

16 November 2022

Multiple lithium targets identified at the Pioneer Dome Lithium Project

Structural geological study has assisted in defining 40+ targets across 450km² of project tenure, highlighting the substantial exploration upside outside of the current 11.2Mt lithium Mineral Resource¹.

Highlights

- **Structural Interpretation: Over 40 targets** have been identified and ranked with field checking now in progress. The results of the structural geological study have been incorporated with other exploration data including geophysical surveys, soil geochemistry, drilling, and field mapping, allowing targets to be defined and ranked by an external consultant (Xirlatem).
- Field-checking has already identified several new pegmatites including a north-south trending **pegmatite sub-crop up to 15m wide** to the east of PEG004, located approximately 13km south of the Dome North LCT pegmatites and 5km north of the Sinclair LCT pegmatite. Fieldwork will continue with the aim of delineating a drill plan for implementing in March Quarter 2023.
- **Two large soil programmes** are also underway over areas containing two priority structural targets that have not previously been soil sampled.
- The **updated Dome North Mineral Resource** is expected to be completed in three weeks. Together with metallurgical test work results, this will underpin the Scoping Study that is currently underway and expected to be completed by mid-January 2023.

Essential Metals Managing Director, Tim Spencer, said: *“While pressing ahead with our strategy to get the Dome North lithium Mineral Resource (11.2Mt @ 1.21% Li₂O)¹ ready for development, we are very much focussed on making new lithium discoveries across what is a very large and prospective land position in WA’s premier lithium corridor. This corridor already hosts 5 of Australia’s 14 lithium (spodumene) Mineral Resources within a 90km radius, including our own. This is an exciting time for Essential as we advance our development to the next level and begin to unlock the broader potential of the Pioneer Dome Project.”*

¹ Refer to ASX announcement dated 29 September 2020 “Dome North Lithium Project – Resource Upgrade”

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PIONEER DOME LITHIUM PROJECT

The 450km² 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 of 11.2Mt @ 1.21% Li₂O¹ 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 Pioneer Dome, Bald Hill Mine, the Mt Marion Mine, the Manna Project and the Buldania Project, all of which are located within a circle with 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.

