



LEADING A REVOLUTION

In Lead and Lithium Battery Recycling

NASDAQ: AQMS

November 2022



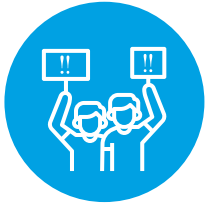
Disclaimer



This presentation contains forward-looking statements concerning Aqua Metals, Inc. Forward-looking statements include, but are not limited to, our plans, objectives, expectations and intentions and other statements that contain words such as "expects," "contemplates," "anticipates," "plans," "intends," "believes", "estimates", "potential" and variations of such words or similar expressions that convey the uncertainty of future events or outcomes, or that do not relate to historical matters. The forward-looking statements in this press release include our expectations for our Aqua Metals Innovation Center, our ability to develop our AquaRefining technologies for the recycling of lithium-ion batteries and the expected benefits of our Innovation Center, the recycling of lithium-ion batteries and our deployment of AquaRefining technology and equipment to our Taiwan partner's facility. Those forward-looking statements involve known and unknown risks, uncertainties, and other factors that could cause actual results to differ materially. Among those factors are: (1) the risk that we may not derive the expected benefits from our Aqua Metals Innovation Center; (2) the risk we may not be able to recycle lithium-ion batteries using our AquaRefining process or, if we do, derive the expected benefits from such recycling; (3) the risk that we may experience COVID-19 related delays in deploying equipment and technology to our Taiwan partner; (4) the risk that licensees may refuse or be slow to adopt our AquaRefining process as an alternative to smelting in spite of the perceived benefits of AquaRefining; (5) the risk that we may not realize the expected economic benefits from any licenses we may enter into; (6) the risk that we may not be able to access additional capital, through the sale of our TRIC facilities and equipment or otherwise, as and when needed and (7) those other risks disclosed in the section "Risk Factors" included in our Annual Report on Form 10-K filed on February 24, 2022. Aqua Metals cautions readers not to place undue reliance on any forward-looking statements. The Company does not undertake and specifically disclaims any obligation to update or revise such statements to reflect new circumstances or unanticipated events as they occur, except as required by law.

Investor Highlights

Patented recycling solution that has the potential to deliver the best economics and the lowest environmental impact



Surging demand

EVs, mobile devices, solar storage, everything uses batteries and demand is only growing.



Component deficit

The minerals for making modern batteries are rare, expensive, and frequently mined in unfriendly regions. The US does not have a domestic supply chain and China is increasingly creating a monopoly.



Environmental disaster

Legacy recycling methods are dirty, hazardous, and inefficient. Current Lithium Ion (Li-Ion) recycling methods don't recover Lithium, which costs \$17,000/MT

Innovative solution, proven in testing, moving toward pilot programs and ultimately commercial scale

Massive and growing global addressable market

Greenfield opportunity for partnerships and strategic alliances

Strong IP protection:
73 global patents; 43 patents pending

Sufficient cash to reach revenue

Only recycling method that promises carbon neutral and zero emission

AquaRefining recovers pure minerals, including Lithium and Manganese, which are not recovered by competing methods

The World Is Powered By Batteries

Lead-Acid Batteries (LAB)



- Most of LABs are used in EVs/cars, forklifts, cranes, data centers and e-bikes
- LAB market is about \$65B globally
- 95% of LABs are recycled, but at massive environmental cost through smelting, one of the top polluting industries in the world
- LAB market expected to rise at 5.2% CAGR from 2021-2031 ¹



Lithium-ion Batteries (LiB)



- Solar storage, mobile electronics, and EVs driving use-cases
- LiBs are powering new energy era with storage grids for sustainable energy and EVs
- 145M EVs predicted to be on the roads globally by 2030
- Typical 10-year LiB life span, with estimated 15M tons estimated to be retired by 2030
- Legacy recycling processes generate polluting emissions and chemical waste streams
- Legacy process do NOT recover most expensive components
- Demand for LiB expected to grow from \$44B to \$94B by 2025 ²
- Global battery demand for lithium and nickel will be 12-13x of the current size, 2x of the current size for cobalt by 2040E. ³








1 Future Market Insights; 2 CNBC, March 2022; 3 - Goldman Sachs

Expensive, Scarce Components in Li-ion Batteries



As demand for EV batteries grows, countries are racing to build domestic supply chains
99% of raw and component materials for LiBs are produced outside the U.S.

