



ESSENTIALMETALS

for a sustainable future



ASX: ESS

## Exploring the heart of WA's "lithium corridor"

Our strategy is to become a new force in the lithium  
supply chain

**THE BOOM IN A ROOM INVESTOR CONFERENCE**

15 October 2021

Perth, Australia

# Forward looking statements and disclosures



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## Forward looking statements

This document may contain “forward-looking statements” and other forward looking information based on the Company’s expectations, estimates and projections as of the date on which the statements were made. This forward looking information includes, among other things, statements with respect to the Company’s business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, Mineral Resources and results of exploration. Generally, this forward looking information can be identified by the use of forward- looking terminology such as ‘outlook’, ‘anticipate’, ‘project’, ‘target’, ‘likely’, ‘believe’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘would’, ‘could’, ‘should’, ‘scheduled’, ‘will’, ‘plan’, ‘forecast’, ‘evolve’ and similar expressions. Persons reading this document are cautioned that such statements are only predictions, and that the Company’s actual future results or performance may be materially different. Forward looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward looking information. Forward looking information is developed based on assumptions about such risks, uncertainties and other factors, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future commodity prices; possible variations of ore grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward looking information. These and other factors should be considered carefully and readers should not place reliance on such forward looking information. Recipients of this document must make their own investigations and inquiries regarding all assumptions, risks, uncertainties and contingencies which may affect the future operations of the Company and the Company’s securities. The Company disclaims any intent or obligations to or revise any forward looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

## Exploration Results & 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 the styles of mineralization and types 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:** The information in this presentation that relates to lithium Mineral Resource for the Dome North Lithium Project was extracted from an announcement reported to ASX on 29 September 2020 (JORC 2012) titled “Dome North Lithium Project – Resource upgrade”.

## Dome North Mineral Metallurgical Test Work - Competent Person Statement

The information in this report that relates to metallurgical test work for the Dome North Lithium Project has been reviewed by Mr Joshua Paterson who is a member of the Australasian Institute of Mining and Metallurgy. Mr Paterson is an employee of Primero Ltd and has sufficient experience relevant to the style of processing response and type of deposit under consideration, and to the activities undertaken, 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 Paterson consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.

## 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.

This presentation has been approved by the Company’s Board of Directors.

# Our team is active and focused on...



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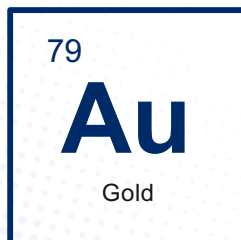
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**Three highly prospective 100%-owned projects in easy-to-explore, low-cost locations near Kalgoorlie, Western Australia – a Tier-1 mining jurisdiction**



## **Pioneer Dome Project, Western Australia**

A substantial lithium Mineral Resource already defined – Spodumene, the main 'hard rock' lithium source – in WA's lithium corridor.



## **Golden Ridge Project, Western Australia**

Multiple high-tenor gold targets – our goal is to unlock its potential for a large discovery.

## **Juglah Dome Project, Western Australia**

Widespread significant gold-in-soil anomalism indicates 'elephant country'..!



## Capital structure

**240M Shares**  
**25M Options**

ASX: ESS/ESSO

**A\$36M**

**Market Cap**

\$0.15/share  
(11/10/2021)

**A\$9M**

**Cash**

as at 30 Sep 2021

**\$Nil**

**Debt**

## Board & Management

### Executive Team

- **Tim Spencer, Managing Director** – 25 years' experience commercial/corporate; project development in Australia, Indonesia, Brazil and Italy
- **Carl Travaglini, CFO & Company Secretary** – 12 years' experience in gold & lithium project developments
- **Andrew Dunn, Exploration Manager** – 17+ years in exploration across WA & NSW

### Non-Executive Directors

- **Craig McGown, Non-Exec Chairman** – 40 years in capital markets; corporate
- **Paul Payne, Non-Exec Director** – 35 years' experience: geologist; exploration, project development; corporate
- **Warren Hallam, Non-Exec Director** – 35 years' experience: metallurgist; management, operations; project development, corporate

