



**An Australian  
Battery Minerals Company**

**For the products of tomorrow**

**Zenith Minerals Limited (ASX:ZNC)**

**Investor Presentation**

**October 2022**



## **Forward looking statements**

Some statements in this presentation regarding estimates or future events are forward looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include estimates of future production, reserve and mineralised material estimates, capital costs, and other estimates or prediction of future activities. They include statements preceded by words such as “believe”, “estimate”, “expect”, “intend”, “will” and similar expressions. Actual results could differ materially depending on such things as political events, labour relations, currency fluctuations and other general economic conditions, market prices for Zenith Minerals Limited products, timing of permits and other government approvals and requirements, change in operating conditions, lower than expected ore grades, unexpected ground and mining conditions, availability and cost of materials and equipment, and risks generally inherent in the ownership and operation of mining properties and investment in foreign countries.

## **Information presented is a summary**

This presentation aims to provide a high-level summary of various technical aspects of the Company’s projects. For more details on the underlying technical parameters the reader is referred to the ASX Reports on the Zenith Minerals Limited’s website: [www.zenithminerals.com.au](http://www.zenithminerals.com.au)

## **JORC competent persons statements**

The information in this report that relates to Zenith Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith. Mr Clifford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## **Material ASX releases previously released**

The Company has released all material information that relates to Exploration Results, Mineral Resources and Reserves, Economic Studies and Production for the Company’s Projects on a continuous basis to the ASX and in compliance with JORC 2012. The Company confirms that it is not aware of any new information that materially affects the content of this ASX release and that the material assumptions and technical parameters remain unchanged. Material ASX releases related to the results reported in this report are listed on the respective project pages.

Slide #3 : To allow the Zenith team to focus on battery metals, it is planned that the non-battery metal projects, including base metals and gold assets will be demerged into one or more new companies to be listed on ASX. Any such demerger will be subject to ZNC Board approval, tax advice favourable to ZNC, shareholder, ASX, ASIC and other regulatory approvals. ZNC shareholders to benefit by way of an in-specie distribution of the shares in the new listed vehicle/s. Further updates and information on the Demerger will be provided by Zenith in due course (ZNC ASX Release 13-Jan-22).

# Introducing Zenith Minerals (ASX:ZNC)



- Zenith Minerals Limited (ASX:ZNC) is an Australian based exploration company with lithium, gold and base metal projects across Australia.
- In January 2022, the company turned its focus towards detailed exploration of its lithium tenements having entered into a joint venture agreement with EV Metals Group, an international organisation committed to becoming a global leader in battery chemicals and technology. On signing of that agreement, EV Metals invested an initial \$6m into Zenith.
- EV Metals can earn a 60% interest in the lithium projects represented by two initial 100% owned Zenith Projects, Waratah Well and Split Rocks, by spending a minimum of \$7m within 24 months.
- EVM can earn a 60% interest in the lithium rights in these projects, with Zenith retaining a 40% project share, under terms that sees Zenith funded through to bankable feasibility on any of the project developments.

## Capital Structure | ASX:ZNC

Share Price

**\$0.31**

Shares on Issue

**343.9M**

ZNC fully paid ordinary

Market Capitalisation

**\$107M**

Cash

**\$7.9M**

30-Jun-22

Listed Equities

**\$8.8M**

### Share Price

**0.31** AUD

+0.06 (24.00%) ↑ year to date

14 Oct, 10:16 am AEDT • Disclaimer

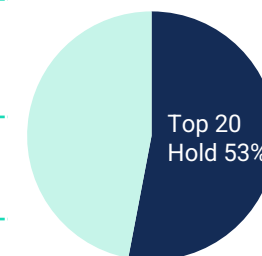
1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max



Open	0.31	Mkt cap	106.88M	52-wk high	0.46
High	0.31	P/E ratio	72.94	52-wk low	0.21
Low	0.31	Div yield	-		

