Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

First Quarter 2021 Earnings Results Call

May 11, 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 cash flows from refined coal (“RC”); opportunities for optimizing APT operations by increased utilization of plant capacity and expected APT timing of the payoff of our outstanding loan; success on RC cash perseveration strategies; improving potential growth opportunities, including new markets and other APT strategic initiatives; our success in executing our 2021 priorities; expected schedule of repayment of senior term loan 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 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.

FIRST QUARTER 2021 BUSINESS SUMMARY

Refined Coal ("RC")

- Q1 distributions were \$23.3M compared to \$17.1M
- Q1 royalties were \$4.1M compared to \$3.0M
- Q1 segment operating income was \$22.3M compared to \$10.9M
- Q1 Segment Adjusted EBITDA[(1)] was \$27.2M compared to \$19.9M

Advanced Purification Technologies ("APT")

- Q1 revenue was \$17.0M compared to \$9.2M; Q1 gross profit was \$4.6M compared to a loss of \$2.3M
- Q1 segment operating income totaled \$15.0K compared to segment operating loss of \$7.4M
- Q1 segment EBITDA [(1)] of \$2.2M compared to a segment EBITDA loss of \$5.0M
- Embedded growth drivers

Consolidated Results & Capital Allocation

- Q1 net income of \$13.7M compared to a net loss of \$1.9M
- Q1 consolidated Adjusted EBITDA [(2)] of \$26.1M compared to \$10.8M
- Reduced term-loan balance by \$10.0M to \$6.0M, with anticipation to pay off during second quarter
- Cash, including restricted cash, of \$52.2M

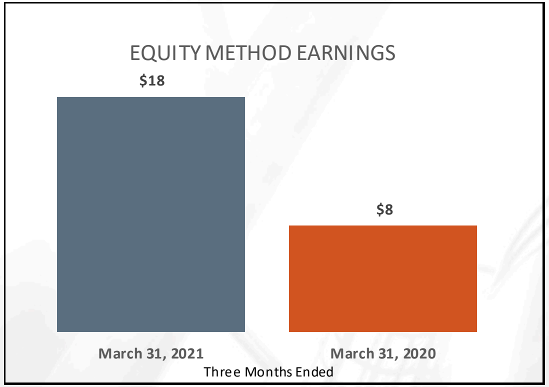
Outlook

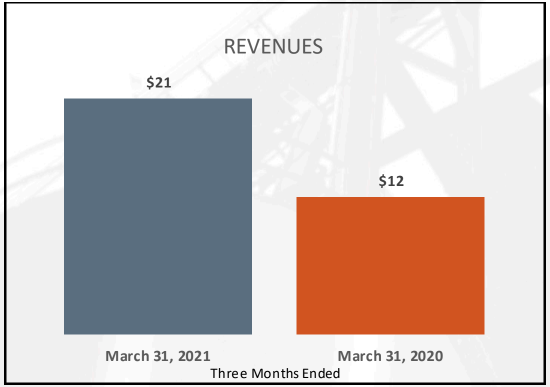
- Net, after-tax cash flows from RC segment projected to be between \$50M to \$60M
- Expect continued APT segment performance improvement in 2021 as plant capacity is utilized and low-cost nature of the assets is realized
- Initiated strategic alternatives review

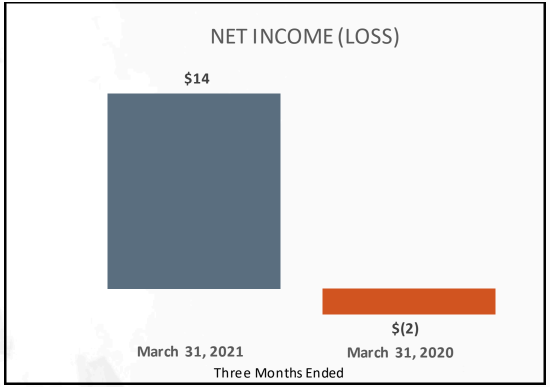
(1) Segment EBITDA and Segment Adjusted EBITDA are a non-GAAP measure. See Appendix for definitions and reconciliations.

