ASX announcement

14 March 2023

Authorisations granted ahead of lithium drilling at Higginsville

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to advise that an Aboriginal heritage clearance has been granted and a program of works approved by the Western Australian Department of Mines, Industry Regulation and Safety for an imminent drilling program at its 80% held Higginsville project in Western Australia. Soil sampling has recommenced at the Darson Pegmatite Swarm.

Highlights

Drilling Program

- Argonaut has received approvals to **commence drilling at Darson on 21 March 2023**.
- An **Aboriginal heritage clearance of the drilling area has been granted**.
- A **Program of Works was approved** by the WA Department of Mines.
- The Company expects to commence a 3,000 m Reverse Circulation (RC) drilling program.
- Argonaut is fully funded for this drilling program.

Sampling Program

- A field crew mobilised to the Darson prospect on 4 March 2023 and is continuing infill and regional sampling to better define existing targets and identify new drilling targets.
- Field mapping and sampling by Argonaut has defined an extensive swarm of LCT pegmatites[1].
- Detailed mapping of the Darson pegmatite swarm uncovered several LCT pegmatite outcrops, the largest of which measures ~400m in strike length and ~150m in width. See Figure 3, Darson Central.
- The pegmatite swarm extends from Darson South to the northern area of Darson East over an aggregate strike length of more than two kilometres (Figure 2).

1 *https://www.argonautresources.com/site/pdf/23a16478-ebf8-4eca-a164-91ef8f75f414/Additional-Large-Pegmatites-discovered-at-Higginsville.pdf*

Argonaut Resources NL
ABN 97 008 084 848

Registered Office
Level 6, 100 Pirie Street
Adelaide, SA, 5000
AUSTRALIA
P +61 8 8231 0381
E adelaide@argonautresources.com

Prime Geological Setting for Discovery

- The Darson pegmatite swarm is located within the Tier 1, world class Norseman – Coolgardie LCT Pegmatite Corridor (Figure 1).
- This is a prime geological setting for the discovery of a commercial lithium deposit and is located within:
- four kilometres of the Dome North lithium deposits held by Essential Metals, and
- 12 kilometres of the Sinclair caesium mine (see Figure 1).
- Regionally, the Darson pegmatite swarm is located at the centre of a cluster of major lithium Resources (See Figure 1), including:
  - ¬ Bald Hill (Alliance),
  - ¬ Mount Marion (Mineral Resources),
  - ¬ Buldania (Liontown Resources), and
  - ¬ Dome North (Essential Metals).

Higginsville Project

- Argonaut holds an 80% interest in exploration licence E15/1489 which hosts:
- the Darson Pegmatite Swarm;
- the Amorphous gold deposit; and
- the Footes Find gold prospect.

Lithium Exploration – Darson Pegmatite Swarm

Near-Term Program

- Argonaut has finalised approvals for an RC drilling program targeting LCT Pegmatites at the Darson prospect.
  - ¬ A Program of Works was approved.
  - ¬ An Aboriginal heritage field survey was completed during February 2023.
- The RC drilling program is likely to commence on 21 March 2023.
- Additional soil and rock-chip sampling targeting LCT pegmatites will be undertaken at the Darson area during March 2023, with the objective of improving the resolution of existing targets and delineating additional targets.

Geochemical Results and Prospectivity Index

Argonaut commissioned geochemist Dr Nigel Brand[2], a recognised expert in Western Australian LCT pegmatite geochemistry, to analyse the results of recent field work at Darson. Dr Brand concluded:

- A combination of LCT elements and host lithic elements combined to generate a Prospectivity Index has identified areas of probable LCT mineralisation within five parallel trends.
- Modelling of the soil data indicate that the Li, Be and Cs represent the highly fractionated portion (Zone 4 and Zone 5) of the LCT pegmatite whilst Nb and Ta are proximal (Zone 3 and Zone 4) based on Cerny 1991 diagram[3].
- Rock chip classification indicates “fertile granites” along two trends and potentially represents the outer shell of a fractionated pegmatite.