### Major Shareholders <sup>4</sup>

Directors	3.4%
HSBC Custody Nom.	9.4%
City Corp Nom.	9.0%
BNP Paribas Nom.	5.8%
Granich	3.7%



# EV Metals Group JV is Unique

**Zenith Minerals Limited (ZNC) entered into an agreement to form a lithium joint venture (JV) with EV Metals Group (EVM) to explore for, mine and process mineral resources containing lithium and other battery metals (JV Agreement) in January 2022.**

- EVM is a global battery materials and technology company committed to a fully integrated EV supply chain. The JV Agreement provides for ZNC to be developed as a pure lithium company focused on lithium and related battery metals listed on ASX.
- Subject to positive feasibility study outcome, EVM is required to arrange 100% of the financing for the capital costs of development, construction and commissioning of any future mine, beneficiation plant and related infrastructure.
- This JV with Zenith is unique across the battery minerals / materials sector.



**We look to benefit from growing European and North American demand for EV batteries**

**From the supply of vital raw material**

**Through a unique strategic industry partnership**

# Lithium Projects



**Zenith Minerals Limited (ASX:ZNC) currently has three lithium projects located in Western Australia**

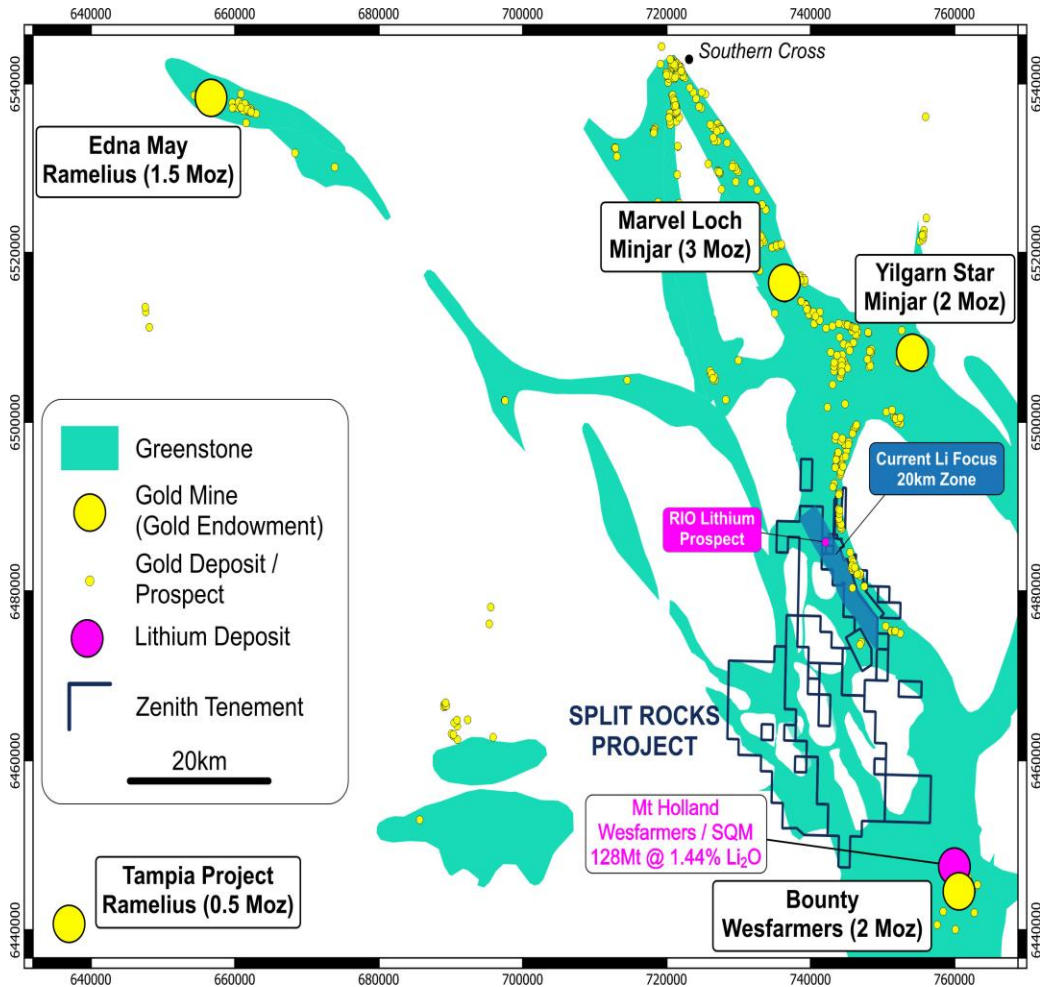
**Split Rocks:** Located within the Southern Cross region mid-way between Perth and Kalgoorlie. Now being systematically explored under the terms of the joint venture between Zenith and EVM

