

5<sup>th</sup> September 2023

## Development Update - Pioneer Dome Lithium Project, WA

Essential Metals Limited (ASX: ESS) (“Essential”) is pleased to advise that multiple key work programmes have been planned and approved by the Essential Board for execution as part of detailed studies to rapidly advance the Pioneer Dome Lithium Project towards development. These programmes will be carried out during the remainder of this year with the first of these programmes underway.

### KEY HIGHLIGHTS

- **Metallurgical testwork:** A diamond drill (DD) programme has commenced at the Cade deposit to provide drill core for metallurgical optimisation testwork and project engineering design.
- **Heritage Survey:** A heritage survey over Mining Lease M15/1896 is due to commence in October and to be completed in November. This will clear the way for future mining operation and for a water exploration programme.
- **Water targeting:** Following completion of the heritage survey, a drill programme will be undertaken to test areas of Pioneer Dome tenure identified as having the potential to provide future production water sources.
- **Flora & Fauna survey update:** A survey will commence in October to provide an update to the baseline survey completed in November 2021.
- **Clearing Permit:** Outputs from the flora and fauna survey will then be used to apply for a clearing permit covering the footprint of the future mining operation. This is expected to be granted by the June Quarter of 2024.
- **Technical expertise input from Develop Global:** Technical input is being provided at no cost by Develop Global Limited (ASX: DVP) (“Develop Global”) in a range of areas including metallurgy, geology, hydrology, mine engineering and planning, environmental, native title and mine permitting given the Scheme Implementation Deed entered into between Essential and Develop Global.

### Scheme of Arrangement with Develop Global

As announced on 3 July 2023<sup>1</sup>, Develop Global and Essential entered into a binding Scheme Implementation Deed under which Develop proposes to acquire 100 per cent of the issued shares in Essential by way of a Scheme of Arrangement (Scheme).

The Scheme Consideration is 1 new Develop share for every 6.18 Essential shares held.

<sup>1</sup> Refer to Essential ASX Announcement dated 3 July 2023 titled “DVP & ESS Transformational Transaction”.

The Scheme is unanimously recommended by the Essential Board of Directors in the absence of a superior proposal and subject to an Independent Expert concluding that the Scheme is in the best interests of Essential shareholders<sup>2</sup>.

Essential's largest shareholder, Mineral Resources Limited (ASX: MIN) (MinRes), has agreed to vote its 19.45% shareholding in Essential in favour of the Scheme in the absence of a superior proposal and subject to the Independent Expert concluding that the Scheme is in the best interests of Essential shareholders.

There is no required action for Essential shareholders at this time. A scheme booklet with detailed information (including the respective advantages and disadvantages of the Scheme) and next steps will be dispatched to shareholders in due course. Shareholders are encouraged to review the scheme booklet in its entirety when it becomes available.

In the interim, shareholders are encouraged to read the ASX announcement of 3 July 2023 titled "DVP & ESS Transformational Transaction", for further details including the rationale of the proposed Scheme.

Essential Metals Managing Director, Tim Spencer, said: *"We are making significant progress by undertaking these detailed studies, starting with the most important part of a lithium operation – the optimisation of the lithium-bearing spodumene recovery into a concentrate. I am grateful to Bill Beament and his team at Develop Global for being readily available and generous with their time in providing technical input into the planning of these programmes."*

*"High inflation combined with funding being more expensive and difficult to obtain makes for a challenging mine development environment for smaller, single-asset companies such as Essential Metals. The key reasons for the Essential Board recommending the Scheme of Arrangement announced on 3 July with Develop Global are coming to the fore."*

### **Dome North – Cade deposit metallurgical drill programme**

Two rounds of metallurgical test work have been completed to date, using drill core from 14 diamond holes collected across the Cade and Davy deposits. The test work has indicated that these deposits are amenable to Dense Media Separation (DMS) and flotation processing.

