



# ESSENTIAL METALS

for a sustainable future

## ASX Code: ESS

### Corporate Profile

Shares on issue: 200,817,300  
Cash: \$6.2m (31 Mar 2021)  
Debt: Nil

### KEY PROJECTS

**LITHIUM** Pioneer Dome

**GOLD** Golden Ridge

**GOLD** Juglah Dome

### Joint Ventures - Free Carried to a Decision to Mine

1 x lithium project  
2 x nickel projects  
4 x gold projects

### 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

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**2 June 2021**

## Investor Presentation – Paydirt Battery Minerals Conference, Perth, 2 June 2021

The following investor presentation will be provided to attendees at the Paydirt Battery Minerals Conference by the Company's Managing Director, Tim Spencer. The event details are as follows:

When: Wednesday 2 June 2021

Where: Pan Pacific Hotel, 207 Adelaide Terrace, Perth

ESS timeslot: 15min presentation will commence at 4:55pm

Essential Metals Managing Director, Tim Spencer, said: *"Essential Metals has been included to present amongst the best battery minerals companies in Australia and I hope that existing and prospective shareholders are able to attend (online or in person) to hear me present at 4:55pm (AWST) today, Wednesday 2 June, or to have a chat with me at the Essential Metals booth during the conference."*

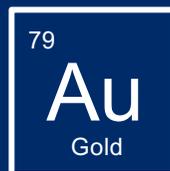
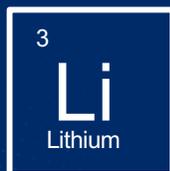
*"Drilling is scheduled to be underway in July to test for Mineral Resource extensions and new prospects. The Pioneer Dome Lithium Project has all the right attributes required for a successful project. It has a quality spodumene Mineral Resource and 360km<sup>2</sup> of very prospective ground in easy-to-access terrain and next to a main highway and is only 150km from Kalgoorlie and 275km from Esperance seaport."*



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ASX: ESS



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

Targeting resource growth and new discoveries within  
the Pioneer Dome Lithium Project

### PAYDIRT's 2021 BATTERY MINERALS CONFERENCE

2 JUNE 2021 Perth, Australia

# Forward looking statements and disclosures

## 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.

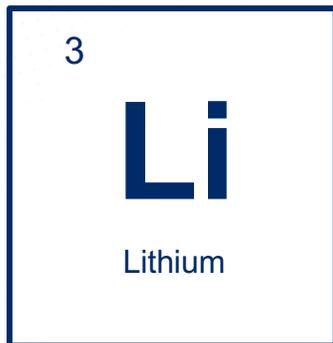
## Reference to previous market announcements

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 all 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.

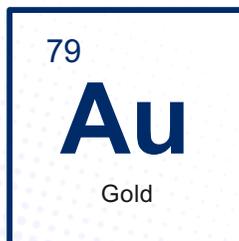
# Our team is active and focused on...

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



## Golden Ridge Project, Western Australia

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

## Juglah Dome Project, Western Australia

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

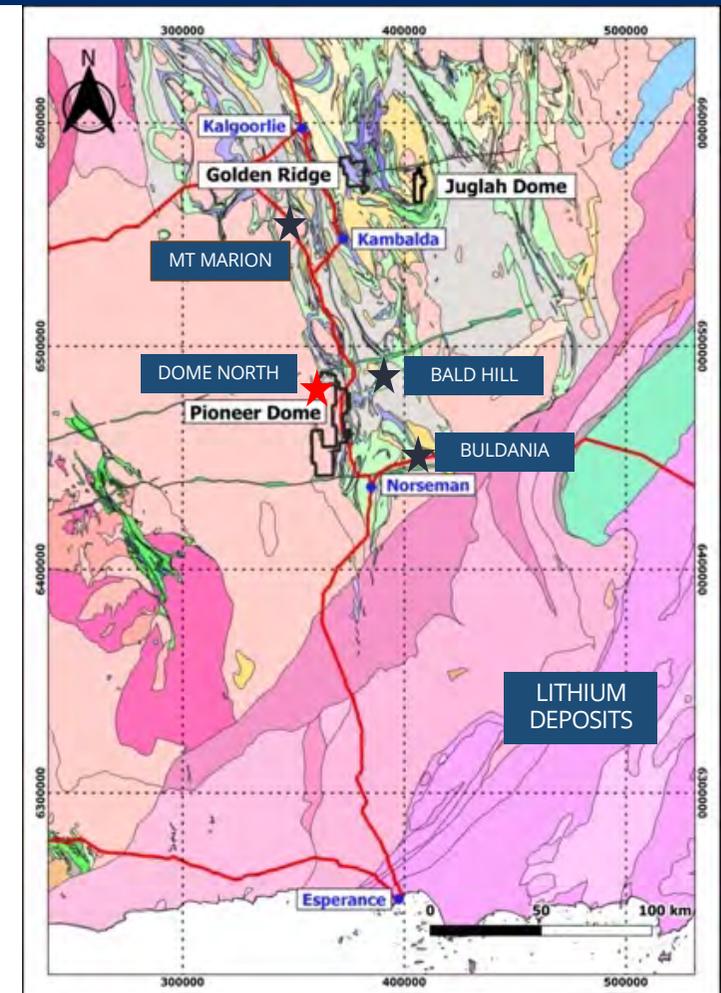
# Investment Overview



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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**
- **Drilling July 2021 – resource extensions and testing nearby prospects**
- Exciting gold potential at Golden Ridge and Juglah Dome Projects near Kalgoorlie
- Free-carried exposure to a significant portfolio of lithium, nickel and gold exploration projects



## Capital structure

**200.8M Shares**  
**24.6M Options**

ASX: ESS/ESSO

**A\$18M**

**Market Cap**

\$0.09/share

**A\$5.8M**

**Cash**

As at 31 May 2021 <sup>(1)</sup>

**Nil**

**Debt**

As at 31 May 2021 <sup>(1)</sup>

(1) unaudited

## Board & Management

### Executive Team

- **Tim Spencer, Managing Director** – 25 years' experience commercial/corporate; project development in Italy, Indonesia, Brazil and Australia
- **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, development; corporate
- **Warren Hallam, Non-Exec Director** – 35 years experience: metallurgist; management of mining operations; corporate