The recommendations that resulted from Dr Brand’s analysis are:

- Further systematic regional soil sampling to identify any near surface potential pegmatite trends.
- Drill testing of the defined area of interest [Darson South] and trends [Darson Central and Darson North] should be considered as a high priority.

Nigel Brand is the co-author of several papers regarding LCT pegmatite exploration and discovery in the area of the Pioneer Dome. Dr Brand has worked extensively in the area with several explorers as a consulting geochemist.

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2 *Dr Brand holds Argonaut shares directly and indirectly.*

3 *Carny 1991b, Figure 2(b) https://www.researchgate.net/figure/Regional-zoning-in-fertile-granites-and-pegmatites-Cerny-1991b-a-Regional-zonation-of_fig2_42797128*

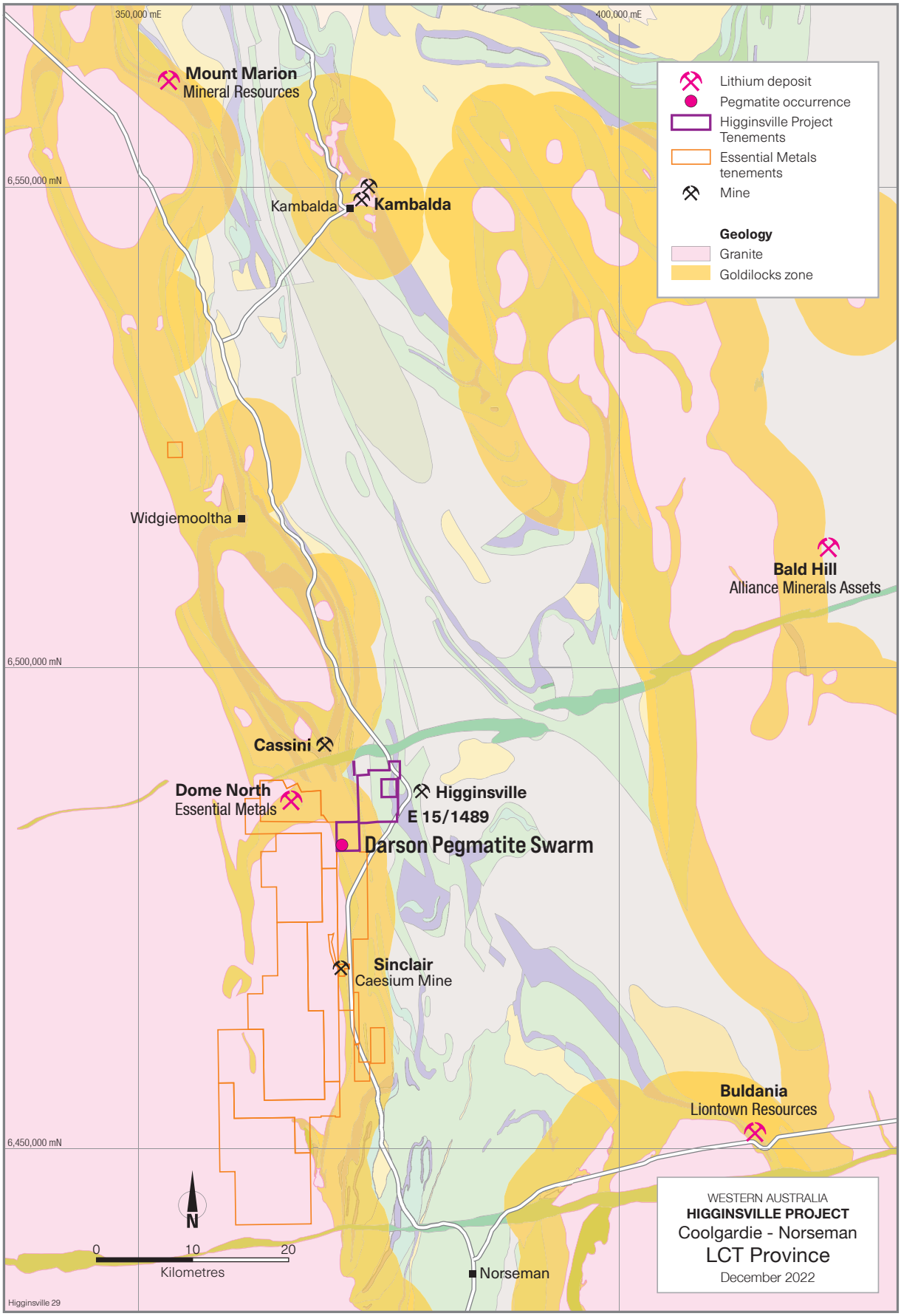

Figure 1 *Coolgardie-Norseman LCT Province showing major Lithium deposits and the "Goldilocks Zone" in relation to the Darson Pegmatite Swarm, Higginsville, WA. After Brand et al 2021.*