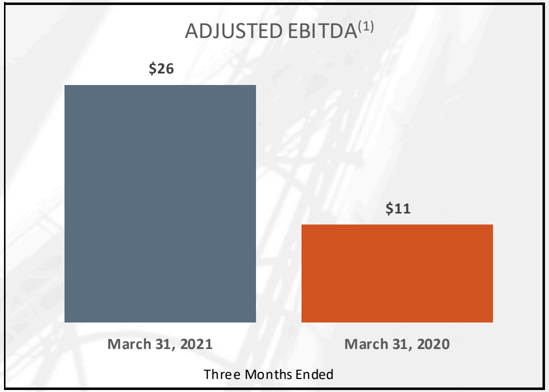
(2) Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations

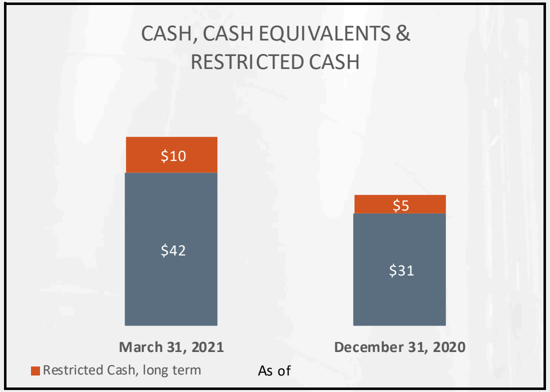
FINANCIAL HIGHLIGHTS

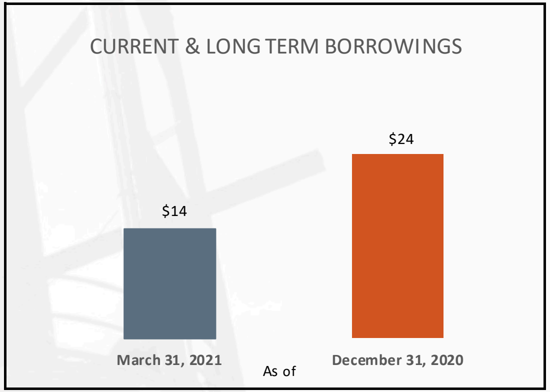












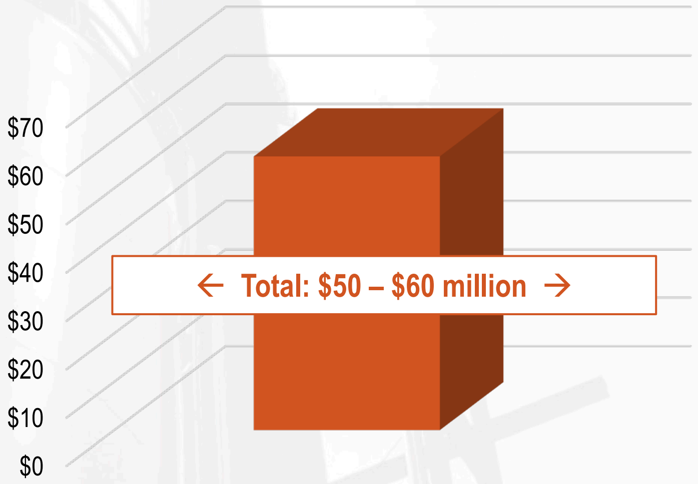
(1) Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

EXPECTED FUTURE REFINED COAL ("RC") CASH FLOWS

- Based on 23 invested facilities as of March 31, 2021 and includes all net RC cash flows of ADES (1)
- Expected future net RC cash flows of $50 million to $60 million to ADES in total (2)
- Absent an extension to the scheduled tax credit expiration on December 31, 2021, which is not expected, Tinuum does not anticipate to have any additional facility transactions

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; and 4) coal-fired generation remains consistent with contractual 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 remains structurally more challenged as aggregate coal burn declines.

Industrial Applications and Municipal Water

In response, we have developed a solid market position for certain Industrial applications – including markets that ADA Carbon Solutions did not previously serve. Additionally, our water volumes continue to exceed our forecasts.