# Pioneer Dome Lithium Project



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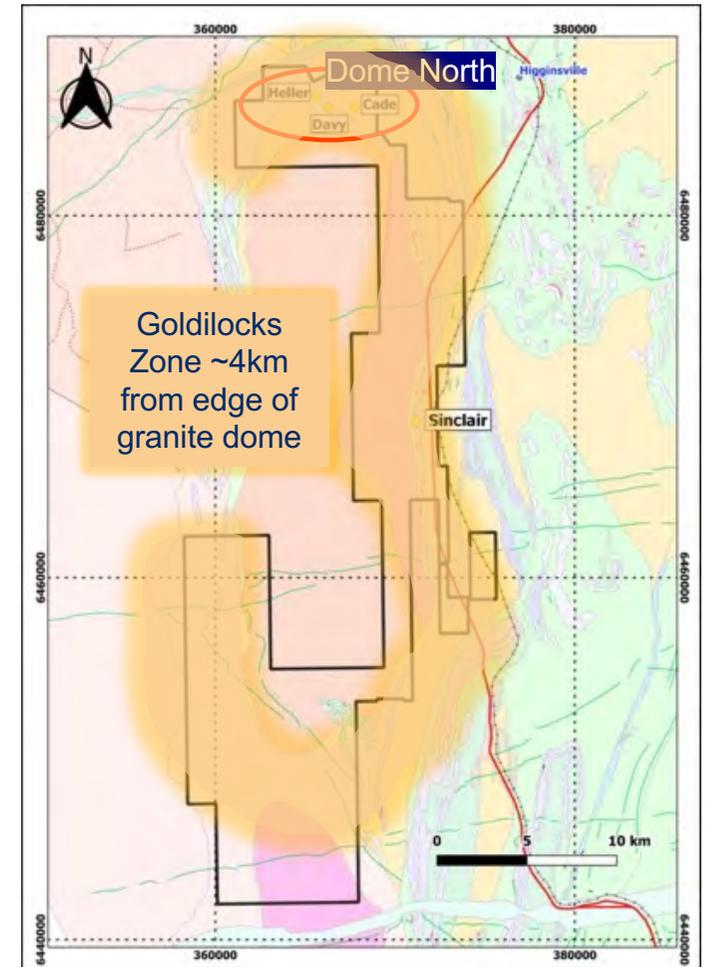
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## 360km<sup>2</sup> project tenure in the 'lithium corridor'

- 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 already identified for the two main deposit – Cade and Davy
- Project contains multiple mineralised pegmatites – 11Mt JORC Mineral Resource reported

## 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



Pioneer Dome Lithium Project

# Dome North Resource – an excellent start

## Dome North Mineral Resource

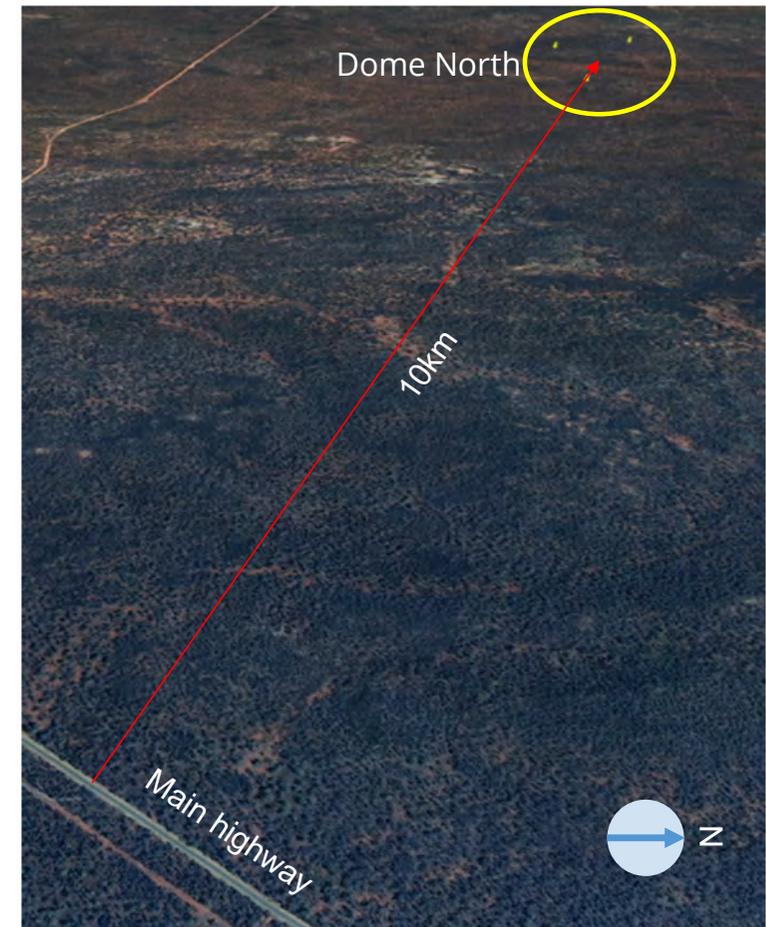
Table 2. Mineral Resource by deposit and category: Dome North Lithium Project (0.5% Li<sub>2</sub>O cut-off grade)

