Advanced Emissions Solutions, Inc.

Q3 2023 Earnings Call

November 9, 2023

Nasdaq: ADES

Disclaimer

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. When used in this presentation, the words “can,” “will,” “intends,” “expects,” “believes,” similar expressions and any other statements that are not historical facts are intended to identify those assertions as forward-looking statements. All statements that address activities, events or developments that Advanced Emissions Solutions, Inc. ("ADES" or the "Company") intend, expect or believe may occur in the future are forward-looking statements. These forward-looking statements include, but are not limited to, statements or expectations regarding: market demand for our granular activated carbon (“GAC”) products; our ability to enter into new agreements with customers for our GAC products; estimated costs associated with potential capital improvements at our facilities and potential production outputs thereafter; the anticipated effects from an increase in pricing of our AC products; the anticipated effects from an increase in costs of our AC products and related cost increases in supply and logistics; expected supply and demand for our AC products and services; increasing competition in the AC market; the effects of the Arq Acquisition; the ability to successfully integrate Arq's business; the ability to develop and utilize Arq’s products and technology; the ability to make Arq's products commercially viable; the expected future demand of Arq's products; future level of research and development activities; future plant capacity expansions and site development projects; the effectiveness of our technologies and the benefits they provide; probability of any loss occurring with respect to certain guarantees made by Tinuum Group; the timing of awards of, and work and related testing under, our contracts and agreements and their value; the timing and amounts of or changes in future revenues, 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; the amount and timing of future capital expenditures needed for our APT business and Arq to fund our business plan; awards of patents designed to protect our proprietary technologies both in the U.S. and other countries; the adoption and scope of regulations to control certain chemicals in drinking water and other environmental concerns; the impact of adverse global macroeconomic conditions, including rising interest rates, recession fears and inflationary pressures, and geopolitical events or conflicts; opportunities to effectively provide solutions to U.S. coal-related businesses to comply with regulations, improve efficiency, lower costs and maintain reliability; the impact of prices of competing power generation sources such as natural gas and renewable energy on demand for our products; and bank failures or other events affecting financial institutions. These forward-looking statements 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; 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 business; loss of key personnel; availability of materials and equipment for our business; intellectual property infringement claims from third parties; pending litigation; as well as other factors relating to our business strategy, goals and expectations concerning the Arq Acquisition (including future operations, future performance or results); our ability to maintain relationships with customers, suppliers and other with whom we do business, or our results of operations and business generally; risks related to diverting management's attention from our ongoing business operations; the ability to meet Nasdaq's listing standards following the consummation of the Arq Acquisition; costs related to the Arq Acquisition; opportunities for additional sales of our lignite AC products and end-market diversification; our ability to meet customer supply requirements; the rate of coal-fired power generation in the U.S., 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 and to consult filings ADES has made and will make with the SEC for additional discussion concerning risks and uncertainties that may apply to the business and the ownership of ADES securities. The forward-looking statements speak only as to the date of this presentation, and the Company does not undertake any obligation to update its forward-looking statements to reflect events or circumstances that may arise after the date of this presentation.

Non-GAAP Financial Measures

Included in this presentation are certain financial measures that are not calculated in accordance with U.S. generally accepted accounting principles ("GAAP") designed to supplement, and not substitute, the Company's financial information presented in accordance with GAAP. The non-GAAP measures as defined by the Company may not be comparable to similar non-GAAP measures presented by other companies. The presentation of such measures, which may include adjustments to exclude unusual or non-recurring items, should not be construed as an inference that the Company’s future results or leverage will be unaffected by other unusual or non-recurring items. Please see the Company's filings with the SEC for how we define these non-GAAP measures, a discussion of why we believe they are useful to investors, and certain limitations and reconciliations thereof to the most directly comparable GAAP measures.