The purpose of this diamond drill (DD) programme is to collect core samples for the third round of metallurgical test work, which will inform the design of the beneficiation concentrator plant. A work programme has been designed to initially collect core from the Cade deposit, Cade accounting for +70% of the total Resource that will be treated by the beneficiation plant.

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<sup>2</sup> The Board of Directors of Essential hold, in aggregate, 5,351,556 Essential shares. Timothy Spencer, Managing Director, of Essential, currently holds 1,015,636 Essential Performance Rights (which will convert to shares upon the change of control occurring) and each of the Directors of Essential hold Essential options, being in aggregate, 3,700,002 options (which may be converted into shares or will otherwise be subject to a private treaty agreement, subject to requisite ASX waiver of LR 6.23.2, to be cancelled for consideration consisting of Develop shares equal to the intrinsic value of such options). Despite any of the Directors' personal interests in the outcome of the Scheme, the Directors consider that given the importance of the Scheme and their obligations as Directors, it is important and appropriate for them to provide a recommendation to shareholders in relation to the Scheme. Full details in respect of all interests will be contained in the scheme booklet and Shareholders are encouraged to review it in its entirety when it becomes available.

The drill programme is now underway and consists of 13 DD holes for a total of 848m of drilling into the upper half of the Cade deposit. Drill core will be collected from surface to depths of up to 125m below surface. Core will be collected for metallurgical test work and involve:

- Mineral liberation analysis.
- Bulk (~2 tonne) sample for high-pressure grinding roll (HPGR) analysis of weathered spodumene pegmatite.
- Bulk (~2 tonne) sample for HPGR analysis of fresh spodumene pegmatite.
- Small (200kg) sample comminution tests, mineralogy studies, and head assays.
- Single-run (300kg) two-stage DMS and batch and locked cycle flotation tests.
- Other test work as considered necessary or desirable.

The drill programme commenced in early September and is expected to be completed in early October. The assay results are expected to be received by the end of the year (including allowing time to log, cut and prepare the drill core).

The metallurgical testwork will then commence and is expected to take four to five months to complete with the results expected to be received in the June Quarter 2024.

## **Heritage Survey**

Following consultation with Ngadju Native Title Aboriginal Corporation (NNTAC), the representative body of the Ngadju Aboriginal People who hold native title over the land underlying the Pioneer Dome Lithium Project, an archaeological and ethnographic Work Area Clearance survey will commence in October and is expected to be completed before the end of the year.

Essential and NNTAC have a mining agreement and a heritage agreement in place covering the entire Pioneer Dome Lithium Project.

## **Water targeting**

Building on a high-level review of potential groundwater sources completed in January 2022 for the proposed Dome North lithium mining operation and further knowledge accumulated through exploration studies and drill programmes, a drill programme to test multiple water targets has been prepared.

The drill programme will commence once the target areas not previously heritage cleared have been surveyed by NNTAC personnel as part of the heritage survey outlined above.

## **Flora & Fauna survey update**

A flora and fauna baseline survey was completed in the spring of 2021 with no sensitive flora or fauna related issues identified. A survey update has been planned for spring 2023 and will commence in October this year, covering M15/1896 and areas peripheral to the mining lease, such as access roads. This survey will provide the ability to determine changes in the environmental aspects of the area and will feed into a future mining proposal required for approval of a mining operation.

## **Clearing Permit**

Once the Flora & Fauna survey update has been completed, a clearing permit covering the conceptual footprint of the future mining operation will be applied for. It is anticipated that approval of the clearing permit will take 3-4 months from the submission date.

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

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## PIONEER DOME LITHIUM PROJECT

The 450km<sup>2</sup> Pioneer Dome Project (ESS: 100%) is 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>3</sup> of 11.2Mt @ 1.16% 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 Pioneer Dome, the Bald Hill Mine, the Mt Marion Mine, the Manna Project and the Buldania Project – all of which are located within a 90km radius. 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.