Mineral	Pricing and demand growth ¹	Supply shortfall risks	Geopolitical challenges
COBALT 	<ul style="list-style-type: none"> • Currently \$51,500/MT • 9.26% CAGR 2021-2025 	<ul style="list-style-type: none"> • Cobalt market to move into deficit by 2024 	<ul style="list-style-type: none"> • US sees cobalt a strategic and critical to U.S. security • More than 2/3s mined cobalt comes from politically sensitive DRC
NICKEL 	<ul style="list-style-type: none"> • Currently at \$22,000/MT • Nickel usage in EV battery sector predicted to increase 62% in 2022; 26% in 2023 • 7.3% CAGR 2021-2028 	<ul style="list-style-type: none"> • Forecasted 196,000 tonne deficit of Class 1 material (Goldman Sachs) in 2022 	<ul style="list-style-type: none"> • Indonesia a major supplier; converts low-grade ore with high-carbon footprint to LiB quality • Russia accounts for ~17% of production capacity
MANGANESE 	<ul style="list-style-type: none"> • ~\$3,000/MT • High purity manganese needed for EVs. • Predicted 43% CAGR in next 5 years 	<ul style="list-style-type: none"> • Manganese is a critical link in the LiB supply chain that is driving EV adoption • Many battery producers shifting to NMC vs. NCA batteries 	<ul style="list-style-type: none"> • US is 100% dependent on manganese imports • China #1 miner and dominates manganese ore and concentrate imports, with 75% of imports
COPPER 	<ul style="list-style-type: none"> • \$7,500/MT • Estimated 53% CAGR to 2040, driven by the electrification of transport and infrastructure. (BNEF) 	<ul style="list-style-type: none"> • By 2027, nearly 600,000 MT of additional copper needed to match EV demand (IDTechEx) • Forecasted deficit of 9M mt by 2030 (BMO Capital markets), and 14M mt by 2040 (BNEF) 	<ul style="list-style-type: none"> • Supply chain issues at key copper Latin American countries, dearth of new mines
LITHIUM 	<ul style="list-style-type: none"> • \$80,000/MT • 20.6% CAGR 2020-2025 • Lithium use up 4x since 2010 (BNEF) 	<ul style="list-style-type: none"> • Global LI market predicted to move into deficit in 2025 	<ul style="list-style-type: none"> • China dominates lithium refining. 96% of Australia's exports go to China; largest importer of Chile's lithium carbonate

¹ Pricing based on London Metals Exchange, www.lme.com, and company estimates.

The Next Generation Recycling Process



Replaces furnaces and heavy chemical use with 100% renewable electricity, creating fundamentally non-polluting, cost-efficient solution that generates minimal waste



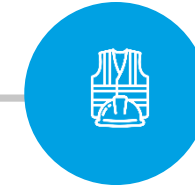
Recovers the high-value metals lost in smelting, and produces high purity products



Proven for LABs and expanding to LiBs



Safer work environment

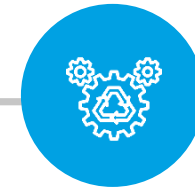


Strong IP protection:
73 global patents
43 patents pending



The only recycling process that:

Can provide an end-to-end closed loop process entirely in the U.S., providing geostrategic benefits and lower carbon footprint



