



# ESSENTIAL METALS

for a sustainable future

31 March 2022

## Major drilling programme to target resource growth at Dome North Lithium Project

Drilling to commence in May below the Cade and Davy deposits targeting growth in the Dome North Lithium Resource as the foundation to deliver a Scoping Study in December Quarter 2022

### HIGHLIGHTS

- **The drill programme of up to ~9,000m** is anticipated to commence in mid-May and will take up to 2.5 months to complete, subject to rig scheduling and drilling rates. The results will underpin an **update to the current 11.2Mt @ 1.21% Li<sub>2</sub>O Dome North Mineral Resource Estimate, scheduled for early December Quarter 2022.**
- **Cade Deposit:** 11 holes planned in three phases. The first phase of up to 8 Reverse Circulation (RC) pre-collared holes with diamond tails (RCD holes) will be drilled at a vertical depth of ~100-200m below the lower boundary of the current lithium Resource. The positioning of the first phase holes aligns with the plunge of the thicker and higher-grade central zone within the Cade deposit. The second and third phase holes will be drilled above and below the Phase 1 holes, based on geological observations from these holes.
- **Davy Deposit:** 11 holes planned, designed to test three zones. Three RCD holes will be drilled ~100m below the lower boundary of the current lithium Resource. Six RC holes will test the northern strike and two holes will test the southern strike of the Davy deposit.
- Assays from the recently completed exploration and metallurgical diamond drill programme<sup>1</sup> are expected by end-May with metallurgical test work to follow upon receipt of the assays. The test work results and updated MRE will underpin **a Scoping Study due in the December Quarter 2022.**

Essential Metals Managing Director, Tim Spencer, said: *"This upcoming drill programme will be a key catalyst for Essential Metals along its path from 'explorer' to 'developer' in WA's major lithium corridor. The main goal of the drill programme is to test the down-plunge potential of the Dome North Mineral Resource. If we are successful, we anticipate the updated Resource to form the basis of a Scoping Study that we expect will outline the case for a robust mining operation."*

<sup>1</sup> Refer to ASX announcement dated 25/02/2022 - Pioneer Dome Lithium Project update - amended"

#### ASX Code: ESS

#### Corporate Profile

Shares on issue: 244,258,736  
Cash: \$9m (31 Dec 2021)  
Debt: Nil

#### KEY PROJECTS

**LITHIUM** Pioneer Dome  
**GOLD** Golden Ridge  
**GOLD** Juglah Dome

#### Joint Ventures (ESS %)

2x nickel projects (20-25%)\*  
4x gold projects (25-30%)\*  
\* Free carried to a decision to mine

#### 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

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## PIONEER DOME LITHIUM PROJECT

The 450km<sup>2</sup> Pioneer Dome Project (ESS: 100%) is located in the core of Western Australia's lithium corridor in the Eastern Goldfields, approximately 130km south of Kalgoorlie and 275km north of the Port of Esperance. A Mineral Resource<sup>2</sup> of 11.2Mt @ 1.21% Li<sub>2</sub>O has been defined at 'Dome North' in the northern area of the Project.

The southern Yilgarn area is recognised as being well-endowed with spodumene deposits, including the Bald Hill Mine, the Mt Marion Mine and the Buldania Project, all of which are located within 80km of the Pioneer Dome Project. The world-class Greenbushes Deposit, the Mt Holland Mine and the Mt Cattlin Mine are located further west, south-west and south-south-west, respectively.

Evaluation of the Dome North spodumene deposits is at a critical point where testing the depth extents of the Cade and Davy deposits will provide a better understanding the potential development options that will form the basis of preliminary economic and technical studies.

Over the past year, exploration has focused on discovering new near-surface spodumene bearing pegmatites. This search will continue in tandem with drilling designed to expand the current Lithium Mineral Resource.

Building on the recently completed drill programme, a review was conducted in February 2022 to investigate the impact of drilling below and along strike of the Dome North Lithium Mineral Resource. This review concluded that the most significant growth potential is likely to come from drilling deeper at the Cade deposit, with drilling along strike and at depth also expected to provide a better understanding of the upside potential at the Davy deposit.

The drill programme is designed to test the down-plunge extent of the mineralised envelopes, extending below the existing lower boundaries of the Mineral Resource for each deposit by approximately 250 metres (including Phase 3) for the Cade deposit and 100 metres for the Davy deposit.

In addition, the southern and northern strike extents of the Davy deposit will also be tested.

