



## **E3 Metals achieves fast & efficient concentration of lithium from its petro-lithium brine**

### **Highlights**

- **E3 Metals successful in concentrating raw brine from 75mg/L to 1206mg/L Li in less than 3 hours**
- **Concentration process removes over 99% of critical metal impurities**

CALGARY, May 29, 2018 /CNW/ - E3 METALS CORP. (TSXV: ETMC, FSE: OU7A, OTC: EEMMF) (the "Company" or "E3 Metals") is pleased to announce the results of the Company's initial metallurgical test work on its proprietary concentration technology. The testing was completed by the University of Alberta (U of A) and independently reviewed by CIMIC Group's mineral processing company, Sedgman Canada Limited, an international leader in mineral processing. E3 Metals conducted six bench scale metallurgical tests of its concentration technology on lithium enriched Leduc Formation water (raw brine) from the Exshaw West Project Area. The testing produced a lithium (Li) concentrate of up to 1206 milligrams per liter (mg/L), a concentration factor of 16 times. The process was also successful in removing up to 99% of the critical metal impurities while demonstrating lithium recoveries as high as 81%. The entire concentration process was achieved in less than 3 hours. A summary of all six tests completed is provided below. E3 Metals expects to file the related NI 43-101 technical report within the next 4 weeks.

Building on the results from this recent metallurgical test work, E3 Metals will work to optimize and scale-up its concentration technology to further improve the lithium concentration and recovery performance. E3 Metals' concentration technology will form the first of two main extraction steps in the Company's lithium production process. The Company, in collaboration with the University of Alberta, is now in the process of filing provisional patents to protect the intellectual property (IP) associated with its concentration technology.

To date, E3 Metals has defined a combined inferred resource of 6.7 million tonnes (Mt) of lithium carbonate equivalent (LCE) within three resource areas<sup>1</sup> comprising just 34% of its Alberta permit holdings. With high porosity and permeability, the Leduc Formation has demonstrated the ability to deliver high volumes of hot (70 to 100°C) brine. With extensive oil and gas infrastructure (including disposal wells, production sites and pipelines) and a mature regulatory regime, Alberta is an attractive jurisdiction for petro-lithium development.

"These results are a significant step forward for the development of E3 Metals Alberta Lithium Project," comments Chris Doornbos, E3 Metals CEO, "Development of a simple and effective brine concentration process, which significantly reduces impurities, positions us to begin work on proving the economic and technical viability of the Company's large Alberta petro-lithium resource. With continued optimization of the sorbent, we are aiming to achieve enhanced recoveries and higher concentration factors. We are working aggressively towards the next steps required to advance extraction technology for our Alberta Petro-Lithium Project."

### **Metallurgical Testwork- Technical Summary**

A series of 6 metallurgical tests were conducted on E3 Metals Petro-Lithium brine collected from the Exshaw West Resource Area. The purpose of the testing was to outline the recovery and concentration of lithium using an ion-exchange process and chemical sorbent developed by the University of Alberta (U of A). The test work was conducted at the U of A Alessi Laboratory in Edmonton, Canada, and observed by Grahame Binks (MAusIMM) CP (Metallurgy) of Sedgman. All tests were completed using a chemical sorbent to perform ion exchange at various Brine Volume to Mass of Sorbent ratios. Analysis of the

results was performed using inductively coupled plasma mass spectrometry (ICP-MS) at the U of A for all six tests. Tests 4 and 6 were also sent to AGAT for independent verification of the results using inductively coupled plasma optical emissions spectroscopy (ICP-OES). A comparison of the critical metals for this process was completed between the original raw brine and the resultant concentrate, outlined in Table 1.

The six tests produced a range of results for lithium recovery, lithium concentration, and reduction in critical ions (impurities) concentrations. Variability in the results may be attributed to variations in synthesis of the sorbent used in the concentration process, although further testing is required for verification. Lithium recovery results ranged from 66% up to a maximum of 81%, while lithium concentration ranged from 13 to 16 times. A significant reduction of critical impurities was achieved averaging greater than 99%. It is the opinion of the qualified person that, while the project is still at a concept level, the resulting concentrate from E3 Metals' Technology has the potential of being further processed into lithium carbonate and/or lithium hydroxide.

Further development of E3 Metals' ion exchange technology will continue at the U of A to optimize the sorbent synthesis and extraction testing. The goal of the continued testing and development is to achieve enhanced recoveries and an increase in the concentration factor of lithium through the process while maintaining the high levels of impurity reduction.

**Table 1: Summarized results from metallurgical test work for lithium extraction using ion-exchange**

	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6
Li - Raw Brine (mg/L)	76	76	67	75	73	72
Li - Concentrate (mg/L)	1060	992	1085	1206	1085	1059
Lithium Recovery	70.2%	65.7%	81.2%	80.9%	73.9%	73.3%
Concentration Factor	14	13	16	16	15	15
Test Brine Volume (mL)	200	200	20	150	20	130
Sorbent Concentration in Brine (g/L)	2	2.5	2.5	2	2	2
<b>Critical Metals Reduction</b>						
Na - Raw Brine (mg/L)	48,000	48,000	48,993	52,313	52,943	53,314
Na - Resultant Concentrate (mg/L)	36	58	BDL*	BDL*	59	BDL*
Reduction of Metal (%)	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Ca - Raw Brine (mg/L)	20,300	20,300	18,443	19,324	20,177	19,967
Ca - Resultant Concentrate (mg/L)	531	489	287	287	217	196
Reduction of Metal (%)	99.9%	99.9%	99.9%	99.9%	99.9%	>99.9%
Mg - Raw Brine (mg/L)	3,400	3,400	3,137	3,050	3,501	3,078
Mg - Resultant Concentrate (mg/L)	151	109	126	BDL*	79	BDL*
Reduction of Metal (%)	99.8%	99.8%	99.8%	>99.9%	99.9%	>99.9%
K - Raw Brine (mg/L)	6,570	6,570	5,588	5,923	6,181	6,071
K - Resultant Concentrate (mg/L)	BDL	BDL	5	BDL*	4	BDL*
Reduction of Metal (%)	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Sr - Raw Brine (mg/L)	765	765	602	627	666	631
Sr - Resultant Concentrate (mg/L)	33	28	28	23	19	18
Reduction of Metal (%)	99.8%	99.8%	99.8%	99.8%	99.9%	99.9%
B - Raw Brine (mg/L)	279	279	265	297	282	267
B - Resultant Concentrate (mg/L)	18	19	22	17	19	17