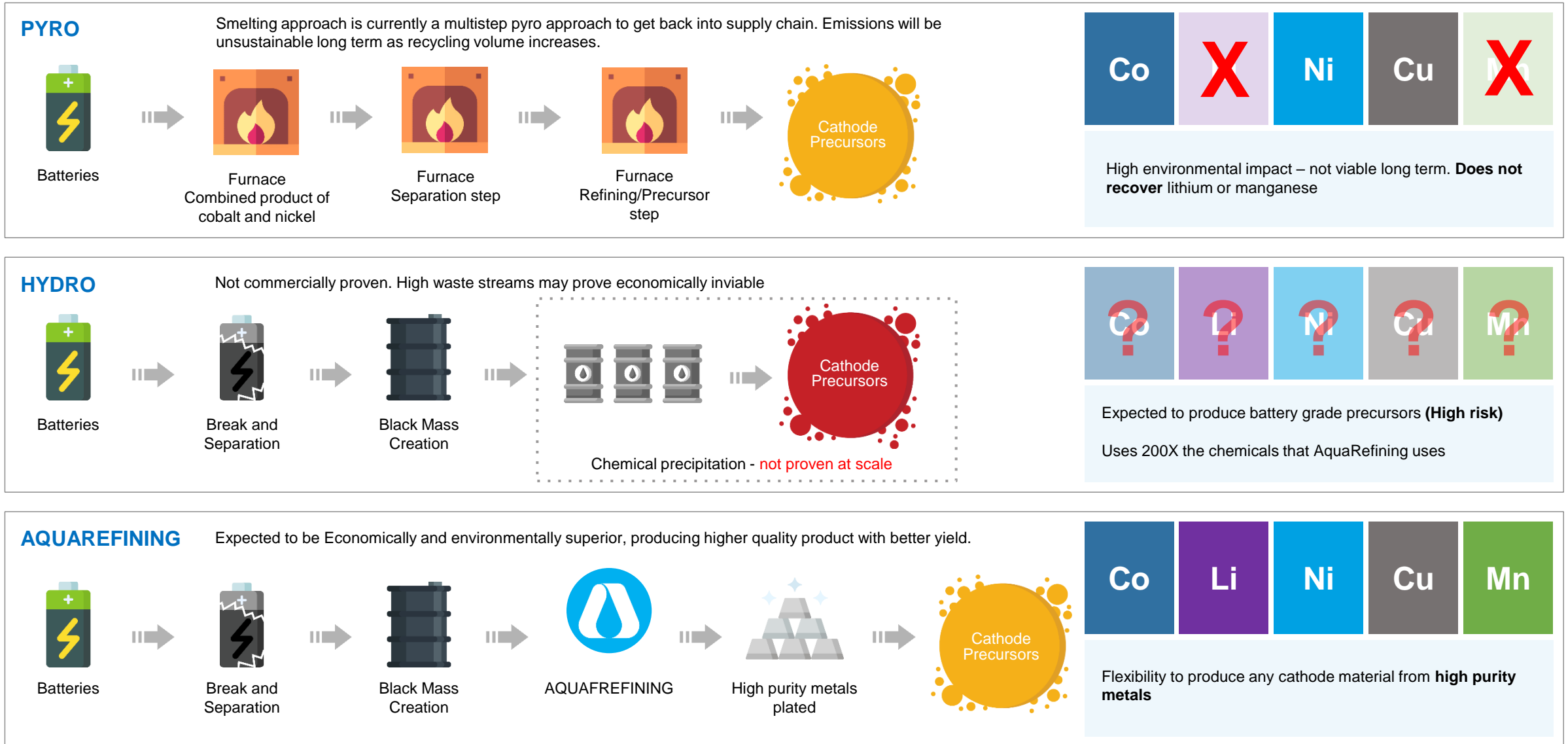
Is becoming net-zero and can help partners achieve their net-zero goals