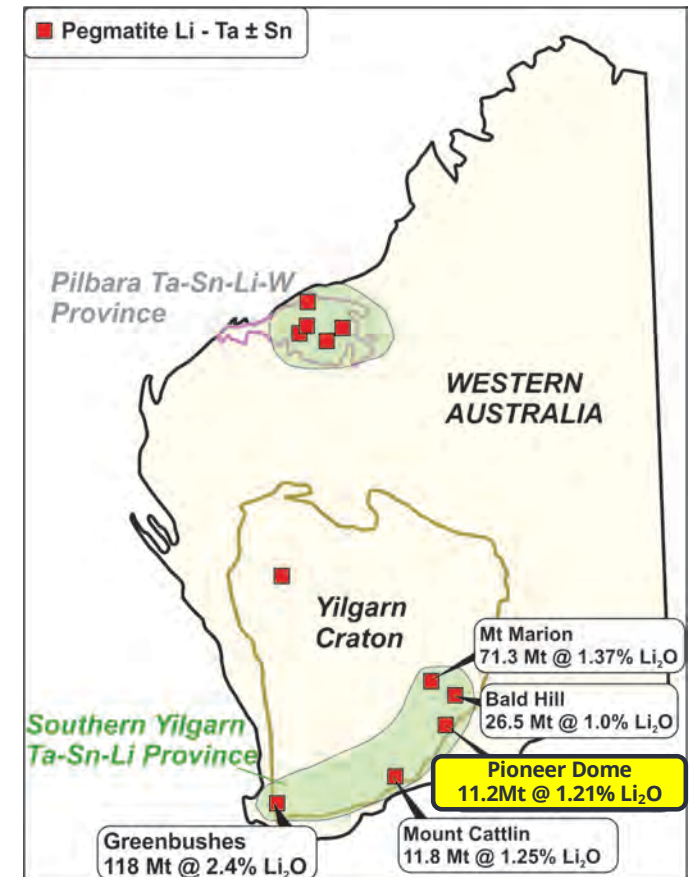
# Investment Overview



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- A well-funded and active ASX-listed explorer
- Focused on finding and producing essential metals for a sustainable, low-carbon future
- Three highly prospective, 100%-owned projects in easy-to-explore, low-cost locations near Kalgoorlie – a Tier-1 mining jurisdiction
- Exceptional pipeline of resource growth opportunities and exploration targets in the heart of WA's "lithium corridor"
- **High quality lithium Resource: 11.2Mt at 1.21% Li<sub>2</sub>O at Pioneer Dome**
- Exciting gold potential at Golden Ridge and Juglah Dome Projects near Kalgoorlie
- Free-carried exposure to a significant portfolio of nickel and gold exploration projects + 51% interest in a Canadian lithium project



The lithium deposits of the Southern Yilgarn Ta-Sn-Li Province in the context of pegmatite Li-Ta deposits of Western Australia. Modified from Skirrow et al, 2013. Mineral Resources quoted are sourced from Champion, 2018 (Mt Marion, Bald Hill, Mount Cattlin and Greenbushes).

# Pioneer Dome Lithium Project

## 453km<sup>2</sup> project tenure in the 'lithium corridor'

- Mt Marion, Bald Hill and Buldania projects are all located within 100km of Pioneer Dome
- The Dome North Lithium Mineral Resource is in the northern area of the tenement holding with 10 extensional targets identified
- Project contains three mineralised pegmatites so far – 11Mt JORC Mineral Resource reported

## Dome North Mineral Resource

**Table 2. Mineral Resource by deposit and category: Dome North Lithium Project (0.5% Li<sub>2</sub>O cut-off grade)**

Deposit	Classification	Tonnes (Mt)	Li <sub>2</sub> O %	Ta <sub>2</sub> O <sub>5</sub> ppm	Contained Li <sub>2</sub> O (T)	Fe <sub>2</sub> O <sub>3</sub> %
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
<b>Total</b>	<b>Total</b>	<b>11.2</b>	<b>1.21</b>	<b>40</b>	<b>136,000</b>	<b>0.61</b>

*Note: Appropriate rounding applied.*

## Tier-1 location

- Perfect location to develop a mining operation
- Flat-lying, lightly wooded land with no environmental or native title complexities
- 10km from a main regional highway that connects the mining centre of Kalgoorlie (150km) and the large dry bulk & container seaport of Esperance (275km)
- Gas pipeline and water pipeline located alongside the main highway
- Unsealed access road connects the Project to the main highway

## Excellent metallurgical characteristics

- Scoping Study level metallurgical test work on the Cade Deposit showed a total lithium oxide (Li<sub>2</sub>O) recovery rate of 74% was achieved using a hybrid Dense Medium Separation (DMS) + flotation flowsheet to produce a 5.6% lithia (Li<sub>2</sub>O) concentrate with 0.7% iron (Fe<sub>2</sub>O<sub>3</sub>) content
- A 'whole of ore' test achieved 66% Li<sub>2</sub>O recovery at a grade of 6.0% Li<sub>2</sub>O and 0.6% Fe<sub>2</sub>O<sub>3</sub>
- Excellent potential for improvement with further refinement of the process techniques

Refer ASX announcement 18 December 2020 – Dome North outstanding met test work results