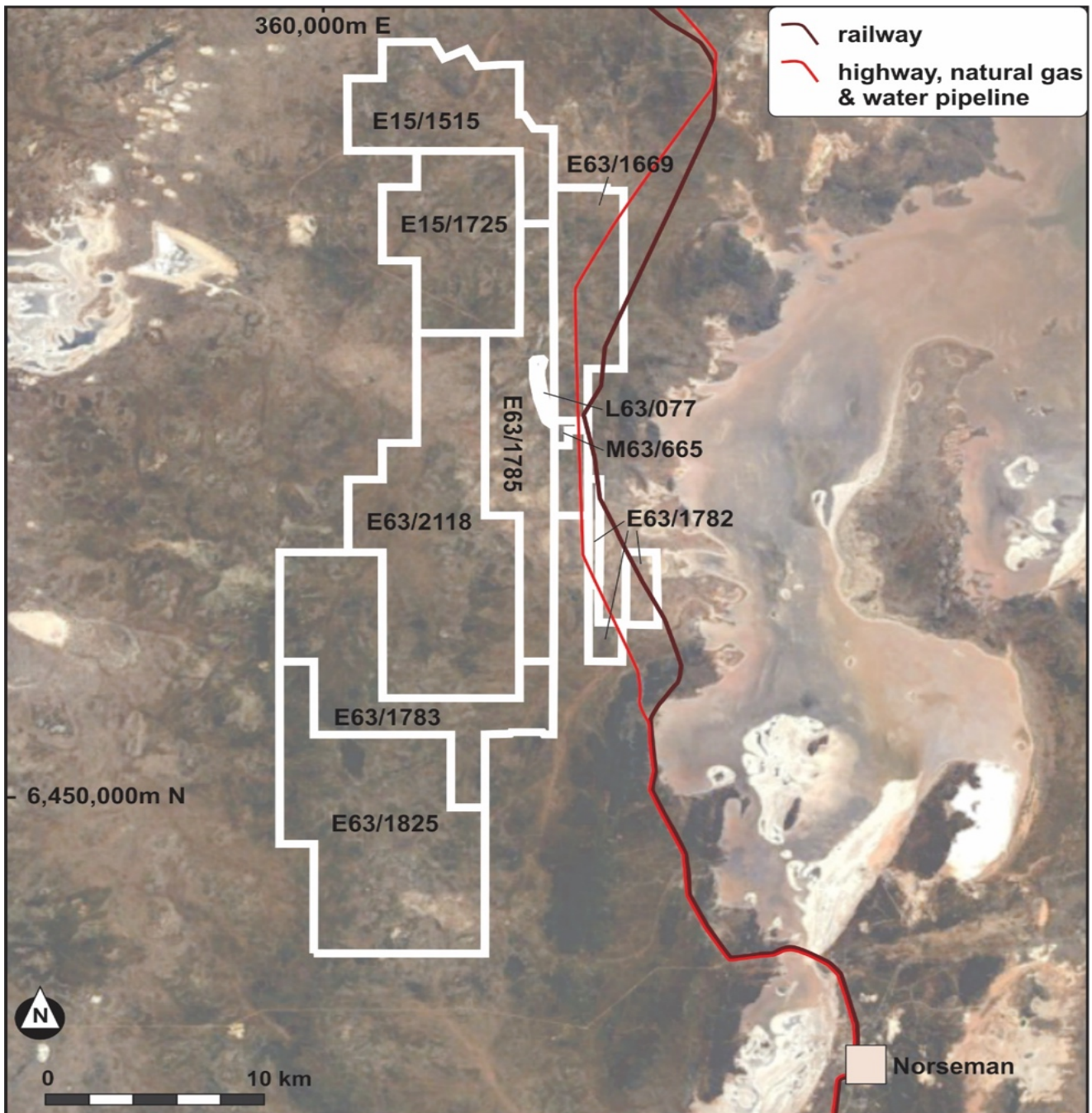


Figure 1 – The location of the tenements of the Pioneer Dome Lithium Project relative to major infrastructure.

EXPLORATION UPDATE

A review of the Pioneer Dome Lithium Project was undertaken by independent consultants, Xirlatem, with the aim of resolving the controls, primarily structural, on the localisation of Lithium-Caesium-Tantalum (LCT) pegmatites. The objective of the review was to define and rank prospective LCT targets and to provide recommendations regarding future work programs to test or further define these targets.

This project involved interpreting the structural evolution of the Pioneer Dome from regional datasets and field observations to refine the interpretation and ranking of LCT pegmatite targets.

There appears to be a very strong relationship between the late stage ('D4') fracture corridors and known LCT pegmatite occurrences across the Pioneer Dome project, particularly where those fracture corridors pass through ultramafic rocks. There is, therefore, a strong weighting towards the D4 structural features when ranking the LCT targets.

