	\$ —	\$ —
ADES proportionate share of income from Tinum Group	First Quarter	10,755	10,755	—	—
Cash distributions from Tinum Group	First Quarter	(19,749)	—	19,749	—
Adjustment for current year cash distributions in excess of investment balance	First Quarter	5,607	5,607	—	(5,607)
Total investment balance, equity earnings and cash distributions	3/31/2021	<u>—</u>	<u>\$ 16,362</u>	<u>\$ 19,749</u>	<u>(5,607)</u>
ADES proportionate share of income from Tinum Group	Second Quarter	12,146	\$ 12,146	\$ —	—
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Second Quarter	(5,607)	(5,607)	—	5,607
Cash distributions from Tinum Group	Second Quarter	(19,125)	—	19,125	—
Adjustment for current year cash distributions in excess of investment balance	Second Quarter	12,586	12,586	—	(12,586)
Total investment balance, equity earnings and cash distributions	6/30/2021	<u>\$ —</u>	<u>\$ 19,125</u>	<u>\$ 19,125</u>	<u>\$ (12,586)</u>
ADES proportionate share of income from Tinum Group	Third Quarter	\$ 10,742	\$ 10,742	\$ —	\$ —
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Third Quarter	(12,586)	(12,586)	—	12,586
Cash distributions from Tinum Group	Third Quarter	(19,975)	—	19,975	—
Adjustment for current year cash distributions in excess of investment balance	Third Quarter	21,819	21,819	—	(21,819)
Total investment balance, equity earnings and cash distributions	9/30/2021	<u>\$ —</u>	<u>\$ 19,975</u>	<u>\$ 19,975</u>	<u>\$ (21,819)</u>

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Description	Date(s)	Investment balance	ADES equity earnings	Cash distributions
Beginning balance	12/31/2019	\$ 32,280	\$ —	\$ —
ADES proportionate share of income from Tinum Group	First Quarter	6,438	6,438	—
Cash distributions from Tinum Group	First Quarter	(13,764)	—	13,764
Total investment balance, equity earnings and cash distributions	3/31/2020	24,954	\$ 6,438	\$ 13,764
ADES proportionate share of income from Tinum Group	Second Quarter	\$ 6,764	\$ 6,764	\$ —
Cash distributions from Tinum Group	Second Quarter	(13,600)	—	13,600
Total investment balance, equity earnings and cash distributions	6/30/2020	18,118	\$ 6,764	\$ 13,600
ADES proportionate share of income from Tinum Group	Third Quarter	\$ 7,260	\$ 7,260	\$ —
Cash distributions from Tinum Group	Third Quarter	(7,862)	—	7,862
Total investment balance, equity earnings and cash distributions	9/30/2020	\$ 17,516	\$ 7,260	\$ 7,862

Tinum Services, LLC

The Company has a 50% voting and economic interest in Tinuum Services as of September 30, 2021 and December 31, 2020. The Company determined that Tinuum Services was not a VIE and further evaluated it for consolidation 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 since inception. As of September 30, 2021 and December 31, 2020, the Company's investment in Tinuum Services was \$2.8 million and \$4.2 million, respectively.

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

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Gross loss	\$ (20,389)	\$ (22,764)	\$ (61,552)	\$ (65,441)
Operating, selling, general and administrative expenses	42,346	42,435	144,068	131,703
Loss from operations	(62,735)	(65,199)	(205,620)	(197,144)
Other income (expenses), net	3,204	(363)	2,810	(978)
Loss attributable to noncontrolling interest	63,977	70,075	215,779	209,118
Net income	\$ 4,446	\$ 4,513	\$ 12,969	\$ 10,996
ADES equity earnings from Tinuum Services	\$ 2,223	\$ 2,257	\$ 6,485	\$ 5,498

Included in the Consolidated Statements of Operations of Tinuum Services for the three and nine months ended September 30, 2021 and 2020 were losses attributable to noncontrolling interests of Tinuum Services' VIE entities, which were eliminated in the calculations of Tinuum Services' net income attributable to the Company's interest.

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The following table details the carrying value of the Company's respective equity method investments included in the Equity method investments line item on the Condensed Consolidated Balance Sheets and indicates the Company's maximum exposure to loss:

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Equity method investment in Tinum Group	\$ —	\$ 3,387
Equity method investment in Tinum Services	2,824	4,242
Equity method investment in other	60	63
Total equity method investments	<u>\$ 2,884</u>	<u>\$ 7,692</u>

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

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Earnings from Tinum Group	\$ 19,975	\$ 7,260	\$ 55,462	\$ 20,462
Earnings from Tinum Services	2,223	2,257	6,485	5,498
(Loss) earnings from other	(3)	1	(3)	(1)
Earnings from equity method investments	<u>\$ 22,195</u>	<u>\$ 9,518</u>	<u>\$ 61,944</u>	<u>\$ 25,959</u>

The following table details the components of the cash distributions from the Company's respective equity method investments included as a component of cash flows from operating activities and investing activities 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 in excess of cumulative earnings" as a component of cash flows from investing activities.

<i>(in thousands)</i>	Nine Months Ended September 30,	
	2021	2020
Distributions from equity method investees, return on investment		
Tinum Group	\$ 14,142	\$ 35,226
Tinum Services	7,902	7,002
	<u>\$ 22,044</u>	<u>\$ 42,228</u>
Distributions from equity method investees in excess of investment basis		
Tinum Group	\$ 44,707	\$ —
	<u>\$ 44,707</u>	<u>\$ —</u>

Note 7 - Inventories, net

The following table summarizes the Company's inventories recorded at the lower of average cost or net realizable value as of September 30, 2021 and December 31, 2020:

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Product inventory, net	\$ 3,481	\$ 8,361
Raw material inventory	2,088	1,521
	<u>\$ 5,569</u>	<u>\$ 9,882</u>

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Note 8 - Debt Obligations

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Finance lease obligations	\$ 4,441	\$ 5,526
PPP Loan	—	3,305
Senior Term Loan due December 2021, related party	—	16,000
Less: net unamortized debt issuance costs	—	(465)
Less: net unamortized debt discount	—	(480)
Senior Term Loan due December 2021, net	—	15,055
	4,441	23,886
Less: Current maturities	(1,033)	(18,441)
Total long-term debt	\$ 3,408	\$ 5,445

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 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 acquisition of Carbon Solutions. The Company also paid debt issuance costs of \$2.0 million related to the Senior Term Loan. The Senior Term Loan bore interest at a rate equal to 3-month LIBOR (subject to a 1.5% floor) + 4.75% per annum, which was adjusted quarterly to the current 3-month LIBOR rate, and interest was payable quarterly in arrears.

On June 1, 2021 and prior to the Senior Term Loan's maturity date, the Company paid-off in its entirety the Senior Term Loan and all remaining accrued interest through this date. The Company did not incur any prepayment fees associated with the early pay-off.

Line of Credit

In September 2013, ADA, as borrower, and the Company, as guarantor, entered into a line credit (the "Line of Credit") with a bank (the "Lender") for an aggregate borrowing amount of \$10.0 million, which was secured by certain amounts due to the Company from certain Tinum Group RC leases. The Line of Credit has been amended 16 times from the period from December 2, 2013 through September 30, 2021 and included a reduction in the borrowing amount to \$5.0 million in September 2018.

On March 23, 2021, ADA, the Company and the Lender entered into an amendment to the Line of Credit (the "Fifteenth Amendment"), which extended the maturity date of the Line of Credit to December 31, 2021 and increased the minimum cash requirement from \$5.0 million to \$6.0 million.

On July 29, 2021, the Company and the Lender entered into the Sixteenth Amendment (the "Sixteenth Amendment") to the Line of Credit. The Sixteenth Amendment amends certain terms and conditions related to collateral securing the Line of Credit.

As of September 30, 2021 and December 31, 2020, there were no outstanding borrowings under the Line of Credit.

Note 9 - Leases

As of September 30, 2021 and December 31, 2020, the Company had obligations under finance leases of \$4.4 million and \$5.5 million, respectively, and obligations under operating leases of \$6.9 million and \$3.0 million, respectively. As of September 30, 2021 and December 31, 2020, the Company had right of use ("ROU") assets, net of accumulated amortization, under finance leases of \$1.9 million and \$2.4 million, respectively, and ROU assets, net of accumulated amortization, under operating leases of \$6.4 million and \$1.9 million, respectively.

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Finance leases

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 Sheets as of September 30, 2021 and December 31, 2020. 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 Statements of Operations for the three and nine months ended September 30, 2021 and September 30, 2020.

Operating leases

ROU assets under operating leases and operating lease liabilities are included in Other long-term assets and Other current liabilities and Other long-term liabilities, respectively, in the Condensed Consolidated Balance Sheets as of September 30, 2021 and December 31, 2020.

Lease expense for operating leases for the three and nine months ended September 30, 2021 was \$1.1 million and \$3.1 million, respectively, of which \$1.0 million and \$2.7 million, respectively, is included in Consumables - cost of revenue, exclusive of depreciation and amortization, and \$0.1 million and \$0.4 million, respectively, is included in General and administrative in the Condensed Consolidated Statement of Operations. Lease expense for operating leases for the three and nine months ended September 30, 2020 was \$1.1 million and \$3.5 million, respectively, of which \$1.0 million and \$2.9 million, respectively, is included in Consumables - cost of revenue, exclusive of depreciation and amortization, and \$0.1 million and \$0.6 million, respectively, is included in General and administrative in the Condensed Consolidated Statement of Operations.

Lease financial information as of and for the three and nine months ended September 30, 2021 and 2020 is provided in the following table:

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Finance lease cost:				
Amortization of right-of-use assets	\$ 152	\$ 258	\$ 500	\$ 1,237
Interest on lease liabilities	74	88	223	275
Operating lease cost	852	412	1,764	1,941
Short-term lease cost	288	671	1,261	1,377
Variable lease cost (1)	9	10	30	147
Total lease cost	\$ 1,375	\$ 1,439	\$ 3,778	\$ 4,977

Other Information:

Cash paid for amounts included in the measurement of lease liabilities:

Operating cash flows from finance leases	\$ 223	\$ 275
Operating cash flows from operating leases	\$ 2,514	\$ 1,678
Financing cash flows from finance leases	\$ 1,085	\$ 1,026
Right-of-use assets obtained in exchange for new finance lease liabilities	\$ —	\$ 158
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 6,392	\$ 59
Weighted-average remaining lease term - finance leases	3.1 years	3.7 years
Weighted-average remaining lease term - operating leases	3.1 years	2.0 years
Weighted-average discount rate - finance leases	6.4 %	6.1 %
Weighted-average discount rate - operating leases	6.6 %	8.5 %

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

Note 10 - Revenues

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

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generally not significant. The Company records allowances for doubtful trade receivables when it is probable that the balances will not be collected.