# The Cade Deposit



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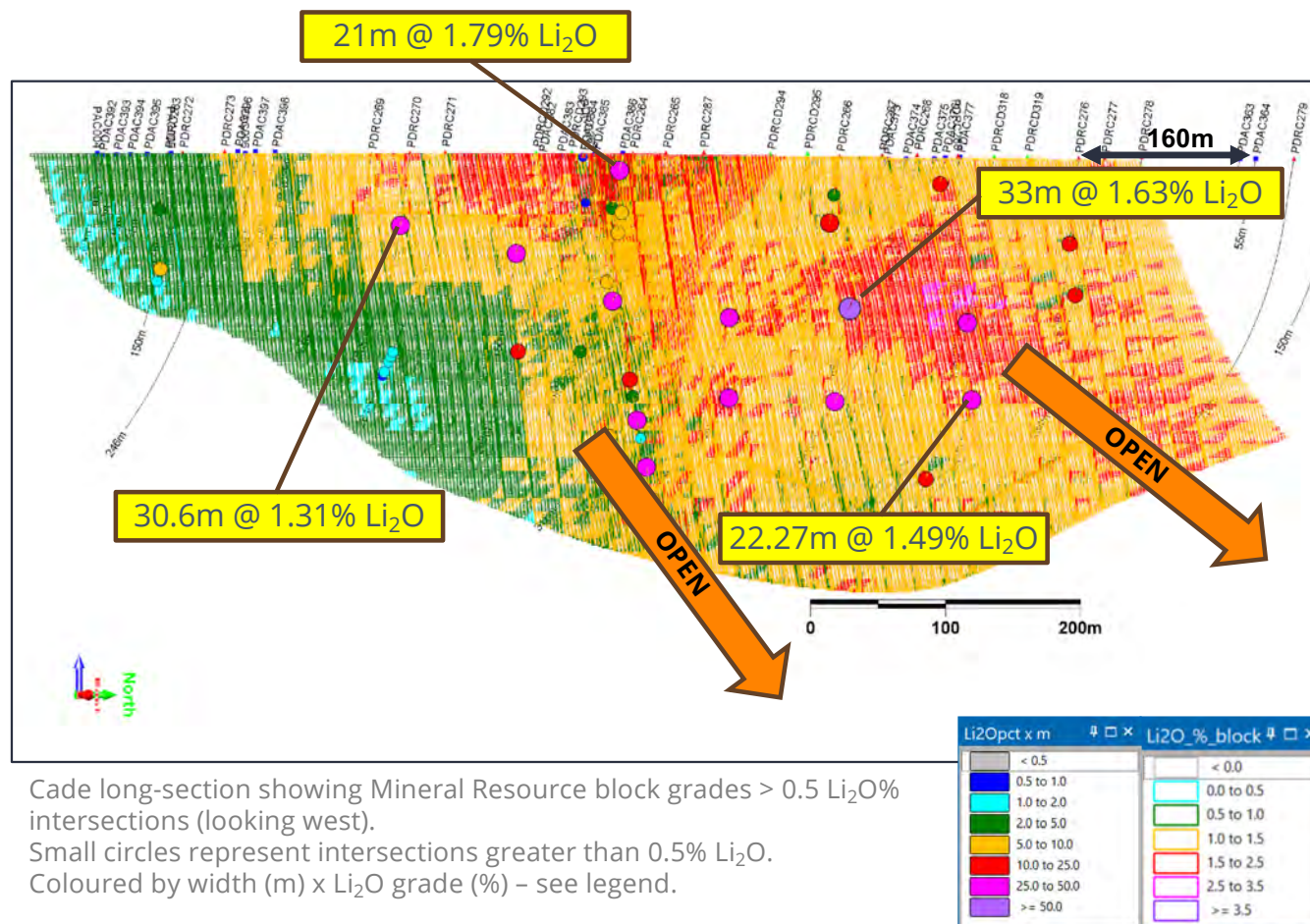
## Mineral Resource

- Cade comprises 76% of Total Resource
- Indicated 5.4Mt @ 1.30% Li<sub>2</sub>O
- Inferred 2.8Mt @ 1.18% Li<sub>2</sub>O

Intersections include:

- **21m @ 1.79% Li<sub>2</sub>O** from 4m (PDAC386)
- **33m @ 1.63% Li<sub>2</sub>O** from 72m (PDRCD292)
- **30.6m @ 1.31% Li<sub>2</sub>O** from 72.4m (PDRCD292)
- **22.27m @ 1.49% Li<sub>2</sub>O** from 199m (PDRCD319)
- The deposit is open at depth with potential for additional mineralisation in parallel pegmatites
- The best part of Cade is hosted in metasediments which comprise a large part of the Dome North area

(Mineral Resource: Refer ASX release 29/09/2020)  
(Drill results: Refer ASX release 04/02/2020)



Cade long-section showing Mineral Resource block grades > 0.5 Li<sub>2</sub>O% intersections (looking west).  
Small circles represent intersections greater than 0.5% Li<sub>2</sub>O.  
Coloured by width (m) x Li<sub>2</sub>O grade (%) – see legend.