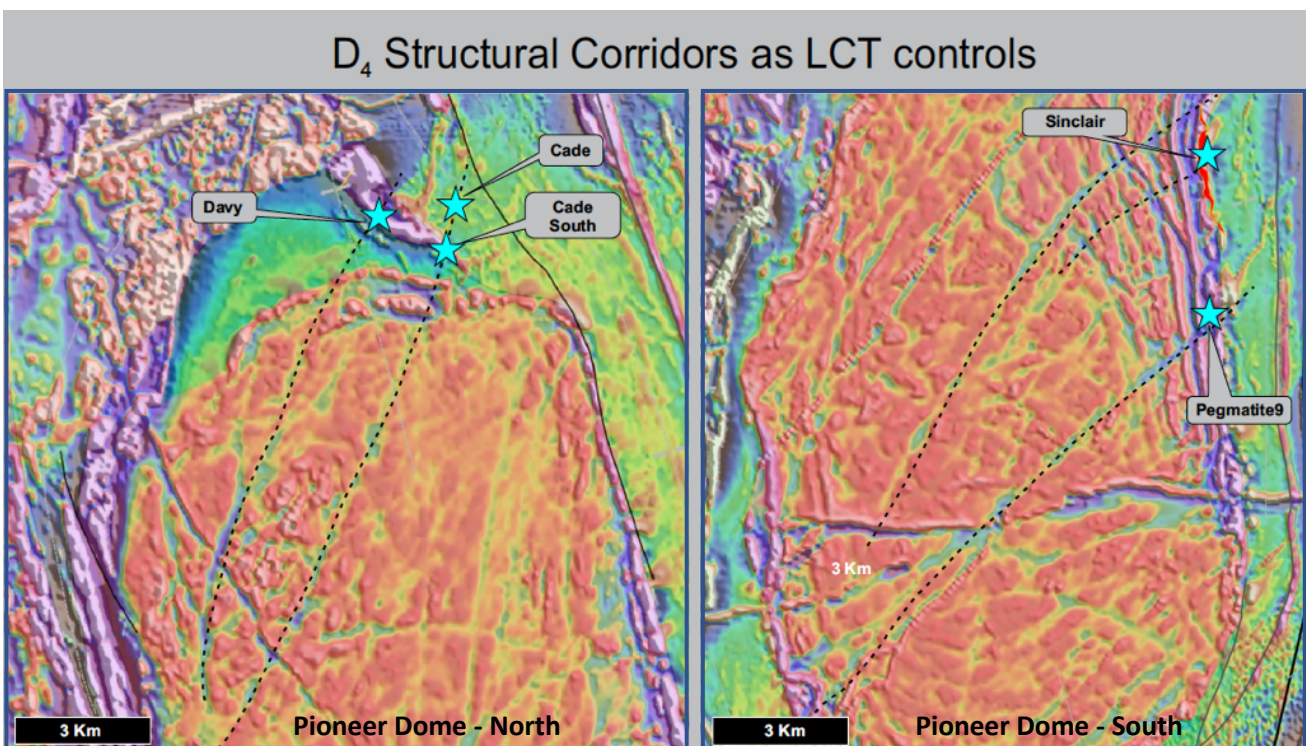


Figure 2 – The interpreted major D4 structural corridors (dotted lines) coincident with the Dome North and Sinclair LCT pegmatites on top of the regional First Vertical Derivative (1VD) Total Magnetic Intensity (TMI) magnetic image.

The targeting exercise has highlighted over 40 targets. Several of these coincide with previously defined targets, resulting in a strong correlation with previous work and providing confidence in the independently undertaken review.

Targets are ranked based on geological context (conceptual criteria) and hard data such as soil chemistry, feldspar chemistry or drillhole assays (empirical data). Field checking of the targets, in order of ranking, will take place over the coming months with several targets having already been visited, identifying pegmatites up to 15m wide.