### CADE DEPOSIT DRILL PLAN

The Mineral Resource Estimate (MRE) for the Cade deposit currently stands at<sup>2</sup>:

- **Indicated:** 5.4Mt @ 1.3% Li<sub>2</sub>O totalling 70,000 tonnes of Li<sub>2</sub>O or 173,000 tonnes of lithium carbonate equivalent (LCE).
- **Inferred:** 2.8Mt @ 1.18% Li<sub>2</sub>O totalling 33,000 tonnes of Li<sub>2</sub>O or 81,600 tonnes of LCE.
- **Total Cade MRE:** 8.2Mt @ 1.26% Li<sub>2</sub>O totalling 103,000 tonnes Li<sub>2</sub>O or 254,720 tonnes of LCE.

The aim of this drilling is to extend the Inferred material in the Mineral Resource at depth. The Phase 1 holes are planned to intersect the deposit at a depth approximately 100-200m below the lower boundary of the current Mineral Resource, so that a high-level assessment can be conducted on the potential for underground mining, should it be sufficiently lithium enriched.

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<sup>2</sup> Refer to ASX announcement dated 29 September 2020 "Dome North Lithium Project – Resource Upgrade"

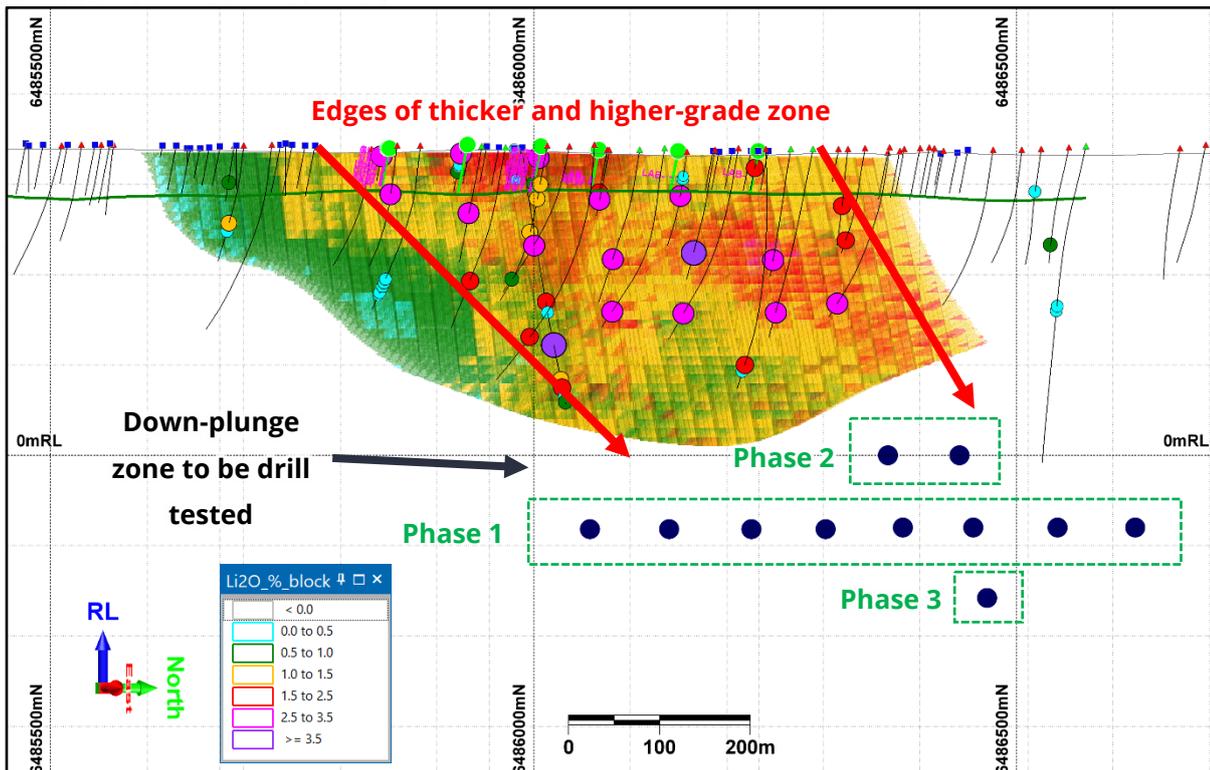


Figure 1 – Long-section of Cade with the Mineral Resource (coloured by grade - see legend), drill traces, Li<sub>2</sub>O intersections (coloured dots) and the pierce points of proposed deeper drilling. The interpreted high grade shoot is shown red arrows.

### Phase 1

Up to eight RC pre-collared holes with diamond tails (RCD holes) for 4,360m are proposed to define the thicker and higher grade spodumene zone at depth (see Figure 1 for the planned pierce points). Drilling is proposed to start with holes in the middle of the apparent north-plunging zone as defined by the highest accumulation of lithia (drill intersection width x Li<sub>2</sub>O grade) and then continue both north and south at the same depth with the step-out guided by the geological observations of the previously drilled holes.

### Phase 2

An extra two RCD holes for 880m are planned up-dip of the Phase 1 holes to help confirm the continuity of mineralisation (Figure 1). The location of these holes will be dependent on the geological observations from the Phase 1 drilling.