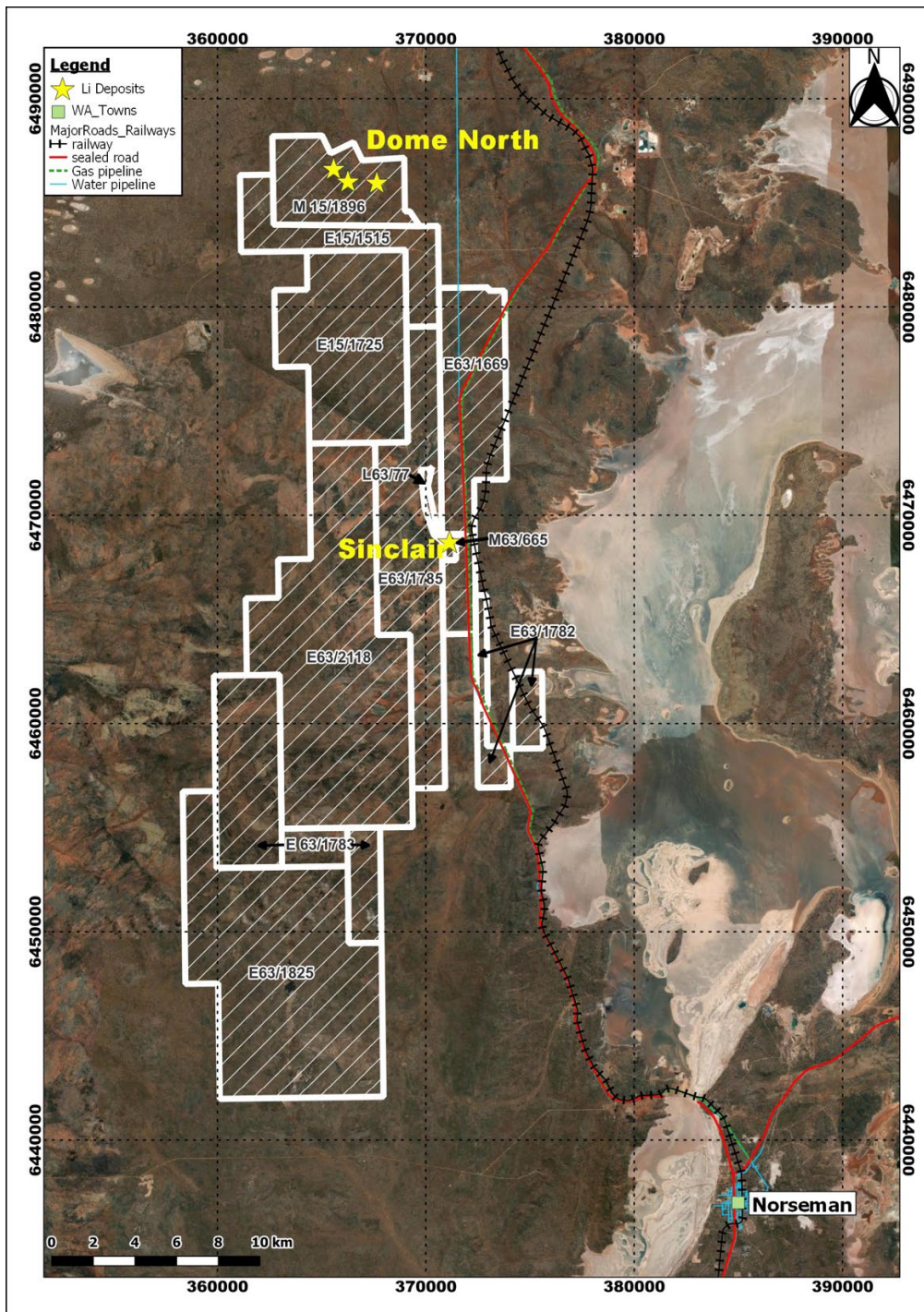


Figure 1 – Pioneer Dome Lithium Project lithium deposits, tenements and major infrastructure.