ADA EXPERTISE | RELIABILITY | COMPLIANCE

CarbPure TECHNOLOGIES

FluxSorb™ TECHNOLOGIES

Arq

Third Quarter Highlights

Key Takeaways

- Positive EBITDA in Q3
- Consumables revenue growth of +5% compared to the prior year
- Pricing initiatives and favorable COGS trend drove significant gross margin expansion to 30.6%
- Continue to optimize PAC portfolio by eliminating unfavorable margin contracts
- Red River profitability improved on a per pound basis despite impact of unfavorable natural gas pricing

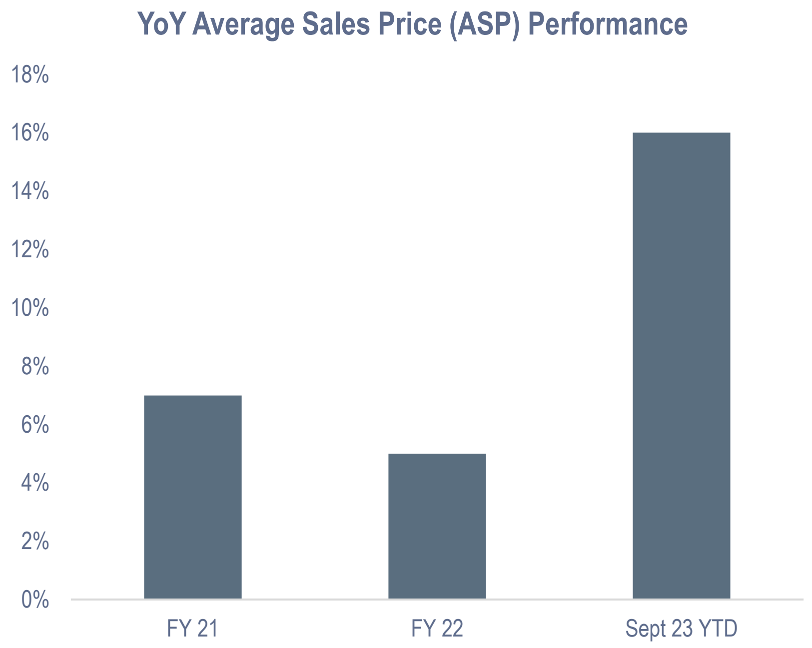
Strategic Projects Update

- Continuing to review all aspects of strategic plan with focus on optimizing and expediting project schedules
- Expansion plan includes option to expand scope for five independent phases at Company's sole discretion
- Site prep and initial grading started in September; permitting process at Red River completed subsequent to quarter end
- Construction at Red River began in October
- Anticipated spend at Red River and Corbin is $35M to $40M in 2023

Business Plan Initiatives

- Ongoing focus on customer profitability
- Continued focus on PAC market expansion to non-traditional markets
- GAC pre-qualification discussions with customers extremely encouraging re: receptivity and demand; ultimate goal is executed GAC contracts
- Evaluating benefits and implications of accelerating expansion timeline
- Exploring additional revenue opportunities for Arq wet-cake

Customer Sales Price and Margin Improvements



Core focus on profitability over volume

- Average Selling Price ("ASP") consistently improving each year
- In 2022, ~24% of total volume sold was at negative margin
- 2023 has seen material reduction of unprofitable contracts
- By year end of 2023, we expect only two customers with negative gross margin, constituting just ~3% of forecasted 2024 total volumes

Strategic Projects Construction Update: Red River & Corbin

	Red River	Corbin
Completed Work	• Air permit approved • Engineering 70% completed • Procurement 85% completed • Construction bids received • Site grading completed • Construction commenced	• Water clarification construction 70% completed • Process controls procurement and engineering completed • Bulk bag engineering 70% completed
Q4 Next Steps	• Finalize commissioning and staffing plan • Construction mobilization • Commence civil construction & piping fabrication	• Conclude welding of water clarification project and final installation • Commence piping and control system installation • Commence site grading and raise stacker
Project Investment To-Date	**$9.5 million(1)**	
Total Project Expected CapEx	**$45-50 million**	
Project Expected Completion Date	**Q4 2024**	**Q1 2024**

(1) The Project investment to date is included in the year-to-date capital expenditures of $17.0 million

Strategic Projects – Existing Expansion and Beyond

- Five individual phases of development, each independent of the other and can be executed at the Company's sole discretion
    - No commitment other than Phase 1 which has commenced
    - Each phase will be individually evaluated based on current and potential demand
- Cumulative phased developments could produce > 75 million lbs of granular products annually*
- Phase 1 capex currently estimated to be $45-50 million with an estimated completion date of Q4 2024; cumulative Phase 1-5 capex currently estimated to be ~$250 million

	Project	Current Estimated Spend ($mm)	Cumulative GAC Production (million lbs) *
Phase 1	GAC expansion	$45 – 50	25
Phase 2	2nd GAC expansion	$40 – 43	50
Phase 3	Remediation Expansion	$10 – 11	N/A
Phase 4	Further Plant/GAC expansion	$120 – 130	75
Phase 5	Efficiency Projects	$10 - 16	N/A