Trade receivables, net

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

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Trade receivables	\$ 13,138	\$ 12,241
Less: Allowance for doubtful accounts	(5)	(37)
Trade receivables, net	\$ 13,133	\$ 12,204

Cabot Receivable

The following table shows the components of the Cabot Receivable:

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Receivables, net	\$ 2,146	\$ 921
Other long-term assets, net	6,812	8,852
Total Cabot Receivable	\$ 8,958	\$ 9,773

Disaggregation of Revenue and Earnings from Equity Method Investments

For the three and nine months ended September 30, 2021 and 2020, all performance obligations related to revenues recognized were satisfied at a point in time. The Company disaggregates its revenues by major components as well as between its two reportable segments, which are further discussed in Note 17 to the Condensed Consolidated Financial Statements. The following tables disaggregate revenues by major component for the three and nine months ended September 30, 2021 and 2020 (in thousands):

	Three Months Ended September 30, 2021			Nine Months Ended September 30, 2021		
	Segment		Total	Segment		Total
	APT	RC		APT	RC	
Revenue component						
Consumables	\$ 24,689	\$ —	\$ 24,689	\$ 57,696	\$ —	\$ 57,696
License royalties, related party	—	4,165	4,165	—	11,888	11,888
Revenues from customers	24,689	4,165	28,854	57,696	11,888	69,584
Earnings from equity method investments	—	22,195	22,195	—	61,944	61,944
Total revenues from customers and earnings from equity method investments	\$ 24,689	\$ 26,360	\$ 51,049	\$ 57,696	\$ 73,832	\$ 131,528

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	Three Months Ended September 30, 2020			Nine Months Ended September 30, 2020		
	Segment		Total	Segment		Total
	APT	RC		APT	RC	
Revenue component						
Consumables	\$ 15,844	\$ —	\$ 15,844	\$ 33,231	\$ —	\$ 33,231
License royalties, related party	—	3,627	3,627	—	9,986	9,986
Revenues from customers	15,844	3,627	19,471	33,231	9,986	43,217
Earnings from equity method investments	—	9,518	9,518	—	25,959	25,959
Total revenues from customers and earnings from equity method investments	\$ 15,844	\$ 13,145	\$ 28,989	\$ 33,231	\$ 35,945	\$ 69,176

Note 11 - Commitments and Contingencies

Legal Proceedings

The Company is from time to time subject to 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 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 September 30, 2021.

Restricted Cash

As of September 30, 2021 and December 31, 2020, the Company had short-term restricted cash of \$6.0 million and \$5.0 million, respectively, as required under a minimum cash balance requirement of a Line of Credit covenant, and long-term restricted cash of \$10.0 million and \$5.0 million, respectively, as required under the Surety Agreement.

Other Commitments and Contingencies

The Company has certain limited obligations contingent upon future events in connection with the activities of Tinum Group. The Company, NexGen Refined Coal, LLC ("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. The Company has not recorded a liability or expense provision related to this contingent obligation as it believes that it is not probable that a loss will occur with respect to the Tinum Group Party Guaranties.

Retention Agreements

The Company entered into agreements with its executive officers and certain other key employees of the organization ("Retention Agreements"). The Retention Agreements are for the benefit of retaining those officers and key employees in order to maintain the Company's current business operations while it pursues and executes on its strategic initiatives. The Retention Agreements with the executive officers were approved by the Board of Directors on May 5, 2021. The Company is recognizing expense over the expected service period, which is based on certain conditions outlined in the Retention Agreements. As of September 30, 2021, the Company had accrued \$0.8 million, which is included in the Accrued payroll and related liabilities line item on the Condensed Consolidated Balance Sheet.

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Note 12 - 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 under a stock repurchase program (the "Stock Repurchase Program"), which was to remain in effect until December 31, 2019 unless otherwise modified by the Board. As of November 2019, \$2.9 million remained outstanding related to the Stock Repurchase Program. In November 2019, the Board authorized an incremental \$7.1 million to the Stock Repurchase Program and provided that it will remain in effect until all amounts are utilized or it is otherwise modified by the Board.

Under the Stock Repurchase Program, for the three and nine months ended September 30, 2021, the Company did not repurchase any shares. For the three and nine months ended September 30, 2020, the Company purchased zero and 20,613 shares, respectively, of its common stock for cash of zero and \$0.2 million, respectively, inclusive of commissions and fees. As of September 30, 2021, the Company had \$7.0 million remaining under the Stock Repurchase Program.

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 "TAPP") designed to protect the Company's ability to utilize its net operating losses and tax credits. The TAPP 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 9, 2021, the Board approved the Fourth Amendment to the TAPP ("Fourth Amendment") that amends the TAPP, as previously amended by the First, Second and Third Amendments that were approved the Board on April 6, 2018, April 5, 2019 and April 9, 2020, respectively. The Fourth 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. At the Company's 2021 annual meeting of stockholders, the Company's stockholders approved the Fourth Amendment, thus the Final Expiration Date will be the close of business on December 31, 2022.

Note 13 - 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"), performance stock units ("PSU's") and stock options. Stock-based compensation expense related to manufacturing employees and administrative employees is included within the Cost of revenue and Payroll and benefits line items, respectively, 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 and nine months ended September 30, 2021 and 2020 was as follows:

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
RSA expense	\$ 435	\$ 411	\$ 1,353	\$ 1,892
PSU expense	54	15	123	178
Total stock-based compensation expense	\$ 489	\$ 426	\$ 1,476	\$ 2,070

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The amount of unrecognized compensation cost as of September 30, 2021, and the expected weighted-average period over which the cost will be recognized is as follows:

<i>(in thousands)</i>	As of September 30, 2021	
	Unrecognized Compensation Cost	Expected Weighted- Average Period of Recognition (in years)
RSA expense	\$ 2,558	2.01
PSU expense	438	1.99
Total unrecognized stock-based compensation expense	\$ 2,996	2.01

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.

A summary of RSA activity under the Company's various stock compensation plans for the nine months ended September 30, 2021 is presented below:

	Restricted Stock	Weighted-Average Grant Date Fair Value
Non-vested at January 1, 2021	373,860	\$ 7.25
Granted	441,109	\$ 5.53
Vested	(193,624)	\$ 7.44
Forfeited	(54,299)	\$ 5.80
Non-vested at September 30, 2021	567,046	\$ 5.99

Performance Share Units

Compensation expense is recognized for PSU awards on a straight-line basis over the applicable service period, which is generally three years, based on the estimated fair value at the date of grant using a Monte Carlo simulation model. A summary of PSU activity for the nine months ended September 30, 2021 is presented below:

	Units	Weighted- Average Grant Date Fair Value	Aggregate Intrinsic Value (in thousands)	Weighted- Average Remaining Contractual Term (in years)
PSU's outstanding, January 1, 2021	50,127	\$ 6.17		
Granted	62,448	7.09		
Vested / Settled	—	—		
Forfeited / Canceled	—	—		
PSU's outstanding, September 30, 2021	112,575	\$ 6.68	\$ 719	1.99

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Note 14 - Supplemental Financial Information

Supplemental Balance Sheet Information

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

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Prepaid expenses and other assets:		
Prepaid expenses	\$ 2,370	\$ 1,690
Prepaid income taxes and income tax refunds	1,038	1,605
Other	1,206	1,302
	\$ 4,614	\$ 4,597
Other long-term assets, net:		
Cabot Receivable (1)	\$ 6,812	\$ 8,852
Upfront Customer Consideration (1)	7,109	7,490
Mine development costs, net	5,291	4,338
Right of use assets, operating leases, net	6,399	1,930
Spare parts, net	4,316	3,727
Mine reclamation asset, net	1,644	1,712
Highview Investment	552	552
Other	1,278	1,388
	\$ 33,401	\$ 29,989

(1) See further discussion of Upfront Customer Consideration in Note 3 and Cabot Receivable in Note 4 and Note 10.

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 Five Forks Mine and are depleted over the estimated life of the related mine reserves. 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 September 30, 2021. Mine reclamation asset, net represents an asset retirement obligation ("ARO") asset related to the Five Forks Mine and is depreciated over the estimated life of the Five Forks Mine.

The Company holds a long-term investment (the "Highview Investment") in Highview Enterprises Limited ("Highview"), a UK-based developmental stage company specializing in power storage. 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 and nine months ended September 30, 2021 as there were no indicators of impairment or observable price changes for identical or similar investments.

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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	
	September 30, 2021	December 31, 2020
Other current liabilities:		
Current portion of operating lease obligations	\$ 2,289	\$ 1,883
Current portion of mine reclamation liability	4,856	9,370
Income and other taxes payable	2,409	1,305
Other current liabilities	312	438
	\$ 9,866	\$ 12,996
Other long-term liabilities:		
Mine reclamation liabilities	\$ 8,028	\$ 12,077
Operating lease obligations, long-term	4,582	1,109
Other long-term liabilities	208	287
	\$ 12,818	\$ 13,473

The Mine reclamation liability related to the Five Forks Mine is included in Other long-term liabilities. The Mine reclamation liability related to Marshall Mine, which was assumed in the Marshall Mine Acquisition, is included in Other current liabilities and Other long-term liabilities. The Mine reclamation liabilities represent AROs. Changes in the AROs were as follows:

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Asset retirement obligation, beginning of period	\$ 21,447	\$ 2,721
Asset retirement obligation assumed	—	21,328
Accretion	901	543
Liabilities settled	(7,522)	(3,565)
Changes due to scope and timing of reclamation	(1,942)	420
Asset retirement obligations, end of period	12,884	21,447
Less current portion	4,856	9,370
Asset retirement obligation, long-term	\$ 8,028	\$ 12,077

As discussed in Note 4, as of June 30, 2021, the Company reduced the Mine reclamation liability related to Marshall Mine by \$1.9 million based on scope reductions for future reclamation requirements. The Company recorded a corresponding gain on change in estimate, which is included in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2021.