**Waratah Well:** Northwest of the regional town of Yalgoo in the Murchison Region, holds a lithium-caesium-tantalum pegmatite target with ongoing exploration under the terms of the joint venture between Zenith and EVM.

**Mt Ida North:** West of the regional town of Leonora in Western Australia's Goldfields Region (Australian Lithium Alliance EVM 60% - ZNC 40% - refer ASX Release 23-May-22).

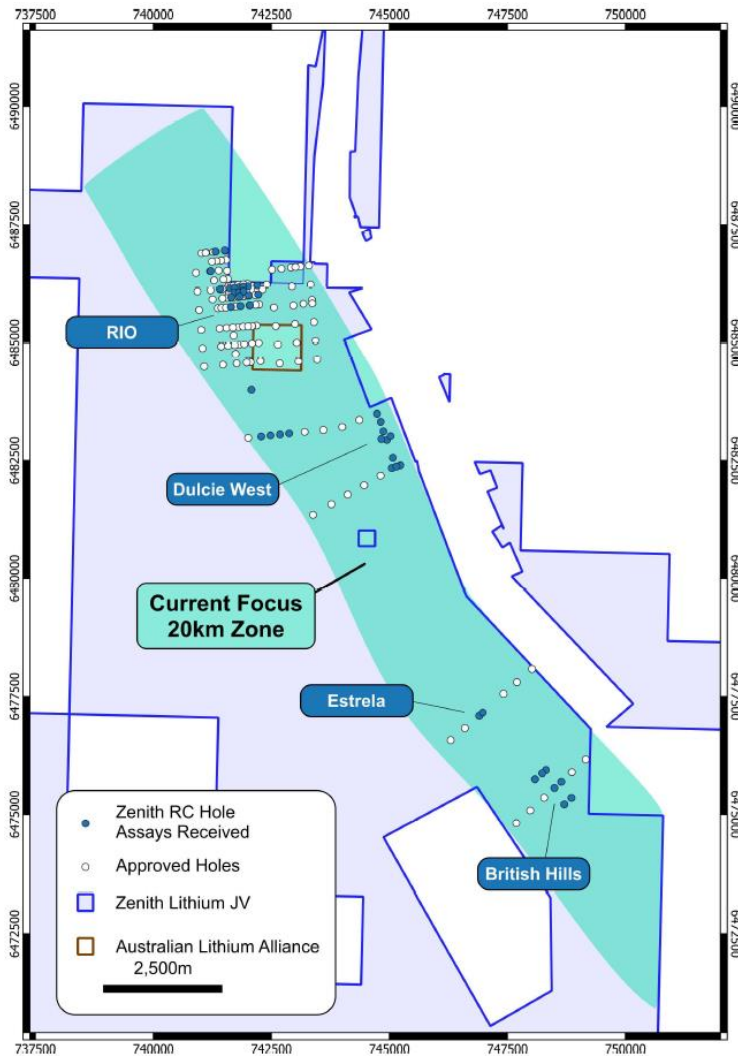
**Additional projects continue to be assessed**