Dangerous and Polluting Recycling

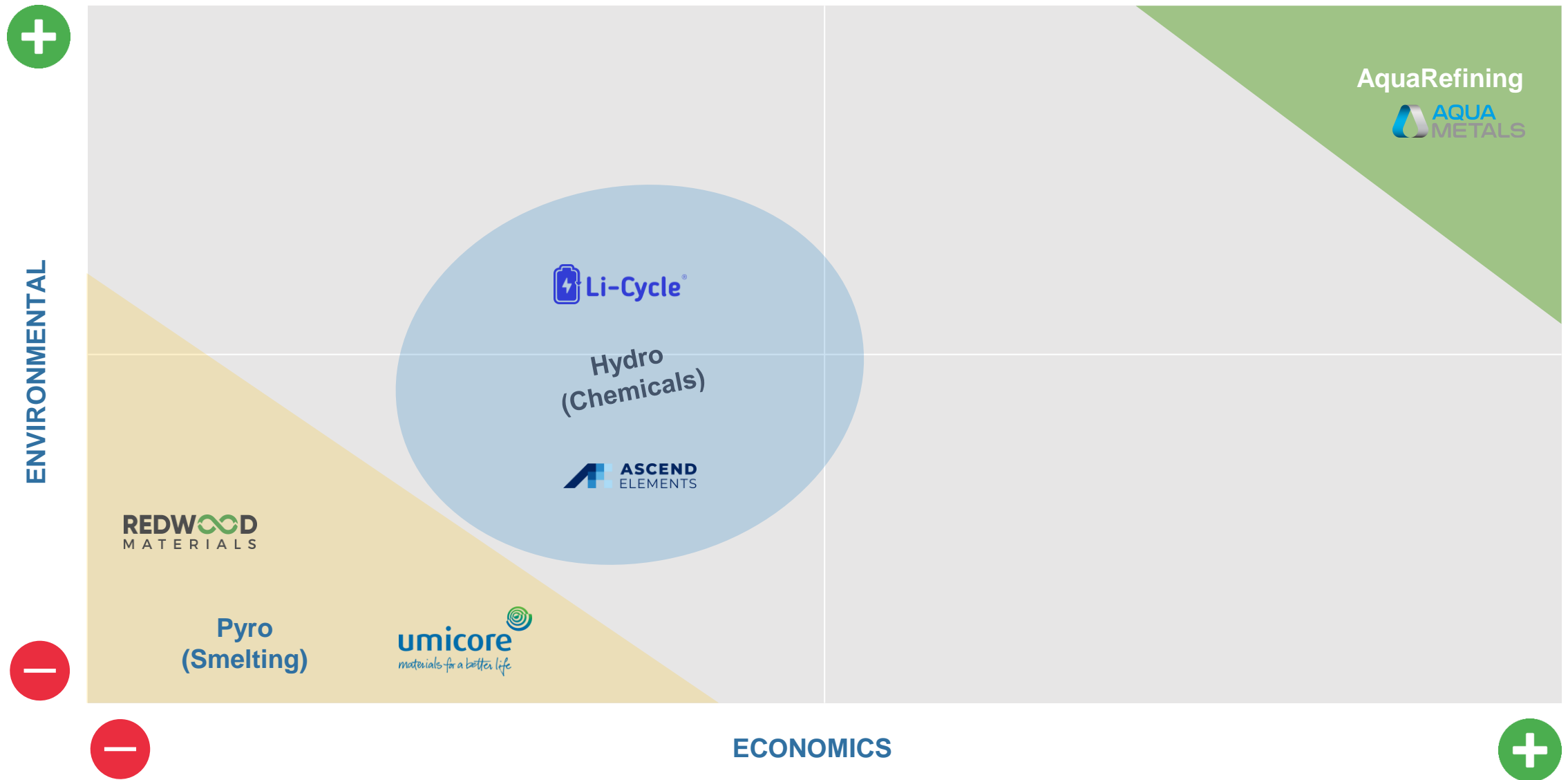
Improved recycling will be REQUIRED to meet rapidly growing demand

	PYRO	HYDRO	LI AQUAREFINING
Kg CO₂ per Metric Ton	4,214	2,960	65
	Kg CO ₂ /MT black mass processed*	Kg CO ₂ /MT black mass processed*	Kg CO₂/MT black mass processed
Techcrunch forecast: 15MT spent LiB batteries produced by 2030	31,605,000	22,200,000	487,500
	MT CO ₂	MT CO ₂	MT CO₂
Est. Sodium Sulfate Waste Stream for 15M MT spent LiB Batteries Produced by 2030	4,500,000	12,150,000	<375,000
	MT in landfill	MT in landfill	MT in landfill





