

**ASX Code: ESS**

#### Corporate Profile

Shares on issue: 151 million  
Cash: \$3.4m (30 Sep 2020)  
Debt: Nil

#### Corporate Directory

##### Non-Executive Chairman

Craig McGown

##### Non-Executive Directors

Paul Payne  
Warren Hallam

##### Managing Director

Timothy Spencer

##### CFO & Company Secretary

Carl Travaglini

##### Exploration Manager

Andrew Dunn

#### Key Projects

##### Sole Funded

Juglah Dome (Au)  
Blair-Golden Ridge (Au, Ni)  
Dome North (Li)  
Sinclair Caesium Mine (Cs)  
Mavis Lake (Li)

##### Free Carried to Decision to Mine

Acra (Au) 25%  
Kangan (Au) 30%  
Balagundi (Au) 25%

#### Investor Relations

Nicholas Read  
Read Corporate  
t: +61 8 9388 1474  
e: [nicholas@readcorporate.com.au](mailto:nicholas@readcorporate.com.au)

ABN: 44 103 423 981

t: +61 8 9322 6974  
e: [info@essmetals.com.au](mailto:info@essmetals.com.au)  
w: [essmetals.com.au](http://essmetals.com.au)

G Floor, 72 Kings Park Rd,  
West Perth, WA 6005  
Australia  
PO Box 1787,  
West Perth, WA 6872  
Australia

**20 October 2020**

## Positive results from first-pass metallurgical test work at Dome North Lithium Project

Preliminary DMS and flotation test work lithium recoveries in line with industry expectations, with further test work underway targeting enhanced recoveries.

### HIGHLIGHTS

- 'Whole of ore' flotation at a grind size of p80 0.15mm achieved a recovery of 67% Li<sub>2</sub>O at a concentrate grade of 6.0% Li<sub>2</sub>O and 0.6% Fe<sub>2</sub>O<sub>3</sub>.
- Dense Medium Separation (DMS) at a crush size of p100 3.15mm +0.85mm achieved a recovery of 28% Li<sub>2</sub>O at a concentrate grade of 5.7% Li<sub>2</sub>O and 0.9% Fe<sub>2</sub>O<sub>3</sub>.
- First-pass metallurgical test work programme expected to be completed end-October.
- The recently updated Mineral Resource for Dome North stands at 11.2Mt at 1.21% Li<sub>2</sub>O and 40ppm Ta<sub>2</sub>O<sub>5</sub>, with 51% of the contained lithium located within the high-confidence Indicated Resource at the Cade Deposit (5.4Mt @ 1.3% Li<sub>2</sub>O - refer ASX release dated 29 September 2020).

To complete the metallurgical test work, the following tests will be carried out:

- Batch flotation tests at alternate grind sizes and with alternate gangue rejection conditions ahead of flotation.
- Batch flotation tests on a composite of secondary DMS Floats and DMS Preparation Screen Undersize (-0.85mm), to confirm the recoveries that can be generated from a hybrid DMS and flotation flowsheet.

Essential Metals Managing Director, Tim Spencer, said: "We are very pleased with the results we are seeing thus far from the first-pass metallurgical test work at Dome North, and we look forward to completing the programme by the end of the month. The significance of this programme is being able to demonstrate that the Dome North Lithium Project can produce a lithium concentrate that will meet or exceed accepted industry specifications."

---

*This ASX release has been approved by the Board of Directors*

**For further information:**

Tim Spencer, Managing Director  
Essential Metals Limited  
T: +61 8 9322 6974  
E: tims@essmetals.com.au

**Investor Relations**

Nicholas Read  
Read Corporate  
T: +61 8 9388 1474  
E: nicholas@readcorporate.com.au

---

**About Essential Metals Limited**

Following successful completion of the Sinclair Caesium Mine, Essential Metals is now a well-funded and active explorer focused on key global demand-driven commodities, looking for its next opportunity to create shareholder wealth through exploration and project development. The Company operates a portfolio of strategically located lithium, caesium, gold, nickel and cobalt projects in mining regions in Western Australia, plus a high-quality lithium asset in Canada.

**Lithium - Caesium:**

- The **Pioneer Dome LCT Project** is highly prospective for lithium-caesium-tantalum (LCT) mineral systems:
  - The **Dome North Lithium Project** is located in the northern area where multiple spodumene bearing pegmatites were discovered in 2019. It now has a Mineral Resource of 11.2 million tonnes @ 1.21% Li<sub>2</sub>O.
  - The **Sinclair Caesium Deposit** that was successfully developed and mined by the Company and extensions to the deposit are currently being explored.
- The Company holds a 51% Project interest in the **Mavis Lake Lithium Project**, Canada where Company drilling has intersected spodumene.

**Gold:**

- The **Juglah Dome Project** is located 60km east-southeast of Kalgoorlie and is considered to be highly prospective for gold with recent work also raising its prospectivity for VHMS style polymetallic deposits.
- The **Blair - Golden Ridge Project** is located ~20km SSE of Kalgoorlie, WA and is prospective for gold. Activities are focussed on reappraising known prospects as well as identifying new areas within the large land tenure.

**Gold Farmin/Joint Ventures:** Essential Metals has three free-carried interests with well credentialed JV partners:

- **Acra JV Project** near Kalgoorlie: Northern Star Resources Limited (ASX:NST) has earned a 75% Project Interest and continues to fully fund exploration programmes until approval of a Mining Proposal by DMIRS with Essential Metals retaining a 25% interest.
- **Kangan Project** in the West Pilbara: A farmin & JV agreement with Novo Resources Corp (TSXV:NVO) and Sumitomo Corporation will fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 30% interest.
- **Balagundi Project:** A farmin & JV agreement where Black Cat Syndicate Limited (ASX:BC8) is earning a 75% interest in the Project located at Bulong, near Kalgoorlie. Black Cat will then fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 25% interest.

**Nickel:** The **Blair-Golden Ridge Project** includes the suspended Blair Nickel Sulphide Mine and the advanced Leo Dam prospect as well as several other prospects.

---

### **Reference to previous market announcements**

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

### **Forward Looking Statement**

This announcement may contain forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

### **Dome North Mineral Resource Estimate - Competent Persons Statement**

The information in this report that relates to Mineral Resources for the Dome North Lithium Project is based on and fairly represents information compiled by Mr Stuart Kerr and Mr Lauritz Barnes. Mr Kerr was, at the time of compiling this report, a fulltime employee of Essential Metals Limited and is a member of the Australian Institute of Geoscientists. Mr Barnes is a consultant to the Company and is a member of both the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Both Mr Kerr and Mr Barnes have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Kerr is the Competent Person for the database, geological model and completed the site inspections. Mr Barnes is the Competent Person for the 3-D geological and mineralisation interpretation plus the resource estimation. Mr Kerr and Mr Barnes consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

### **Dome North Mineral Metallurgical Test Work - Competent Person Statement**

The information in this report that relates to metallurgical test work for the Dome North Lithium Project has been reviewed by Mr Joshua Paterson who is a member of the Australasian Institute of Mining and Metallurgy. Mr Paterson is an employee of Primero Ltd and has sufficient experience relevant to the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Paterson consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.