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>

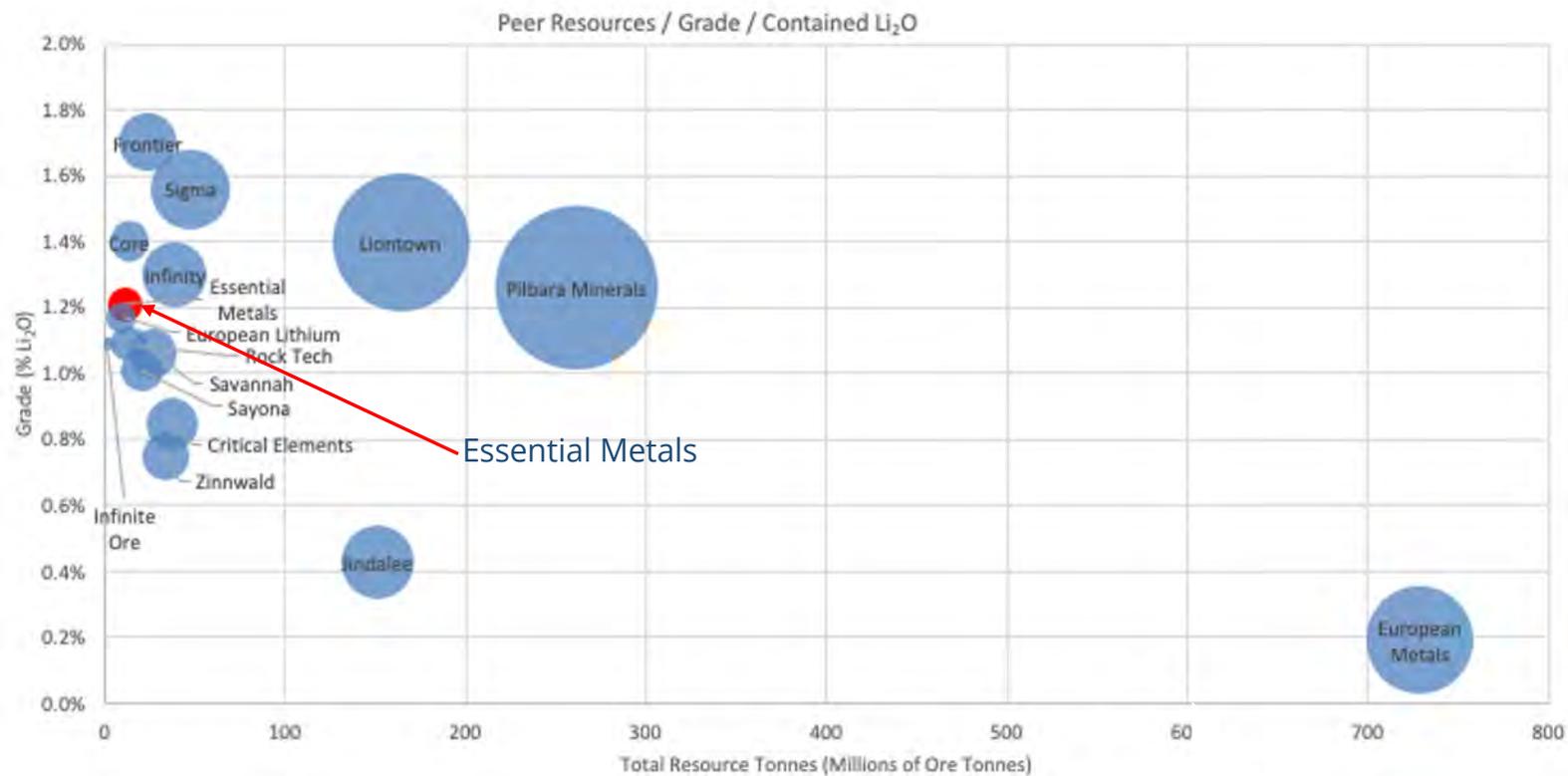
Note: Appropriate rounding applied.

## Excellent metallurgical characteristics

- Scoping Study level metallurgical test work 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
- Excellent potential for improvement with further refinement of the process techniques



# Dome North – well positioned based on grade



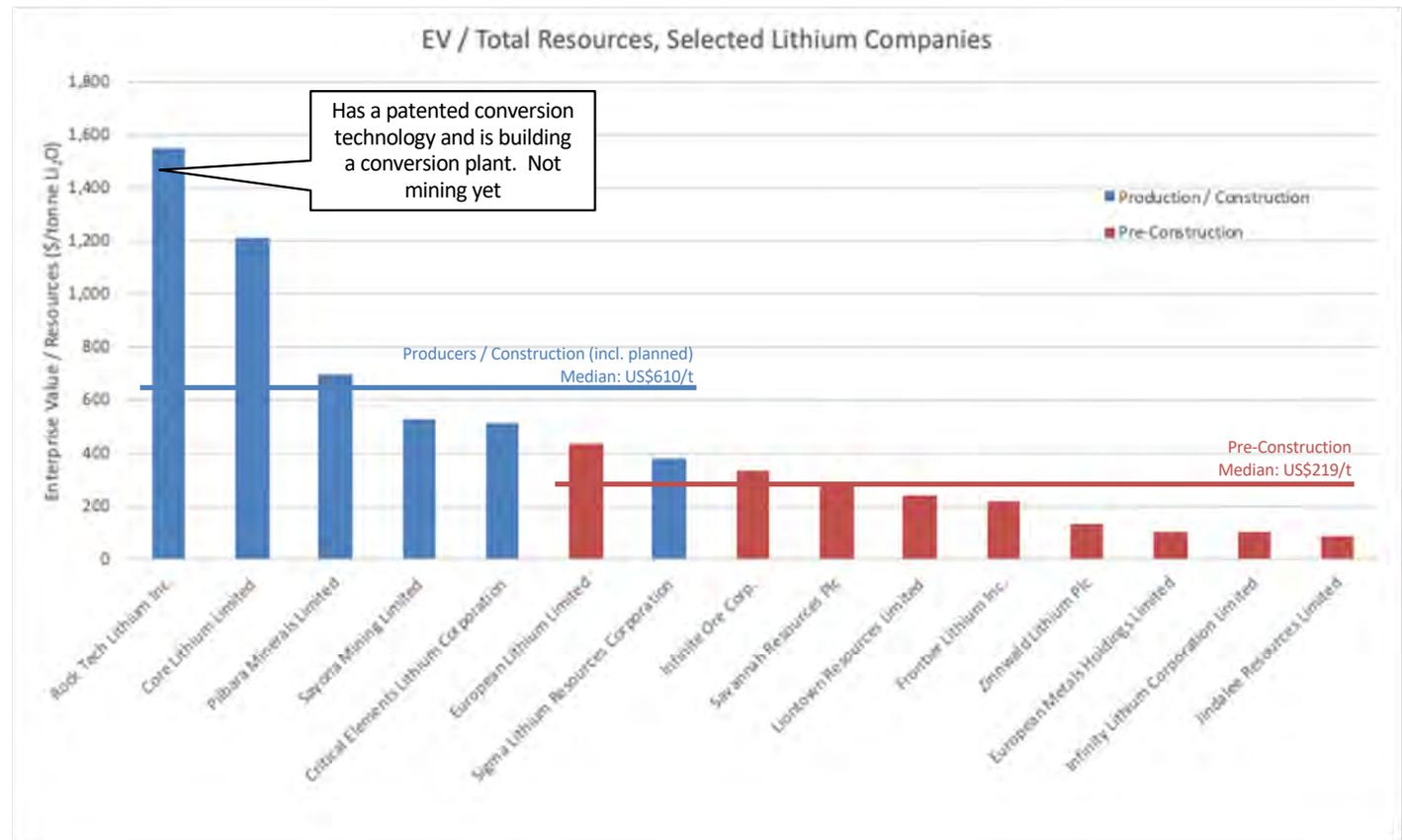
# Substantial Upside – based on peer valuations

## Lithium peers trading at ~US\$219/t Li<sub>2</sub>O (Total Resources)

- **Median values suggest that this peer group (exploration, development and pre-construction) trades at ~US\$219/t Li<sub>2</sub>O**
- Once construction begins, peers trade at ~US\$610/t

### And for Dome North???

ESS EV A\$13M / Dome North Resource  
136,000t = A\$96/t Li<sub>2</sub>O  
**~ US\$75/t Li<sub>2</sub>O** (AUDUSD 0.78)



Refer to Appendix A for further information on the peer companies.