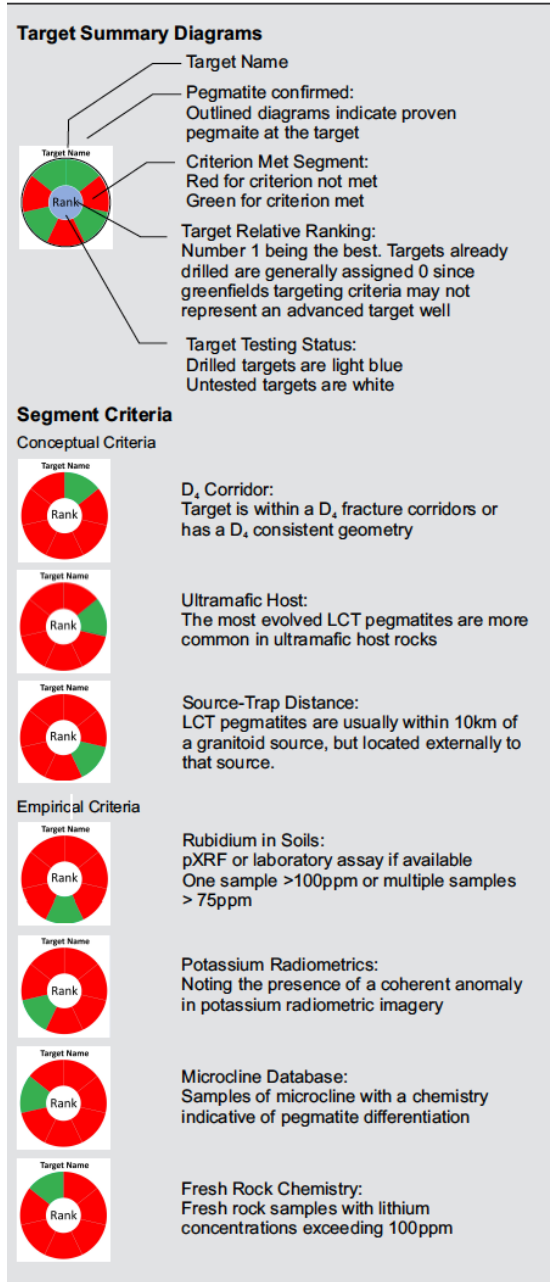
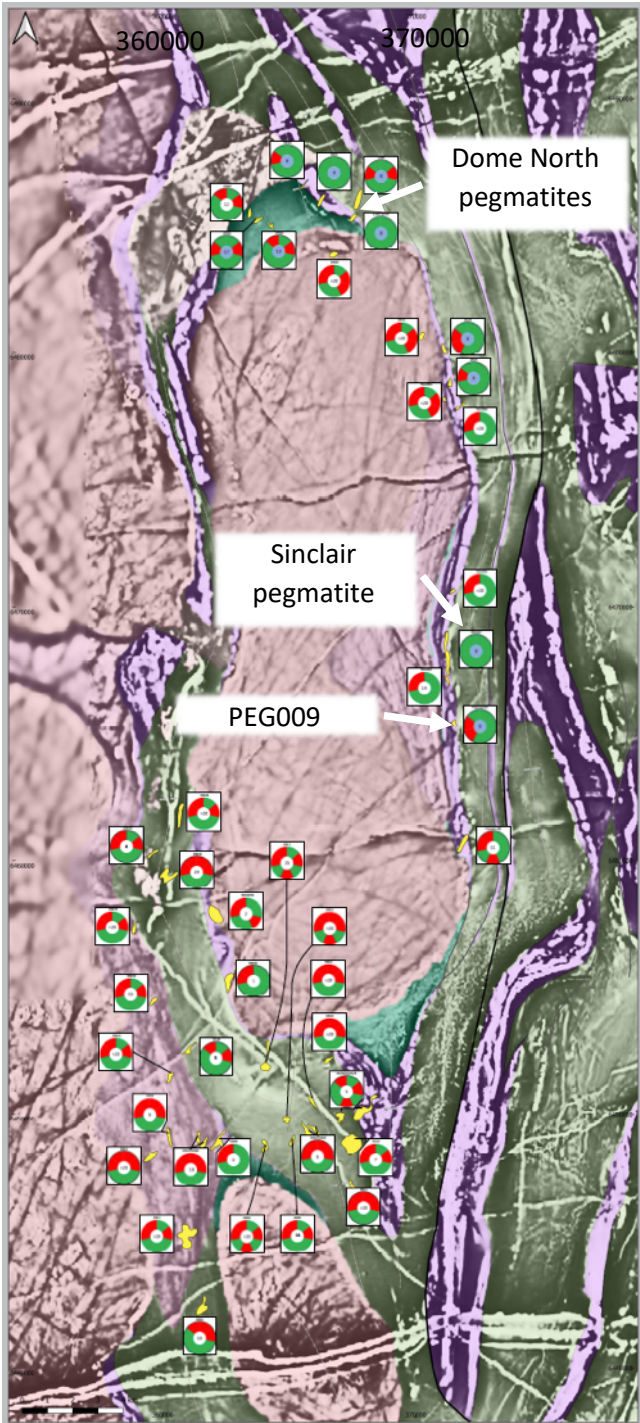


Figure 3 – Multiple targets generated by Xlrlatem (map on left) with the ranking criteria listed on the right.

IMMEDIATE WORK PROGRAMS

PEG004 target

The PEG004 target was previously identified from soil geochemistry and field reconnaissance with lepidolite bearing pegmatites identified. Its status is being prioritised following the structural geology review and during a recent field programme new pegmatites further to the east were mapped with some returning up to 15m in sub-crop thickness ('eastern pegmatite' in Figure 4). The host rock was amphibolite (after ultramafic), with ultramafic and mafic lithologies that predominantly trend north-south and dip steeply to the east.

Further field mapping and reconnaissance work is being undertaken with the aim of conducting a drill programme in the March Quarter 2023.