(*) Company estimates

Granular Activated Carbon – Market Update

Strong macro tailwinds in our favor

EPA expected to release its National Primary Drinking Water Regulation by end 2023 with a material focus on PFAS or "Forever Chemicals"

Legislation is anticipated to:

- **Establish new materially higher standards** for drinking water across USA
- **Create increased demand** for effective remediation products (e.g., Granular Activated Carbon)
- **Exacerbate shortages of supply** (constrained feedstock)

Trend for stricter regulations and constrained supply anticipated to be replicated globally

Granular Activated Carbon – Our Opportunity

ADES' unique products, process and supply chain are key differentiators

ADES is uniquely positioned to benefit from this trend and will be the only GAC producer:

- **with vertically integrated domestic supply chain**
- **using purified waste as feedstock with significant environmental benefits**
- **estimated lower Scope 1&2 CO_2e emissions (vs virgin coal-based GAC)**

This differential has led to very encouraging market engagement with strong interest from multiple sectors:

- Municipal Water Markets (PFAS)
- Soil & Groundwater remediation (PFAS)
- Biogas purification
- Military & Industrial Gases
- Equipment & Service Companies

Granular Activated Carbon – Sales Funnel

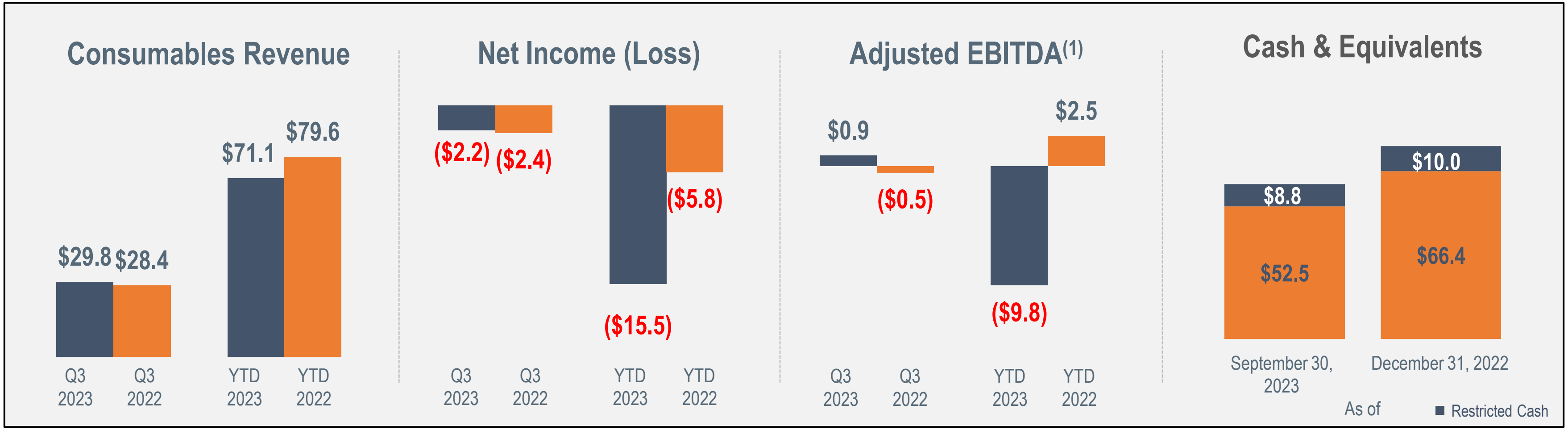
Initially targeting 100 potential customers for market engagement/ pre-qualification

Engaged with ~50% and identified more than 88 million lbs. of annual demand

Sales outreach process ongoing for remaining initial potential customers

	Process	Targeted Timeline
Lead Generation	✓ Target identification ✓ Ascertain potential volume ✓ Confirm openness to new supplier	**Ongoing**
Current Pipeline	✓ Confirm customer specification requirements ✓ Confirm volume and economics ✓ Finalize pre-qualification	**Ongoing**
Binding Agreements	✓ Finalize primary commercial terms ✓ Confirm closing conditions and sign contracts	**Q1 – Q4 2024**