<sup>3</sup> Refer ASX:ESS announcement 20 December 2022 “Dome North Resource upgrade”

## ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer/developer focussed on the discovery of lithium and other 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 @ 1.16% lithium (Li<sub>2</sub>O) including 8.7 million tonnes @ 1.23% lithium (Li<sub>2</sub>O) within the Indicated Category.<sup>4</sup>
- **GOLD:** The **Juglah Dome Project** is located 60km east-south-east of Kalgoorlie and is 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), who will fund 100% of gold exploration programmes until a decision to mine is made, with Essential Metals holding a 30% interest in precious metals and 100% of all other minerals.
- **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 exploration programmes until completion of a bankable feasibility study with Essential Metals retaining a 25% interest in all minerals.
- **GOLD:** The Company holds a 25% interest, free-carried interest up to a decision to mine, in all minerals except 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% interest, free-carried interest up to a decision to mine.
- **NICKEL:** The Company holds a 20% (nickel only) interest, free-carried to a completion of a feasibility study which recommends that commercial mining operations be commenced, in the **Wattle Dam project** near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).
- **NICKEL:** The Company holds a 20% interest, free carried up to completion of a feasibility study which recommends the establishment of a mining area, in the **Maggie Hays project** near Lake Johnson, WA, with Poseidon Nickel Ltd (ASX:POS).

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<sup>4</sup> Refer ASX announcement 20 December 2022 "Dome North Resource upgrade".

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### **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.

### **Exploration Results – Competent Person Statement**

Mr Matthew Watson (AusIMM) holds the position of Chief Geologist and is employed full-time by Essential Metals Limited. Mr Watson is eligible to receive equity-based securities in Essential Metals Limited under the Company's employee incentive schemes. Mr Watson compiled the technical aspects of this Announcement pertaining to Exploration Results, which is based on and fairly represents information compiled by Mr Watson. Mr Watson is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to this style of mineralisation 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 Watson consents to the inclusion in the report of the matters in the form and context in which it appears.

### **Dome North Lithium Mineral Resource – Competent Person Statement**

The information in this report that relates to the Dome North Lithium Project Mineral Resource is based on information compiled by Mr Andrew Dunn (previously the Exploration Manager and permanent employee of Essential Metals Limited) and Mr Lauritz Barnes (consultant with Trepanier Pty Ltd). Mr Dunn was eligible to receive equity-based securities in Essential Metals Limited under the Company's employee incentive schemes. Mr Dunn and Mr Barnes are both members of the Australian Institute of Geoscientists. Mr Dunn and Mr Barnes both 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 Dunn was the Competent Person for the database (including all drilling information), the geological and mineralisation models plus completed the site visits. Mr Barnes is the Competent Person for the construction of the 3-D geology / mineralisation model plus the estimation. Mr Dunn 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 Resource by deposit and category: (0.3% Li<sub>2</sub>O cut-off grade)**

<b>Deposit</b>	<b>Classification</b>	<b>Tonnes (Mt)</b>	<b>Li<sub>2</sub>O %</b>	<b>Ta<sub>2</sub>O<sub>5</sub> ppm</b>	<b>Contained Li<sub>2</sub>O (T)</b>	<b>Fe<sub>2</sub>O<sub>3</sub> %</b>
Cade	Indicated	6.9	1.26	49	88,000	0.44
	Inferred	1.3	0.88	49	11,000	0.44
Davy	Indicated	1.6	1.08	81	18,000	0.54
	Inferred	0.6	0.89	73	4,000	0.58
Heller	Inferred	0.7	1.02	76	8,000	0.72
<b>Total</b>	<b>Total</b>	<b>11.2</b>	<b>1.16</b>	<b>57</b>	<b>129,000</b>	<b>0.48</b>

*Note: Appropriate rounding applied.*