### Phase 3

One RCD hole for ~ 640m will be drilled ~90m down-dip of the Phase 1 drilling to confirm the continuity of the spodumene-bearing pegmatite at depth. The location of this hole will be dependent on geological observations from holes in Phase 1 and Phase 2.



### DAVY DEPOSIT DRILL PLAN

The Mineral Resource Estimate (MRE) for the Davy deposit currently stands at<sup>3</sup>:

- **Total Davy MRE (all Inferred):** 2.3Mt @ 1.13% Li<sub>2</sub>O totalling 25,000 tonnes of Li<sub>2</sub>O or 61,825 tonnes of LCE.

#### **Davy Depth Extent**

A total of three holes on nominal 80m spacing are planned beneath the current Mineral Resource, where the pegmatite appears to be open at depth.

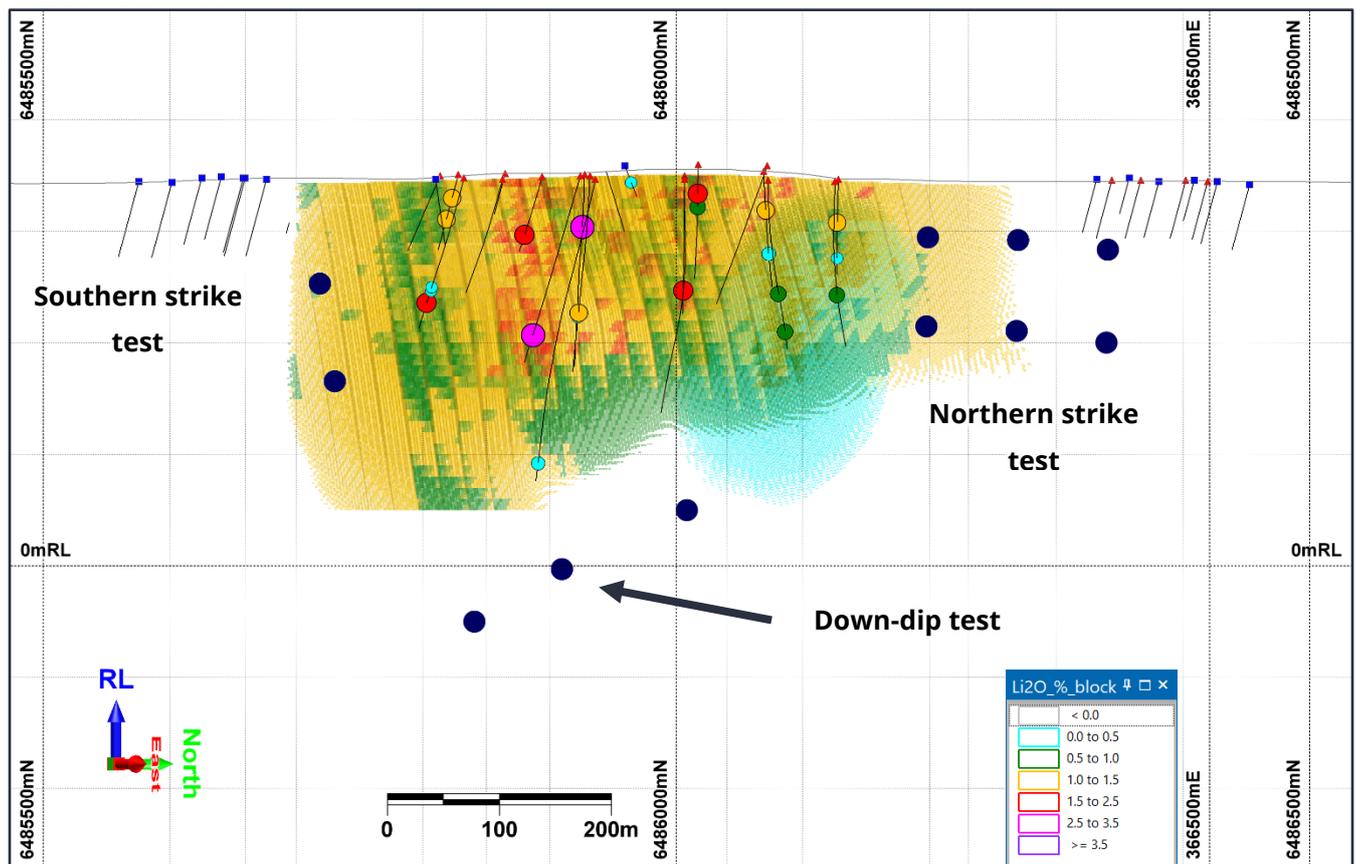


Figure 2 - Long-section of Davy with September 2020 MRE (coloured by grade - see legend), drill traces of previous drilling with Li<sub>2</sub>O intersection >0.5% (coloured dots) and proposed Davy drilling (dark blue circles representing planned drill pierce points).