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 September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Interest on Senior Term Loan	\$ —	\$ 339	\$ 207	\$ 1,453
Debt discount and debt issuance costs	—	355	946	1,064
453A interest	3	94	10	254
Other	83	93	253	282
	\$ 86	\$ 881	\$ 1,416	\$ 3,053

Note 15 - Impairment

As of June 30, 2020 and as part of its periodic review of the carrying value of long-lived assets, the Company assessed its long-lived assets for potential impairment. In assessing impairment of its APT segment's and certain other long-lived asset groups,

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the Company considered factors such as the significant decline in both the APT segment's trailing twelve months revenues and current and future years' forecasted revenues. These factors were largely due to the significant drop in coal-fired power dispatch that began in 2019 amid historically low prices of alternative power generation sources such as natural gas, leading to an increase in natural gas usage as well as other competing energy sources.

As of June 30, 2020, the Company completed an undiscounted cash flow analysis of its APT segment's long-lived assets (the "Asset Group"), which are comprised of its manufacturing plant (the "Red River Plant") and related assets and its lignite mine assets, and estimated the undiscounted cash flows from the Asset Group at \$54.7 million, which was less than the carrying value of the Asset Group of \$58.3 million. Accordingly, the Company completed an assessment of the Asset Group's fair value and estimated the fair value of the Asset Group at \$32.2 million. This resulted in an impairment and write-down of the Asset Group (the "Impairment Charge") of \$26.1 million as of June 30, 2020, which is reflected as "Impairment of long-lived assets" in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2020.

The following table summarizes the allocation to the Asset Group of the Impairment Charge of \$26.1 million recorded as of June 30, 2020:

(in thousands)

Property, plant and equipment, net	\$ 18,986
Intangible assets, net	1,445
Other long-term assets, net	5,672
Total impairment	<u>\$ 26,103</u>

The Company engaged an independent third party to perform the valuation of the Asset Group in order to determine the estimated fair value of the Asset Group. This valuation was based on the use of several established valuation models including an expected future discounted cash flow model based on cash flows expected to be generated by market participants discounted at the risk-free rate of interest. Because of the continued future uncertainty surrounding the level of coal-fired dispatch, the impact of volatile natural gas prices and other estimates impacting the expected future cash flow, it is reasonably possible that the expected future cash flows may change in the near term and may result in the Company recording additional impairment of the Asset Group.

As of September 30, 2021, the Company determined that there was no additional impairment of the Asset Group.

Note 16 - Income Taxes

For the three and nine months ended September 30, 2021 and 2020, the Company's income tax expense and effective tax rates based on forecasted pretax income were:

<i>(in thousands, except for rate)</i>	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Income tax expense	\$ 4,581	\$ 854	\$ 14,013	\$ 1,315
Effective tax rate	16 %	15 %	20 %	(7)%

The effective rate for the three and nine months ended September 30, 2021 was lower than the federal statutory rate primarily from the impact of a decrease in the valuation allowance recorded against deferred tax assets as of September 30, 2021.

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 deferred tax assets, 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 17 - 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, to allocate

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resources and assess financial performance. As of September 30, 2021, 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 September 30, 2021, the Company has two reportable segments: (1) Refined Coal ("RC"); and (2) Advanced Purification Technologies ("APT"). Effective December 31, 2020, and as reported in the 2020 Form 10-K, the Company revised its segments to RC and APT, and amounts for the three and nine months ended September 30, 2020 have been recast to conform with the current year presentation. Both Tinnium Group and Tinnium Services are significantly winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As such, the Company's earnings and distributions from our RC segment will substantially cease as of December 31, 2021.

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 2020 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, General and administrative and Depreciation, amortization, depletion and accretion.
- RC segment operating income includes interest expense directly attributable to the RC segment.

As of September 30, 2021 and December 31, 2020, substantially all of the Company's material assets are located in the U.S. and substantially all significant customers are U.S. companies. The following table presents the Company's operating segment results for the three and nine months ended September 30, 2021 and 2020:

<i>(in thousands)</i>	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Revenues:				
Refined Coal:				
Earnings in equity method investments	\$ 22,195	\$ 9,518	\$ 61,944	\$ 25,959
License royalties, related party	4,165	3,627	11,888	9,986
	<u>26,360</u>	<u>13,145</u>	<u>73,832</u>	<u>35,945</u>
Advanced Purification Technologies:				
Consumables	24,689	15,844	57,696	33,231
	<u>24,689</u>	<u>15,844</u>	<u>57,696</u>	<u>33,231</u>
Total segment reporting revenues	<u>51,049</u>	<u>28,989</u>	<u>131,528</u>	<u>69,176</u>
Adjustments to reconcile to reported revenues:				
Earnings in equity method investments	(22,195)	(9,518)	(61,944)	(25,959)
Total reported revenues	<u>\$ 28,854</u>	<u>\$ 19,471</u>	<u>\$ 69,584</u>	<u>\$ 43,217</u>
Segment operating income (loss):				
Refined Coal	\$ 26,341	\$ 12,817	\$ 73,517	\$ 34,454
Advanced Purification Technologies (1) (2)	4,591	(3,280)	4,864	(40,649)
Total segment operating income (loss)	<u>\$ 30,932</u>	<u>\$ 9,537</u>	<u>\$ 78,381</u>	<u>\$ (6,195)</u>

(1) Included in APT segment operating income (loss) for the three and nine months ended September 30, 2021 and 2020 is \$2.0 million and \$5.7 million, \$1.6 million and \$5.4 million, respectively, of depreciation, amortization, depletion and accretion expense on mine and Red River Plant long-lived assets and liabilities and \$0.1 million, \$0.4 million, zero and zero, respectively, of amortization of Upfront Customer Consideration.

(2) Included in APT segment operating income for the nine months ended September 30, 2021 is \$1.9 million gain related to the change in the Marshall Mine ARO as of September 30, 2021.

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A reconciliation of reportable segment operating income to consolidated income (loss) before income tax expense is as follows:

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Total reported segment operating income (loss)	\$ 30,932	\$ 9,537	\$ 78,381	\$ (6,195)
Adjustments to reconcile to income (loss) before income (loss) tax expense attributable to the Company:				
Corporate payroll and benefits	(690)	(587)	(2,155)	(2,444)
Corporate legal and professional fees	(1,024)	(1,176)	(4,154)	(3,850)
Corporate general and administrative	(1,011)	(1,116)	(3,236)	(4,273)
Corporate depreciation and amortization	(132)	(148)	(408)	(337)
Corporate interest income (expense), net	54	(680)	(944)	(2,446)
Other income, net	705	(1)	1,109	128
Income (loss) before income tax expense	<u>\$ 28,834</u>	<u>\$ 5,829</u>	<u>\$ 68,593</u>	<u>\$ (19,417)</u>

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 consolidated assets is as follows:

<i>(in thousands)</i>	As of	
	September 30, 2021	December 31, 2020
Assets:		
Refined Coal (1)	\$ 7,182	\$ 11,516
Advanced Purification Technologies (2)	83,862	80,877
Total segment assets	91,044	92,393
All Other and Corporate (3)	90,729	54,278
Consolidated	<u>\$ 181,773</u>	<u>\$ 146,671</u>

(1) Includes \$2.9 million and \$7.7 million of investments in equity method investees as of September 30, 2021 and December 31, 2020, respectively.

(2) Includes \$37.0 million and \$34.6 million of long-lived assets, net.

(3) Includes the Company's deferred tax assets of \$1.6 million and \$10.6 million as of September 30, 2021 and December 31, 2020, respectively. Also includes Cash, cash equivalents and restricted cash of \$82.1 million and \$17.2 million as of September 30, 2021 and December 31, 2020.

Note 18 - 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. The carrying amounts of the Cabot Receivable and debt obligations approximate fair value based on credit terms and market interest rates currently available for similar 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 September 30, 2021		As of December 31, 2020	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Instruments:				
Highview Investment	\$ 552	\$ 552	\$ 552	\$ 552
Highview Obligation	\$ 226	\$ 226	\$ 228	\$ 228

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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 three financial institutions as of September 30, 2021. If an 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 September 30, 2021 and December 31, 2020, 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

As disclosed in Note 14, 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. Fair value measurements, if any, represent either Level 2 or Level 3 measurements.

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

The following discussion and analysis of our financial condition and results of 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 2020 Form 10-K.

The results of operations discussed in this "Management's Discussion and Analysis of Financial Condition and Results of Operations" are those of Advanced Emissions Solutions, Inc. ("ADES") and its consolidated subsidiaries, collectively, the "Company," "we," "our" or "us."

Overview

We operate two segments: RC and APT. Our RC segment is comprised of our equity ownership in Tinum Group and Tinum Services, both of which are unconsolidated entities in which we generate substantial earnings. Tinum Group provides reduction of mercury and NOx emissions at select coal-fired power generators through the production and sale of RC that qualifies for Section 45 tax credits under IRC Section 45. We benefit from Tinum Group's production and sale of RC, which generates tax credits, as well as its revenue from selling or leasing RC facilities to tax equity investors. We also earn royalties for technologies that we license to Tinum Group and are used at certain RC facilities to enhance combustion and reduced emissions of NOx and mercury from coal burned to generate electrical power. Tinum Services operates and maintains the RC facilities under operating and maintenance agreements with Tinum Group and owners or lessees of the RC facilities. Both Tinum Group and Tinum Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As of September 30, 2021, Tinum Group ceased operating seven RC facilities, with the remaining RC facilities expected to cease operations during the fourth quarter of 2021. As such, our earnings and distributions from our RC segment will substantially cease as of December 31, 2021.

Our APT segment is primarily operated through Carbon Solutions. We sell consumable products that utilize AC and chemical based technologies to a broad range of customers, including coal-fired utilities, industrials, water treatment plants, and other diverse markets through a customer supply agreement described below. Our primary products are comprised of AC, which is produced from lignite coal. Our AC products include both powdered activated carbon ("PAC") and granular activated carbon ("GAC"). Our proprietary technologies and associated product offerings provide purification solutions to enable our customers to reduce certain contaminants and pollutants to meet the challenges of existing and potential regulations. Additionally, we own an associated lignite mine that supplies the primary raw material for manufacturing our products.

Drivers of Demand and Key Factors Affecting Profitability

Drivers of demand and key factors affecting our profitability differ by segment. In the RC segment, demand has been driven primarily from investors who purchase or lease RC facilities that qualify under the Section 45 tax credit period, which is expected to expire no later than December 31, 2021. Operating results in RC are affected by: (1) the ability to lease or operate RC facilities; (2) lease renegotiation or termination; and (3) changes in tonnage of RC due to changing coal-fired dispatch and electricity power generation sources. As discussed above, earnings and distributions from our RC segment will substantially cease as of December 31, 2021 as Tinum ceases operations at its RC facilities.