# Analogue companies (with other Australian 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	10.5Mt @ 1.0% Li <sub>2</sub> O	14.72Mt @ 1.32% Li <sub>2</sub> O	156Mt @ 1.46% Li <sub>2</sub> O
Lithium Reserves	No	No	O/P 1.8Mt @ 1.5% Li <sub>2</sub> O U/G 3.9Mt @ 1.3% Li <sub>2</sub> O Total 5.7Mt @ 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 known	DFS level	PFS level
Process route	Likely dense medium separation &/or flotation	Not known	Dense medium separation (no flotation)	Whole of ore flotation
Offtake(s) in place	No	No	Yes	No
Market Cap <small>(26/05/2021)</small>	\$18M	\$22M	\$264M	\$791M
Market Cap multiple to ESS	1	1.22	14.7	43.9

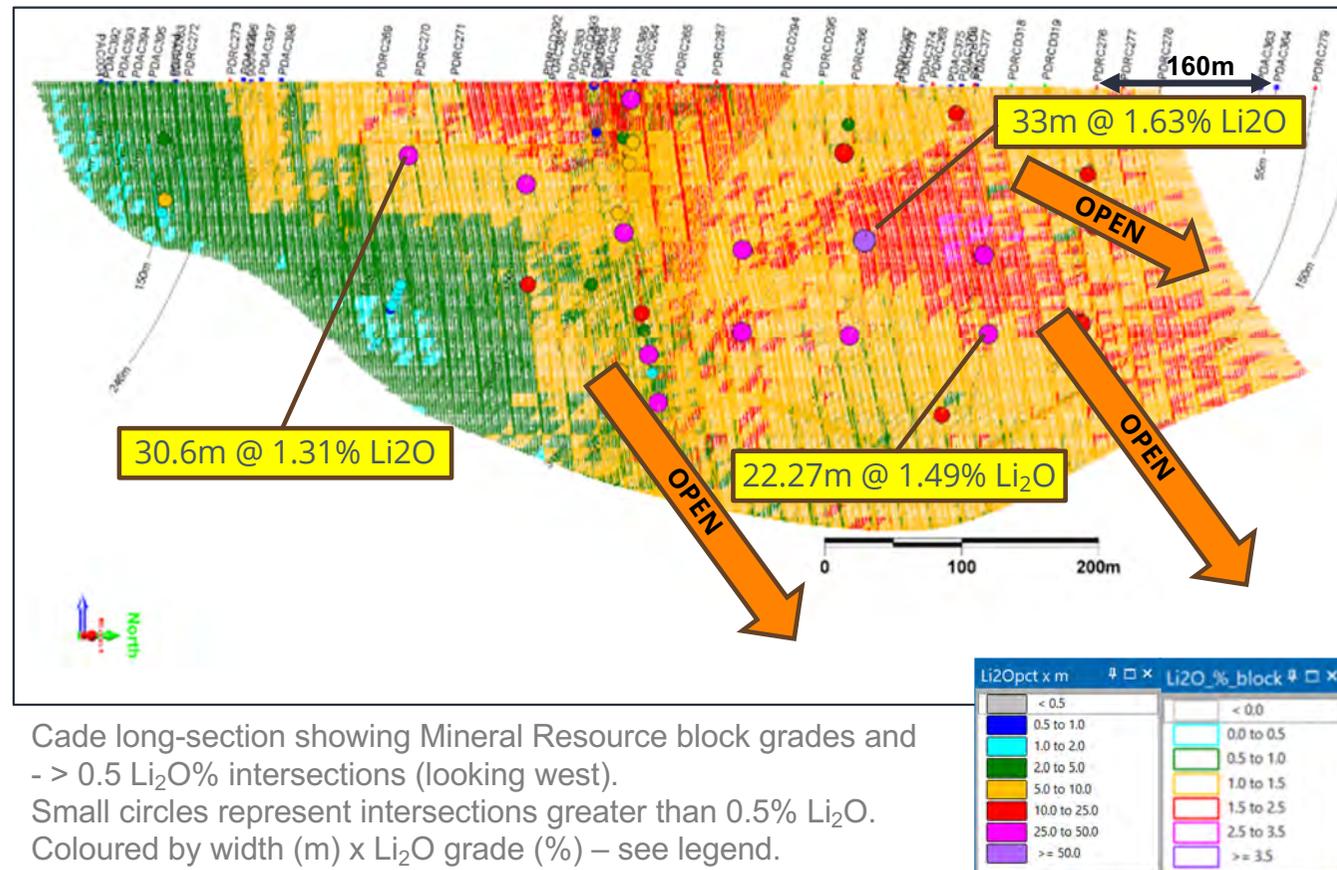
# The Cade Deposit

## 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:

- 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 and along strike with potential for additional mineralization in parallel pegmatites
- The best part of Cade is hosted in metasediments which comprise a large part of the Dome North area