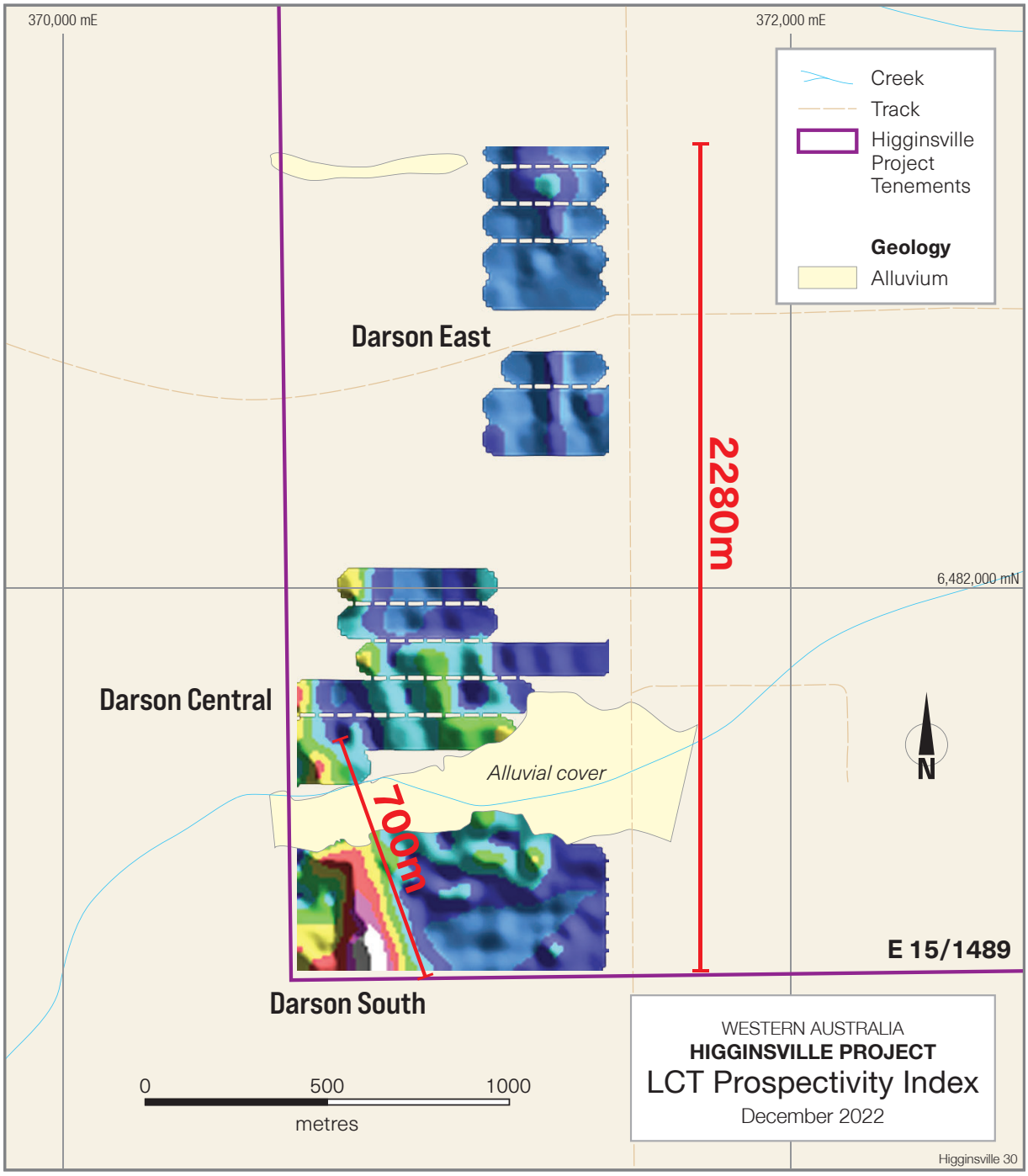

Figure 2 *Soil sampling LCT Prospectivity Index grid showing highly prospective, 700m long LCT pegmatite zone at Darson South, moderate anomalism at Darson Central and a linear prospectivity anomaly over Darson East.*

Numerous LCT Pegmatites up to 150m wide

Fieldwork undertaken by Argonaut during February 2022 and September/October 2022 has defined an extensive swarm of LCT pegmatites up to 150m in width extending over an aggregate strike length of over two kilometres (Figure 2 and Figure 3).

The pegmatites are located near the margin of the Pioneer Granite. The Pioneer Granite caused the emplacement of LCT pegmatites at the Dome North lithium deposit and at Sinclair, which was previously mined for Caesium (Figure 1).

Mapping

Following the success of initial scouting traverses over the Darson area of E15/1489 in February 2022, detailed mapping was undertaken during September and October 2022 in conjunction with a soil sampling program.

This geological mapping identified several previously unrecorded LCT pegmatite occurrences including a particularly large pegmatite measuring ~400m in strike length and ~150m in width at Darson Central (Figure 3). The mapping program delineated three distinct types of pegmatite (Figure 3):

1. Darson South: pegmatites occurring on a linear magnetic anomaly, either on or nearby to the margin of the Pioneer Granite.
2. Darson Central: wide, potentially voluminous pegmatites which occur 300 to 600m from the granite margin and are covered by alluvium on the central portion.
3. Darson East: medium to fine grained pegmatites occurring within a meta-basalt approximately 800m from the granite margin.

Soil Sampling

A soil sampling program was completed over the Darson pegmatite swarm during the September and October 2022. 278 soil samples sieved to #40 mesh plus QA/QC samples were collected from in-situ (residual) soil profiles.

This sampling program recommenced in early March 2023. Commencement of the RC drilling program is not contingent on this sampling.