Competitive Landscape Lithium Recycling



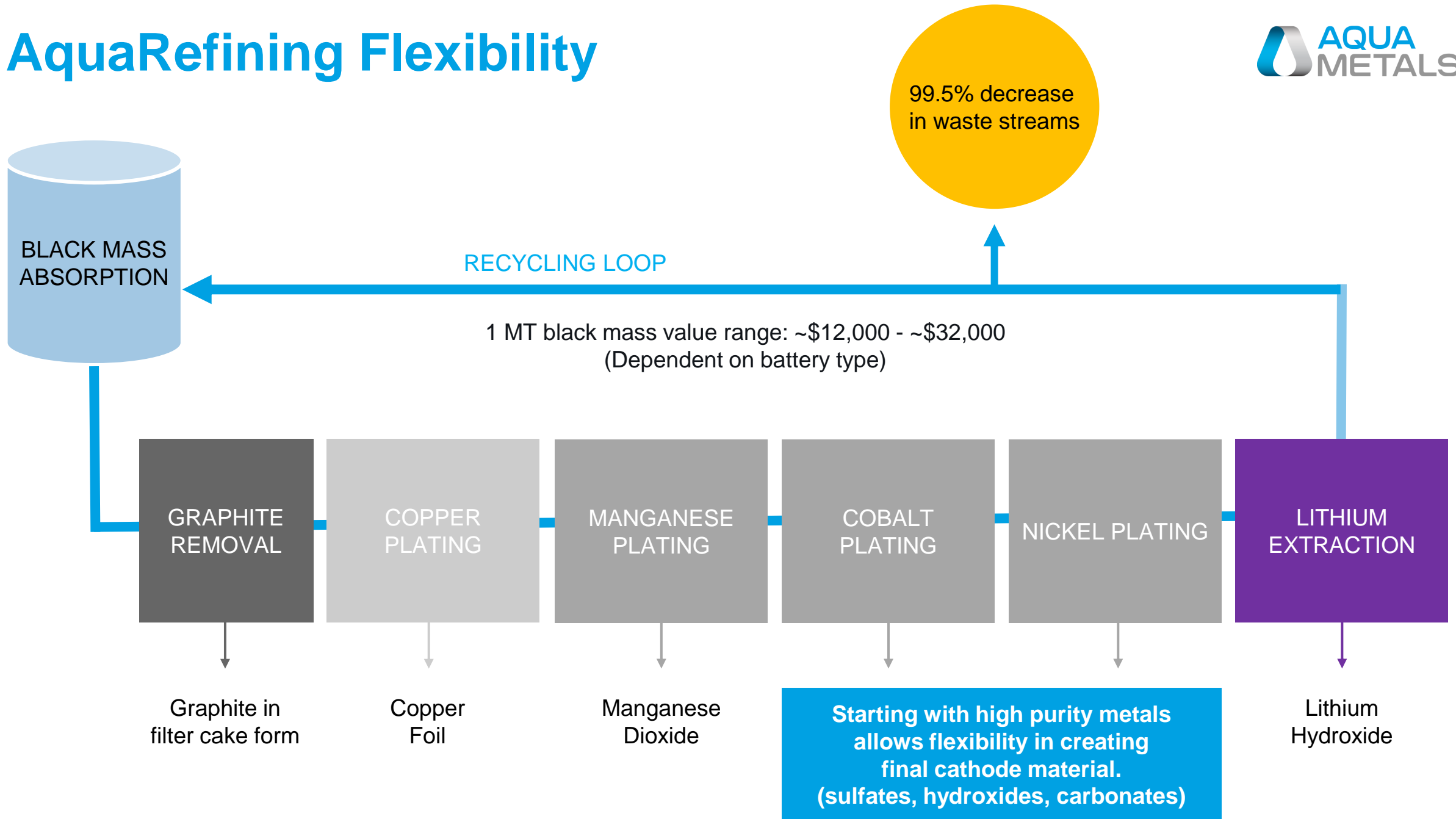
Competitor Landscape



Unproven processes, higher cost structure, worse environmental footprint

COMPANY	Redwood Materials	Li-Cycle	Hydrovolt/ Northvolt	Volkswagen Group Components	Renault/Veolia/ Solvay	ABTC
TECHNOLOGY	Fully verticalized ambition - feedstock to CAM	Shredding & hydrometallurgy	Shredding & hydrometallurgy	Shredding & hydrometallurgy	Shredding & hydrometallurgy	De-manufacturing & hydrometallurgy
DETAILS	<ul style="list-style-type: none"> Phase 1 smelting Phase 2 hydromet for copper Loose strategic LOI's with Ford, VWGoA, and Toyota 	<ul style="list-style-type: none"> SPAC in 2021 Spoke and Hub model: 7 spokes, 1 Hub Hub is hydromet with expected start-up in 2023 (2 years behind schedule) Plan to go direct to sulfates (pre-cam) 	<ul style="list-style-type: none"> Powered by renewable electricity Currently just making 6,000 MT black mass annually Hydromet facility running in 2023 	<ul style="list-style-type: none"> Pilot plant up and running (small - 750 MT black mass a year throughput) Not making pre cam yet 	<ul style="list-style-type: none"> Renault to supply feedstock Veolia supplies logistics, dismantling, and recycling (black mass) Solvay provides hydromet process 	<ul style="list-style-type: none"> Strategic de-manufacturing Pre commercial – plant start up in 2023 Unknown hydrometallurgical process
ISSUES	<ul style="list-style-type: none"> Smelting and Hydromet combo has enormous environmental impact in CO₂ and sodium sulfate waste stream. Process will likely not be profitable until full verticalization is complete – over a decade 	<ul style="list-style-type: none"> Large environmental footprint Very expensive due to chemicals and NaSO₄ waste stream (90K gallons chem railed in a day, 250K gallons stored on site) Plan to go to pre-cam at risk due to purity challenges & economics may not work due to waste disposal and chem costs Not proven at scale 	Hydromet:			<ul style="list-style-type: none"> No evidence of R&D progress as of yet, Hydromet process will likely have waste stream and CO₂ challenges of the others under development