Adjacent Markets

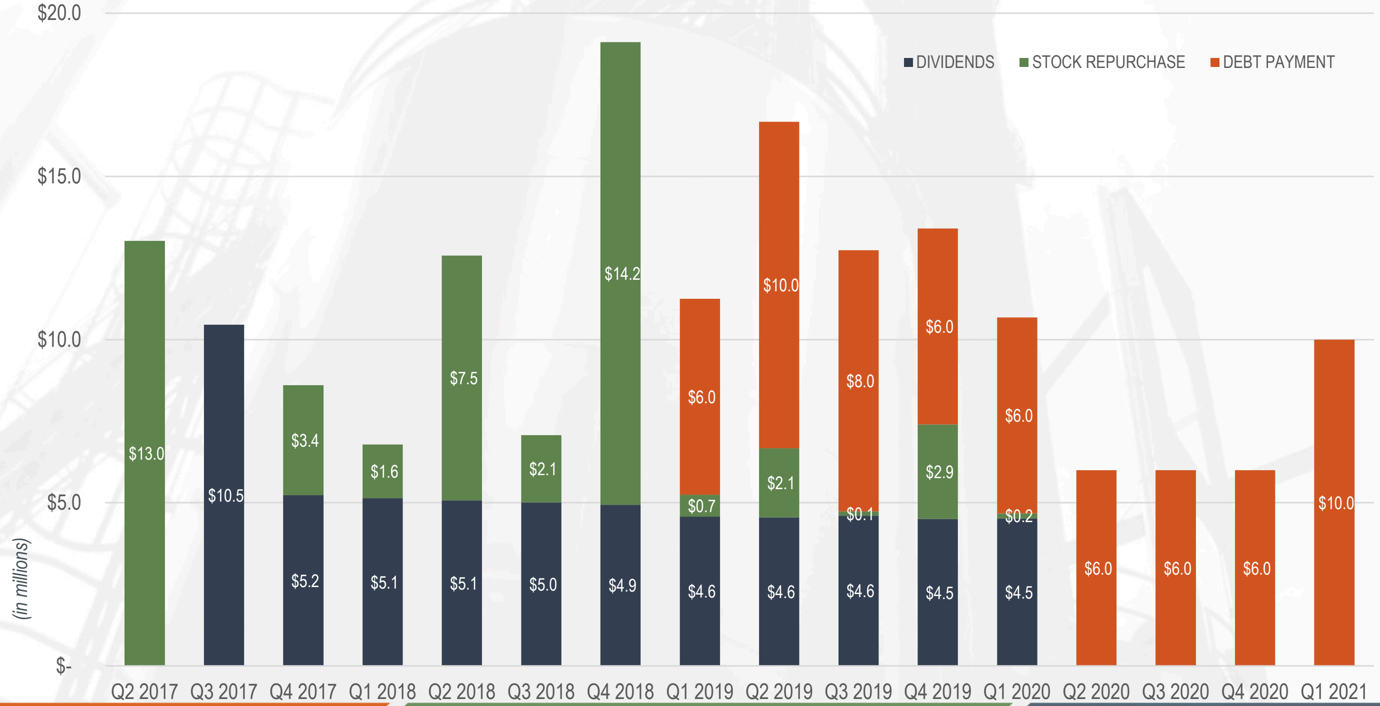
More specialized applications, offering higher margin and higher growth commercial market opportunities. The quality of Red River plant offers us the asset base to pursue these adjacent markets.

Provider of Choice

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

CAPITAL ALLOCATION

- Company has returned $106.4 million in dividends and share repurchases through the Capital Allocation program [(1)], since inception
- $6.0 million balance on the senior term loan, which is planned to be paid off in Q2 2021
- Near-term focus on debt repayment, liquidity, investment in APT segment and shareholder value maximization via strategic alternatives process



(1) The Company started its current Capital Allocation program in the second quarter of 2017.

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:

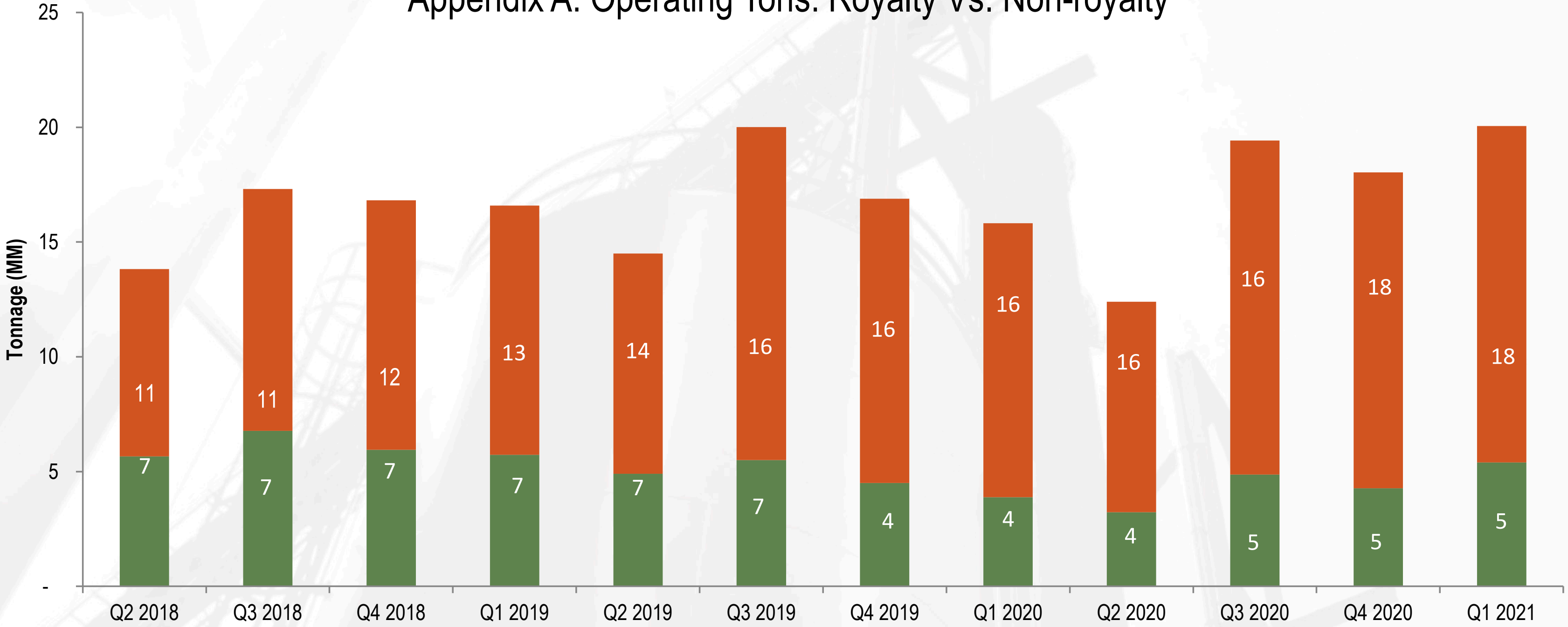
- Optimize Red River's capacity utilization to fully capture the low-cost benefit of the highly efficient plant
- Defend share in mercury control market while diversifying further into non-power generation markets to improve the earnings profile of the business
- Remain vigilant for additional rationalization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

OPTIMIZE CASH FLOWS & ASSETS TO DRIVE SHAREHOLDER VALUE:

- Continued de-leveraging of the senior term loan
- 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 March 31, 2021	Operating Tons		QTD - Total
	Royalty	Non-Royalty	
Tonnage (1)	14,663	5,398	20,061
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 months ended March 31, 2021 (in thousands) *(2) Counts are based upon the number of facilities of which a royalty has been earned during the period*

Appendix B: 10-Q Balance Sheet[1]

(in thousands, except share data)	March 31, 2021	December 31, 2020
	As of	
ASSETS		
Current assets:		
Cash, cash equivalents and restricted cash	$ 42,234	$ 30,932
Receivables, net	10,349	13,125
Receivables, related parties	4,064	3,453
Inventories, net	8,040	9,882
Prepaid expenses and other assets	3,420	4,597
Total current assets	68,107	61,989
Restricted cash, long-term	10,000	5,000
Property, plant and equipment, net of accumulated depreciation of $4,172 and $3,340, respectively	29,777	29,433
Intangible assets, net	1,804	1,964
Equity method investments	2,753	7,692
Deferred tax assets, net	7,553	10,604
Other long-term assets, net	31,576	29,989
Total Assets	$ 151,570	$ 146,671
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 7,908	$ 7,849
Accrued payroll and related liabilities	2,214	3,257
Current portion of long-term debt	9,913	18,441
Other current liabilities	14,888	12,996
Total current liabilities	34,923	42,543
Long-term debt, net of current portion	4,287	5,445
Other long-term liabilities	13,208	13,473
Total Liabilities	52,418	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, 23,481,648 and 23,141,284 shares issued, and 18,863,502 and 18,523,138 shares outstanding at March 31, 2021 and December 31, 2020, respectively	23	23
Treasury stock, at cost: 4,618,146 and 4,618,146 shares as of March 31, 2021 and December 31, 2020, respectively	(47,692)	(47,692)
Additional paid-in capital	100,630	100,425
Retained earnings	46,191	32,454
Total stockholders' equity	99,152	85,210
Total Liabilities and Stockholders' Equity	$ 151,570	$ 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 March 31, 2021.

Appendix C: 10-Q Income Statement(1)

(in thousands, except per share data)	Three Months Ended March 31, 2021	2020
Revenues:		
Consumables	$ 17,031	$ 9,217
License royalties, related party	4,066	3,046
Total revenues	21,097	12,263
Operating expenses:		
Consumables cost of revenue, exclusive of depreciation and amortization	12,474	11,491
Payroll and benefits	2,469	2,742
Legal and professional fees	1,803	2,043
General and administrative	1,915	2,331
Depreciation, amortization, depletion and accretion	2,106	2,297
Total operating expenses	20,767	20,904
Operating income (loss)	330	(8,641)
Other income (expense):		
Earnings from equity method investments	18,312	8,273
Interest expense	(837)	(1,210)
Other	421	43
Total other income	$ 17,896	$ 7,106
Income (loss) before income tax expense	18,226	(1,535)
Income tax expense	4,489	358
Net income (loss)	$ 13,737	$ (1,893)
Earnings (loss) per common share (Note 1):		
Basic	$ 0.76	$ (0.11)
Diluted	$ 0.75	$ (0.11)
Weighted-average number of common shares outstanding:		
Basic	18,166	17,932
Diluted	18,274	17,932

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 2021.