Financial Highlights



- Q3 revenue increased 5% YoY driven by ongoing pricing initiatives, partially offset by lower volumes impacted by natural gas pricing
- Q3 net loss was $2.2 million compared to $2.4 million in the prior year – driven by a smaller operating loss
- Q3 Adjusted EBITDA improved to $0.9 million
- Cash, including restricted cash, totaled $61.3 million as of quarter-end
- Total debt, inclusive of financing leases, totaled $21.2 million
- Q3 and YTD Net Loss and Adjusted EBITDA include $1.3 million of severance expense related to two executive employees

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

2023 Outlook & Milestones

Optimize PAC portfolio and eliminate unfavorable margin contracts

On going

Execute strategic projects to enable granular activated carbon production

In process

Secure lead granular activated carbon customers and build out sales channels

On going

Ensure successful integration of Arq team, systems and assets

Completed

Appendix

Appendix A: 10-Q Balance Sheet[1]

(in thousands, except share data)	As of September 30, 2023	As of December 31, 2022
ASSETS		
Current assets:		
Cash	$ 52,529	$ 66,432
Receivables, net	14,225	13,864
Inventories, net	18,549	17,828
Prepaid expenses and other current assets	6,171	7,538
Total current assets	91,474	105,662
Restricted cash, long-term	8,792	10,000
Property, plant and equipment, net of accumulated depreciation of $17,110 and $11,897, respectively	85,709	34,855
Other long-term assets, net	44,629	30,647
Total Assets	$ 230,604	$ 181,164
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 13,972	$ 16,108
Current portion of debt obligations	1,991	1,131
Other current liabilities	6,061	6,645
Total current liabilities	22,024	23,884
Long-term debt obligations, net of current portion	19,179	3,450
Other long-term liabilities	15,107	13,851
Total Liabilities	56,310	41,185
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock: par value of $0.001 per share, 50,000,000 shares authorized including Series A Convertible Preferred Stock: par value $0.001 per share, 8,900,000 shares authorized, none issued and outstanding	—	—
Common stock: par value of $0.001 per share, 100,000,000 shares authorized, 37,799,053 and 23,788,319 shares issued, and 33,180,907 and 19,170,173 shares outstanding at September 30, 2023 and December 31, 2022, respectively	38	24
Treasury stock, at cost: 4,618,146 and 4,618,146 shares as of September 30, 2023 and December 31, 2022, respectively	(47,692)	(47,692)
Additional paid-in capital	153,695	103,698
Retained earnings	68,253	83,949
Total Stockholders' Equity	174,294	139,979
Total Liabilities and Stockholders' Equity	$ 230,604	$ 181,164

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, 2023.

Appendix B: 10-Q Income Statement[1]

(in thousands, except per share data)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Revenues:				
Consumables	$ 29,829	$ 28,437	$ 71,079	$ 79,578
Total revenues	29,829	28,437	71,079	79,578
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	20,707	21,575	53,218	62,992
Payroll and benefits	4,228	2,313	12,482	7,458
Legal and professional fees	1,654	3,668	8,060	7,395
General and administrative	3,054	1,833	9,177	5,662
Depreciation, amortization, depletion and accretion	2,711	1,671	7,276	4,765
Gain on sale of Marshall Mine, LLC	—	—	(2,695)	—
Total operating expenses	32,354	31,060	87,518	88,272
Operating loss	(2,525)	(2,623)	(16,439)	(8,694)
Other income (expense):				
Earnings from equity method investments	412	—	1,512	3,222
Interest expense	(787)	(83)	(2,155)	(259)
Other	725	315	1,510	(19)
Total other income	350	232	867	2,944
Loss before income taxes	(2,175)	(2,391)	(15,572)	(5,750)
Income tax benefit	—	—	33	—
Net loss	$ (2,175)	$ (2,391)	$ (15,539)	$ (5,750)
Loss per common share (Note 1):				
Basic	$ (0.07)	$ (0.13)	$ (0.56)	$ (0.31)
Diluted	$ (0.07)	$ (0.13)	$ (0.56)	$ (0.31)
Weighted-average number of common shares outstanding:				
Basic	31,807	18,487	27,894	18,435
Diluted	31,807	18,487	27,894	18,435

(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, 2023.