In the APT segment, demand is driven primarily by consumables-based solutions for coal-fired power generation and other industrials, municipal water customers, and since the fourth quarter of 2020, demand from Cabot's customers through the Supply Agreement discussed below. Operating results in the APT segment has been influenced by: (1) changes in our sales volumes; (2) changes in price and product mix; and (3) changes in coal-fired dispatch and electricity power generation sources. During the three months ended September 30, 2021, we have continued to see increases in demand for our AC product. As such, we continue to purchase inventory to meet our customer demands.

Customer Supply Agreement

On September 30, 2020, we and Cabot entered into the Supply Agreement pursuant to which we agreed to sell and deliver to Cabot, and Cabot agreed to purchase and accept from us, Furnace Products. In addition to the sale by us and purchase by Cabot of Furnace Products, we and Cabot have agreed to additional terms whereby Cabot will reimburse us for certain capital expenditures incurred by us that are necessary to manufacture the Furnace Products. Reimbursements will be in the form of revenues earned from capital expenditures incurred that will benefit both us and Cabot (referred to as "Shared Capital") and capital expenditures incurred that will benefit Cabot exclusively (referred to as "Specific Capital").

For 2021, we have generated material incremental volume and lowered unit operating costs at the Red River Plant due to the Supply Agreement, which in turn has increased our gross margins. Further, the Supply Agreement has further expanded our AC products to diverse end-markets that are outside of coal-fired power generation.

Acquisition of Marshall Mine

Concurrently with the execution of the Supply Agreement, on September 30, 2020, we entered into the Mine Purchase Agreement with Cabot to purchase 100% of the membership interests in Marshall Mine, LLC (the "Marshall Mine Acquisition") for a nominal cash purchase price. Marshall Mine, LLC owns a lignite mine located outside of Marshall, Texas (the "Marshall Mine"). We independently determined to immediately commence activities to shutter the Marshall Mine and have and will continue to incur the associated reclamation costs.

In conjunction with the execution of the Supply Agreement and the Mine Purchase Agreement, on September 30, 2020, we entered into the Reclamation Contract with a third party that provides a capped cost, subject to certain contingencies, in the amount of approximately \$19.7 million plus an obligation to pay certain direct costs estimated to be \$3.6 million (collectively, the "Reclamation Costs") over the estimated reclamation period of 10 years. We are accounting for this obligation as an asset retirement obligation under U.S. GAAP ("ARO"). Under the terms of the Supply Agreement, Cabot is obligated to reimburse us for \$10.2 million of Reclamation Costs (the "Reclamation Reimbursements"), which are payable semi-annually over 13 years and inclusive of interest. For the three and nine months ended September 30, 2021, we settled \$2.5 million and \$7.5 million of Reclamation Costs, respectively.

As the owner of the Marshall Mine, we were required to post a surety bond with a third party to ensure performance of our reclamation activities in the amount of \$30.0 million under the Surety Agreement. On June 7, 2021, the third party agreed to reduce the Surety Bond amount to \$16.6 million. As of September 30, 2021, we were required to post collateral of \$10.0 million in the form of restricted cash for the obligations due under the Reclamation Contract.

As of June 30, 2021, we revised our estimate of future obligations owed for reclamation of the Marshall Mine primarily based on scope reductions related to future reclamation requirements. As a result, we reduced the Marshall Mine ARO by \$1.9 million as of June 30, 2021 and recorded a corresponding gain on change in estimate in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2021.

Impact of COVID-19

In March 2020, the World Health Organization declared COVID-19 a global pandemic. We are designated by CISA of the Department of Homeland Security as a critical infrastructure supplier to the energy sector. Our operations have been deemed essential and, therefore, our facilities remained open and our employees employed. We follow the COVID-19 guidelines from the Centers for Disease Control concerning the health and safety of our personnel. The measures we have taken have resulted in an increase in our personnel costs, operational inefficiencies and the incurrence of incremental costs to allow manufacturing operations to continue.

The duration and scope of the COVID-19 pandemic continues to be uncertain. Many parts of the world are still experiencing high infection rates and the level and timing of COVID-19 vaccine distribution will impact the economic recovery and growth. We cannot predict the long-term effects on our business, including our financial position or results of operations, if governmental restrictions or other such directives continue for a prolonged period of time and cause a material negative change in power generation demand, materially disrupt our supply chain, substantially increase our operating costs or limit our ability to serve existing customers and seek new customers.

In response to the COVID-19 outbreak, in March 2020, the federal government passed the CARES Act. The CARES Act provided, among other things, the deferral of payroll tax payments for all payroll taxes incurred through December 31, 2020 and created the Paycheck Protection Program ("PPP"), which is sponsored and administered by the U.S. Small Business Administration ("SBA"). On April 20, 2020, we executed a loan agreement (the "PPP Loan") under the PPP, evidenced by a promissory note, with BOK, NA dba Bank of Oklahoma ("BOK"), providing for \$3.3 million in proceeds, which was funded to us on April 21, 2020. In June 2020, the Paycheck Protection Program Flexibility Act of 2020 (the "PPFFA") was signed into law and established the payment dates in the event that amounts borrowed under the PPP are not forgiven. The PPP Loan was scheduled to mature on April 21, 2022, unless forgiven subject to terms and conditions established by the SBA. We recorded the PPP Loan as a debt obligation and accrued interest over its term. See further discussion in "Results of Operations" under this Item 2.

We elected to defer payments of payroll taxes for the periods allowed under the CARES Act and will repay 50% by December 31, 2021 and 50% by December 31, 2022. As of September 30, 2021, total payroll tax payments deferred under the CARES Act were \$0.4 million.

Our customers may also be impacted by COVID-19 pandemic as the utilization of energy has changed. We cannot predict the long-term impact on our customers and the subsequent impact on our business.

Results of Operations

For the three and nine months ended September 30, 2021, we recognized net income of \$24.3 million and \$54.6 million, respectively, compared to net income of \$5.0 million and net loss of \$20.7 million for the three and nine months ended September 30, 2020.

The following sections provide additional information regarding these comparable 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 September 30, 2021 and 2020

Total Revenue and Cost of Revenue

A summary of the components of our revenues and cost of revenue for the three months ended September 30, 2021 and 2020 is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Revenues:				
Consumables	\$ 24,689	\$ 15,844	\$ 8,845	56 %
License royalties, related party	4,165	3,627	538	15 %
Total revenues	\$ 28,854	\$ 19,471	\$ 9,383	48 %
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	\$ 17,952	\$ 15,013	\$ 2,939	20 %

Consumables and consumables cost of revenue

For the three months ended September 30, 2021, consumables revenues increased from the comparable quarter in 2020 primarily from higher product volumes, which comprised \$7.9 million of the total change in consumables revenues. Product volumes were higher in power generation primarily due to higher natural gas prices compared to the prior year quarter, which contributed to increased demand for our products. In addition, product sales increased under the Supply Agreement from the prior year quarter as we began product shipments under this agreement beginning in the fourth quarter of 2020. Total revenues also increased due to favorable pricing mix of our products by approximately \$1.7 million. Negatively impacting revenues quarter over quarter was less favorable product mix of approximately \$0.8 million. For the three months ended September 30, 2021, there was an increase in overall energy demand and an increase in natural gas prices compared to the prior quarter, both of which caused an increase in demand for our products.

Our gross margin, exclusive of depreciation and amortization, increased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 primarily due to the higher product volumes, which resulted in lower fixed costs per pound. Offsetting these improvements from higher product volumes for the three months ended September 30, 2021, gross margin was negatively impacted by having to purchase inventory, rather than produce it, due to increased demand for our products and high utilization of the Red River Plant. We expect to continue purchasing inventory for the remainder of 2021 and into 2022 as a result of lost production in the second quarter of 2021, ongoing increased demand for our products and high Red River Plant utilization.

We expect that consumable revenues and gross margin will be positively impacted by our product price increase announced in the second quarter of 2021 and our efforts to improve our customer base and move our product mix to higher margin products. We anticipate that the product price increases will also help offset the increase in operating costs from purchasing inventory.

Consumables revenues continues to be affected by electricity demand driven by seasonal weather and related power generation needs, as well as competitor prices related to alternative power generation sources such as natural gas. According to data provided by the U.S. Energy Information Administration ("EIA"), for the three months ended September 30, 2021, power generation from coal-fired power dispatch increased approximately 15% compared to the corresponding quarter in 2020.

License royalties, related party

For the three months ended September 30, 2021 and 2020, there were 15.2 million tons and 14.6 million tons, respectively, of RC produced using M-45™ and M-45-PC™ technologies ("M-45 Technology"), which Tinuum Group licenses from us ("M-45 License"). M-45 License royalties increased for the three months ended September 30, 2021 primarily from higher tonnage compared to the three months ended September 30, 2020. This was primarily a result of an increase quarter over quarter in RC facilities that use the M-45 Technology as well as higher tonnage. Further, these increases attributed to the royalty rate per ton increasing quarter over quarter. Both Tinuum Group and Tinuum Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As such, we do not expect to earn M-45 License royalties after December 31, 2021.

Additional information related to revenue concentrations and contributions by class and reportable segment can be found within the Business Segments discussion and in Note 17 to the Condensed Consolidated Financial Statements.

Other Operating Expenses

A summary of the components of our operating expenses for the three months ended September 30, 2021 and 2020, exclusive of cost of revenue items (presented above), is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Operating expenses:				
Payroll and benefits	\$ 2,637	\$ 2,285	\$ 352	15 %
Legal and professional fees	1,106	1,321	(215)	(16)%
General and administrative	1,715	1,900	(185)	(10)%
Depreciation, amortization, depletion and accretion	2,145	1,777	368	21 %
	<u>\$ 7,603</u>	<u>\$ 7,283</u>	<u>\$ 320</u>	<u>4 %</u>

Payroll and benefits

Payroll and benefits expenses, which represent costs related to selling, general and administrative personnel, increased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 primarily due to an increase in expense related to the agreements with our executive officers and certain other key employees ("Retention Agreements") of \$0.4 million. Offsetting this increase was a decrease in our headcount by approximately \$0.1 million. See below for additional information on the Retention Agreements.

Legal and professional fees

Legal and professional fees decreased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 as a result of cost reductions related to professional services of \$0.2 million and legal fees of \$0.2 million. Offsetting these decreases was an increase in costs related to our strategic alternatives, including consulting and legal fees of \$0.2 million.

General and administrative

General and administrative expenses decreased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 primarily due to a reduction of general and administrative expenses of \$0.1 million and product development costs of \$0.1 million.