Appendix D: 10-Q Cash Flow[1]

(in thousands)	Three Months Ended March 31, 2021	2020
Cash flows from operating activities		
Net income (loss)	$ 13,737	$ (1,893)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Deferred income tax expense	3,051	788
Depreciation, amortization, depletion and accretion	2,106	2,297
Operating lease expense	379	774
Amortization of debt discount and debt issuance costs	591	354
Stock-based compensation expense	421	506
Earnings from equity method investments	(18,312)	(8,273)
Other non-cash items, net	(273)	—
Changes in operating assets and liabilities:		
Receivables and related party receivables	2,147	2,988
Prepaid expenses and other assets	1,178	226
Inventories, net	1,548	1,572
Other long-term assets, net	(1,817)	(89)
Accounts payable	(706)	(1,477)
Accrued payroll and related liabilities	(1,043)	(973)
Other current liabilities	1,305	(23)
Operating lease liabilities	2,104	(634)
Other long-term liabilities	(2,113)	(22)
Distributions from equity method investees, return on investment	17,644	17,116
Net cash provided by operating activities	21,947	13,237

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 2021.

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

(in thousands)	Three Months Ended March 31, 2021	2020
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	$ 5,607	$ —
Acquisition of property, plant, equipment, and intangible assets, net	(1,321)	(1,289)
Mine development costs	(248)	(447)
Proceeds from sale of property and equipment	848	—
Net cash provided by (used in) investing activities	4,886	(1,736)
Cash flows from financing activities		
Principal payments on term loan	(10,000)	(6,000)
Principal payments on finance lease obligations	(315)	(340)
Dividends paid	—	(4,518)
Repurchase of common shares	—	(159)
Repurchase of common shares to satisfy tax withholdings	(216)	(376)
Net cash used in financing activities	(10,531)	(11,393)
Increase in Cash and Cash Equivalents and Restricted Cash	16,302	108
Cash and Cash Equivalents and Restricted Cash, beginning of period	35,932	17,080
Cash and Cash Equivalents and Restricted Cash, end of period	$ 52,234	$ 17,188
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property, plant and equipment through accounts payable	$ 765	$ 1,890
Dividends payable	$ —	$ 105

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 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 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 and increased by cash distributions from equity method investments. 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 increased by cash distributions from equity method investments.

The Company defined APT Segment Adjusted EBITDA as APT Segment EBITDA as there are no additional adjustments made to the APT segment.

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 EBITDA as factors in evaluating the performance of its business.

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

Appendix F: Non-GAAP Financial Measures & Consolidated Adjusted EBITDA Reconciliation to Net Income (Loss)

(in thousands)	Three Months Ended March 31, 2021	2020
Net income (loss)	$ 13,737	$ (1,893)
Depreciation, amortization, depletion and accretion	2,106	2,297
Amortization of Upfront Customer Consideration	127	—
Interest expense, net	729	1,167
Income tax expense	4,489	358
Consolidated EBITDA	21,188	1,929
Cash distributions from equity method investees	23,251	17,116
Equity earnings	(18,312)	(8,273)
Consolidated Adjusted EBITDA	$ 26,127	$ 10,772

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

(in thousands)	Three Months Ended March 31, 2021	Three Months Ended March 31, 2020
RC Segment operating income	$ 22,266	$ 10,860
Depreciation, amortization, depletion and accretion	20	27
Interest expense	—	132
RC Segment EBITDA	22,286	11,019
Cash distributions from equity method investees	23,251	17,116
Equity earnings	(18,312)	(8,273)
RC Segment Adjusted EBITDA	$ 27,225	$ 19,862

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

(in thousands)	Three Months Ended March 31, 2021	Three Months Ended March 31, 2020
APT Segment operating income (loss)	$ 15	$ (7,370)
Depreciation, amortization, depletion and accretion	1,932	2,244
Amortization of Upfront Customer Consideration	127	—
Interest expense, net	79	94
APT Segment EBITDA (loss)	$ 2,153	$ (5,032)