Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

Third Quarter 2021 Earnings Results Call

November 10, 2021

SAFE HARBOR

This presentation includes forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, which provides a "safe harbor" for such statements in certain circumstances. The forward-looking statements include statements or expectations regarding net, after-tax cash flows from refined coal (“RC”); expectations of continued strong APT performance; and results from the Company’s review of strategic alternatives. These statements are based on current expectations, estimates, projections, beliefs and assumptions of our management. Such statements involve significant 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, the outcome of the review of strategic alternatives, our ability to meet customer supply requirements, the rate of coal-fired power generation in the United States; changes and timing in laws, regulations, IRS interpretations or guidance, and accounting rules; changes in prices, economic conditions and market demand; impact of competition; technical, start-up and operational difficulties; availability of raw materials; customer demand for our APT products; competition within the industries in which we operate; availability of opportunities to further grow our business; loss of key personnel; ongoing effects of the COVID-19 pandemic and associated economic downturn on our operations and prospects; and other factors discussed in greater detail in our filings with the SEC. You are cautioned not to place undue reliance on such statements and to consult our SEC filings for additional risks and uncertainties that may apply to our business and the ownership of our securities. Our forward-looking statements are presented as of the date made, and we disclaim any duty to update such statements unless required by law to do so.

THIRD QUARTER 2021 BUSINESS SUMMARY

Refined Coal ("RC")

- Q3 distributions were $22.9M compared to $9.7M in 2020
- Q3 royalties were $4.2M compared to $3.6M
- Q3 segment operating income was $26.3M compared to $12.8M
- Q3 segment Adjusted EBITDA[1] was $26.9M compared to $13.1M

Advanced Purification Technologies ("APT")

- Q3 revenue was $24.7M compared to $15.8M; Q3 gross profit was $6.7M compared to $0.8M
- Q3 segment operating income totaled $4.6M compared to segment operating loss of $3.3M
- Q3 segment Adjusted EBITDA[1] of $4.2M compared to a segment Adjusted EBITDA loss of $1.6M

Consolidated Results & Capital Allocation

- Q3 net income of $24.3M compared to $5.0M
- Q3 consolidated Adjusted EBITDA [2] of $28.5M compared to $8.7M
- Cash, including restricted cash, of $82.1M compared to $35.9M as of December 31, 2020

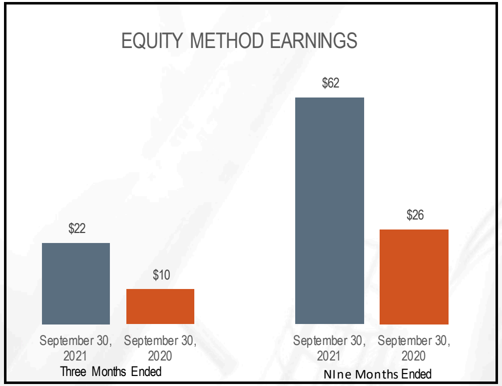
Outlook

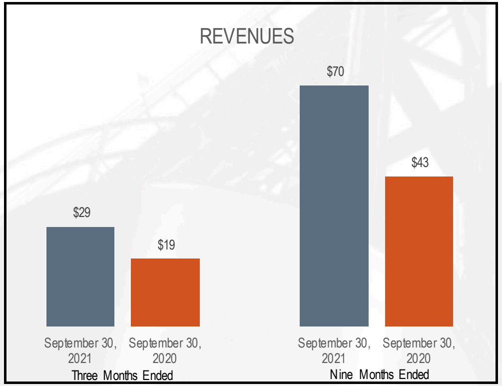
- Net, after-tax cash flows from RC segment projected to be approximately $8.5M in Q4
- Expect additional cash flows to be disbursed during 1H 2022 as Tinuum winds down
- Expect continued top-line strength in APT segment
- Strategic alternatives review underway and progressing

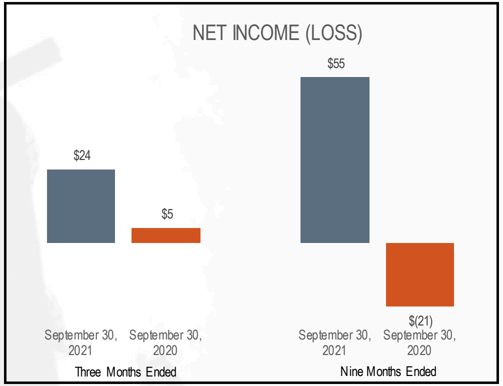
(1) Segment EBITDA and Segment Adjusted EBITDA are a non-GAAP measure. See Appendix for definitions and reconciliations.