# The Davy Deposit



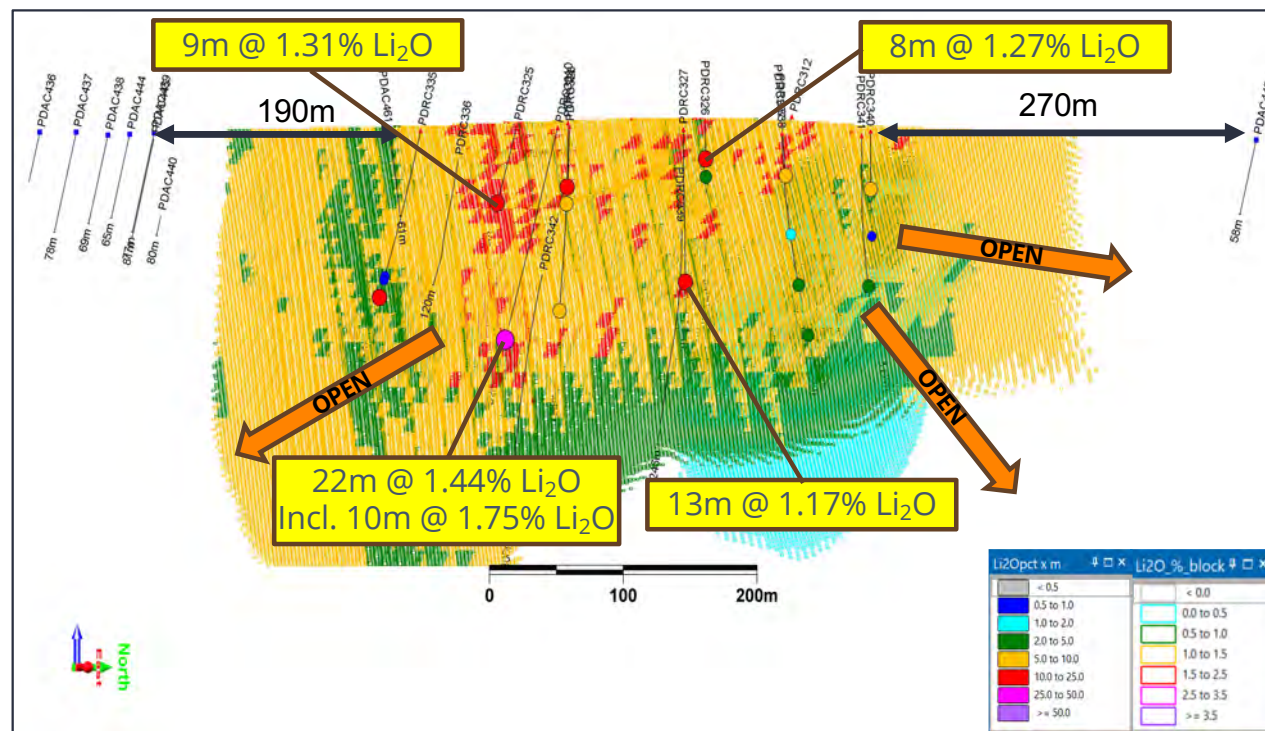
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## Mineral Resource

- Davy comprises 18% of Total Resource
- Inferred 2.3Mt @ 1.13% Li<sub>2</sub>O
- Resource based on only 15 RC holes
- The Resource is hosted in mafic and ultramafic units with the northern strike potential likely to develop in sediments like Cade
- **Open to the north-east** PDR340 & PDR341 with 6m @ 1.05 % Li<sub>2</sub>O & 4m @ 0.61 % Li<sub>2</sub>O
- **270m of untested strike** to next traverse (PDAC446 to PDAC452) to the north-east
- The Heller Deposit, approx. 1km west of Davy makes up the remaining 6% of the Resource

(Mineral Resource: Refer ASX release 29/09/2020)  
(Drill results: Refer ASX release 04/02/2020)



Davy long-section showing Mineral Resource block grades > 0.5 Li<sub>2</sub>O% intersections (looking west). Small circles represent intersections greater than 0.5% Li<sub>2</sub>O. Coloured by width (m) x Li<sub>2</sub>O grade (%) – see legend.



# Dome North – getting development ready



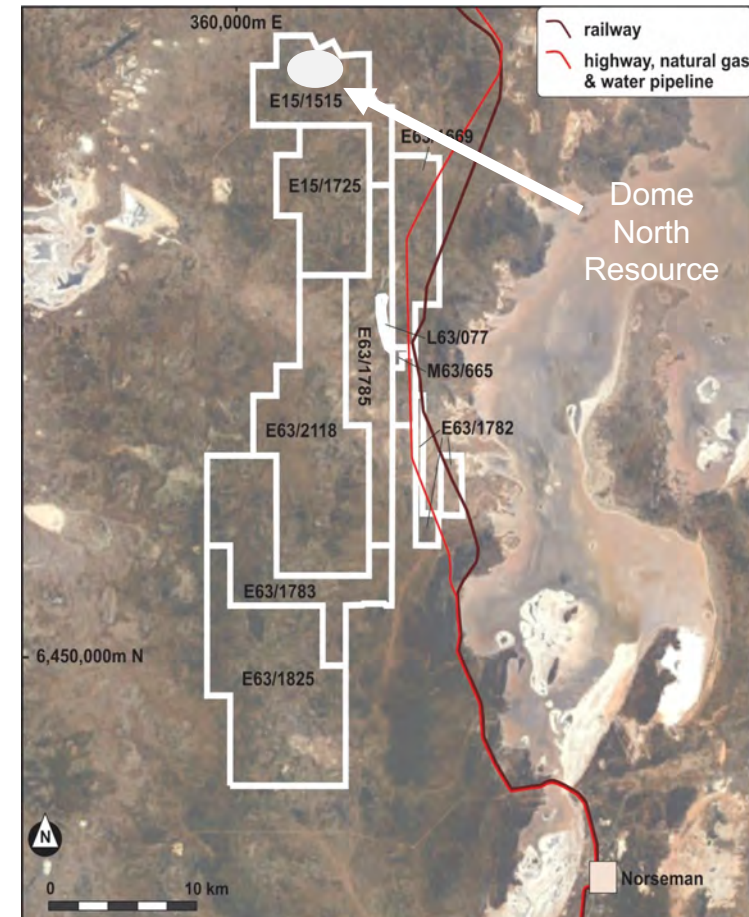
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Initial steps are being taken to transition the Dome North Resource area to a 'development ready' status. These steps include:

- An application for a Mining Lease over the Dome North Mineral Resource
- A capital and operating cost study for two process plant scenarios:
  - "Whole of Ore Feed" Flotation (P80 = 106  $\mu$ m)
  - DMS Preconcentration of -3 mm/ +0.5 mm material and Flotation of DMS Sinks/-0.5 mm combined feed
- A flora and fauna study
- A hydrology study

The mining lease application is expected to take 6 - 12 months. The costings, enviro and hydro studies should be completed by year-end.



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

# Pioneer Dome Lithium Project



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## DIAMOND HOLE DRILL PROGRAMME PREPARATIONS UNDERWAY

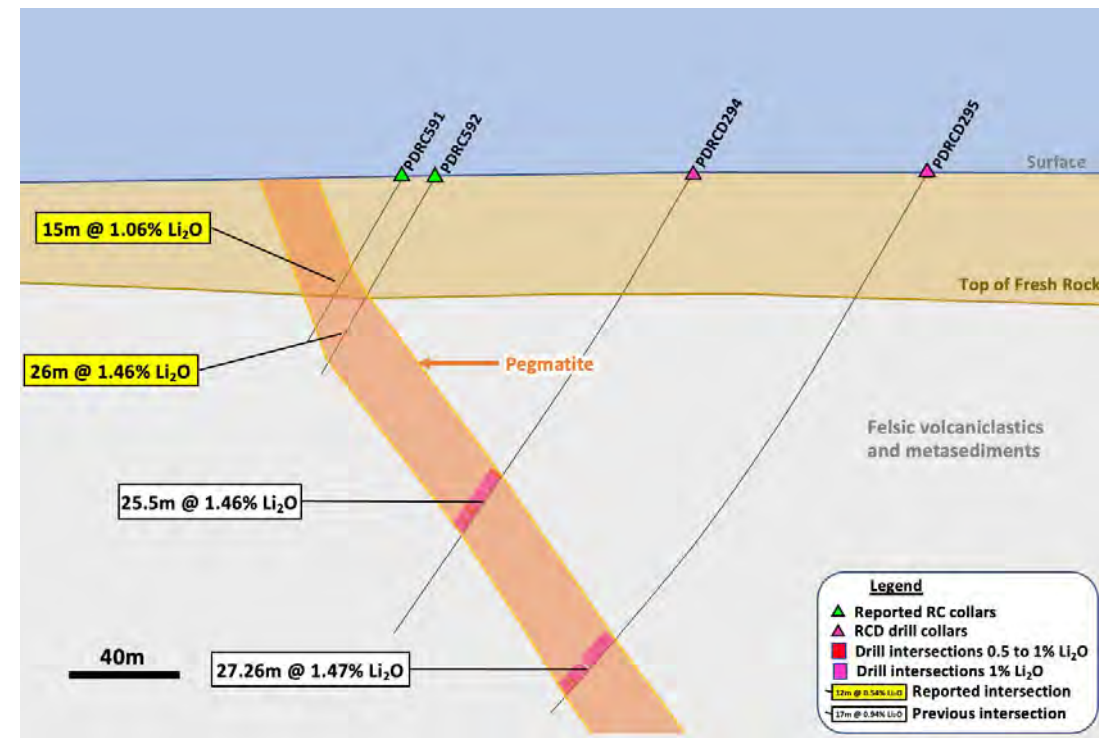
Shallow diamond core drilling into the upper zones of the Cade and Davy Deposits to upgrade them from Inferred to Indicated categories and provide samples for metallurgical test work.

Assays from four holes recently completed into the Cade Upper Zone have just been received\*:

- **21m @ 1.08% Li<sub>2</sub>O from surface (PDRCS89)**
- **24m @ 1.29% Li<sub>2</sub>O from surface (PDRCS90)**
- **15m @ 1.06% Li<sub>2</sub>O from 47m (PDRCS91)**
- **26m @ 1.46% Li<sub>2</sub>O from 51m (PDRCS92)**

These results are very important because they show no lithium depletion in the weathered zone. This suggests high grade mineralisation can be mined from surface (subject to met test work) with minimal overburden, which will have a big positive impact on the economics of the deposits.