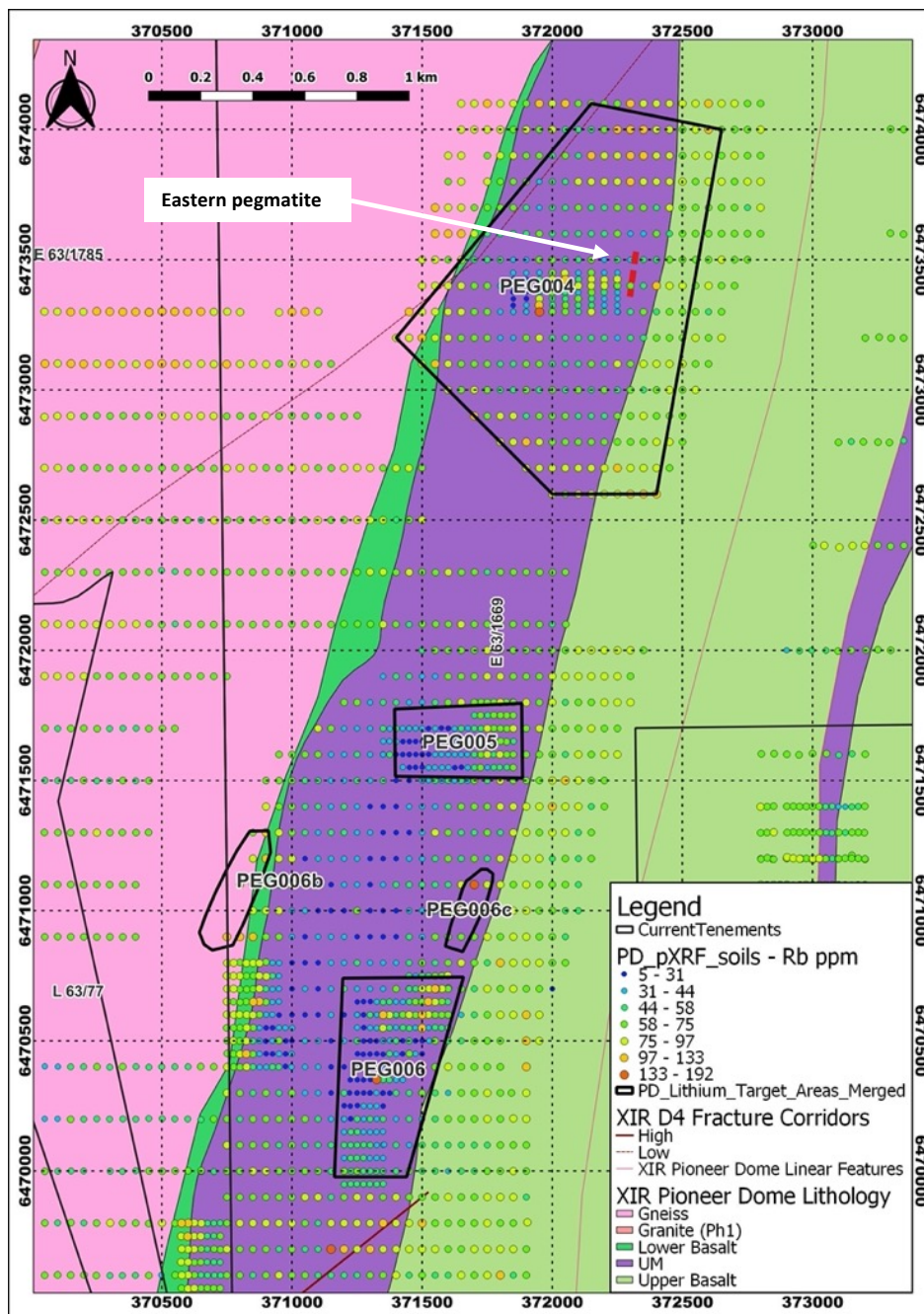


Figure 4 – Targets PEG006_West, NCSN01, PEG006 (North) and PEG004 with pXRF Rb-in-soils on top of interpreted geology.



Figure 5 – Photo of pegmatite outcrop at PEG004, looking southwards along the pegmatite where lithium mineralisation (lepidolite-cleavelandite-zinnwaldite) was previously identified.



Figure 6 – Photo of a sub-cropping eastern pegmatite, looking southwards along the pegmatite - up to ~15m wide.

Soil programme

The intersection of two Proterozoic dolerite dykes has been identified as a priority target as the structural review suggests that the LCT pegmatites utilise the same architecture as these late dykes. A pXRF soil sampling programme, shown within tenement E15/1725 in the map in Figure 7 below, has been designed to cover the extent of this conceptual target at 50m x 400m spacings.

A second target has been identified within tenement E63/2118 on the western site of the Pioneer Monzogranite, as shown in Figure 7 below. A soil programme has been planned on 50m x 200m spacings as a first pass test of the potential for LCT pegmatites.