Reduction of Metal (%)	99.7%	99.7%	99.6%	99.7%	99.7%	99.7%
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BDL = Below Detection Limit, ICP-OES K=12 mg/L

\* BDL = Below Detection Limit, ICP-MS Na=0.07 mg/L, Mg=0.07 mg/L, K=1 mg/L

### About Sedgman

CIMIC Group Limited (ASX: CIM) is a world-leading infrastructure, mining, services and public private partnerships group. We have businesses in construction (CPB Contractors and Leighton Asia), mining and mineral processing (Thiess and Sedgman), operation and maintenance services (UGL), public private partnerships (Pacific Partnerships) and engineering (EIC Activities). Our mission is to generate sustainable shareholder returns by delivering innovative and competitive solutions for clients and safe, fulfilling careers for our people. With a history since 1899, and more than 50,000 people in 20 countries, we strive to be known for our principles of Integrity, Accountability, Innovation and Delivery, underpinned by Safety. CIMIC is a member of the S&P/ASX 100 index, the Dow Jones Sustainability Australia Index.

### About the Alessi Lab at the University of Alberta

Lead by Dr. Daniel Alessi, the Alessi Research Group (Alessi Lab) has an active research group furthering science related to environmental geochemistry, mineral chemistry and contaminant hydrogeology. Solution oriented, the group has a number of active projects relating to brine and wastewater handling.

More information on can be found here:

<http://alessilaboratory.com/research/>

See the University of Alberta announcement on their technology development work here:

<https://www.ualberta.ca/science/science-news/2018/may/unlocking-lithiums-potential-for-high-efficiency-batteries>

### About E3 Metals Corp.

E3 Metals is a Petro-Lithium company rapidly advancing the development of direct recovery lithium brine projects in Alberta. E3 Metals holds lithium resources at 6.7 Mt LCE (inferred). The Company has a compelling competitive advantage by virtue of having access to extensive infrastructure built by the Oil and Gas industry in Alberta. This has provided E3 Metals with extremely low finding costs, as the Company has been able to sample existing wells to define its resource. This infrastructure may also provide wells and pipelines for a future lithium production operation, potentially reducing the future underlying capital requirements significantly. The Company's immediate goal is to demonstrate a commercially viable chemical concentration process and believes this is a key driver to commercial production of its Alberta lithium brine resources. More information about E3 Metals can be found on our website by visiting: [www.e3metalscorp.com](http://www.e3metalscorp.com).

ON BEHALF OF THE BOARD OF DIRECTORS,

Chris Doornbos, President & CEO  
E3 METALS CORP.

Grahame Binks, MAusIMM. CP (Metallurgy), QP is responsible for the preparation of the technical information relating to the Metallurgical Test Results that is contained in this news release and has reviewed and approved the use and disclosure of such information in this news release. Mr. Binks is a "Qualified Person", as that term is defined in NI 43-101.

Chris Doornbos (P.Geo), CEO and Director of E3 Metals Corp., is a Qualified Person as defined by NI 43-101 and has read and approved the technical information contained in this announcement.

<sup>1</sup> E3 Metals has released information on three 43-101 Technical Reports totalling resource of 6.7 Mt LCE. The Central Clearwater Resource Area (CCRA) Technical Report, identifying 1.9Mt LCE (inferred), is dated effective October 27, 2017, and the North Rocky Resource Area (NRRRA) Technical Report was dated effective October 27, 2017, identifies 0.9Mt LCE (inferred). Both reports are available on SEDAR ([www.sedar.com](http://www.sedar.com)). A third report for the Exshaw West Resource Area (EWRA), identifies 3.9Mt LCE (inferred) and will be released within the next 4 weeks.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

This news release includes certain forward-looking statements concerning the potential of the Company's projects to produce saleable lithium byproducts, including LCE, the future performance of our business, its operations and its financial performance and condition, as well as management's objectives, strategies, beliefs and intentions. Forward-looking statements are frequently identified by such words as "may", "will", "plan", "expect", "anticipate", "estimate", "intend" and similar words referring to future events and results. Forward-looking statements are based on the current opinions and expectations of management. All forward-looking information is inherently uncertain and subject to a variety of assumptions, risks and uncertainties, including the speculative nature of mineral exploration and development, fluctuating commodity prices, the effectiveness and feasibility of emerging lithium extraction technologies which have not yet been tested or proven on a commercial scale or on the Company's brine, competitive risks and the availability of financing, as described in more detail in our recent securities filings available at [www.sedar.com](http://www.sedar.com). Actual events or results may differ materially from those projected in the forward-looking statements and we caution against placing undue reliance thereon. We assume no obligation to revise or update these forward-looking statements except as required by applicable law.

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CNW 03:05e 29-MAY-18