



ESSENTIAL METALS

for a sustainable future

ASX Code: ESS

Corporate Profile

Shares on issue: 200,817,300
Cash: \$6.2m (31 Mar 2021)
Debt: Nil

KEY PROJECTS

LITHIUM Pioneer Dome
GOLD Golden Ridge
GOLD Juglah Dome

Joint Ventures (ESS %)

1 x lithium project (51%)
2 x nickel projects (20-25%)*
4 x 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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19 July 2021

Commencement of drilling to test for new lithium-bearing pegmatites near Dome North Lithium Deposit

5,000m air-core/hammer drilling programme commencing this week

HIGHLIGHTS

- The 5,000m drill programme will explore for further spodumene-bearing pegmatites at Dome North, with the aim of expanding the existing 11Mt Mineral Resource base to a sufficient size to support a robust, standalone mining operation.
- Drilling will focus on testing for extensions of identified pegmatites and structural targets in the Dome North area as well as following up geochemical anomalism identified by earlier programmes.
- The programme will comprise of 74 holes to test six targets, with the main focus being the northern extent of the Davy and Heller deposits. It will also test two previously undrilled targets known as DN6 and DN21 located 2km to the south-west of Heller.
- Drill spacing has been planned to test for moderate to large-scale pegmatite bodies that would have the potential to significantly add to the existing spodumene Mineral Resource.

Essential Metals Managing Director, Tim Spencer, said: *"This drill programme is based on a new interpretation of the basement geology in the Dome North area which shows strong potential for LCT pegmatites in previously untested areas."*

"The existing Mineral Resource of 11.2Mt @ 1.21% lithium (Li₂O) at Dome North currently centres on three NNE-SSW striking, outcropping pegmatites which are spaced at approximately one-kilometre intervals. This next phase of drilling will test a number of highly promising locations between and along strike of these pegmatites."



PIONEER DOME LITHIUM PROJECT

The 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 lithium Mineral Resource of 11.2Mt @ 1.21% Li₂O has been defined at Dome North in the northern part of the Project area.

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. The world-class Earl Grey deposit and the Mt Cattlin Mine are located further west and south of Pioneer Dome, respectively.

Proposed Work

The purpose of this 5,000m drilling programme is to explore for further spodumene-bearing pegmatites, with the aim of increasing the existing Mineral Resource base to a sufficient size to underpin a standalone mining operation.

The proposed drilling will focus on testing for extensions of identified pegmatites and structural targets and follow-up anomalism from the previous air-core programme (May 2020) as well as testing two partially-exposed pegmatite targets (DN6 and DN21) south-west of the Heller Deposit, see Figure 1.

It is proposed that drilling will be carried out using air-core blade and hammer drilling to the proposed depth to ensure top-to-tail coverage is achieved.