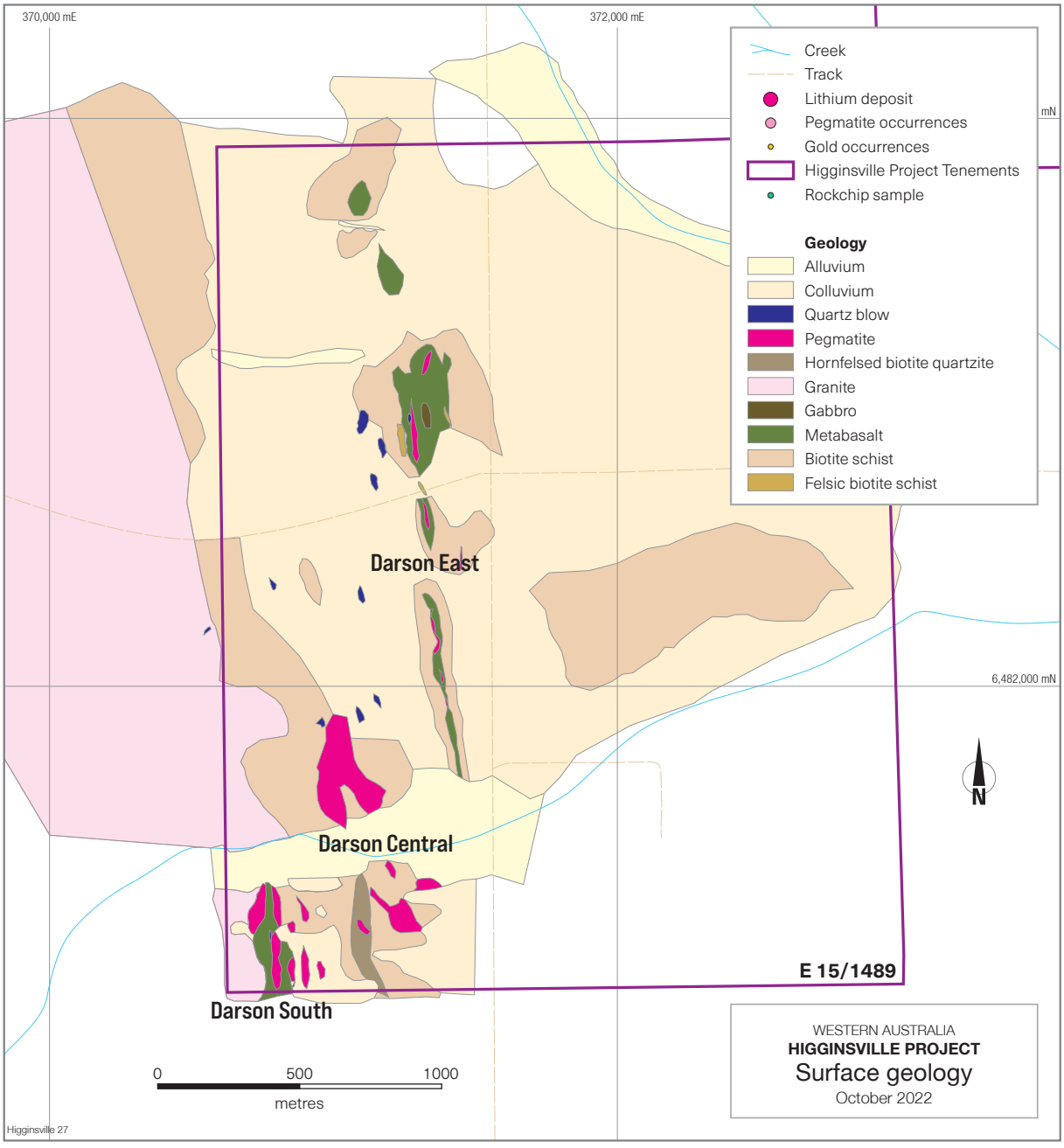

Figure 3 *The Darson Pegmatite Swarm is located radially outwards from the Pioneer Granite.*

