



ESSENTIAL METALS

for a sustainable future

28 September 2021

Advancing the Pioneer Dome Lithium Project to 'development ready' status in parallel with new drilling programmes

Strategic lithium asset being prepared for the transition to development, with a new phase of exploration also planned

KEY POINTS

- Initial steps are being taken to transition the Dome North Resource area to a 'development ready' status. These steps include:
 - An application for a Mining Lease over the Dome North Mineral Resource;
 - a capital and operating cost study for two process plant scenarios;
 - a flora and fauna study; and
 - a hydrology study.
- Two drilling programmes are also being planned for the December Quarter with the following objectives:
 - Dome North:** Shallow diamond core drilling into the upper zones of the Cade and Davy Deposits to upgrade them from Inferred to Indicated categories and provide samples for metallurgical test work; and
 - South Dome:** Air-core drilling to test various targets in the southern area of the Pioneer Dome Project.
- Assay results from the recent Dome North drill programme are now expected in the first half of October. While this drilling does not appear to have identified a new, large lithium-mineralised pegmatite, the results will be important for further targeting of pegmatites in and around the Dome North Resource, which is still very much under-explored.

Essential Metals Managing Director, Tim Spencer, said: "We are pleased to announce a range of programs designed to move our exciting Pioneer Dome Lithium Project, one of only a dozen lithium hard rock projects in Australia, towards development. The continuing significant improvements in outlook for lithium should make the business case for Dome North even more compelling and we want to be ready to develop the Project at the right time."

In parallel with these pre-development work streams, we are planning a new phase of drilling for the next quarter, aimed at upgrading the upper zones of the Cade and Davy deposits from Inferred to Indicated and testing various targets across the southern portion of the Project. With a two-pronged approach to unlocking the value of the Pioneer Dome Lithium Project, this is an exciting time for our shareholders."

ASX Code: ESS

Corporate Profile

Shares on issue: 240,839,974

Cash: \$5.5m (30 June 2021)*

Debt: Nil

* \$5M placement (04 Aug 2021)

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

Investor Relations

Nicholas Read

Read Corporate

t: +61 8 9388 1474

e: nicholas@readcorporate.com.au

ABN: 44 103 423 981

t: +61 8 9322 6974

e: info@essmetals.com.au

w: essmetals.com.au

Level 3, 46 Ord St
West Perth, WA 6005
Australia
PO Box 1787,
West Perth, WA 6872
Australia

PIONEER DOME LITHIUM PROJECT

The Pioneer Dome Lithium 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 area¹.

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.