## Primary Target

- Zenith was targeted by EVM to gain access to the huge potential of the Split Rocks Project and the 660sq km of tenement.
- A systematic drilling campaign has been undertaken to identify areas that are potential lithium targets. This is an emerging lithium district given that it hosts the Wesfarmers /SQM joint venture at Mt Holland that contains Measured, Indicated & Inferred Mineral Resource of 189Mt @ 1.5% Li<sub>2</sub>O (66Mt @ 1.58 %Li<sub>2</sub>O Measured, 106Mt @ 1.52% Li<sub>2</sub>O Indicated, and 17Mt @ 1.11% Li<sub>2</sub>O Inferred) (reported in KDR:ASX Release 19-Mar-18).
- The current drill campaign has commenced with an additional 45 holes with 21 holes assayed. Additional applications are being submitted for further drilling.



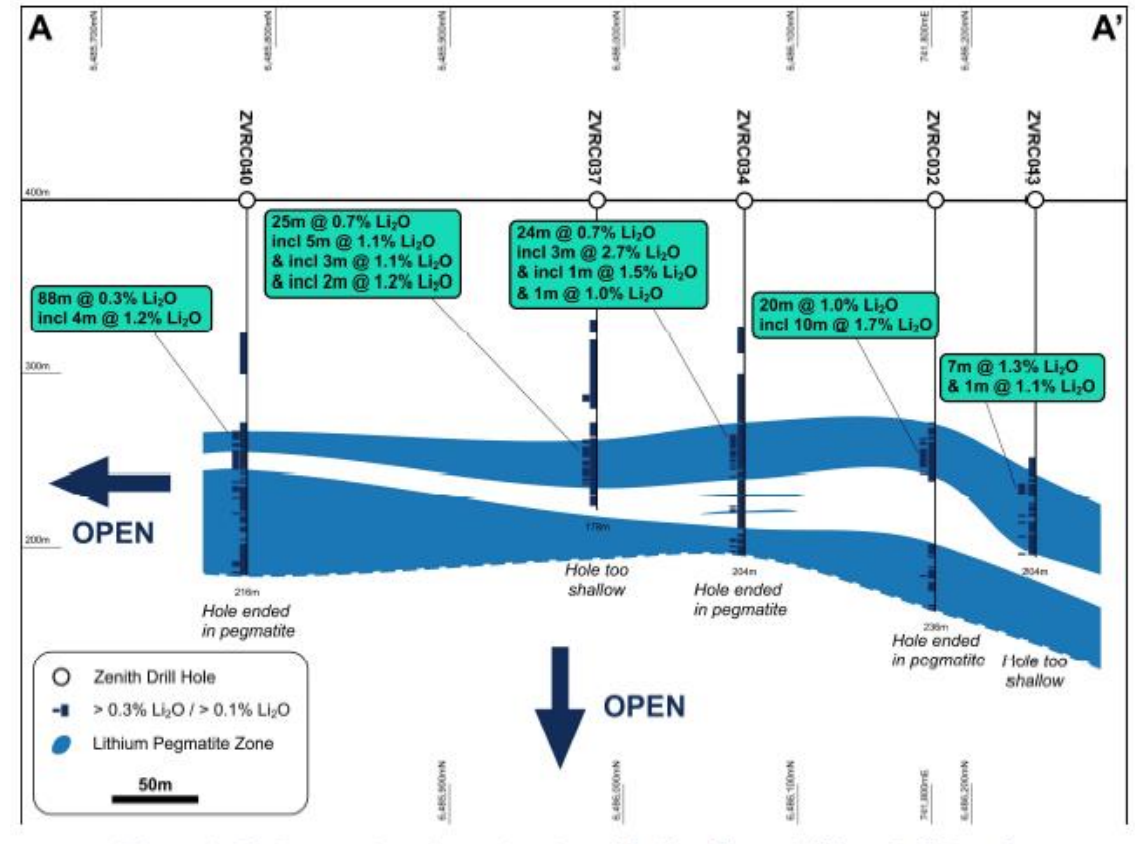