Depreciation, amortization, depletion and accretion

Depreciation and amortization expense increased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 due to an increase in accretion expense of \$0.2 million related to the Marshall Mine ARO and an increase in depreciation expense of \$0.2 million due to fixed asset additions in the third quarter of 2021.

Other Income (Expense), net

A summary of the components of other income (expense), net for the three months ended September 30, 2021 and 2020 is as follows:

<i>(in thousands, except percentages)</i>	Three Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Other income (expense):				
Earnings from equity method investments	\$ 22,195	\$ 9,518	\$ 12,677	133 %
Gain on extinguishment of debt	3,345	—	3,345	*
Interest expense	(86)	(881)	795	(90)%
Other	81	17	64	376 %
Total other income	<u>\$ 25,535</u>	<u>\$ 8,654</u>	<u>\$ 16,881</u>	195 %

* Calculation not meaningful

Earnings from equity method investments

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

<i>(in thousands)</i>	Three Months Ended September 30,	
	2021	2020
Earnings from Tinium Group	\$ 19,975	\$ 7,260
Earnings from Tinium Services	2,223	2,257
(Loss) earnings from other	(3)	1
Earnings from equity method investments	<u>\$ 22,195</u>	<u>\$ 9,518</u>

Earnings from equity method investments, and changes related thereto, are impacted by our significant equity method investees: Tinium Group and Tinium Services.

For the three months ended September 30, 2021, we recognized \$20.0 million in equity earnings from Tinium Group compared to our proportionate share of Tinium Group's net income of \$10.7 million for the quarter. The difference between our pro-rata share of Tinium Group's net income and our earnings from the Tinium Group equity method investment as reported on the Condensed Consolidated Statements of Operations is the result of cumulative distributions received from Tinium 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.

For the three months ended September 30, 2020, we recognized \$7.3 million in equity earnings from Tinium Group, which was equal to our proportionate share of Tinium Group's net income for the respective quarter.

See further discussion of quarter over quarter changes in Earnings from Equity Investments in "Business Segments" under this Item. Additional information related to equity method investments is included in Note 6 to the Condensed Consolidated Financial Statements included in Part I - Item 1 of this Report.

For the remainder of 2021, we expect to recognize such excess contributions as equity method earnings in the period the distributions occur, limited to the carrying value of the Tinium Group equity investment.

Gain on extinguishment of debt

On July 27, 2021, we received formal notification in the form of a letter dated July 19, 2021 from BOK that the SBA approved our PPP Loan forgiveness application for the PPP Loan in the amount of \$3.3 million (including accrued interest). For the three months ended September 30, 2021, we recorded a gain on extinguishment of the PPP Loan in the amount of \$3.3 million in the Condensed Consolidated Statements of Operations, which is included as a component of "Other income (expense)."

Interest expense

For the three months ended September 30, 2021, interest expense decreased \$0.8 million compared to the three months ended September 30, 2020 primarily due to a reduction in interest expense related to the Senior Term Loan, as the principal balance was reduced from payments of \$22.0 million made during the period from September 30, 2020 to September 30, 2021. Further, the Senior Term Loan was paid-off in its entirety as of June 1, 2021.

Income tax expense

For the three months ended September 30, 2021, we recorded income tax expense of \$4.6 million compared to income tax expense of \$0.1 million for the three months ended September 30, 2020. The increase in income tax expense quarter over quarter was primarily due to higher pretax income for the three months ended September 30, 2021 of \$28.8 million compared to pretax income for the three months ended September 30, 2020 of \$5.8 million.

Comparison of the Nine Months Ended September 30, 2021 and 2020

Total Revenue and Cost of Revenue

A summary of the components of our revenues and cost of revenue for the nine months ended September 30, 2021 and 2020 is as follows:

<i>(in thousands, except percentages)</i>	Nine Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Revenues:				
Consumables	\$ 57,696	\$ 33,231	\$ 24,465	74 %
License royalties, related party	11,888	9,986	1,902	19 %
Total revenues	<u>\$ 69,584</u>	<u>\$ 43,217</u>	<u>\$ 26,367</u>	<u>61 %</u>
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	\$ 43,726	\$ 33,920	\$ 9,806	29 %

Consumables and consumables cost of revenue

For the nine months ended September 30, 2021, consumables revenues increased from the comparable period in 2020 primarily driven by higher product volumes, which comprised approximately \$22.5 million of the total change in consumables revenues. Product volumes were higher in power generation primarily due to higher natural gas prices compared to the prior year period, which contributed to increased demand for our products. In addition, product sales increased under the Supply Agreement from the prior year period as we began product shipments under this agreement beginning in the fourth quarter of 2020. Total revenues also increased due to favorable price impact of our products by approximately \$4.6 million. Less favorable product mix negatively impacted consumables revenues period over period by approximately \$2.6 million.

Volumes were positively impacted by seasonal weather and an increase of 3.6% in overall power generation period over period. As well, according to data provided by EIA, power generation from coal-fired power dispatch increased approximately 26% period over period.

Our gross margin, exclusive of depreciation and amortization, increased for the nine months ended September 30, 2021 compared to the corresponding period in 2020 primarily due to the higher product volumes, which resulted in lower fixed cost per pound compared to the prior year period. Offsetting higher gross margin from higher product volumes for the nine months ended September 30, 2021, were additional costs incurred associated with having to purchase inventory and temporary outages at the Red River Plant for the three months ended June 30, 2021.

Consumables cost of revenue was negatively impacted for the nine months ended September 30, 2020 due to safety actions taken by us to provide for continued operation of the Red River Plant in response to COVID-19.

License royalties, related party

For the nine months ended September 30, 2021 and 2020, there were 42.7 million tons and 35.7 million tons, respectively, of RC produced using the M-45 Technology under the M-45 License. This was primarily a result of an increase quarter over quarter in RC facilities that use the M-45 Technology as well as increased tonnage. While tonnage increased period over period, the royalty rate per ton remained the same due to a majority of the RC contracts having fixed lease payments such that increased tonnage did not result in an incremental increase in earnings.

Additional information related to revenue concentrations and contributions by class and reportable segment can be found within the segment discussion below and in Note 17 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 nine months ended September 30, 2021 and 2020 is as follows:

<i>(in thousands, except percentages)</i>	Nine Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Operating expenses:				
Payroll and benefits	\$ 8,014	\$ 8,839	\$ (825)	(9)%
Legal and professional fees	4,340	4,386	(46)	(1)%
General and administrative	5,223	6,693	(1,470)	(22)%
Depreciation, amortization, depletion and accretion	6,155	5,807	348	6 %
Impairment of long-lived assets	—	26,103	(26,103)	(100)%
Gain on change in estimate, asset retirement obligation	(1,942)	—	(1,942)	*
	<u>\$ 21,790</u>	<u>\$ 51,828</u>	<u>\$ (30,038)</u>	<u>(58)%</u>

* Calculation not meaningful

Payroll and benefits

Payroll and benefits expenses decreased for the nine months ended September 30, 2021 compared to the same period in 2020 primarily due to expenses taken during the nine months ended September 30, 2020 of \$1.2 million in payroll-related expenses associated with the resignation of a former executive. Additionally, payroll expenses decreased by approximately \$0.4 million due to a decrease in headcount between the two periods. Offsetting these decreases was an increase in expense of \$0.8 million related to the Retention Agreements.

Legal and professional fees

Legal and professional fees remained relatively flat for the nine months ended September 30, 2021 compared to the same period in 2020 primarily due to an increases in consulting fees of \$0.1 million and legal fees of \$0.3 million offset by a decrease in outsourced IT costs specific to the completion of the integration of Carbon Solutions of \$0.4 million.

General and administrative

General and administrative expenses decreased for the nine months ended September 30, 2021 compared to the same period in 2020 primarily due to a decrease in product development expenses of approximately \$0.8 million related to the Supply Agreement, a decrease in costs incurred due to the sequestration of certain of our employees at the Red River Plant of approximately \$0.3 million and reductions in general and administrative expenses, including recruiting and licenses and fees of approximately \$0.5 million. Offsetting these decreases was an increase in property taxes of approximately \$0.2 million.

Depreciation and amortization

Depreciation and amortization expense increased for the nine months ended September 30, 2021 compared to the same period in 2020 due to higher production volumes during the nine months ended September 30, 2021, resulting in \$0.3 million more absorption of depreciation in inventory. Further driving the increase was accretion expense of \$0.7 million related to the Marshall Mine ARO and an increase in amortization expense of \$0.1 million related to patents. Offsetting these increases was a reduction in depreciation expense of \$0.9 million related to a lower depreciable base for the nine months ended September 30, 2021 as a result of the Impairment Charge recorded in the second quarter of 2020 that reduced the carrying value of our property, plant, and equipment as of June 30, 2020.

Impairment of long-lived assets

As previously discussed, as of June 30, 2020, we recorded the Impairment Charge of \$26.1 million, which is included in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2020.

Gain on change in estimate, asset retirement obligation

As previously discussed, we recorded a gain on change in estimate of \$1.9 million related to a reduction in scope of our future reclamation efforts of the Marshall Mine, which is included in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2021.

Other Income (Expense), net

A summary of the components of our other income (expense), net for the nine months ended September 30, 2021 and 2020 is as follows:

<i>(in thousands, except percentages)</i>	Nine Months Ended September 30,		Change	
	2021	2020	(\$)	(%)
Other income (expense):				
Earnings from equity method investments	\$ 61,944	\$ 25,959	\$ 35,985	139 %
Gain on extinguishment of debt	3,345	—	3,345	*
Interest expense	(1,416)	(3,053)	1,637	(54)%
Other	652	208	444	213 %
Total other income	<u>\$ 64,525</u>	<u>\$ 23,114</u>	<u>\$ 41,411</u>	179 %

* 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 on the Condensed Consolidated Statements of Operations:

<i>(in thousands)</i>	Nine Months Ended September 30,	
	2021	2020
Earnings from Tinium Group	\$ 55,462	\$ 20,462
Earnings from Tinium Services	6,485	5,498
Loss from other	(3)	(1)
Earnings from equity method investments	<u>\$ 61,944</u>	<u>\$ 25,959</u>

As of September 30, 2021 and 2020, Tinium Group had 16 and 21 invested RC facilities, respectively, that were generating revenues.

For the nine months ended September 30, 2021, we recognized \$55.5 million in equity earnings from Tinium Group compared to our proportionate share of Tinium Group's net income of \$33.6 million for the period. The difference between our pro-rata share of Tinium Group's net income and our earnings from Tinium Group equity method investment as reported on the Condensed Consolidated Statements of Operations is the result of cumulative distributions received from Tinium 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.