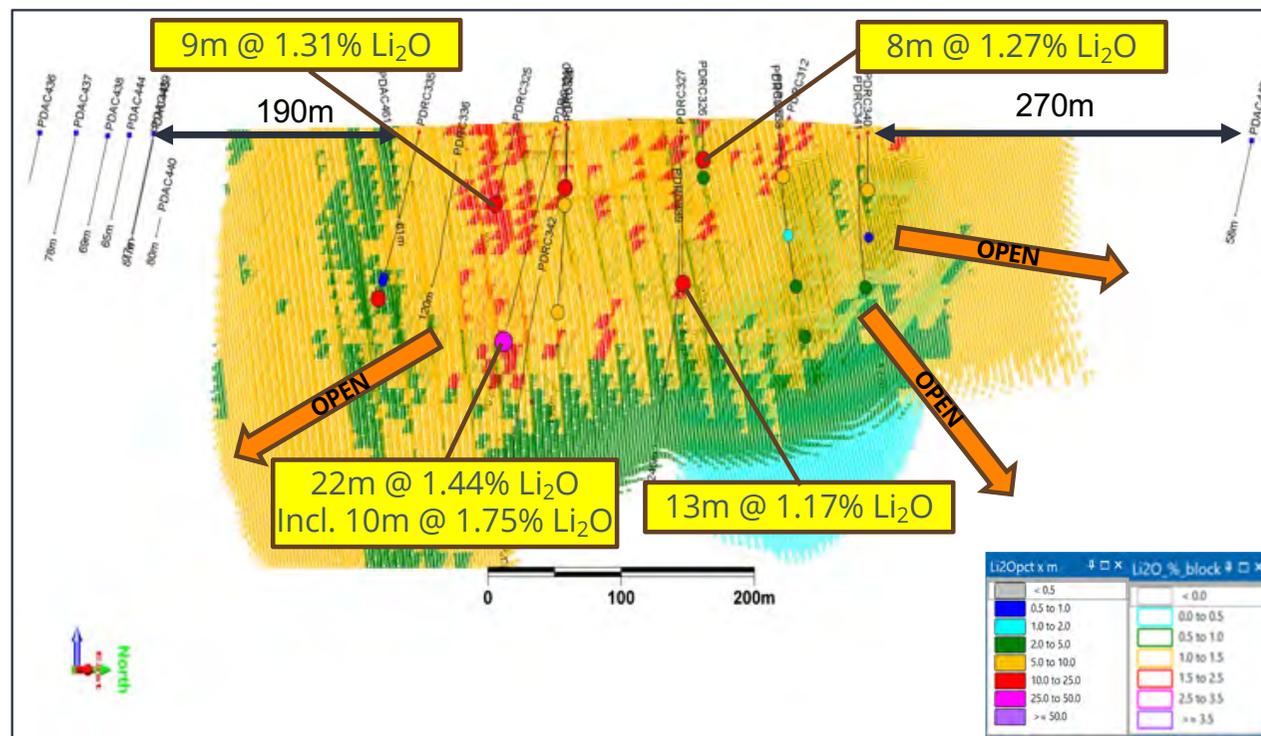


Cade long-section showing Mineral Resource block grades and - > 0.5 Li<sub>2</sub>O% intersections (looking west). Small circles represent intersections greater than 0.5% Li<sub>2</sub>O. Coloured by width (m) x Li<sub>2</sub>O grade (%) – see legend.

# The Davy Deposit

## 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
- ~240m from PDR335 (11m @ 1.16 % Li<sub>2</sub>O ) to southern section. Need to **test beneath and south of PDR335**
- The Heller Deposit, approx. 1km west of Davy makes up the remaining 6% of the Resource

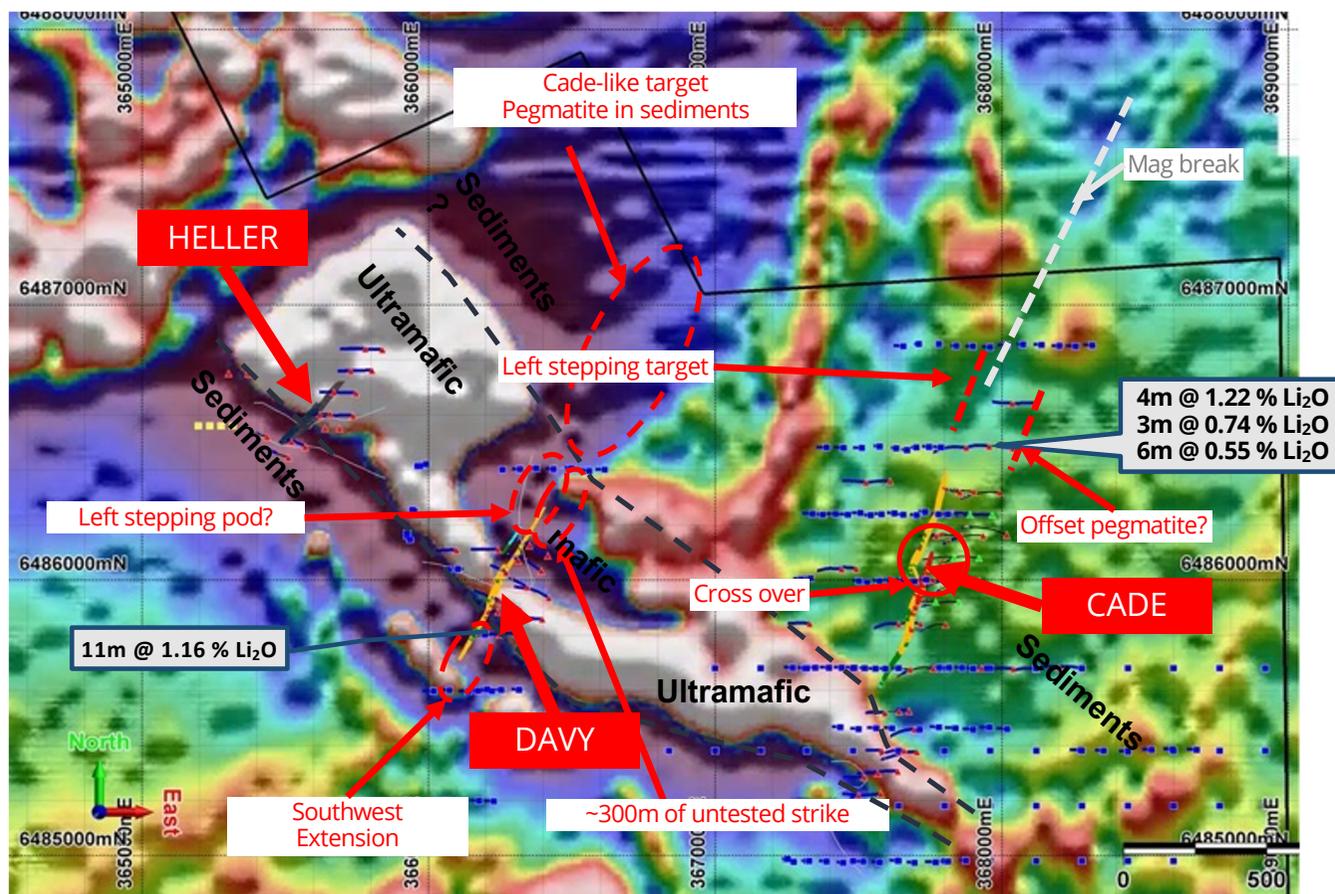


Davy long-section showing Mineral Resource block grades - > 0.5 Li<sub>2</sub>O% intersections (looking west).  
Small circles represent intersections greater than 0.5% Li<sub>2</sub>O.  
Coloured by width (m) x Li<sub>2</sub>O grade (%) – see legend.