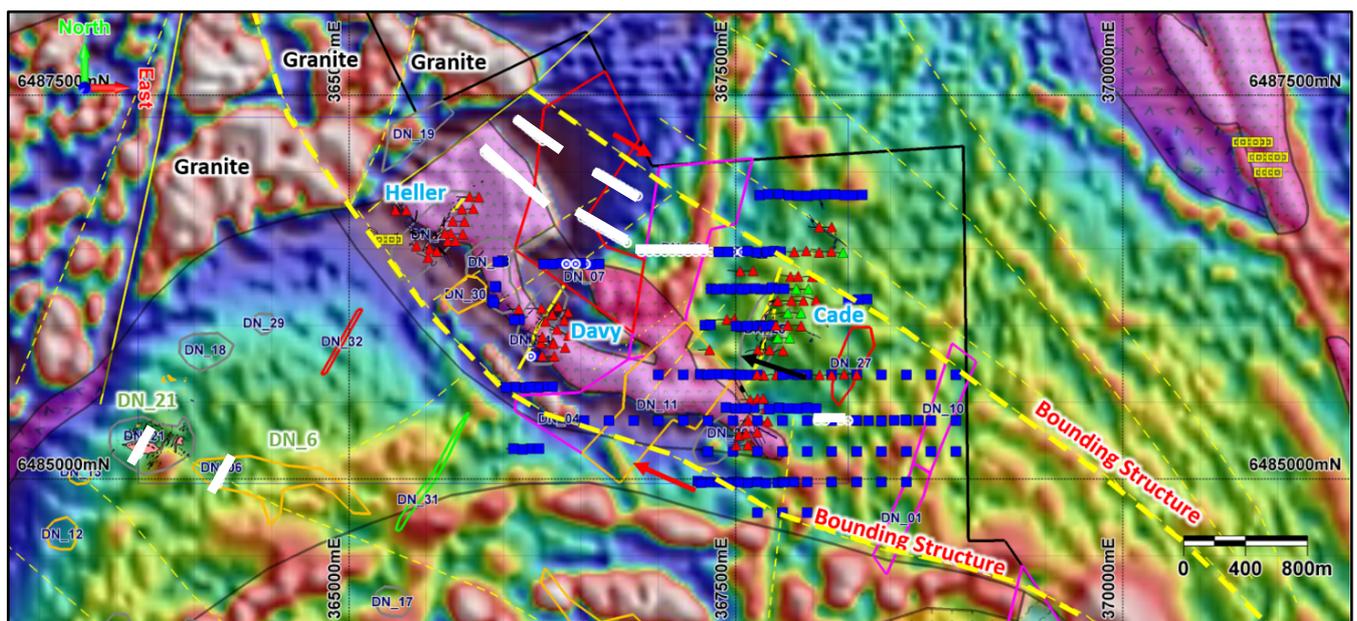


Figure 1 - Proposed drilling (white lines), RTP magnetic image, tenement outline (black polygon), interpreted structures (yellow lines), previous drilling and LCT targets (coloured and labelled polygons).

Geological Overview

The Dome North spodumene-bearing pegmatites are interpreted to have intruded into north-east to north-north-east linking structures between two west-north-west bounding structures, see Figure 2. Other smaller (1 to 2m wide) pegmatites have been observed to either intrude at lithological contacts or to align with the main pegmatite trend.

Cade is currently the largest mineralised LCT pegmatite within the Dome North tenement, and it is primarily hosted in the Black Flag sediments. Structural complexity is observed at Cade resulting in offsets and fault repeats. If this complexity occurs at the other defined pegmatites (Heller and Davy), it suggests that the strike potential of the zones may not have been tested with earlier drilling.