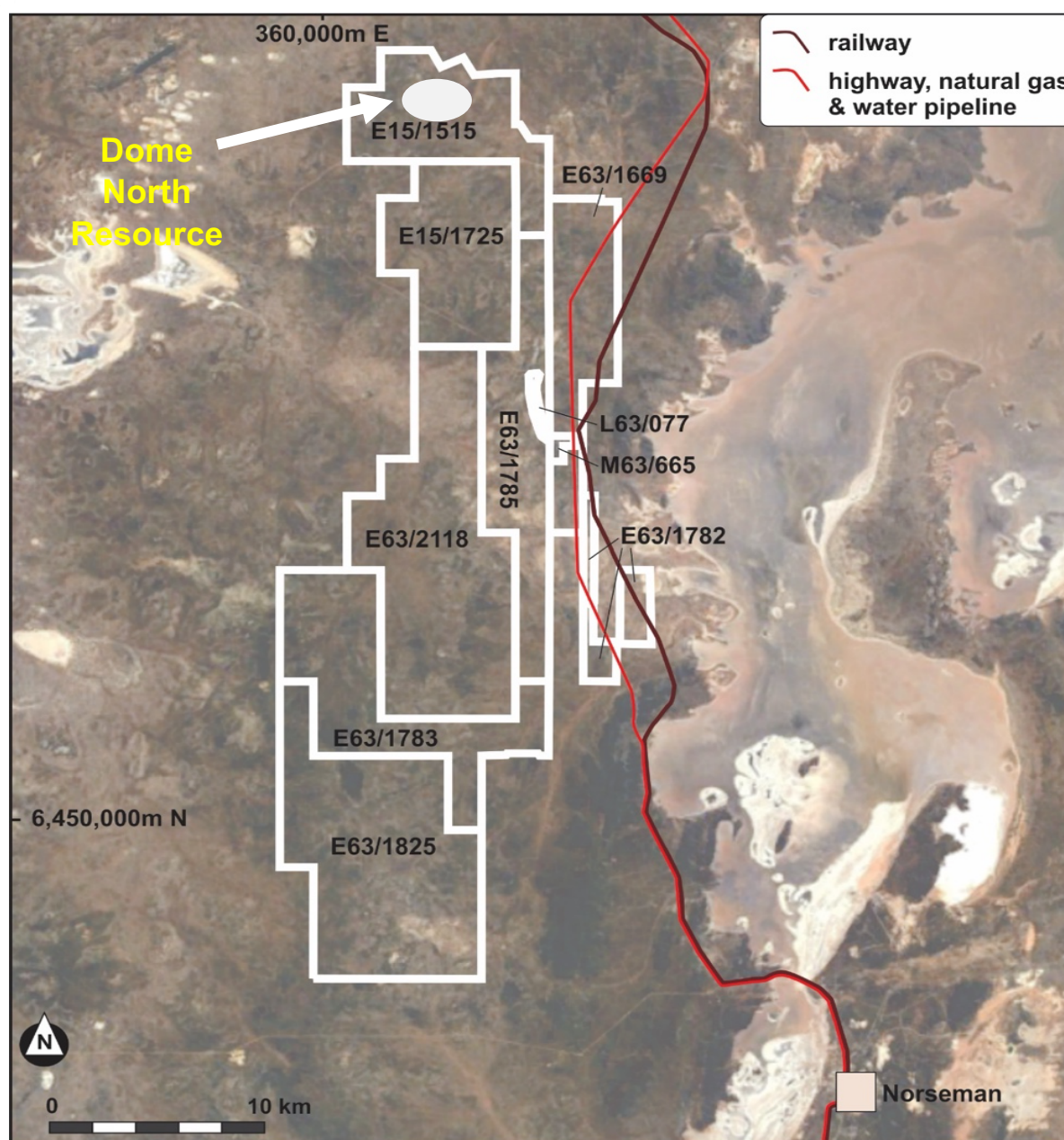


Figure 1 – The location of the tenements of the Pioneer Dome Lithium Project relative to major infrastructure

¹ Refer ASX announcement dated 29 September 2020 – Dome North Lithium Project - Resource upgrade



STEPS TOWARDS BEING DEVELOPMENT READY

As part of its strategy to become a new force in the lithium supply chain, Essential Metals Limited (ASX:ESS; “Essential”) is pleased to provide an update on a number of current and planned activities to advance the Dome North Lithium Project towards being ‘development ready’.

Lithium miners, market observers and downstream lithium chemical pricing indexes all point towards a tightening supply dynamic in the face of burgeoning demand, flowing through to higher pricing for lithium-bearing spodumene.

While continuing exploration to grow its lithium resources and potentially make new discoveries at the Pioneer Dome Lithium Project, the Company is taking key steps to position the Project to be ‘development ready’ by commencing studies that are required to obtain the various regulatory approvals to operate a mine and to further advance technical and financial studies for a future operating lithium project based on the Dome North Mineral Resource. These steps include:

- Primero Group has been engaged to undertake scoping study level engineering for two plant flowsheet options, ‘dense medium separation + flotation’ and ‘whole-of-ore flotation’ and provide indicative **capital (+/-40%) and operating costing estimates**. This information will allow internal financial modelling to be undertaken to provide a better understanding of the economic parameters and sensitivities of a mining operation based on the current Dome North Mineral Resource to allow formal development studies to be fast-tracked. Primero Group was recently selected by the SQM-Wesfarmers joint venture to undertake the EPC contract for the Mt Holland Concentrator project.
- Botanica Consulting, a Kalgoorlie based environmental consultancy, has been engaged to conduct springtime **flora and fauna surveys** to assist with the coordination of the baseline studies required to secure regulatory approvals and licences.
- Rockwater, a specialist hydrogeological and environmental consulting firm, has been engaged to complete a desktop study of **groundwater supply sources** in and surrounding the Pioneer Dome Lithium Project.
- Preparations have commenced for a **Mining Lease Application** over the Dome North area (within tenement E15/1515), based on a mineralisation report.
- Discussions are continuing with the Ngadju Native Title Aboriginal Corporation (NNTAC), the body representing the Ngadju People, who are the custodians of the land on which the Pioneer Dome Project is located. A Mining and Heritage Agreement is already in place with the NNTAC covering the Pioneer Dome Project.

The various studies outlined above are expected to be completed by December this year. The Mining Lease Application may take between 6 and 12 months to be granted.

**TIMING OF DRILLING RESULTS FOR RECENTLY COMPLETED PROGRAMME AT DOME NORTH**

The assay results from the recently completed drilling programme are now expected to be received by the second week of October.

As previously reported², important preliminary observations from the programme concern one hole drilled in the southern end of the Davy Deposit and the four holes drilled into the upper central zone of the Cade Deposit and assays are awaited to determine the tenor of lithium mineralisation.

The eight holes drilled into the DN6 and DN21 targets intersected pegmatites of up to 18m in thickness (down-hole). Detailed geological logging of the drill chips does not indicate the presence of visual spodumene.

Several thinner (1 to 4m wide) pegmatites were intersected beneath transported cover.

The drilling programme has provided important information for further targeting of pegmatites in and around the Dome North Resource, which is still largely under-explored.

NEXT DRILLING PROGRAMME AT DOME NORTH

The Dome North Lithium Resource, as detailed in Table 1 below, provides an excellent foundation for a near-term development opportunity with half of the total contained lithium classified in the higher confidence Indicated category. A drill programme is currently being planned to convert more of the Resource from Inferred to Indicated at the Cade and Davy Deposits.

Drill rig availability in Western Australia is extremely tight and best endeavours are being made to secure a suitable diamond core drill rig to undertake a small programme in the December Quarter this year to achieve the key objective of improving confidence in the Resource by converting more Resources to an Indicated category and providing diamond core from the Cade and Davy Deposits for further metallurgical test work.

Table 1. Mineral Resource by Category: Dome North Lithium Project (0.5% Li₂O cut-off grade)

Classification	Tonnes (Mt)	Li ₂ O %	Ta ₂ O ₅ ppm	Contained Li ₂ O (t)	Fe ₂ O ₃ %
Measured	-	-	-	-	-
Indicated	5.4	1.30	33	70,000	0.55
Inferred	5.8	1.14	46	66,000	0.66
Total	11.2	1.21	40	136,000	0.61

Note: Appropriate rounding applied.

² Refer to ASX announcement dated 25 August 2021 "Dome North drilling completed"

**Table 2. Mineral Resource by deposit and category: Dome North Lithium Project (0.5% Li₂O cut-off grade)**

Deposit	Classification	Tonnes (Mt)	Li ₂ O %	Ta ₂ O ₅ ppm	Contained Li ₂ O (T)	Fe ₂ O ₃ %
Cade	Indicated	5.4	1.30	33	70,000	0.55
	Inferred	2.8	1.18	33	33,000	0.63
Davy	Inferred	2.3	1.13	53	25,000	0.68
Heller	Inferred	0.7	1.02	76	8,000	0.72
Total	Total	11.2	1.21	40	136,000	0.61

Note: Appropriate rounding applied.

NEXT DRILLING PROGRAMME AT DOME SOUTH

An air-core drill programme has been planned to test various targets (lithium and nickel) across the southern tenements of the Pioneer Dome Project. This is expected to commence in the December Quarter, subject to the results of an aboriginal heritage survey and confirmation of an air-core drill rig booking.

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

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 (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 Lithium Project - Resource upgrade
- 19 July 2021 – Dome North lithium drilling commences
- 23 July 2020 – Dome North Lithium Project update

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.