# Dome North – significant exploration upside

## Dome North Resource growth

- Only two drill campaigns completed into three outcropping pegmatites since spodumene was discovered in June 2019, delivering an 11.2Mt Resource
- Only 14,000m drilled thus far – no drilling since February 2020 due to the downturn in lithium sentiment for most of 2020
- 10 extensional targets identified for the two main deposits – Cade and Davy
- **Drilling planned to commence in July**



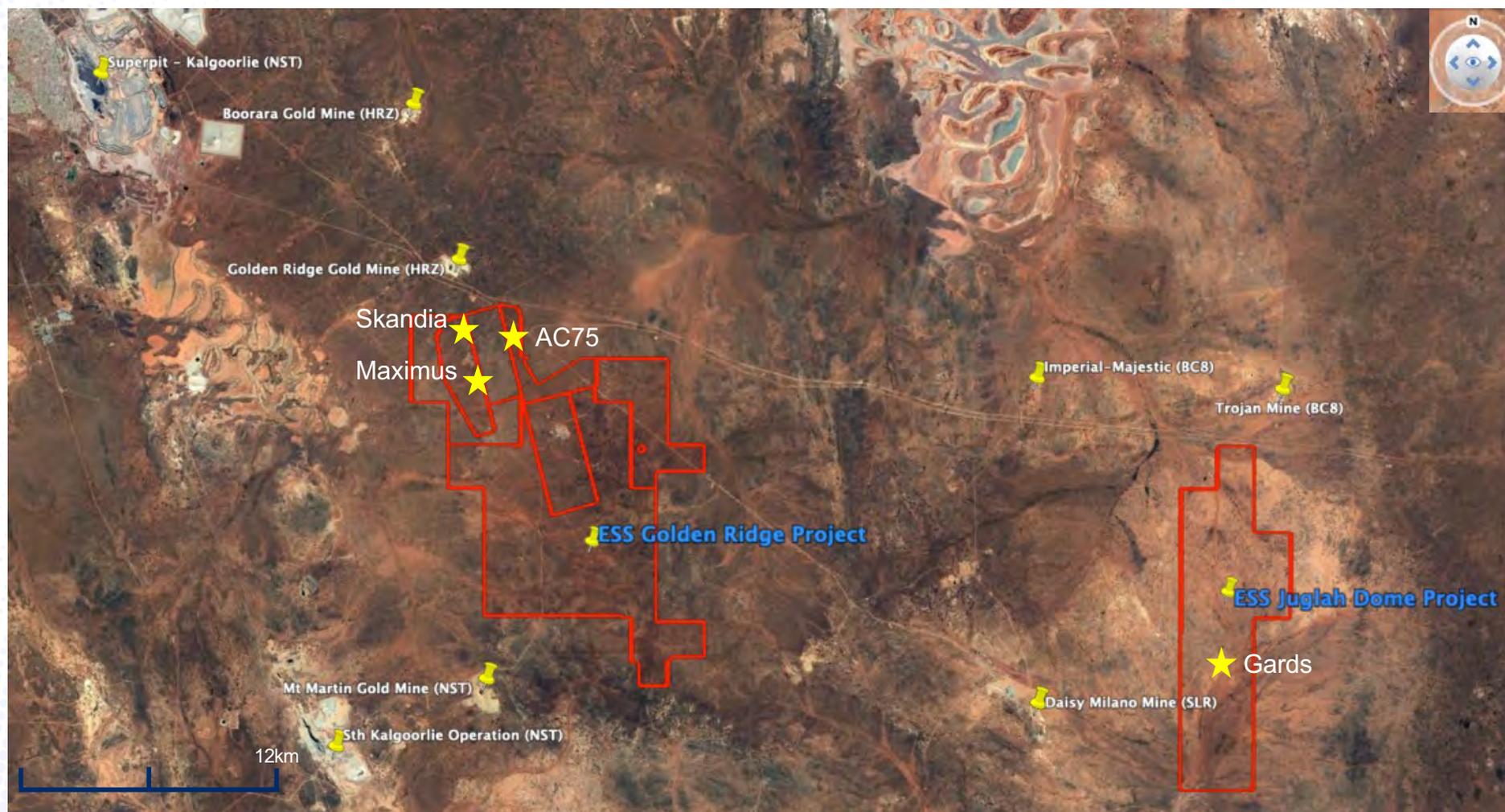
Dome North Mineral Resource extension targets