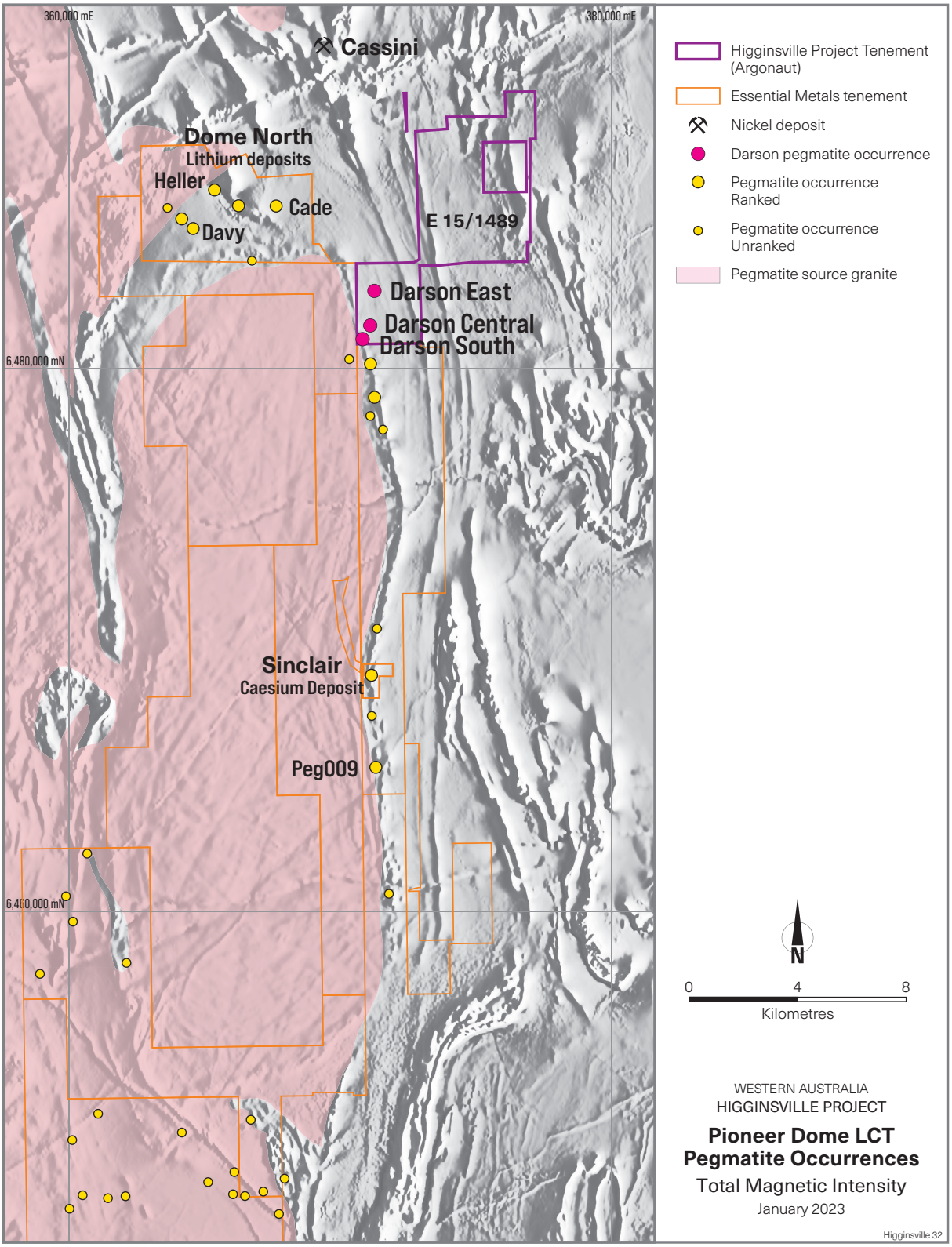

Figure 4 *Pioneer Dome LCT pegmatite occurrences and source granites over greyscale magnetic image.*

Joint Venture Agreement

The Higginsville project is governed by a joint venture agreement between Argonaut and Loded Dog Prospecting Pty Ltd titled "Eastern Goldfields New Joint Venture and Royalty Agreement". This JVA relates to exploration licence E15/1489. Argonaut holds an 80% interest and will sole fund joint venture activities through until completion of a bankable feasibility study and a decision to mine is made.

About Argonaut

Argonaut Resources NL is an Australian Securities Exchange listed exploration and development company focused on the Higginsville lithium project in Western Australia, Murdie copper project in South Australia, and copper exploration in North-western Zambia.

This report was authorised for release by the Board of Argonaut Resources NL

Lindsay Owler
Director and CEO

Argonaut Resources NL

About Dr. Nigel Brand

Nigel worked for WMC Resources for eleven years until 1999. During his time at WMC he worked throughout the Norsman-Wiluna Greenstone belt on various regional Ni & Au exploitation programs and at WMC operations at Norseman, Kambalda, Kalgoorlie, Leinster and Mt Keith.

He completed his PhD in 1997 on weathering process associated with nickel sulphides.

On leaving WMC, Nigel joined Anglo American for four and a half years as their geochemist in the Asian-Pacific region, including India. Philippines and Australia exploring for Zn, Ni and Cu-Au PC/IOCG deposits. In 2004, Nigel and Dr David Lawie co-founded ioGeochemistry, a global independent geochemical consulting group based in Perth, Western Australia.

In January 2005 Nigel established an independent geochemical consulting Geochemical Services Pty Ltd to provide hands-on and applied geochemical expertise to international mineral exploration.