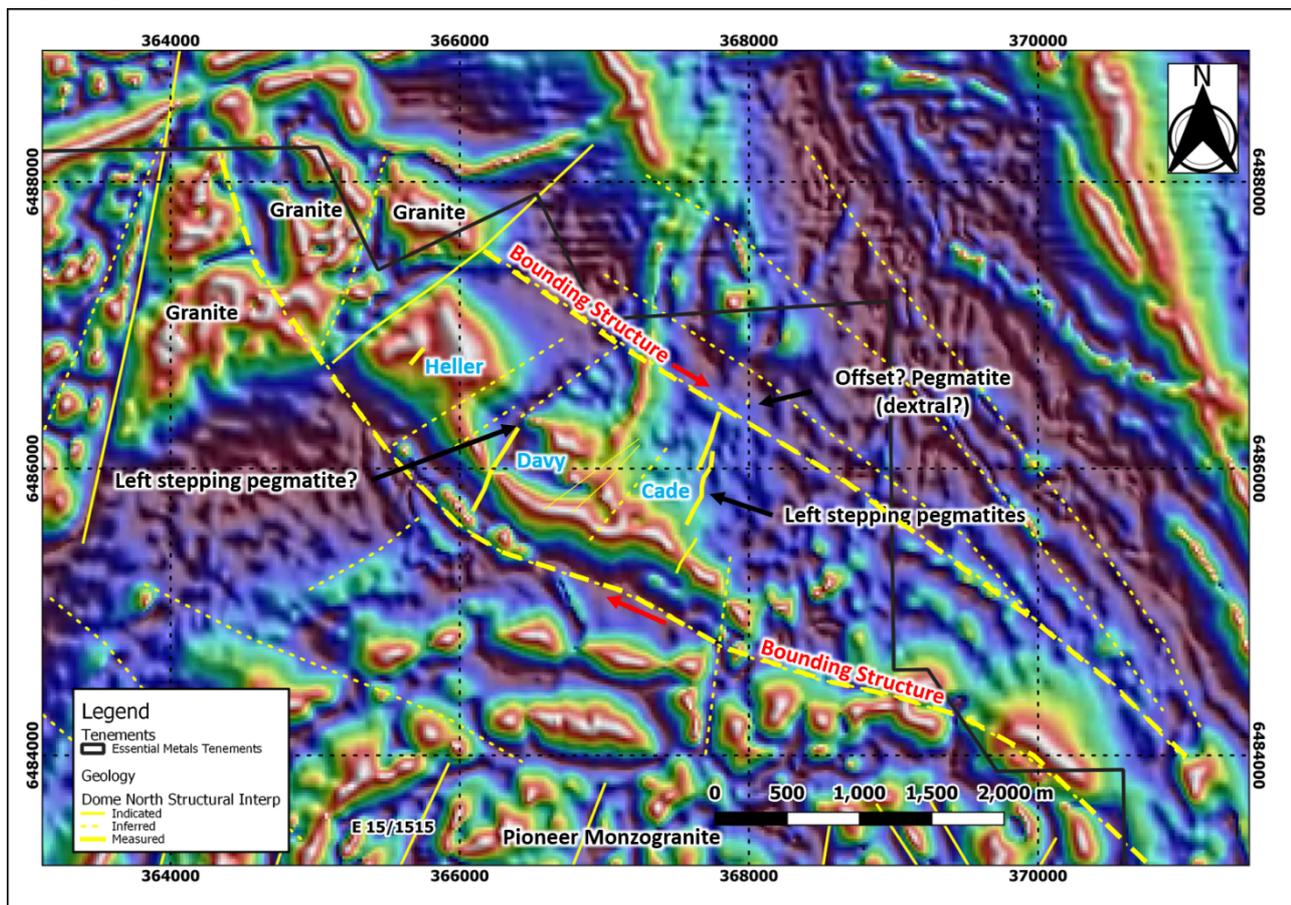


Figure 2 - RTP TILT magnetic image, tenement outline (black polygon) and interpreted structures (yellow lines).

Davy

Transported cover is present to the north of the drilled Davy spodumene pegmatite, which obscures the northern continuation. With the structural complexity observed at Cade, potential remains for the Davy pegmatites to continue to the northeast beyond the current limit of drilling. The host lithologies are interpreted to be the Black Flag sediments which also hosts the larger Cade deposit. Drill traverses at 300m spacings have been planned to test the potential for large pegmatite bodies in this area.

Holes have also been planned to provide infill drilling of previous air-core drilling to the north of Davy where in parts, previous drilling was not deep enough to provide full coverage and to follow-up where anomalous



lithium had been intersected in the lower saprolite. One hole will test up-dip of previously-drilled RC hole PDRC335 (16m @ 0.99% Li₂O including 8m @ 1.34% Li₂O – see ASX Announcement on 4 February 2020).

Heller

The most prominent outcropping pegmatite at Dome North is at Heller, however drill intersections to date have been marginal in thickness and grade. Limited exploration has been completed beyond the area of outcrop/subcrop and a program has been planned to test the structural trend of the Heller pegmatite up to 500m beyond the drilled limits. This includes a substantial area where transported cover obscures the underlying Black Flag sediments.

DN6 and DN21 targets

Both of these targets were initially defined by rubidium anomalies in pXRF analysis of soil samples. Mapping of the DN21 target shows that there are quartz core and microcline zones present, possibly representing a poorly-exposed pegmatite up to 100m thick.

At DN6, reconnaissance work has defined small quartz and microcline zones in a poorly exposed pegmatite(s) with an estimated thickness of approximately 40 metres. Rock chip sampling indicates similar associated LCT elements to the pegmatite that hosts Essential Metals' Sinclair Caesium Mine.

A single drill traverse has been planned at each target area to understand the fractionation and zonation and potential thickness of the poorly exposed pegmatite(s), see Figure 3.