\*Refer ASX release 15 October 2021 – High grade assays from Cade Deposit



Cross Section demonstrating the high grade nature of the Cade Deposit

# Stepping out – significant exploration upside

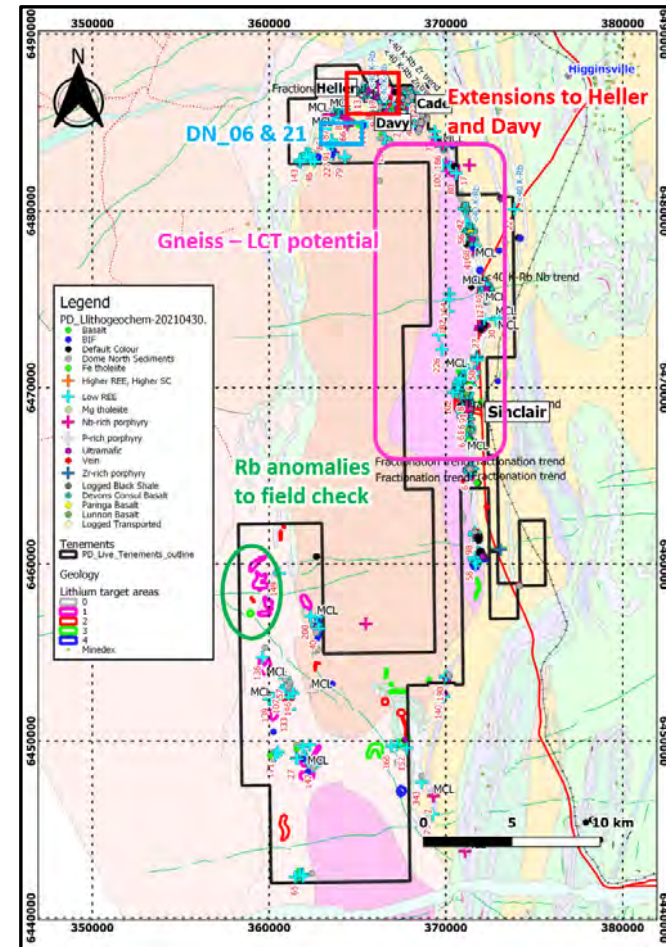


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- The Project tenure is very large...453km
- Gneiss is nice!...
  - The world-class Greenbushes pegmatites intrude in structures near the contact of the granofels (quartz-feldspar-biotite gneiss) and the amphibolite
  - The Gneiss zones at Pioneer Dome are being assessed with geochemistry programmes underway to identify targets areas
  - A recent field visit was carried out to check several rubidium-in-soil anomalies and a larger zirconium anomaly from a pXRF soil programme over the gneiss. Rock samples were collected and submitted to the laboratory for analysis with results pending.

LCT targets (coloured polygons as per legend), lithogeochemical classification (see legend), 100k interpreted geology and lesser explorer gneiss (magenta polygon)



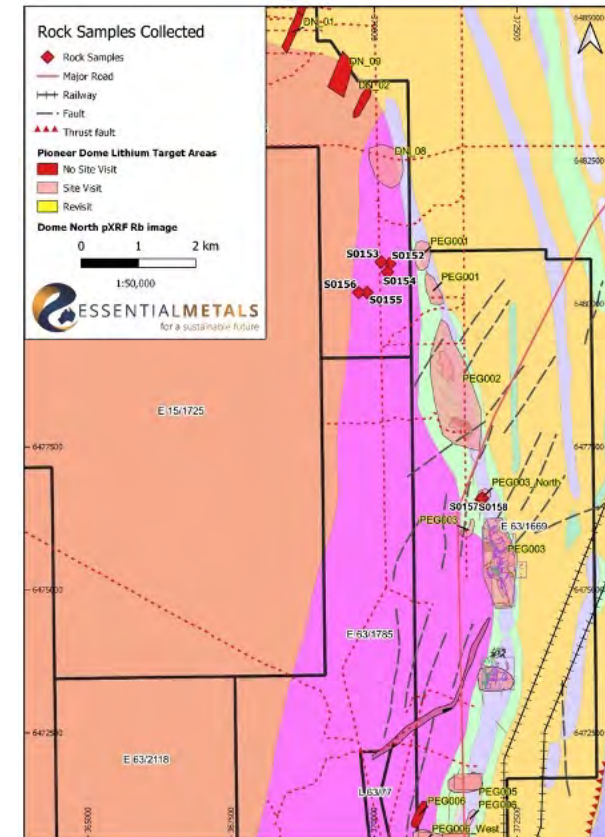
# Stepping out – along Dome Central



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- The DOME CENTRAL zone is a ~20km long strike zone along the eastern flank of the main Pioneer Dome granites (shown in orange in the adjacent image).
- There are at least thirteen clusters of pegmatites along a strike length of 20km on this eastern flank, at which five of the clusters of pegmatites of the Lithium-Caesium-Tantalum (LCT) geochemical family have been identified thus far.
- This is based on the presence of spodumene, lepidolite and tourmaline which were recognised in hand specimens, and supported by strong rubidium and niobium geochemistry responses by field pXRF analysis.



Location of rock samples collected during September at Dome Central with the LCT target areas.