For the nine months ended September 30, 2020, we recognized \$20.5 million in equity earnings from Tinium Group, which was equal to our proportionate share of Tinium Group's net income for the respective period.

See further discussion of period over period changes in Earnings from Equity Investments in "Business Segments" under this Item. Additional information related to equity method investments is included in Note 6 to the Condensed Consolidated Financial Statements included in Part I - Item 1 of this Report.

Gain on extinguishment of debt

As previously discussed, we recorded a gain on extinguishment of debt related to the SBA approval of the Company's PPP Loan forgiveness application for the PPP Loan in the amount of \$3.3 million (including accrued interest).

Interest expense

For the nine months ended September 30, 2021, interest expense decreased \$1.6 million compared to the nine months ended September 30, 2020 primarily due to interest expense incurred in the nine months ended September 30, 2021 related to the Senior Term Loan, as the principal balance was reduced from payments of \$22.0 million made during the period from September 30, 2020 to September 30, 2021. The remaining decrease in interest expense related to lower 453A interest from a reduction in the deferred balance related to Section 453A during the period from September 30, 2020 to September 30, 2021.

Income tax expense

For the nine months ended September 30, 2021, we recorded income tax expense of \$14.0 million compared to income tax expense of \$0.5 million for the nine months ended September 30, 2020. The increase in income tax expense period over period was primarily due to pretax income for the nine months ended September 30, 2021 of \$68.6 million compared to a pretax loss for the nine months ended September 30, 2020 of \$19.4 million.

Non-GAAP Financial Measures

To supplement our financial information presented in accordance with U.S. GAAP (or "GAAP"), we are providing non-GAAP measures of certain financial performance. These non-GAAP measures include Consolidated EBITDA, Consolidated Adjusted EBITDA, RC Segment EBITDA, RC Segment Adjusted EBITDA, APT Segment EBITDA and APT Segment Adjusted EBITDA. We have included these non-GAAP measures because management believes that they help to facilitate period to period comparisons of our operating results. We believe 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. Management uses these non-GAAP measures in evaluating the performance of our business.

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 our results of operations in conjunction with the corresponding GAAP measures.

We define Consolidated EBITDA as net income adjusted for the impact of the following items that are either non-cash or that we do not consider representative of our ongoing operating performance: depreciation, amortization, depletion, accretion, amortization of upfront customer consideration that was recorded as a component of the Marshall Mine Acquisition ("Upfront Customer Consideration"), interest expense, net and income tax expense. We define Consolidated Adjusted EBITDA as Consolidated EBITDA reduced by the non-cash impact of equity earnings from equity method investments, gain on change in estimate of asset retirement obligations and gain on extinguishment of debt and increased by cash distributions from equity method investments and impairment of long-lived assets. Because Consolidated Adjusted EBITDA omits certain non-cash items, we believe that the measure is less susceptible to variances that affect our operating performance.

We define APT Segment EBITDA (loss) as APT Segment Operating Income (loss) adjusted for the impact of the following items that are either non-cash or that we do not consider representative of our ongoing operating performance: depreciation, amortization, depletion, accretion and interest expense, net and amortization of Upfront Customer Consideration. We define APT Segment Adjusted EBITDA (loss) as APT Segment EBITDA (loss) reduced by gain on change in estimate of asset retirement obligations and gain on extinguishment of debt and increased by impairment of long-lived assets.

We define RC Segment EBITDA as RC Segment operating income adjusted for the impact of the following items that are either non-cash or that we do not consider representative of our ongoing operating performance: depreciation, amortization, depletion, accretion and interest expense. We define RC Segment Adjusted EBITDA as RC Segment EBITDA reduced by the non-cash impact of equity earnings from equity method investments and gain on extinguishment of debt and increased by cash distributions from equity method investments.

When used in conjunction with GAAP financial measures, we believe these non-GAAP measures are supplemental measures of operating performance that explain our operating performance for our period to period comparisons and against our competitors' performance. Generally, we believe these non-GAAP measures are less susceptible to variances that affect our operating performance results.

We expect the adjustments to Consolidated Adjusted EBITDA and APT Segment Adjusted EBITDA in future periods will be generally similar. These non-GAAP measures have limitations as analytical tools, and should not be considered in isolation or as a substitute for analyzing our results as reported under GAAP.

Consolidated EBITDA and Adjusted EBITDA

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net income (loss)	\$ 24,253	\$ 4,975	\$ 54,580	\$ (20,732)
Depreciation, amortization, depletion and accretion	2,145	1,777	6,155	5,807
Amortization of Upfront Customer Consideration	127	—	381	—
Interest expense, net	25	862	1,188	2,974
Income tax expense	4,581	854	14,013	1,315
Consolidated EBITDA (loss)	31,131	8,468	76,317	(10,636)
Cash distributions from equity method investees	22,875	9,712	66,751	42,228
Equity earnings	(22,195)	(9,518)	(61,944)	(25,959)
Gain on extinguishment of debt	(3,345)	—	(3,345)	—
Gain on change in estimate, asset retirement obligation	—	—	(1,942)	—
Impairment	—	—	—	26,103
Consolidated Adjusted EBITDA	\$ 28,466	\$ 8,662	\$ 75,837	\$ 31,736

Business Segments

As of September 30, 2021, we have two reportable segments: (1) RC and (2) APT. 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 2020 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 primarily include Tinium Group and Tinium Services. Segment revenues include our equity method earnings (losses) from our equity method investments and M-45 License royalties earned from Tinium Group. These earnings are included in 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. Both Tinium Group and Tinium Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As such, our earnings and distributions from our RC segment will substantially cease as of December 31, 2021.
2. APT - Our APT segment includes revenues and related expenses from the sale of our AC and chemical products, which are used to purify coal-fired utilities, industrials, water treatment plants and other markets. For the purification of air and gases, one of the uses of AC is to reduce mercury emissions and other air contaminants, specifically at coal-fired power generators and other industrial companies. These amounts are included within the Consumables and respective 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 and nine months ended September 30, 2021 and 2020:

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenues:				
Refined Coal:				
Earnings in equity method investments	\$ 22,195	\$ 9,518	\$ 61,944	\$ 25,959
License royalties, related party	4,165	3,627	11,888	9,986
	<u>26,360</u>	<u>13,145</u>	<u>73,832</u>	<u>35,945</u>
Advanced Purification Technologies:				
Consumables	24,689	15,844	57,696	33,231
	<u>24,689</u>	<u>15,844</u>	<u>57,696</u>	<u>33,231</u>
Total segment reporting revenues	<u>51,049</u>	<u>28,989</u>	<u>131,528</u>	<u>69,176</u>
Adjustments to reconcile to reported revenues:				
Earnings in equity method investments	(22,195)	(9,518)	(61,944)	(25,959)
Total reported revenues	<u>\$ 28,854</u>	<u>\$ 19,471</u>	<u>\$ 69,584</u>	<u>\$ 43,217</u>
Segment operating income (loss):				
Refined Coal	\$ 26,341	\$ 12,817	\$ 73,517	\$ 34,454
Advanced Purification Technologies	4,591	(3,280)	4,864	(40,649)
Total segment operating income (loss)	<u>\$ 30,932</u>	<u>\$ 9,537</u>	<u>\$ 78,381</u>	<u>\$ (6,195)</u>

RC

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

<i>(in thousands)</i>	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Earnings from Tinum Group	\$ 19,975	\$ 7,260	\$ 55,462	\$ 20,462
Earnings from Tinum Services	2,223	2,257	6,485	5,498
(Loss) earnings from other	(3)	1	(3)	(1)
Earnings from equity method investments	<u>\$ 22,195</u>	<u>\$ 9,518</u>	<u>\$ 61,944</u>	<u>\$ 25,959</u>

For the three months ended September 30, 2021 and September 30, 2020

RC earnings increased primarily due to an increase in equity earnings in Tinum Group for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 due to higher production volume driven by increases in overall power generation demand and high competitor prices related to alternative power generation sources such as natural gas. Also, this increase was driven by higher RC facility count for the majority of the three months ended September 30, 2021 compared to the corresponding quarter in 2020.

For the three months ended September 30, 2021, earnings from Tinum Services decreased compared to the corresponding quarter in 2020 primarily due to a decrease in the number of operating RC facilities in which Tinum Services provided operating and maintenance services, offset by an increase in tonnage quarter over quarter.

RC earnings related to M-45 License royalties increased for the three months ended September 30, 2021 compared to the corresponding quarter in 2020 due to higher tonnage quarter over quarter, which was primarily a result of an increase in RC facilities that use the M-45 Technology. The increase in tonnage as well as the additional RC facilities attributed to the royalty rate per ton increasing quarter over quarter.

For the nine months ended September 30, 2021 and September 30, 2020

RC earnings increased primarily due to an increase in equity earnings in Tinuum Group for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 primarily due to increases in overall power generation demand and higher production volume driven by high competitor prices related to alternative power generation sources such as natural gas. Also, this increase was driven by higher RC facility count for the majority of the nine months ended September 30, 2021 compared to the corresponding period in 2020. Further, for the nine months ended September 30, 2020, we recognized equity earnings from Tinuum Group equal to our proportionate share of Tinuum Group's net income for the period, which was less than cash distributions received for the same period.

For the nine months ended September 30, 2021, earnings from Tinuum Services increased compared to the nine months ended September 30, 2020 primarily due to an increase in tonnage period over period and an increase in the number of operating RC facilities in which Tinuum Services provided operating and maintenance services for the majority of the nine months ended September 30, 2021 compared to the corresponding period in 2020.

RC earnings related to M-45 License royalties increased for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 due to an increase period over period in RC facilities that use the M-45 Technology as well as increased tonnage. While tonnage increased period over period, the royalty rate per ton remained the same due to a majority of the RC contracts having fixed lease payments such that increased tonnages did not result in an incremental increase in earnings.

Outlook

Both Tinuum Group and Tinuum Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. During the third quarter of 2021, Tinuum Group ceased operating six RC facilities, with a total of seven RC facilities that have ceased operating in 2021. The remaining RC facilities are expected to cease operations during the fourth quarter of 2021. The loss of equity earnings, distributions and M-45 License royalties beginning in 2022 will have a material adverse effect on our financial condition and consolidated operating results compared to historical periods. Earnings in the RC segment for 2021 will continue to be impacted by coal-fired dispatch. As a result of the wind-down in both Tinuum Group's and Tinuum Services' operations occurring through the remainder of 2021, we expect our earnings in both entities to be lower in 2021 compared to 2020. However, in 2021, cash distributions should substantially exceed earnings.