# Two Exciting Gold Projects near Kalgoorlie



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# Golden Ridge



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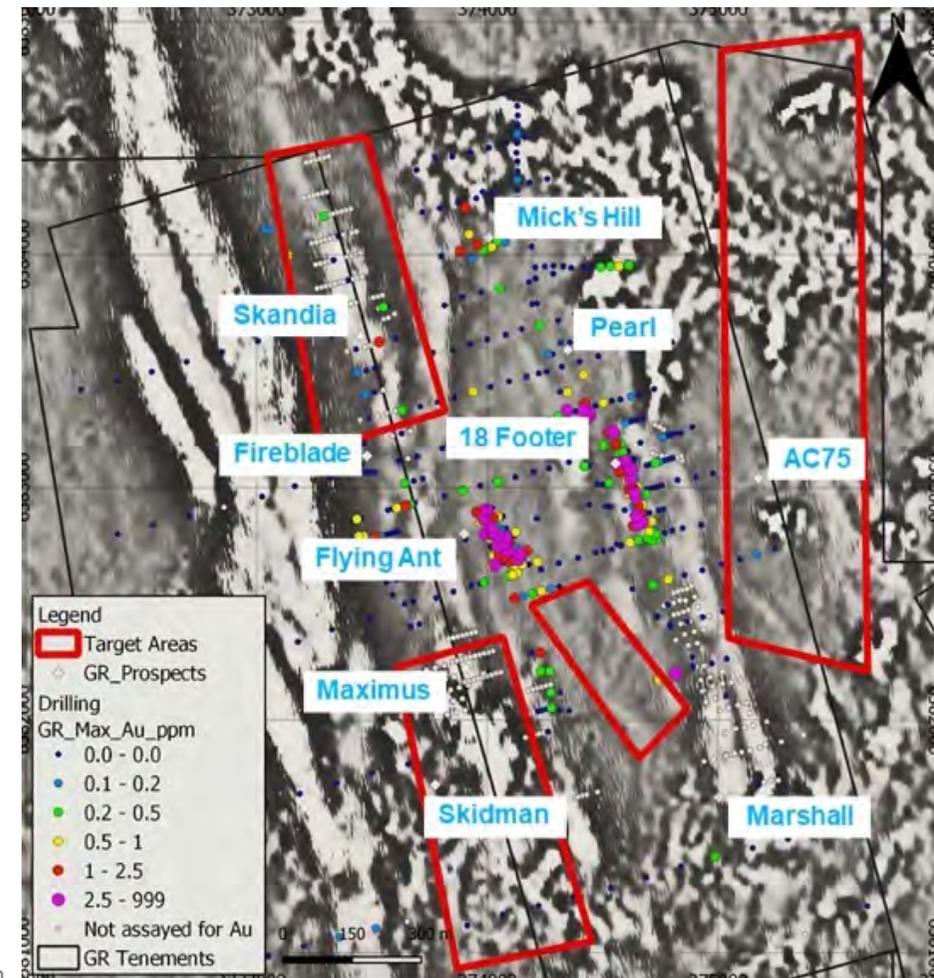
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## Multiple high tenor gold targets – with potential for a large discovery

- 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
- **Aircore drilling completed late May with results mid June**
- A number of targets exist in the northwestern portion of the project around the 18 Footer/Flying Ant prospects. Target analogues of the Golden Ridge mine (~250koz mined) have been identified
- 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 for more information.

Preliminary target areas in the north western portion of the Golden Ridge Project proximal to the 18 Footer/Flying Ant prospects.



# Juglah Dome



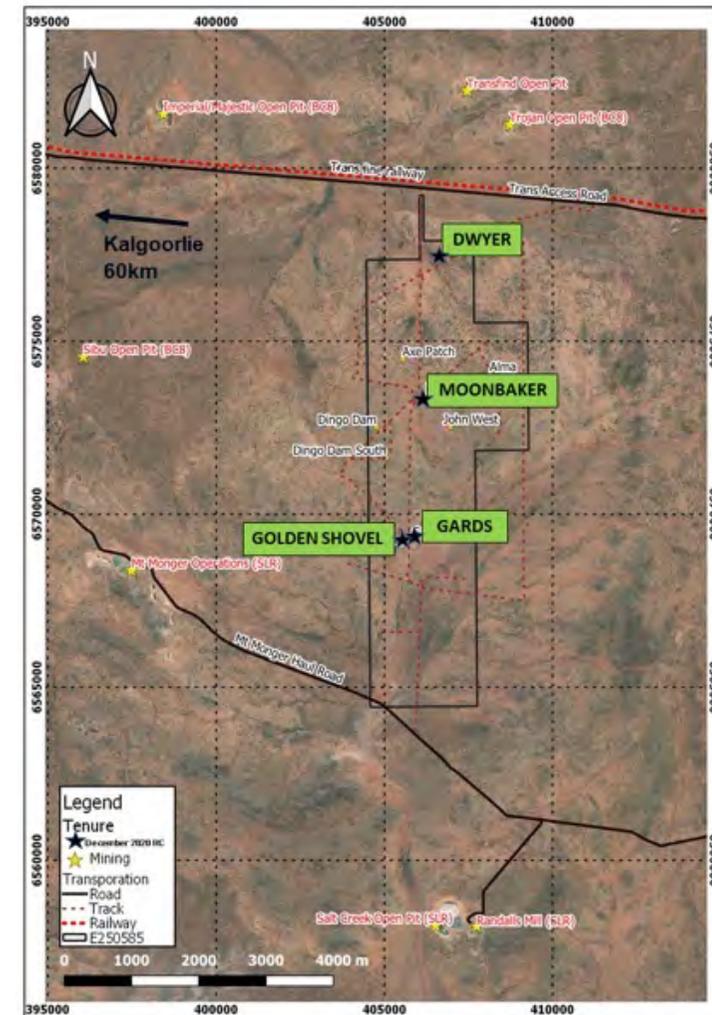
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## Widespread significant gold-in-soil anomalism indicates 'elephant country'..!

- **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.
- The 23-hole/2,355m Reverse Circulation (RC) drill programme completed in December 2020 tested Gards, Golden Shovel, Moonbaker and Dwyer
- 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 for more information.

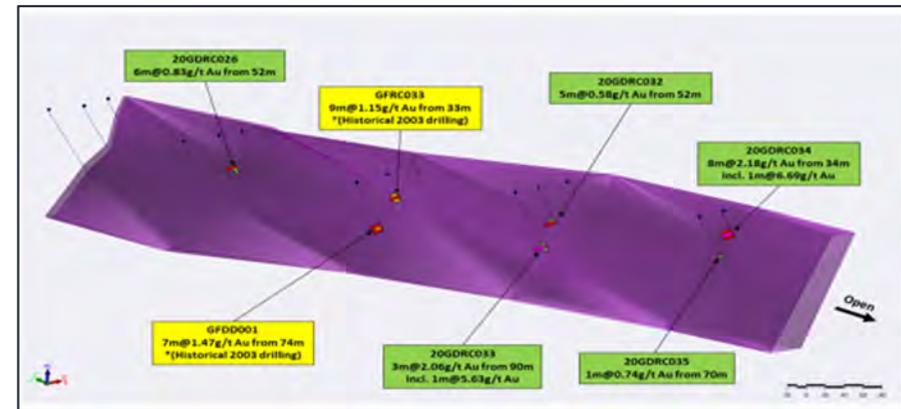
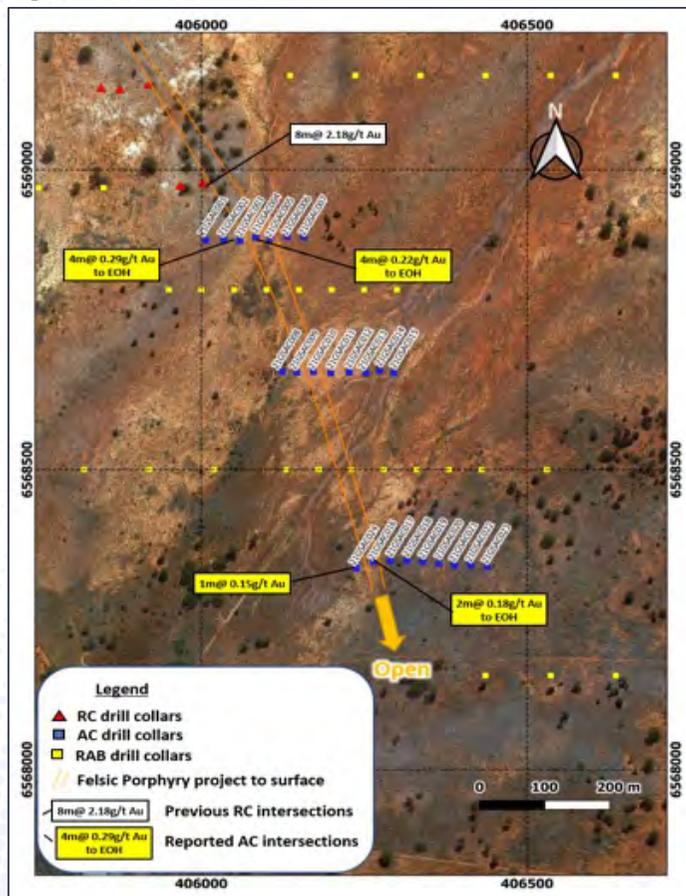