# Analogue companies (with Australian hard rock lithium pre-production projects)



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	Essential Metals (ASX:ESS)	Global Lithium Resources (ASX:GL1)	Core Lithium (ASX:CXO)	Liontown Resources (ASX:LTR)
Lithium Resources	11.2Mt @ 1.21% Li <sub>2</sub> O <small>(Refer ASX release 29/09/2020)</small>	10.5Mt @ 1.0% Li <sub>2</sub> O <small>(Refer ASX release 04/05/2021)</small>	14.72Mt @ 1.32% Li <sub>2</sub> O <small>(Refer ASX release 26/07/2021)</small>	156Mt @ 1.46% Li <sub>2</sub> O <small>(Refer ASX release 08/04/2021)</small>
Lithium Reserves	No	No	O/P 3.2Mt @ 1.4% Li <sub>2</sub> O U/G 4.2Mt @ 1.3% Li <sub>2</sub> O Total 7.4Mt @ 1.3% Li <sub>2</sub> O	71Mt at 1.40% Li <sub>2</sub> O
Stage	Advanced exploration	Advanced exploration	Completed DFS	Completed PFS
Met test work	Scoping study level	Not yet	DFS level	PFS level
Process route	Likely dense medium separation &/or flotation	Not known	Dense medium separation	Flotation
Offtake(s) in place	No	No	Yes	No
Market Cap <small>(11/10/2021)</small>	\$36M (@\$0.15/share)	\$51M (@\$0.39/share)	\$638M (@\$0.43/share)	\$2,692M (@\$1.48/share)
Market Cap multiple to ESS <small>(undiluted)</small>	1	1.4x	17x	75x

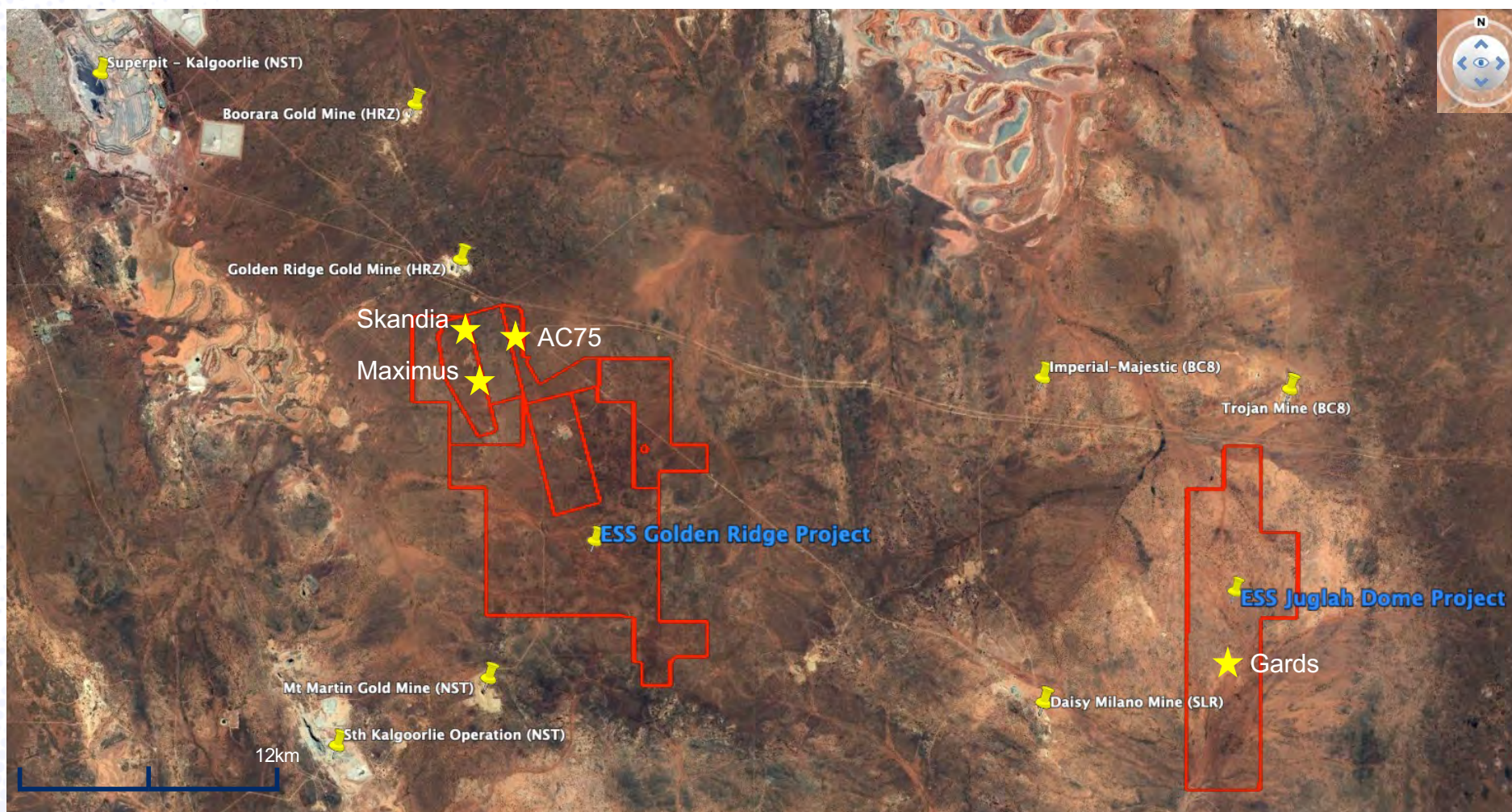
**Strong potential to continue closing the value gap as we get Dome North development ready whilst continuing to explore for more spodumene pegmatites.**

# Two Exciting Gold Projects near Kalgoorlie



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# Golden Ridge & Juglah Dome