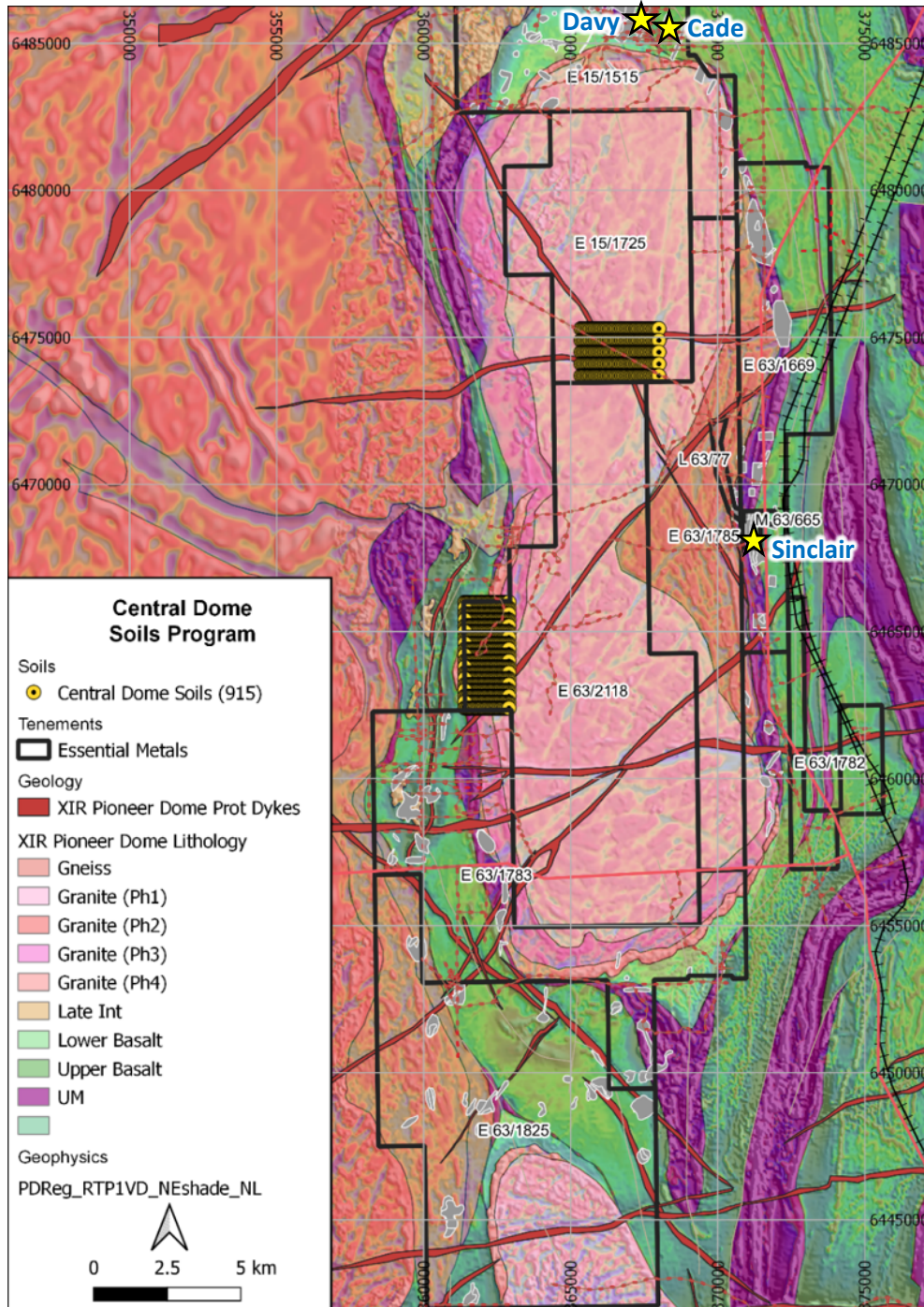


Figure 7 – Geological map showing two areas where soil sampling programmes are underway.

**UPCOMING KEY EVENTS****December**

- Completion of the Dome North Mineral Resource update.
- Receipt of non-binding expressions of interest from parties seeking a financing and off-take partnership to assist with advancing the Pioneer Dome Lithium Project into production.

January

- Completion of the Pioneer Dome Lithium Project Scoping Study.

Exploration activities will continue in parallel with the above key milestone activities, focused on discovering new spodumene-bearing pegmatites at the Pioneer Dome Lithium Project.

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 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 @ 1.21% lithium (Li₂O).²
- **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), who will 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).

² 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.

Exploration Results – Competent Person Statement

Mr Andrew 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 pertaining to Exploration Results, 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 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 Dunn 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 Mineral Resource Estimates 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. 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.

**Dome North Lithium Mineral Resource (29 September 2020)**

Project area	Category	Tonnes (Mt)	Grade (Li₂O %)	Tonnes Li₂O
Cade Deposit	Indicated	5.4	1.30	70,000
	Inferred	2.8	1.18	33,000
Davy Deposit	Inferred	2.3	1.13	25,000
Heller Deposit	Inferred	0.7	1.02	8,000
Total		11.2	1.21	136,000