AquaRefining Flexibility



AQUA METALS: The Only Company To Recover All These Critical Minerals From Black Mass



AquaRefining's superior advantages



- ✓ ~95% reduction in chemical waste streams compared to standard hydro processes
- ✓ ~96% reduction in carbon reduction compared to standard hydro processes
- ✓ ~99% carbon reduction over pyro
- ✓ Negligible greenhouse gas emissions that we cost effectively offset
- ✓ Produces high purity, high value metals that can be sold into the battery supply chain or metals industry
- ✓ Recovers a higher percentage of the metals from used lithium-ion batteries (cobalt, nickel, copper, lithium & manganese)



Recent Achievements

Recovered all the high-value metals from used LiBs - high purity LiOH, Cu, Ni, Co, and MnO₂

Deployment of first LiB recycling pilot operation, scheduled to begin operations late 2022

Pilot plant expected to recycle 6-10 tons of recycled LiB black mass per month, scaling to approx. 70 tons of recycled black mass per month in 2023

100% of operations are entirely powered by renewable energy - the only company capable of this by using renewable electrons as the reagent

Aqua Metals' Timeline



Pilot installation & commissioning
6-10 MT/Month
throughput

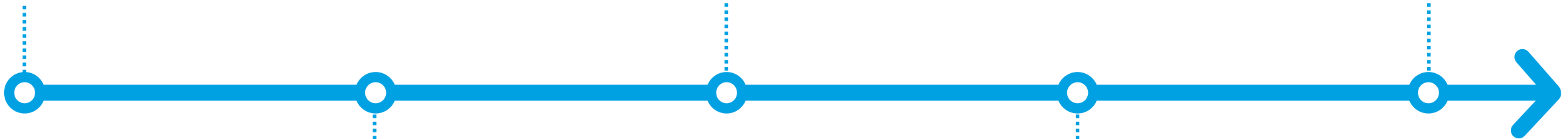
October 2022

Completion of
demonstration phase
840 MT/year
throughput

December 2023

10,000 MT/year
fully scaled
commercial
operation

July 2026



January 2023

Pilot phase
completion scaling to
840 MT/year
commences

July 2025

Commissioning
of 10,000
MT/year facility
begins

November Opening of Pilot Plant



Will be the first recycler to produce pure cobalt and nickel from LiB black mass

Will be the world's first to produce these metals from non-mined sources in North America

Black mass secured for operations through 2023

Carbon footprint will be <10% of hydro process



Aqua Metals Converting Black Mass into Revenue



TAM: \$165B based on 7.5M/MT of black mass x \$22,000 of extracted value

LiB Recycling – An Exponentially Growing Market Opportunity

- LIB recycling predicted to hit \$6.55B by 2028 with 18.5% CAGR vs. \$1.7B in 2020 (Fortune Business Insights)
- By 2030 an estimated 15M tons of LiBs will reach end of life and need to be recycled
- Battery recycling attracting major investments - Redwood, Li-Cycle, Ascend
- Upcoming DOE grant status, awards between \$10M (applied for) - \$100M (applying now through 2Q2023)

Strategic Partnerships

- Currently in discussions with 10+ EV manufacturers, cell component manufacturers, CAM manufacturers for additional partnerships
- LOI with Dragonfly Energy Corporation to qualify Aqua Metals' lithium hydroxide for use in Dragonfly batteries for its planned solid state LiB Gigafactory



ACME Partnership Phase 1 Deployment



- TAM \$350M annual licensing based on ~3.5M MT of lead paste x \$100/MT licensing
- 1st licensee in Taiwan operational
- Pursuing expansion & new licensees