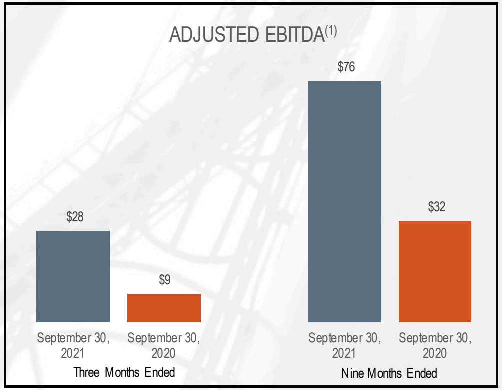
(2) Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations

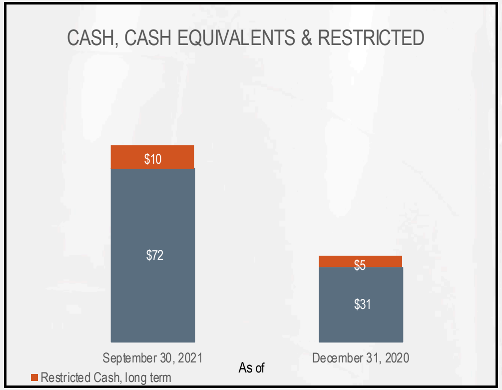
FINANCIAL HIGHLIGHTS

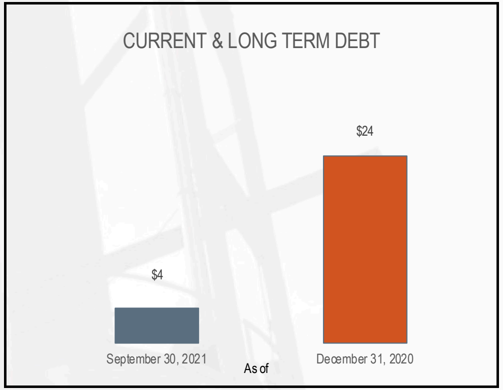










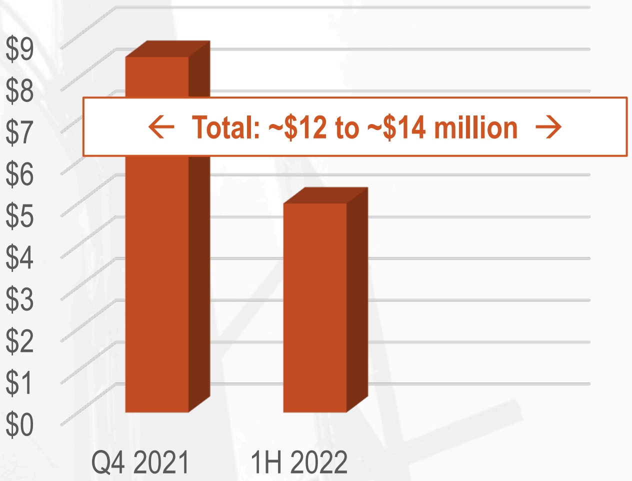


(1) Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

EXPECTED FUTURE REFINED COAL ("RC") CASH FLOWS

- Based on 16 invested facilities as of September 30, 2021 and includes all net RC cash flows of ADES [(1)]
- The remaining 16 facilities Section 45 tax credit generation period will expire by the end of the year
- Expected future net RC cash flows of ~$8.5 million in the fourth quarter [(2)]
- The Company expects additional net RC cash flows during the first half of 2022 upon the full wind down of Tinuum

EXPECTED FUTURE CASH FLOWS FROM RC BUSINESS [(1)]
(in millions)



(1) Net projected RC cash flows include the impact of all expected Tinuum distributions and royalty payments offset by the Company's federal and state tax payments as well as 453A interest payments
(2) The expectation is based on the following four key assumptions: 1) Tinuum Group continues to not operate retained facilities; 2) Tinuum Group does not have material unexpected CapEx or unusual operating expenses based on expectations as of the balance sheet date; 3) tax equity lease renewals are not terminated or repriced; 4) coal-fired generation remains consistent with contractual expectations; and 5) wind down operations are in line with expectations.