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## GOLDEN RIDGE

Multiple high tenor gold targets – with potential for a large discovery

- Project straddles the Boorara Domain between the Menzies - Boorara Shear Zone (MBSZ) and the Mt Monger Fault. The MBSZ hosts six major gold mines including Paddington, Boorara and the Golden Ridge Gold Mine
  - Significant historical intersections from Flying Ant and 18-Footer prospects include:
    - **9m@3.87g/t Au** from 26m incl. 2m @ 13.95g/t Au (GOD0094) - Flying Ant
    - **21m@2.5g/t Au** from 59m incl. 9m @ 3.98g/t Au (GOC0288) - Flying Ant
    - **9m@2.44g/t Au** from 65m incl. 4m @ 4.11g/t Au (AMRC026) - 18-Footer
    - **7m@2.81g/t Au** from Surface incl. 3m @ 4.27g/t Au (GOC0264) - 18-Footer
- (Refer ASX announcement dated 1 April 2021)
- The recently completed 6,000m air-core programme confirmed gold mineralisation at the Skandia, Maximus and AC75 prospects and identified prospective underexplored areas

## JUGLAH DOME

The Gards porphyry now has 1.1km of strike and is still open to the south

- **A very good address...**the Juglah Dome tenement is surrounded by Black Cat Syndicate Limited (ASX:BC8) to the north and west and Silverlake Resources Limited (ASX:SLR) to the west and south
  - Best results returned at the Gards prospect included:
    - **8m @ 2.18 g/t Au** from 34m including 1m @ 6.69g/t Au (20GDRC034);
    - **3m @ 2.06 g/t Au** from 90m including 1m @ 5.63g/t Au (20GDRC033); and
    - **6m @ 0.83 g/t Au** from 53m (20GDRC026)
- (Refer ASX announcement dated 10 February 2021)
- The recently completed air-core programme extended the strike length of Gards to over 1km and it is still open to the south

# Our partnered projects



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## Mavis Lake Lithium Joint Venture – ESS has a 51% interest with ability to increase to 80%

- 51% interest in the Mavis Lake Project in Canada with **International Lithium Corporation (TSXV:ILC)**\*

ESS also has multiple nickel and gold JV partnerships where the partner is obliged to provide funding and management with ESS free-carried up a decision to mine.

### Nickel Joint Ventures

- 25% free-carried interest the Blair – Golden Ridge Project Farmin/Joint Venture with **Australian Nickel Company**\*\*
- 20% free-carried interest (nickel only) in the Wattle Dam and Larkinville projects with **Maximus Resources Ltd (ASX:MXR)**

### Gold Joint Ventures

- 25% free-carried interest in the Acra Joint Venture with **Northern Star Resources Ltd (ASX:NST)**
- 30% free-carried interest in the Kangan Joint Venture with **Novo Resources Corp. (TSXV:NVO)**
- 25% free-carried interest in the Balagundi Farmin/Joint Venture with **Black Cat Syndicate Ltd (ASX:BC8)**\*\*\*
- 25% free-carried interest in the Larkinville Joint Venture with **Maximus Resources Ltd (ASX:MXR)**

#### Notes

All 'free-carried' periods are to the making of a Decision to Mine or an equivalent.

\* ESS has earned its 51% interest, is the manager of the JV and has no near-medium term expenditure obligations. ESS can increase its interest to 80% by expending a further C\$7M by 2026.

\*\* ESS holds 100% of the Blair – Golden Ridge Project which is subject to a conditional farmin/joint venture agreement – refer ASX release dated 9 February 2021.

\*\*\* ESS holds 100% of the Balagundi Gold Project with Black Cat Syndicate currently in the farmin stage of earning a 75% interest.



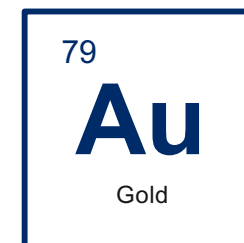
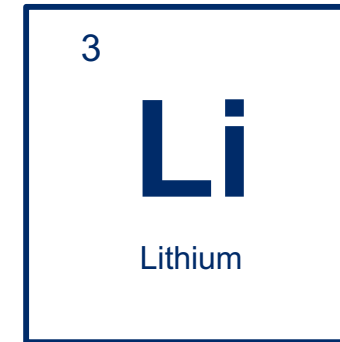
# Key Takeaways



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- Funding in place – **\$9M cash on hand (30/09/2021)**
- **Experienced Board and management team** with proven discovery and development expertise
- Projects located in **WA's premier mineral** and mining districts
- Strong focus on finding **essential metals** for a **low-carbon future**
- **Quality lithium project in the heart of WA's lithium corridor** with significant initial Mineral Resources with a high level of growth and upside potential
- **Drilling to start in November** to upgrade the Dome North Lithium Resource – **11.2Mt @ 1.21% Li<sub>2</sub>O**
- Potential for **value uplift** as lithium Resource advances towards development
- **Exciting gold** exploration projects near WA's gold capital, Kalgoorlie
- **Valuable** investment and joint venture portfolio
- Focused explorer with **proven ability in making discoveries**



# Thank you



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