RC Segment EBITDA and Adjusted EBITDA

<i>(in thousands)</i>	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
RC Segment operating income	\$ 26,341	\$ 12,817	\$ 73,517	\$ 34,454
Depreciation, amortization, depletion and accretion	9	26	41	84
Interest expense	4	94	11	254
RC Segment EBITDA	26,354	12,937	73,569	34,792
Cash distributions from equity method investees	22,875	9,712	66,751	42,228
Equity earnings	(22,195)	(9,518)	(61,944)	(25,959)
Gain on extinguishment of debt	(97)	—	(97)	—
RC Segment Adjusted EBITDA	<u>\$ 26,937</u>	<u>\$ 13,131</u>	<u>\$ 78,279</u>	<u>\$ 51,061</u>

APT

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

For the three months ended September 30, 2021 and September 30, 2020

APT segment operating income increased for the three months ended September 30, 2021 compared to the three months ended September 30, 2020 primarily due to increases in consumables revenues and associated gross margins for the three months ended September 30, 2021, which were driven by increases in volume and product mix quarter over quarter. Our gross margins, exclusive of depreciation and amortization, increased primarily due to the higher volumes that resulted in a lower fixed cost per pound compared to the three months ended September 30, 2020.

For the nine months ended September 30, 2021 and September 30, 2020

APT segment operating income increased for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 primarily due to the Impairment Charge of \$26.1 million recorded for the nine months ended September

30, 2020. Further, during the nine months ended September 30, 2021 consumable revenues and associated gross margins increased, driven by an increase in volume period over period, specifically products sold under the Supply Agreement, as well as an increase in demand for our products by our current customer base and from new customers.

During the nine months ended September 30, 2020, we incurred costs of \$0.4 million related to sequestration of certain of our employees at the Red River Plant. These costs included hazardous pay, lodging expense and other related costs for 60 days.

Outlook

Based on current market estimates, we believe that the APT segment will continue to be affected by power generation and the pricing of other sources, including natural gas and renewable energy, as well as weather throughout the U.S. For the remainder of 2021, we expect other power generation sources to have higher prices than in previous quarters and that we will continue to see higher demand for our products. Further, in 2021 and beyond, we expect demand from our current customers to be strong based on current market trends and that the Supply Agreement will continue to play a significant role in diversifying our product mix into markets outside of power generation.

APT Segment Adjusted EBITDA (Loss)

<i>(in thousands)</i>	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
APT Segment operating income (loss)	\$ 4,591	\$ (3,280)	\$ 4,864	\$ (40,649)
Depreciation, amortization, depletion and accretion	2,004	1,603	5,706	5,386
Amortization of Upfront Customer Consideration	127	—	381	—
Interest expense, net	75	88	233	275
APT Segment EBITDA (loss)	\$ 6,797	\$ (1,589)	\$ 11,184	\$ (34,988)
Gain on extinguishment of debt	(2,562)	—	(2,562)	—
Gain on change in estimate, asset retirement obligation (1)	—	—	(1,942)	—
Impairment	—	—	—	26,103
APT Segment Adjusted EBITDA (loss)	<u>\$ 4,235</u>	<u>\$ (1,589)</u>	<u>\$ 6,680</u>	<u>\$ (8,885)</u>

(1) Included in APT segment operating income for the nine months ended September 30, 2021 is a \$1.9 million gain related to the change in the Marshall Mine ARO as of September 30, 2021.

Liquidity and Capital Resources

Overview of Factors Affecting Our Liquidity

For the nine months ended September 30, 2021, our liquidity position was positively affected primarily from distributions from Tinuum Group and Tinuum Services and M-45 License royalty payments from Tinuum Group.

As of September 30, 2021, our principal sources of liquidity include:

- cash on hand, excluding restricted cash of \$16.0 million under the Line of Credit and Surety Agreement requirements;
- distributions from Tinuum Group and Tinuum Services;
- M-45 License royalty payments from Tinuum Group;
- operations of the APT segment; and
- the Line of Credit.

As of September 30, 2021, our principal uses of liquidity include:

- our business operating expenses, including federal and state tax payments;
- payments on our lease obligations; and
- payments of ARO liabilities associated with the Five Forks Mine and Marshall Mine.

Tinuum Group and Tinuum 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 nine months ended September 30, 2021 and 2020:

<i>(in thousands)</i>	Nine Months Ended September 30,	
	2021	2020
Tinuum Group	\$ 58,849	\$ 35,226
Tinuum Services	7,902	7,002
Distributions from equity method investees	\$ 66,751	\$ 42,228

Cash distributions from Tinuum Group for the nine months ended September 30, 2021 increased by \$23.6 million compared to the nine months ended September 30, 2020 primarily due to higher production volume driven by high competitor prices related to alternative power generation sources such as natural gas. Also, this increase was driven by higher RC facility count for the majority of the nine months ended September 30, 2021 compared to the corresponding period in 2020.

Future cash flows from Tinuum are expected to range from \$12 million to \$14 million. The key drivers in achieving these future cash flows are based on the following:

- 16 invested facilities as of September 30, 2021 and inclusive of all net Tinuum cash flows (distributions and license royalties), offset by estimated federal and state income tax payments.

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

- Tinuum Group continues to not operate retained facilities through the scheduled end date;
- Tinuum Group does not have material unexpected expenditures related to remediation costs; and
- Coal-fired power generation remains consistent with contractual expectations.

Both Tinuum Group and Tinuum Services are winding down their operations due to the expected expiration of the Section 45 tax credit period as of December 31, 2021. As of September 30, 2021, Tinuum Group ceased operating seven RC facilities in 2021, with the remaining RC facilities expected to cease operations during the fourth quarter of 2021. As such, our distributions from our RC segment are expected to decline during the fourth quarter of 2021 and will substantially cease as of December 31, 2021. Pending final remediation of Tinuum Group's RC facilities and wind-down of Tinuum operations that is expected to occur in 2022, we expect final cash distributions in 2022.

PPP Loan

On July 27, 2021, we received formal notification in the form of a letter dated July 19, 2021 from BOK that the SBA approved the forgiveness of our PPP Loan forgiveness application for the PPP Loan in the amount of \$3.3 million (including accrued interest). For the three and nine months ended September 30, 2021, the Company recorded a gain on extinguishment of the PPP Loan in the amount of \$3.3 million in the Condensed Consolidated Statements of Operations, which is included as a component of "Other income (expense)."

Our business has been classified as an essential business, and therefore we continue to operate on a modified basis to comply with governmental restrictions and public health authority guidelines. In April 2020, we sequestered approximately 60 employees to continue to run the Red River Plant and build-up inventory in order to supply our customers. This resulted in additional costs as the sequestered employees received hazard pay. We used proceeds from the PPP Loan to fund our payroll costs.

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 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 acquisition of Carbon Solutions. We also paid debt issuance costs of \$2.0 million related to the Senior Term Loan. The Senior Term Loan bore interest at a rate equal to 3-month LIBOR (subject to a 1.5% floor) + 4.75% per annum, which was adjusted quarterly to the current 3-month LIBOR rate, and interest was payable quarterly in arrears. The Senior Term Loan was secured by substantially all the assets of the Company, including the cash flows from the Tinum Entities, but excluding our equity interests in the Tinum entities.

On June 1, 2021 and prior to the Senior Term Loan's maturity date, we paid-off in its entirety the Senior Term Loan and all remaining accrued interest through this date. We did not incur any prepayment fees associated with the early pay-off.

Line of Credit

In September 2013, ADA, as borrower, and us, as guarantor, entered into the Line of Credit with the Lender for an aggregate borrowing amount of \$10.0 million, which was secured by certain amounts due to us from certain Tinum Group RC leases. The Line of Credit has been amended 16 times from the period from December 2, 2013 through September 30, 2021 and included a reduction in the borrowing amount to \$5.0 million in September 2018.

On March 23, 2021, we and the Lender entered into an amendment to the Line of Credit (the "Fifteenth Amendment"), which extended the maturity date of the Line of Credit to December 31, 2021 and increased the minimum cash requirement from \$5.0 million to \$6.0 million. On July 29, 2021, we and the Lender entered into the Sixteenth Amendment (the "Sixteenth Amendment") to the Line of Credit. The Sixteenth Amendment amends certain terms and conditions related to collateral securing the Line of Credit.

As of September 30, 2021, we have \$1.7 million of borrowing availability and no outstanding borrowings under the Line of Credit.

Stock Repurchases and Dividends

In November 2018, the Board authorized us to purchase up to \$20.0 million of our outstanding common stock under a stock repurchase program (the "Stock Repurchase Program"), which was to remain in effect until December 31, 2019 unless otherwise modified by the Board. As of November 2019, \$2.9 million remained outstanding related to the Stock Repurchase Program. In November 2019, the Board authorized an incremental \$7.1 million to the Stock Repurchase Program and provided that it will remain in effect until all amounts are utilized or it is otherwise modified by the Board.

Under the Stock Repurchase Program, for the three and nine months ended September 30, 2021, we did not repurchase any shares. For the three and nine months ended September 30, 2020, we purchased zero and 20,613 shares, respectively, of our common stock for cash of zero and \$0.2 million, respectively, inclusive of commissions and fees. As of September 30, 2021, we had \$7.0 million remaining under the Stock Repurchase Program.

For the nine months ended September 30, 2021 and 2020, we declared and paid quarterly cash dividends to stockholders of zero and \$5.0 million, respectively.

Liquidity Outlook

Our ability to continue to generate sufficient cash flow required to meet ongoing operational needs and obligations, and make potential future dividend payments and share repurchases depends upon several factors. These include: (1) executing on our contracts and initiatives; (2) receiving expected M-45 License royalty payments from Tinum Group and distributions from Tinum Group and Tinum Services through the end of 2021 before they cease as expected; and (3) increasing our share of the market for APT consumables, including expanding our overall AC business into additional adjacent markets and improving our customer and product mix.

For the remainder of 2021, our primary sources of liquidity are expected to be distributions from Tinuum Group and Tinuum Services and M-45 License royalty payments from Tinuum Group. We expect that our cash on hand as of December 31, 2021 will provide sufficient liquidity to fund operations for 2022. For 2021, we expect to spend \$9.8 million in capital expenditures compared to \$7.1 million incurred in 2020. This increase is primarily the result of product specific capital related to the Supply Agreement, which is estimated to be \$0.7 million for the fourth quarter of 2021, and routine scheduled maintenance outages, which occurred in the second quarter of 2021.