<sup>3</sup> Refer to ASX announcement dated 29 September 2020 "Dome North Lithium Project - Resource Upgrade"

**Davy Northern Strike Extent**

Potential remains at Davy for the defined pegmatites to thicken to the north, in line with the observations of a similar setting at Cade. Three lines of drilling on nominal 80m spacing have been planned to test this area of the Mineral Resource (Figure 2).

**Davy Southern Strike Extent**

Due to the significant steepening of the pegmatite, it is possible that the previous shallow drilling missed the target. Two RC holes for 500m have been planned 80m south of the southernmost known position to test either for a sub-vertical or steep north-east dipping pegmatite, assuming it is consistent with the strike of the Davy deposit.

**Timetable**

The drill programme is expected to commence in mid-May and take approximately 2.5 months (~end-July) to complete, assuming one-shift per day and all planned holes are drilled. Assays are expected to then take two months (end-September), subject to laboratory workloads.

In the meantime, assays from the diamond drill programme completed in February, which tested the upper zone of the Cade deposit and also the Davy deposit, are expected to be received by end-May. Following receipt of these assays, samples will be selected for metallurgical test work, which is expected to take 6-8 weeks (~end-July).

Towards the end of the September Quarter, the Company expects to be able to commence an updated Mineral Resource Estimate, which together with the metallurgical test work results, will underpin a Scoping Study targeted for completion during Q4 2022. This in turn is expected to pave the way for a Feasibility Study commencing in early 2023.

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

**For further information:**

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## ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer focussed on the discovery of key global demand-driven commodities, for the creation of shareholder wealth through exploration and project development. The Company operates **three strategically located lithium and gold projects** in Western Australia.

### 100% OWNED AND MANAGED PROJECTS:

- **LITHIUM:** The **Pioneer Dome Lithium Project** is highly prospective for lithium-caesium-tantalum (LCT) mineral systems and includes the **Dome North Lithium Mineral Resource** of 11.2 million tonnes @ 1.21% lithium (Li<sub>2</sub>O).<sup>4</sup>
- **GOLD:** The **Juglah Dome Project** is located 60km east-south-east of Kalgoorlie and is considered to be highly prospective for gold and has potential for VHMS style polymetallic deposits.
- **GOLD:** The **Golden Ridge Project** is located ~20km south-east of Kalgoorlie, WA. Our activities are focussed on reappraising known prospects as well as identifying new areas within the large land tenure.

### JOINT VENTURE INTERESTS:

- **GOLD:** The **Acra** Project is 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 is received with Essential Metals holding a 25% interest.
- **GOLD:** The **Kangan** Project is in the West Pilbara and part of a joint venture with Novo Resources Corp (TSXV:NVO) and Sumitomo Corporation (TYO:8053), who will jointly fund 100% of gold exploration programmes until a decision to mine is made, with Essential Metals holding a 30% interest.
- **GOLD:** The **Balagundi** Project is subject to 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.
- **GOLD:** The Company holds a 25% free-carried interest (20% for nickel rights) in the **Larkinville** Project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).
- **NICKEL:** The nickel mineral rights on the **Blair-Golden Ridge** Project, which includes the suspended Blair Nickel Sulphide Mine, are subject to a Farmin/Joint Venture with Australian Nickel Company Ltd, a nickel exploration specialist which is earning up to a 75% interest. The Company will retain a 25% free-carried interest up to a decision to mine.
- **NICKEL:** The Company holds a 20% free-carried interest (nickel only) in the **Wattle Dam** project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).

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<sup>4</sup> Refer to ASX announcement dated 29 September 2020 "Dome North Lithium Project – Resource Upgrade"



## 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.

## 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 original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The company confirms that the form and context in which Exploration Results or Competent Person's findings are presented have not been materially modified from the original market announcements.

## Competent Person Statements

Mr Dunn (MAIG) holds the position of Exploration Manager and is employed full-time by Essential Metals Limited. Mr Dunn compiled the technical aspects of this Announcement, including information that relates to the Cade Deposit Exploration Target, which is based on and fairly represents information compiled by Mr Dunn.

Mr Dunn is eligible to receive equity-based securities in Essential Metals Limited under the Company's employee incentive schemes. Mr Dunn is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to this style of mineralization and type of deposit under consideration and to the activity that is being reported on 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 Dunn consents to the inclusion in the report of the matters in the form and context in which it appears.

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 Competent Persons Mr Stuart Kerr and Mr Lauritz Barnes as extracted from the report entitled "Dome North Lithium Project – Resource upgrade" created on 29 September 2020 and is available to view on [www.essmetals.com.au](http://www.essmetals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.