# Juglah Dome – Gards prospect

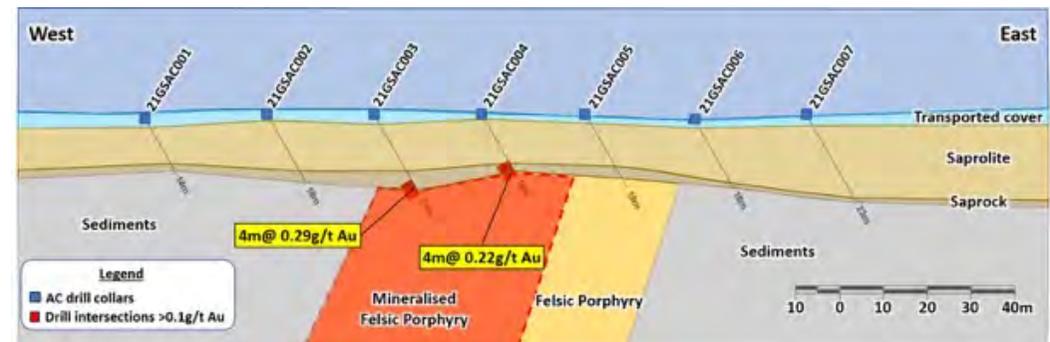


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Gards porphyry now has 1.1km of strike and is still open to the south



Oblique long section looking northeast showing the modelled Gards Porphyry (purple wireframe) and significant intercepts from December 2020 drilling (green labels) and historic 2003 Placer Dome drilling (yellow). Mineralisation is open to the southeast



Cross-section through the northern line of Gards South AC drilling with the interpreted mineralised felsic porphyry. Note the limited testing the AC achieved of the prospective unit

# Our partnered projects

## 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 **Crest Investment Group\*\***
- 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.

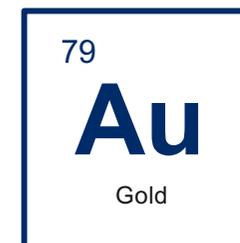
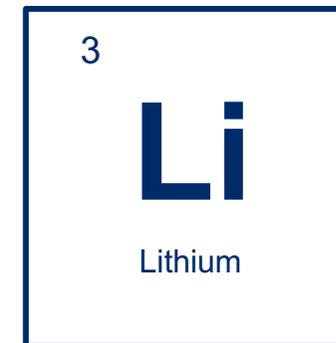
\*\*\* ESS holds 100% of the Balagundi Gold Project with Black Cat Syndicate currently in the farmin stage of earning a 75% interest.

# Key Takeaways



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- Funding in place – **\$5.8M cash on hand**
- **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** with significant initial Mineral Resources with a high level of growth and upside potential
- Potential for **value uplift** as lithium Resource advances towards development
- **Drilling for lithium** resource extensions and finding new mineralised pegmatites due to start in July
- **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

## For further information:

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# Appendix A: Selected trading peers

- Started with all Lithium companies
- Excluded brine assets, significant non-lithium holdings, significant presence in manufacturing, high risk project locations, EV / Resources unavailable

Name	Location	Study Stage	Measured & Indicated (t)	Inferred (t)	Total Resource (t)	Total Resource Grade (Li2O %)	Total Reserves (t)	Notes
Core Lithium	AUS	Construction planned	75,800	31,200	193,300	1.40%	86,300	
Critical Elements Lithium	CAN	Construction planned	227,800	68,870	322,430	0.85%	25,760	
Essential Metals	AUS	Exploration	36,000	70,000	136,000	1.21%	0	Listed for ease of comparison
European Lithium	AUT	DFS started	52,900	20,900	110,300	1.17%	36,500	
European Metals Holdings	CZE	DFS started	107,800	694,820	1,421,000	0.20%	618,380	
Frontier Lithium	CAN	PFS complete	115,400	87,743	409,582	1.70%	204,739	
Infinite Ore	CAN	Resource from 1950s	0	0	20,000	1.09%	20,000	Also has gold ground (but no resource)
Infinity Lithium	ESP	PFS complete	172,500	105,000	510,000	1.30%	232,500	
Jindalee Resources	USA / AUS	Exploration (US)	0	0	650,000	0.43%	650,000	Has other resources
Liontown Resources	AUS	PFS complete	974,000	849,000	2,295,000	1.40%	476,000	
Pilbara Minerals	AUS	In production	1,714,000	453,000	3,296,000	1.26%	1,129,000	
Rock Tech Lithium	CAN	PFS complete	0	66,500	144,500	1.09%	78,000	Building converter, patented technology
Savannah Resources	POR	DFS started	0	158,300	285,900	1.06%	127,600	
Sayona Mining	CAN	Construction started	121,590	52,600	211,000	1.01%	36,800	CAN spodumene, AUS Li/Au and graphite
Sigma Lithium Resources	BRZ	Construction started	200,700	450,440	748,100	1.56%	96,960	
Zinnwald Lithium	GER	DFS complete	101,000	134,500	254,100	0.75%	18,550	