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

(in thousands)	Nine Months Ended September 30, 2023	2022
Cash flows from operating activities		
Net loss	$ (15,539)	$ (5,750)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation, amortization, depletion and accretion	7,276	4,765
Gain on sale of Marshall Mine, LLC	(2,695)	—
Operating lease expense	2,061	1,953
Stock-based compensation expense	1,810	1,455
Earnings from equity method investments	(1,512)	(3,222)
Amortization of debt discount and debt issuance costs	395	—
Other non-cash items, net	—	438
Changes in operating assets and liabilities:		
Receivables and related party receivables	(359)	1,199
Prepaid expenses and other assets	3,595	(991)
Inventories, net	(811)	(7,222)
Other long-term assets, net	(3,646)	2,136
Accounts payable and accrued expenses	(12,033)	1,827
Other current liabilities	148	(184)
Operating lease liabilities	(140)	1,445
Other long-term liabilities	305	206
Distributions from equity method investees, return on investment	—	2,297
Net cash (used in) provided by operating activities	$ (21,145)	$ 352

(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, 2023.

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

(in thousands)	Nine Months Ended September 30, 2023	2022
Cash flows from investing activities		
Acquisition of property, plant, equipment, and intangible assets, net	$ (17,008)	$ (6,178)
Cash and restricted cash acquired in business acquisition	2,225	—
Payment for disposal of Marshall Mine, LLC	(2,177)	—
Acquisition of mine development costs	(1,856)	(345)
Distributions from equity method investees in excess of cumulative earnings	1,512	3,316
Proceeds from sale of property and equipment	—	1,241
Net cash used in investing activities	(17,304)	(1,966)
Cash flows from financing activities		
Net proceeds from common stock issued in PIPE	15,220	—
Net proceeds from Term Loan, related party, net of discount and issuance costs	8,522	—
Net proceeds from common stock issuance, related party	1,000	—
Principal payments on finance lease obligations	(855)	(913)
Principal payments on Arq Loan	(341)	—
Repurchase of common stock to satisfy tax withholdings	(208)	(385)
Dividends paid on common stock	—	(45)
Net cash provided by (used) in financing activities	23,338	(1,343)
Decrease in Cash and Restricted Cash	(15,111)	(2,957)
Cash and Restricted Cash, beginning of period	76,432	88,780
Cash and Restricted Cash, end of period	$ 61,321	$ 85,823
Supplemental disclosure of non-cash investing and financing activities:		
Equity issued as consideration for acquisition of business	$ 31,206	$ —
Change in accrued purchases for property and equipment	$ 255	$ 339
Paid-in-kind dividend on Series A Preferred Stock	$ 157	$ —
Acquisition of property and equipment under finance lease	$ —	$ 1,641

(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, 2023.

Appendix D: Non-GAAP Financial Measure & Adjusted EBITDA Reconciliation to Net (Loss) 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. The non-GAAP measures include Consolidated 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.

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 as a factor in evaluating the performance of its business. The adjustments to Consolidated Adjusted EBITDA in future periods are generally expected to be similar. Consolidated Adjusted EBITDA has limitations as an analytical tool, and you should not consider these measures in isolation or as a substitute for analyzing the Company's results as reported under GAAP.

Appendix E: Adjusted EBITDA Reconciliation to Net (Loss) Income

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2023	2022	2023	2022
Net loss[1]	$ (2,175)	$ (2,391)	$ (15,539)	$ (5,750)
Depreciation, amortization, depletion and accretion	2,711	1,671	7,276	4,765
Amortization of Upfront Customer Consideration	127	127	381	381
Interest expense, net	224	44	822	163
Income tax benefit	—	—	(33)	—
EBITDA (EBITDA loss)	887	(549)	(7,093)	(441)
Cash distributions from equity method investees	412	—	1,512	5,613
Equity earnings	(412)	—	(1,512)	(3,222)
Gain on sale of Marshall Mine, LLC	—	—	(2,695)	—
Loss on early settlement of long-term receivable	—	—	—	535
Loss on change in estimate, asset retirement obligation	—	—	—	34
Adjusted EBITDA (Adjusted EBITDA loss)	$ 887	$ (549)	$ (9,788)	$ 2,519

(1) Included in Net loss for the three and nine months ended September 30, 2023 is zero and $4.9 million, respectively, of transaction and integration costs incurred related to the Arq Acquisition. Included in Net Loss for the three and nine months ended September 30, 2022 is $2.4 million and $3.7 million, respectively, of transaction and integration costs incurred related to the Arq Acquisition. Additionally, for the nine months ended September 30, 2023, Net loss included $4.2 million of Arq payroll and benefit costs. Further included in Net Loss for the three and nine months ended September 30, 2023 is $1.3 million of severance expense related to two executive employees.