Financials

\$15.5 Million in Working Capital



As of September 30, 2022

Cash and cash equivalents	\$9.3M
Lease receivable (current)	\$15.8M
Assets held for sale	\$1.1M
Quarterly burn rate	\$2.4-2.6M

Additional Sources of Capital

Non-refundable LINICO deposit	\$1.25M, paid 10/15/21
Second non-refundable LINICO deposit	\$2.0M, paid 10/25/22
LINICO option to purchase facility	\$12.0M, payoff Alpen for net ~\$6.0M

Management



Steve Cotton
Chief Executive Officer,
President

Rejoined Aqua Metals in, 2018;
Previously served as Chief
Commercial Officer

Co-founded Canara, Inc. (formerly
Data Power Monitoring and
IntelliBatt) in 2001; served as CEO
through its sale to a private equity
firm in 2012; Then served as
Founder and Executive Chairman
until 2014.

Led a team to commercialize
Sendmail; began his career at
Octel Communications through its
\$1.1B exit to Lucent in 1997



Judd Merrill
Chief Financial Officer

Joined Aqua Metals in 2018 from
Klondex Mines Ltd., an
international mining company
where he was Director of
Finance/Accounting, responsible
for overseeing the SEC
compliance and the management
of the Company's \$200+ million
budget over five subsidiaries.

Spent five years as CFO of
Comstock Mining Inc., a publicly
traded gold company where he
was instrumental in establishing
financial modeling and analytics.

Controller at Fronteer Gold Inc. as
an assistant controller at Newmont
Mining Corp. Began his career at
Deloitte & Touche



Ben Taecker
Chief Engineering
and Operating
Officer

20+ years of experience in
manufacturing and operations
leadership

Spent six years in progressive
leadership roles at the Johnson
Controls Inc. Lead Acid Battery
Recycling Center

Experience in startups,
environmental regulation
compliance, process development
and operational excellence.



Dave McMurtry
Chief Business
Officer

Experienced Silicon Valley high-
tech executive; expertise in
renewable energy and international
markets development

Responsible for leading the team
in exploring and strategically
pursuing multiple paths to scalable
growth for LI AquaRefining.

Global experience includes
working in more than 80 countries
on five continents.

Previously CEO of the Global Stars
Foundation at the AI Dabbagh
Group. For the last 25 years, Dave
has held multiple executive
positions, including with Habitat for
Humanity International and
Kiva.org

The future is bright for Aqua Metals



Strong competitive advantages with environmentally friendly and cost effective recycling process that creates high quality metals



\$18 Billion addressable market in 2025 for both Pb and Li battery recycling for AquaRefining



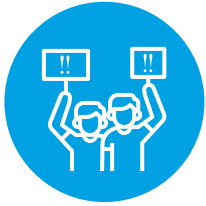
Expanding opportunities through partnerships and government grants, e.g. bipartisan Infrastructure Law with \$3.1 billion in funding for battery manufacturing and recycling



Ability to sell into all markets and work with any recyclers worldwide

Investor Highlights

Patented recycling solution that promises the best economics and the lowest environmental impact



Surging demand

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Component deficit

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NASDAQ: AQMS

WWW.AQUAMETALS.COM

Appendix

A photograph of four young green seedlings with two leaves each, growing out of a mound of dark brown soil. The seedlings are arranged in a line from left to right, increasing in height. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

FINANCIAL OVERVIEW



AQUA METALS, INC.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share amounts)

Consolidated Balance Sheets

	<u>September 30,</u> <u>2022</u>	<u>December 31,</u> <u>2021</u>
	<u>(unaudited)</u>	
<u>ASSETS</u>		
Current assets		
Cash and cash equivalents	\$ 9,293	\$ 8,137
Accounts receivable	94	269
Lease receivable, current portion	15,811	920
Inventory	28	123
Assets held for sale	1,100	2,633
Prepaid expenses and other current assets	375	356
Total current assets	<u>26,701</u>	<u>12,438</u>
Non-current assets		
Property and equipment, net	4,629	2,367
Intellectual property, net	505	640
Investment in LINICO	2,000	1,500
Lease receivable, non-current portion	—	15,528
Other assets	1,126	796
Total non-current assets	<u>8,260</u>	<u>20,831</u>
Total assets	<u>\$ 34,961</u>	<u>\$ 33,269</u>
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
Current liabilities		
Accounts payable	\$ 867	\$ 685
Accrued expenses	2,863	3,005
Lease liability, current portion	302	388
Building purchase deposit, current portion	1,250	—
Notes payable	5,886	—
Total current liabilities	11,168	4,078
Non-current liabilities		
Building purchase deposit, non-current portion	—	1,328
Lease liability, non-current portion	350	330
Total liabilities	<u>11,518</u>	<u>5,736</u>
Stockholders' equity		
Common stock; \$0.001 par value; 200,000,000 shares authorized; 78,065,455 and 70,416,552 shares issued and outstanding as of September 30, 2022 and December 31, 2021, respectively	78	70
Additional paid-in capital	218,672	211,309
Accumulated deficit	(195,307)	(183,846)
Total stockholders' equity	<u>23,443</u>	<u>27,533</u>
Total liabilities and stockholders' equity	<u>\$ 34,961</u>	<u>\$ 33,269</u>