APT SEGMENT GROWTH OPPORTUNITIES

Mercury Removal

Became provider-of-choice in mercury removal for coal-fired power generation immediately upon acquiring ADA Carbon Solutions and we leverage our existing IP, technologies and relationships to maintain our market position. However, this market is likely to remain structurally more challenged as aggregate coal burn is expected to decline over time.

Industrial Applications and Municipal Water

In response, we have developed a solid market position for certain Industrial applications and Municipal water – including markets that ADA Carbon Solutions did not previously serve.

Adjacent Markets

More specialized applications, offering higher margin and higher growth commercial market opportunities. The quality of Red River plant offers us the asset base to pursue these adjacent markets.

Provider of Choice

Premier provider of activated carbon and well-positioned to capitalize on emerging opportunities. Our projected volumes for 2021 are higher than any year since the acquisition of ADA Carbon Solutions, helped by the Cabot supply agreement and demand from our power generation market, and as we are selling into a more balanced mix of commercial markets.

2021 PRIORITIES

OPTIMIZE REFINED COAL NET CASH FLOWS:

- Protect current forecasted cash flow stream to support capital allocation initiatives
- Maximize operational performance to produce RC and execute on plans for end of Tinuum businesses

FURTHER SCALE APT SEGMENT TO IMPROVE PROFITABILITY:

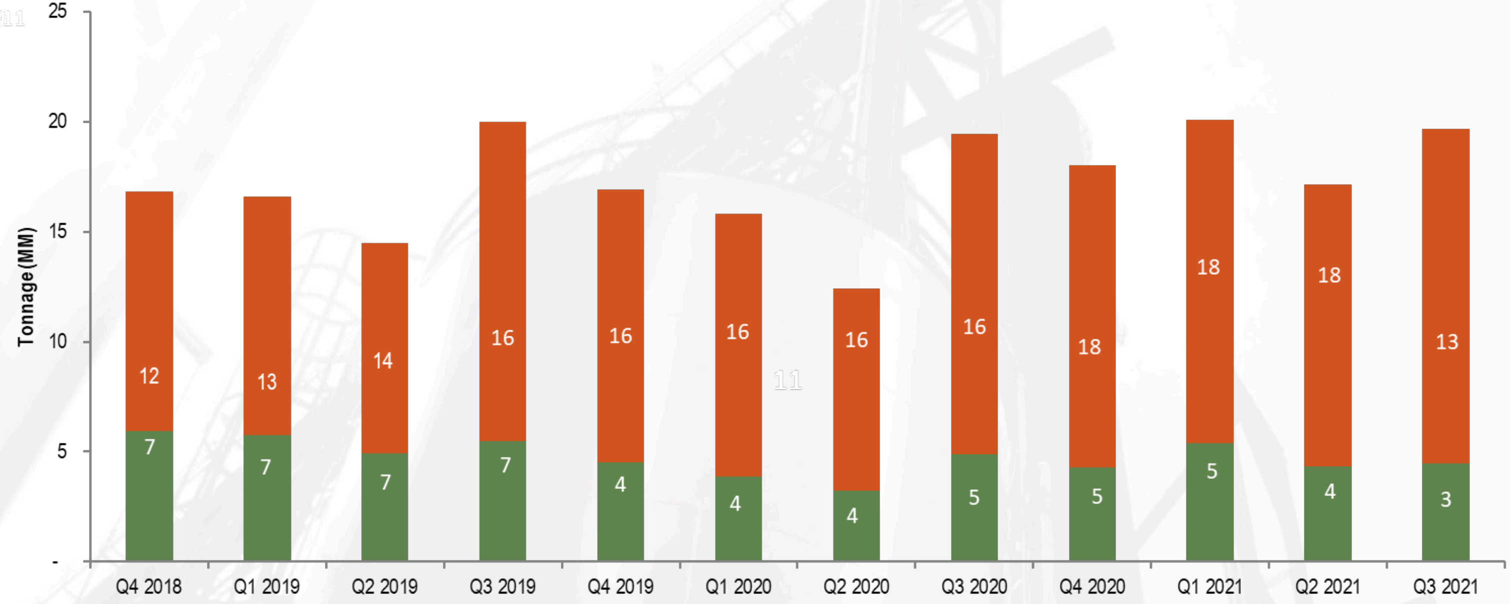
- Optimize Red River's capacity utilization to fully capture the low-cost benefit of the highly efficient plant
- Defend share in mercury control market while diversifying further into non-power generation markets to improve the earnings profile of the business
- Remain vigilant for additional rationalization opportunities and supply agreements
- Improved margin through customer and product mix

