

# E3 Metals Completes First Petro-Lithium Inferred Mineral Resource of 1.9 Mt LCE on the Clearwater Property

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Vancouver, British Columbia (FSCwire) - [E3 Metals Corp.](#) (TSX-V: ETMC, FSE: OU7A, OTC: EEMMF) (the "Company", "E3", or "E3 Metals") is pleased to announce that it has completed its first National Instrument 43-101 (NI 43-101) Inferred Mineral Resource Estimate (the "Resource") of 1.9 million tonnes lithium carbonate equivalent (LCE) from 4,617,079,087 m<sup>3</sup> (4.6 km<sup>3</sup>) of brine formation water at an average grade of 77.4 mg/L for the Central Clearwater Resource Area, located within a portion of the Company's Clearwater Property. The Resource was prepared for the Company by Raymond P. Spanjers, P.G., of North Carolina, USA, Gordon MacMillan, P.Geol., of Alberta, Canada and Wayne Monnery, P.Eng., of Alberta, Canada, all "qualified persons" within the meaning of NI 43-101 and independent of the Company. The NI 43-101 Technical Report in respect of the Resource will be filed on SEDAR and the Company's website within 45 days. The Resource is based on a fluid flow 3-dimensional model for a confined aquifer and represents the volume of lithium enriched brine available to be produced from the reservoir.

"This is a significant accomplishment for E3 Metals and a milestone for the Company. This Inferred Mineral Resource is the largest Petro-Lithium resource in the world announced to date," commented E3 Metals' CEO Chris Doornbos. "I would like to congratulate the team on their hard work and dedication in reaching this milestone and we look forward to progressing the Company forward and continuing to build value into 2018. I would also like to thank the producers for collaborating with us, along with the operators and field staff who conducted the work safely and diligently."

E3 Metals identified the Leduc Reservoir as a significant source of formation water with the ability to produce at incredibly large flow volumes. With the completion of the Resource, E3 Metals has demonstrated that the Leduc Reservoir has the potential to be a significant source of lithium. Given the size of this Resource and the brine production rates, this one portion of E3 Metals Permit Area has the ability to produce enough formation water to deliver the equivalent of 50,000 tonnes/year LCE for at least 35 years to the surface. This can be accomplished by operating 30 production wells within the proposed well networks. As a single well has a theoretical production rate of 20,000 m<sup>3</sup> of water per day, the total water required for this project can be delivered using minimal infrastructure and therefore, lower overall capital costs to deliver the formation brine to the surface. The ability to produce this volume of formation water enriched with lithium to the surface does not necessarily mean the lithium can be extracted economically.

The significance of the size of E3 Metals' first Resource, relative to the overall size of E3's Petro-Lithium Project, demonstrates the incredible potential for the Company's overall land holdings. The Central Clearwater Resource Area spans 943 km<sup>2</sup> and covers only 10% of the E3 Metals Petro-Lithium Project Area, and 33% of the overall Clearwater Property. This Resource is only the first of several the Company plans to complete and deliver to the market. The North Rocky Resource Area is expected to be completed before the end of November 2017 and the Company plans to complete resource estimates over several other portions of its Alberta Petro-Lithium Project area in 2018.

Table 1: Inferred Mineral Resource Estimate for the Central Clearwater Resource Area

Resource Area	Volume of Water in Effective Porosity (m <sup>3</sup> )	Lithium Grade (mg/L)	Production Factor
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Central Clearwater Resource Area	9,234,158,174	77.4	1
	9,234,158,174	77.4	0.9
	9,234,158,174	77.4	0.8
	9,234,158,174	77.4	0.7
	9,234,158,174	77.4	0.6
	9,234,158,174	77.4	0.5
	9,234,158,174	77.4	0.4
	9,234,158,174	77.4	0.3

### Mineral Resource Estimate

Across the Clearwater Project area are a number of oil and gas pools; several of these have been producing since as early as the 1960's. As a result of this development, the geological and production data available to E3 Metals to complete this Resource Estimate is extensive and has delivered a robust geological understanding. Of the over 3,000 wells located within and around the Resource area, over 400 penetrate the Leduc Formation. Of those, over 200 are either currently producing or were historical producers or injectors. Today, 35 wells in the Central Clearwater Resource Area have an actively producing or injecting status in the Leduc Reservoir, and 38 have a suspended status in the Leduc Reservoir. Over 150 of the wells that intersect the Leduc Reservoir in and around the Central Clearwater Resource Area have core available to be reviewed and over 100 wells have drill stem test data.

A geological investigation was completed utilising the data outlined above to define the geometry and architecture of the reservoir. This included wireline logs and core sample analysis. The literature was consulted to understand and predict spatial variations in porosity, permeability and geometry in between wells. Formation tests and production data were reviewed and utilised to understand initial and temporal variations in pressure with time. This data outlined that the Clearwater Resource Area is hydraulically connected across the reservoir.

A 3-D model was generated of the Leduc and Cooking Lake formations based on the size and geometry of this reservoir and the reservoir characteristics including porosity (fluid storage) and permeability (fluid flow capability). The Cooking Lake Formation is a regional aquifer stratigraphically below, and hydrologically connected to, the Leduc Reservoir. From this model, the total volume of brine contained in the total reservoir was calculated. Realistic parameters were put in place within the model to develop the total volume of water available to be extracted from the reservoir. This was combined with estimates on the dispersion of the injection water within the confined aquifer to determine the total producible volume of brine and calculate the Resource.