AQUA METALS, INC.
Condensed Consolidated Statements of Operations
(in thousands, except share and per share amounts)
(Unaudited)

Consolidated Statement of Operations

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2022	2021	2022	2021
Product sales	\$ —	\$ —	\$ 4	\$ —
Operating cost and expense				
Cost of product sales	833	1,670	3,026	5,417
Research and development cost	490	273	1,561	738
General and administrative expense	2,611	2,681	7,615	7,109
Total operating expense	<u>3,934</u>	<u>4,624</u>	<u>12,202</u>	<u>13,264</u>
Loss from operations	<u>(3,934)</u>	<u>(4,624)</u>	<u>(12,198)</u>	<u>(13,264)</u>
Other income and (expense)				
Insurance proceeds net of related expenses	—	4,344	—	4,792
PPP loan forgiveness	—	—	—	332
Gain (loss) on disposal of property and equipment	5	(1,411)	595	(5,665)
Interest expense	(9)	(5)	(22)	(15)
Interest and other income	53	310	166	334
Total other income (expense), net	<u>49</u>	<u>3,238</u>	<u>739</u>	<u>(222)</u>
Loss before income tax expense	(3,885)	(1,386)	(11,459)	(13,486)
Income tax expense	—	—	(2)	(2)
Net loss	<u>\$ (3,885)</u>	<u>\$ (1,386)</u>	<u>\$ (11,461)</u>	<u>\$ (13,488)</u>
Weighted average shares outstanding, basic and diluted	<u>77,402,763</u>	<u>69,609,070</u>	<u>74,871,423</u>	<u>68,223,115</u>
Basic and diluted net loss per share	<u>\$ (0.05)</u>	<u>\$ (0.02)</u>	<u>\$ (0.15)</u>	<u>\$ (0.20)</u>



Consolidated Statement of Cash Flows

AQUA METALS, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (11,461)	\$ (13,488)
Reconciliation of net loss to net cash used in operating activities		
Depreciation	736	926
Amortization of intellectual property	135	135
Fair value of RSUs issued for consulting services	12	114
Stock-based compensation	1,737	1,698
Inventory NRV adjustment	—	146
Loss (gain) on disposal of property and equipment	(595)	5,665
Forgiveness of PPP Loan	—	(332)
Changes in operating assets and liabilities		
Accounts receivable	131	(218)
Inventory	95	612
Prepaid expenses and other current assets	(19)	392
Accounts payable	(35)	304
Accrued expenses	383	750
Other assets and liabilities	(427)	(457)
Net cash used in operating activities	<u>(9,308)</u>	<u>(3,753)</u>
Cash flows from investing activities:		
Purchases of property and equipment	(2,290)	(1,672)
Proceeds from sale of equipment	1,432	275
Equipment deposits and other assets	(322)	123
Investment in LINICO	(500)	(232)
Net cash used in investing activities	<u>(1,680)</u>	<u>(1,506)</u>
Cash flows from financing activities:		
Proceeds from notes payable	5,886	—
Proceeds from leasing of building	636	368
Proceeds from exercise of stock options	—	727
Proceeds from ATM, net	5,622	9,331
Net cash provided by financing activities	<u>12,144</u>	<u>10,426</u>
Net increase (decrease) in cash and cash equivalents	1,156	5,167
Cash and cash equivalents at beginning of period	8,137	6,533
Cash and cash equivalents at end of period	<u>\$ 9,293</u>	<u>\$ 11,700</u>