As of June 30, 2021, we entered into the Retention Agreements, which are for the purpose of retaining officers and key employees in order to maintain our current business operations while we pursue and execute on our strategic initiatives. The total amount due at time of payment pursuant to the Retention Agreements is \$2.4 million, which will be a future use of cash.

Due to the expected expiration of the Section 45 tax period as of December 31, 2021 and the resultant wind down of Tinuum Group's and Tinuum Services' operations by the end of 2021, distributions from Tinuum Group will no longer be a material source of liquidity after 2021.

For 2022 and beyond, our primary sources of liquidity are expected to be from cash on hand and through our ongoing operations of our APT segment. We believe the Supply Agreement will provide material incremental volume and lower operating cost efficiencies of the Red River Plant, providing additional sources of operating cash flows in the future. Full and partial reimbursements on capital expenditures from Cabot will offset our uses of investing cash flows. Further, we intend to fund the remaining portion of the Reclamation Costs from cash on hand as well as cash generated from the Supply Agreement. We believe that as reclamation activities occur and the related bonded amounts required under the Surety Agreement are able to be reduced, there may be an opportunity to further reduce the collateral requirement. In 2022 and beyond, our annual capital expenditures, exclusive of any capital specifically procured for Cabot under the Supply Agreement, are expected to average approximately \$5.0 million.

Sources and Uses of Cash

Nine Months Ended September 30, 2021 vs. Nine Months Ended September 30, 2020

Cash, cash equivalents and restricted cash increased from \$35.9 million as of December 31, 2020 to \$82.1 million as of September 30, 2021. The following table summarizes our cash flows for the nine months ended September 30, 2021 and 2020, respectively:

<i>(in thousands)</i>	Nine Months Ended September 30,		
	2021	2020	Change
Cash and cash equivalents and restricted cash provided by (used in):			
Operating activities	\$ 24,688	\$ 34,918	\$ (10,230)
Investing activities	38,937	(5,602)	44,539
Financing activities	(17,418)	(21,367)	3,949
Net change in cash and cash equivalents and restricted cash	<u>\$ 46,207</u>	<u>\$ 7,949</u>	<u>\$ 38,258</u>

Cash flow from operating activities

Cash flows provided by operating activities for the nine months ended September 30, 2021 decreased by \$10.2 million compared to the nine months ended September 30, 2020. The net decrease was primarily attributable to a net decrease in non-cash adjustments to reconcile net income (loss) to net cash provided by operating activities, which totaled \$71.5 million. Specifically, the net decrease for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 consisted of decreases in Earnings from equity method investees of \$36.0 million, Impairment of long-lived assets of \$26.1 million, Deferred income tax expense of \$1.7 million and an increase in Gain on extinguishment of debt of \$3.3 million. Also contributing to the net decrease in cash flows provided by operating activities period over period was a decrease in Distributions from equity method investees, return on investment of \$20.2 million. Offsetting the net decrease in cash flows provided by operating activities for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 was a net change in net income of \$75.3 million for the nine months ended September 30, 2021 as a result of net loss recognized for the nine months ended September 30, 2020.

Cash flow from investing activities

Cash flows provided by investing activities for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 increased by \$44.5 million primarily from distributions from equity earnings in excess of cumulative earnings.

Cash flow from financing activities

Cash flows used in financing activities for the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 decreased by \$3.9 million primarily from decreases in principal loan repayments on the Senior Term Loan of \$2.0 million, dividends paid of \$4.9 million and repurchases of common shares of \$0.2 million. Offsetting these decreases in cash flows used in financing activities was a decrease in cash flows provided by financing activities related to proceeds received from the PPP Loan of \$3.3 million for the nine months ended September 30, 2020.

Contractual Obligations

For the nine months ended September 30, 2021, there were no material changes to our contractual obligations outside of the ordinary course of business from those reported as of December 31, 2020, except for a reduction in the Marshall Mine ARO of \$1.9 million as of June 30, 2021 based on revised estimates from a reduction in scope of the reclamation work.

Off-Balance Sheet Arrangements

As of September 30, 2021, we had outstanding surety bonds of \$24.1 million related to performance requirements under reclamation contracts associated with both the Five Forks Mine and the Marshall Mine. As of September 30, 2021, we had restricted cash of \$10.0 million securing the Surety Agreement. We expect that the obligations secured by these surety bonds will be performed in the ordinary course of business and in accordance with the applicable contractual terms. To the extent that the obligations are performed, the related surety bonds should be released, and we should not have any continuing obligations. However, in the event any surety bond is called, our indemnity obligations could require us to reimburse the issuer of the surety bond.

Critical Accounting Policies and Estimates

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 2020 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 information regarding recently issued accounting standards applicable to us.

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 scheduled expiration of the IRC Section 45 tax credit period in 2021 and the resulting wind down of the business of, and loss of revenue from, Tinnium Group and Tinnium Services;
- (b) the production and sale of RC by RC facilities through the remainder of 2021 that will qualify for Section 45 tax credits and associated cash flows from Tinnium Group expected through 2021;
- (c) expected growth or contraction in and potential size of our target APT markets, including the water purification, food and beverage and pharmaceuticals markets;
- (d) the anticipated effects from the increase in pricing of our APT products;
- (e) expected supply and demand for our APT products and services;
- (f) increasing competition in the APT market;
- (g) future level of research and development activities;
- (h) the effectiveness of our technologies and the benefits they provide;
- (i) probability of any loss occurring with respect to certain guarantees made by Tinnium Group;
- (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 amount of future capital expenditures needed for our business;
- (m) awards of patents designed to protect our proprietary technologies both in the U.S. and other countries;
- (n) the adoption and scope of regulations to control certain chemicals in drinking water; and

- (o) opportunities to effectively provide solutions to U.S. coal-related businesses to comply with regulations, improve efficiency, lower costs and maintain reliability.

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 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; decreases in the production of RC; our inability to commercialize our APT technologies on favorable terms; our inability to ramp up our operations to effectively address recent and expected growth in our APT business; loss of key personnel; 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 September 30, 2021.

Changes in Internal Control Over Financial Reporting

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 September 30, 2021 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. Information with respect to this item may be found in Note 11 "Commitments and Contingencies" to the consolidated financial statements included in Item 1 of Part I of this Quarterly Report.

Item 1A. Risk Factors

There are no material updates to our risk factors as disclosed in the 2020 Form 10-K except as set forth below. These risks factor should be read together with the risk factors in the 2020 Form 10-K.

The U.S. presidential executive order concerning mandatory COVID-19 vaccination of U.S.-based employees of companies that work on or in support of federal contracts and a new OSHA standard requiring testing of non-vaccinated employees could have a material adverse impact on our business and results of operations.

On September 9, 2021, President Biden issued Executive Order 14042 (the "Executive Order") requiring all employers with U.S. Government contracts to ensure that their U.S.-based employees, contractors, and subcontractors that work on or in support of U.S. Government contracts are fully vaccinated by December 8, 2021. The executive order includes on-site and remote U.S.-based employees, contractors and subcontractors and it only permits limited exemptions for medical and religious reasons.

In addition, on September 9, 2021, President Biden announced that he has directed OSHA to develop an Emergency Temporary Standard ("ETS") mandating either the full vaccination or weekly testing of employees for employers with 100 or more employees. OSHA published the ETS on November 5, 2021, which includes a requirement that employers with 100 or more employees institute either a mandatory vaccine policy or a policy for weekly testing and masking of unvaccinated employees.

We cannot currently predict with certainty the impact the Executive Order or the OSHA ETS will have on our workforce. Although we are considered a federal contractor, the Executive Order does not cover subcontracts solely for the provision of products; however, some federal agency guidance, including the guidance issued by the General Services Agency relating to the Executive Order, indicates that through the federal contracting process the requirements of the Executive Order may be applied, at an as of now unknown time, to entities not covered under the language of the Executive Order.

To the extent the Executive Order is not applicable to the Company, the OSHA ETS, if enforceable, will apply to the Company and the Company is currently developing policies and procedures meeting the requirements of the OSHA ETS. Additional vaccine mandates may be announced in jurisdictions in which our business operates. Our implementation of these required policies may result in employee attrition, including attrition of critically skilled labor, and difficulty securing future labor needs, which could have a material adverse effect on our business, financial condition, and results of operations.

Our inability to meet customer supply requirements due to damage to or insufficient production capacity of our manufacturing facility may have a material adverse effect on our business, results of operations and financial condition.

We own and operate a single activation-based manufacturing plant (the Red River Plant), which is our sole manufacturing plant for producing and selling products to our customers. Our ability to meet customer expectations, manage inventory, complete sales and achieve our objectives for operating efficiencies depends on the full-time operation of the Red River Plant. We cannot replicate our manufacturing methods at another plant due to the limited availability of similar manufacturing plants, the additional costs incurred in supplying raw materials such as lignite to another plant, and the risk of revealing our confidential and proprietary technologies and manufacturing processes.

If the Red River Plant was destroyed or damaged in a significant manner, we would suffer a loss of inventory to supply customers, likely incur additional costs to deliver products to our customers, and disrupt the ordinary course of our business. In addition, if contractual demand exceeds manufacturing capacity, we would jeopardize our ability to fulfill obligations under our contracts, which could, in turn, result in reduced sales, contract penalties or terminations, damage to our customer relationships and could have a material adverse effect on our business. While we have insured the Red River Plan for damage or destruction as well as for losses from business interruptions, there can be no assurance that any insurance coverage will be sufficient to cover any such losses.

Further, a prolonged disruption in our operations due to Red River Plant downtime or having to meet customer requirements that exceed its maximum manufacturing capacity would require us to seek alternative customer supply arrangements, which may not be on attractive terms to us or could lead to delays in distribution of products to our customers, either of which could have a material adverse effect on our business, results of operations and financial condition.

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

None.

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 95.1 to this Quarterly Report.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit No.	Description	Form	File No.	Incorporated by Reference Exhibit	Filing Date
10.1	<u>Sixteenth Amendment of 2013 Loan and Security Agreement by and among ADA-ES, Inc., Advanced Emissions Solutions, Inc., and BOK, NA d/b/a Bank of Oklahoma dated as of July 29, 2021</u>	8-K	001-37822	10.1	July 29, 2021
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>				
95.1	<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)

November 9, 2021

By: /s/ Greg Marken
Greg Marken
Chief Executive Officer
(Principal Executive Officer)

November 9, 2021

By: /s/ Morgan Fields
Morgan Fields
Chief Accounting Officer
(Principal Financial Officer)