Optimized brine production from the reservoir requires that produced water, once stripped of lithium, is re-injected to maintain pressure support. To estimate the total extractable volume of brine, the 3-D model contemplated a well network containing a number of production wells paired with injection wells over a 5 km<sup>2</sup> area. Re-injection of brine will result in mixing of original brine and injected brine over time that will decrease the lithium concentration locally as well networks mature. This mixing effect is referred to as "dispersion". Once a certain percentage of the injected water reaches the production wells within the well network, the network would be shut down and a new well network in an adjacent 5 km<sup>2</sup> area will begin producing in its place.

The concentration of lithium is fairly consistent and evenly distributed across the reservoir ranging from 76.2 mg/L to 84.6 mg/L. No measurements were below the cut-off grade of 20 mg/L. The total volume of water in effective porosity is given in Table 1 and outlines the total drainable water in the reservoir. However, two factors significantly impact the amount of water available to be produced. The first is related to the fact that production wells have the ability to produce most of the water in their local drainage area, but multiple drainage areas cannot fit together seamlessly to sweep every drainable pore in the region. The second

relates to the dispersion, or mixing, of the injected water (with little to no lithium) with lithium enriched formation water. Taking into account the hydrogeological properties of the reservoir, the model contemplates that each well network will be shut down once a certain percentage of the injected water reaches the production wells. To account for these at this early stage, a production factor was applied that describes how much water could be effectively produced from the reservoir without dilution from the injection water. A production factor of 50% was used as a conservative estimate on total producible water given dispersion and this was reported as the Resource (Table 1). To define this dispersion better, detailed mapping including mapping seismic for delineation of fractures, geophysical characterization and structural analysis along with production tests will be required at a later stage. This may indicate a higher production factor is appropriate for this reservoir.

Brine samples were collected from actively producing Leduc wells along the reef trend. The six wells located within or very near the Resource Area were part of a 47 well sampling program (Figure 1) across the Central Clearwater Resource Area. A standard operating procedure (“SOP”) was developed to ensure samples were collected in accordance with NI 43-101 requirements. This ensured proper chain of custody and eliminated potential sources of contamination. The samples were analyzed at AGAT Laboratories in Calgary, AB, and check lab samples were analyzed at Maxxam Laboratories in Burnaby, BC. Both labs are accredited by the Canadian Association for Laboratory Accreditation Inc. E3 Metals’ SOP, Quality Control and Quality Assurance (QA/QC) protocols and the final assay results were reviewed Raymond Spanjers, who conducted a site visit on September 28, 2017.

Figure 1 – Sampling results from 47 locations across the Leduc Reef Trend. The Central Clearwater Resource Area is outlined in green.

To view the graphic in its original size, please [click here](#)

The model estimated the volume weighted average lithium concentration for the Clearwater Resource Area to be 77.4 mg/L. This was calculated using data from the four wells in the Resource Area, and two wells within 3 km of the Resource Area. Variography incorporated the analysis of all 47 wells across the entire Leduc reef trend (Figure 1) to predict how lithium concentration varies spatially. The Resource estimations, lithium concentration, total volume, production volumes and production factors are presented in Table 1.

Well networks were developed to model the flow of the formation brine and the advective front of the lithium void injection water over time and space. Each well network design for the production of brine formation water in the Central Clearwater Resource Area includes one or more production wells, delivering 20,000 m<sup>3</sup> of brine to the surface per day. It is likely that E3 Metals will complete these wells in an area distal from oil and gas pools. The network also includes one to three injection wells placing the injected water at lower per-well volumes to control dispersion. It is possible for E3 Metals to collaborate with oil and gas operators in the area to add pressure support to the oil and gas pools by injecting this water proximal to the pools. This may also allow E3 Metals to repurpose existing infrastructure currently owned by oil and gas operators in these areas, creating an opportunity for these operators to reduce their well liability, which is an important issue in Alberta.

There is an abundance of existing oil and gas infrastructure in addition to wells that could be repurposed for lithium production, such as production facilities, lease clearings, electrical distribution, and pipelines. The development of a lithium asset in this area will also benefit from favourable accessibility on numerous main highways, rail lines and gravel roads that intersect the Clearwater Property. There are ample service companies with transferrable skills that could support the construction and execution aspects of project commercialization. Permitting for the Alberta Petro-Lithium Project falls under the AER for oil and gas development, an industry and permitting system that is well developed and well defined in Alberta.

Formation water from the Leduc Reservoir, pre-treated with the addition of Na<sub>2</sub>CO<sub>3</sub> and filtration, was successful at removing a large percentage of Magnesium (Mg) and Calcium (Ca). The resultant lithium brine was compared to the feed composition going into the Tenova Technologies pilot plant utilized to test Clayton Valley, Nevada brine. The pre-treatment of Leduc Formation water in the Clearwater Resource Area showed that both Ca and Mg were reduced below the head grade of the Tenova pilot plant. Given the compositional similarities between the two, it is the opinion of the qualified person that the resulting product has the potential of being successfully processed utilizing the Tenova plant design. Brine from the Alberta Petro-Lithium Project has not been tested at the Pilot Plant and so additional testing is required to determine the economical parameters of the overall process flowsheet. In addition to review of the foregoing tests, E3

Metals has begun independent extraction technology testing, and will report on the progress of same in due course.

ON BEHALF OF THE BOARD OF DIRECTORS,

Chris Doornbos, President & CEO

[E3 Metals Corp.](#)

Chris Doornbos (P.Geol), 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

Gordon MacMillan, P.Geol. QP and Wayne Monnery, P.Eng are responsible for the preparation of the technical information contained in this news release, and have reviewed and approved the use and disclosure of such information in this news release. Each of Messrs. MacMillan and Monnery are "Qualified Persons", as that term is defined in NI 43-101.

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*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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