OPTIMIZE CASH FLOWS & ASSETS TO DRIVE SHAREHOLDER VALUE:

- Invest in APT segment's strategic initiatives to solidify position as provider-of-choice for activated carbon
- Execute strategic alternatives review to assess opportunities to maximize shareholder value

APPENDIX

Appendix A: Operating Tons: Royalty Vs. Non-royalty



Three Month Ended September 30, 2021	Operating Tons		QTD - Total
	Royalty	Non-Royalty	
Tonnage (1)	15,209	4,463	19,672
Count (#) (2)	18	4	22

Nine Months Ended September 30, 2021	Operating Tons		YTD - Total
	Royalty	Non-Royalty	
Tonnage (1)	42,668	14,209	56,878
Count (#) (2)	18	5	23

Note: Numbers within bar graph represent the number of facilities per category as of the end of each quarter presented

(1) Tonnage information is based upon RC production for the three and nine months ended September 30, 2021 (in thousands) (2) Counts are based upon the number of facilities of which a royalty has been earned during the period presented.

Appendix B: 10-Q Balance Sheet(1)

(in thousands, except share data)	As of September 30, 2021	As of 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

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2021.

Appendix C: 10-Q Income Statement[1]

(in thousands, except per share data)	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 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

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2021.

Appendix D: 10-Q Cash Flow[1]

(in thousands)	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 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

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2021.

Appendix D: 10-Q Cash Flow (continued)[1]

(in thousands)	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
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

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2021.

Appendix E: Non-GAAP Financial Measure & Consolidated Adjusted EBITDA Reconciliation to Net Income

Note on Non-GAAP Financial Measures

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

The Company has defined Consolidated Adjusted EBITDA as net income, adjusted for the impact of the following items that are either non-cash or that the Company does not consider representative of its ongoing operating performance: depreciation, amortization, depletion and accretion, amortization of upfront customer consideration, interest expense, net, income tax expense; then reduced by the non-cash impact of equity earnings from equity method investments, gain n extinguishment of debt and gain on change of an estimate for asset retirement obligations and increased by cash distributions from equity method investments and impairment. The Company believes that the Consolidated Adjusted EBITDA measure is less susceptible to variances that affect the Company's operating performance.

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

The Company defines 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.

The Company defined APT Segment Adjusted EBITDA as APT Segment EBITDA decreased for the gain on change of an estimate for asset retirement obligations and the gain on extinguishment of debt and increased for impairment.

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

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

Appendix F: Consolidated Adjusted EBITDA Reconciliation to Net Income (Loss)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	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

Appendix G: RC Segment Adjusted EBITDA Reconciliation to Segment Operating Income

(in thousands)	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
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	$ 26,937	$ 13,131	$ 78,279	$ 51,061

Appendix H: APT Segment Adjusted EBITDA Reconciliation to Segment Operating Income (Loss)

(in thousands)	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
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	—	—	(1,942)	—
Impairment	—	—	—	26,103
APT Segment Adjusted EBITDA (loss)	$ 4,235	$ (1,589)	$ 6,680	$ (8,885)