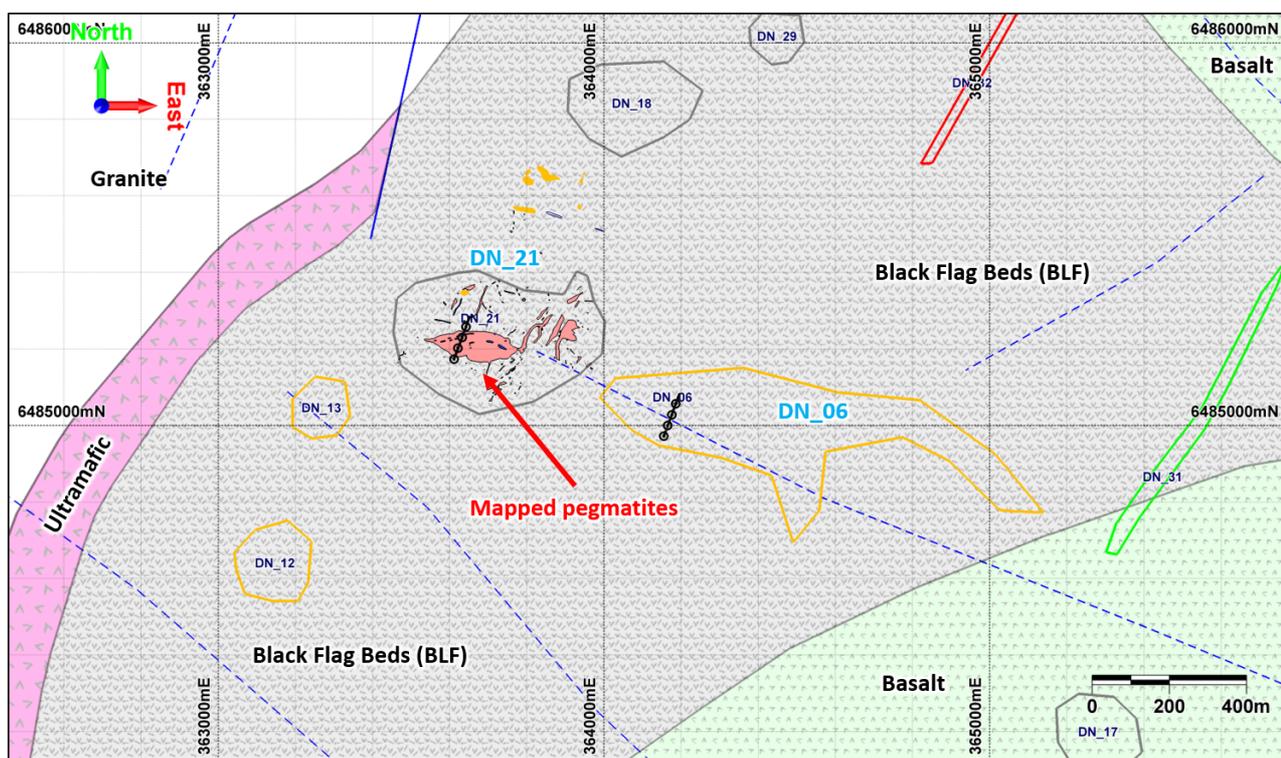


Figure 3 - DN21 and DN06 interpreted geology and interpreted structures (blue lines) with proposed drill hole traces (black circles and lines).



NEXT STEPS

- Completion of the 5,000m air-core drill programme as detailed above, expected by mid-August.
- Release of first assay results anticipated towards the end of September.
- Continuation of field activities including soil sampling and mapping.

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

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ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer focused on key global demand-driven commodities, focussed on 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 (Li₂O).
- **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:

- **LITHIUM:** The Company holds a 51% Project interest in the **Mavis Lake** Project, Ontario, Canada where drilling has intersected spodumene.
- **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 Crest Investment Group, 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).



Reference to previous market announcements

Previous ASX releases referred to in this release:

- 29 September 2020 – Dome North Resource upgrade
- 4 February 2020 – Successful 2nd drill programme at Dome North area

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.

Exploration Work - Competent Person Statement

Mr Andrew Dunn (MAIG), Exploration Manager who is employed full-time by Essential Metals Limited, compiled the technical aspects of this Report. 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.