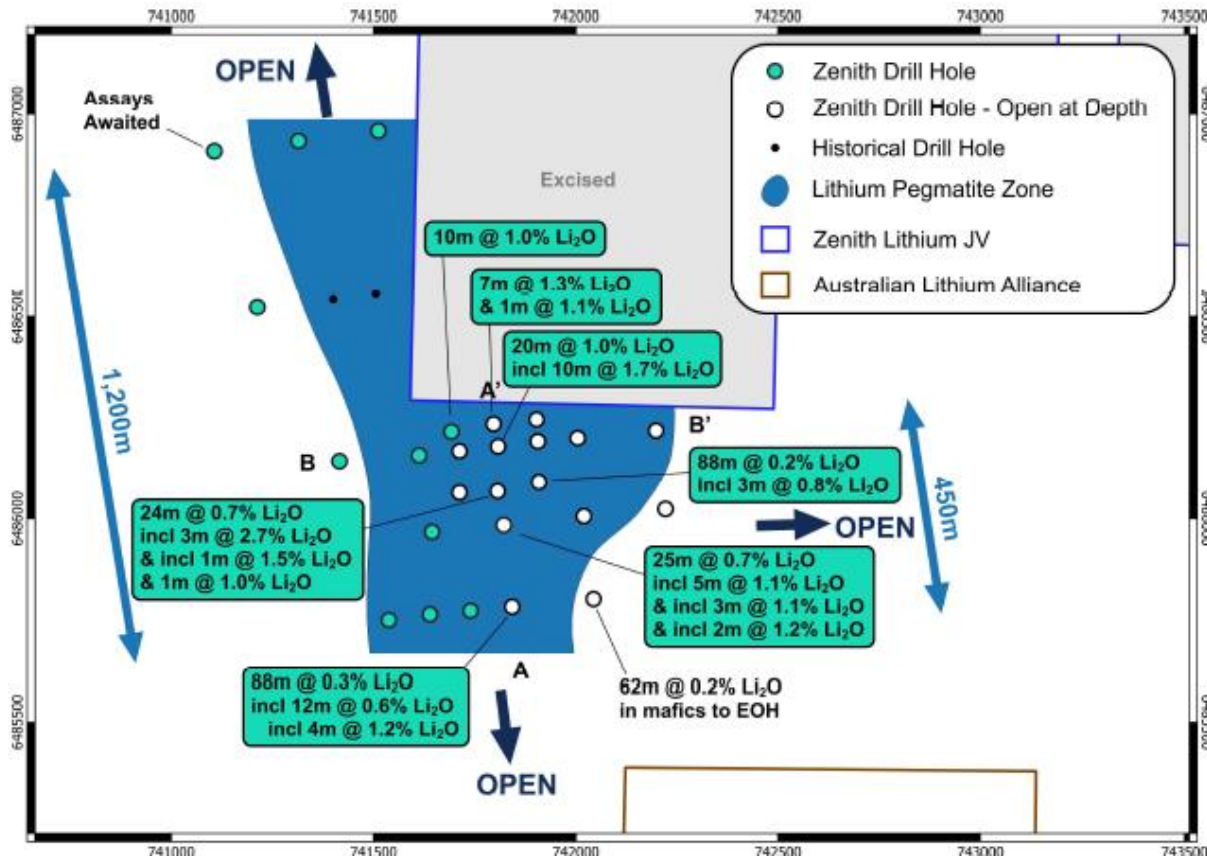
## Our forward program

- On the 20<sup>th</sup> September, Zenith announced results from 21 holes of a 45-hole permitted program of works.\*
- These assay results confirmed the presence of material lithium mineralisation around the Rio area of focus.
- Lithium bearing pegmatite has been outlined over more than 1,200m of strike which remains open to the north, south, east and at depth.
- Exploration will now be accelerated with two diamond rigs going on site. Permits have been received for a further **84 RC holes and 84 diamond holes** and an approved budget for an additional 60 RC and 10 diamond holes to define the size of the Rio pegmatite system. One rig commencing drilling today to run deeper holes.

\* For full results and intersections refer ASX announcement 20/9/22



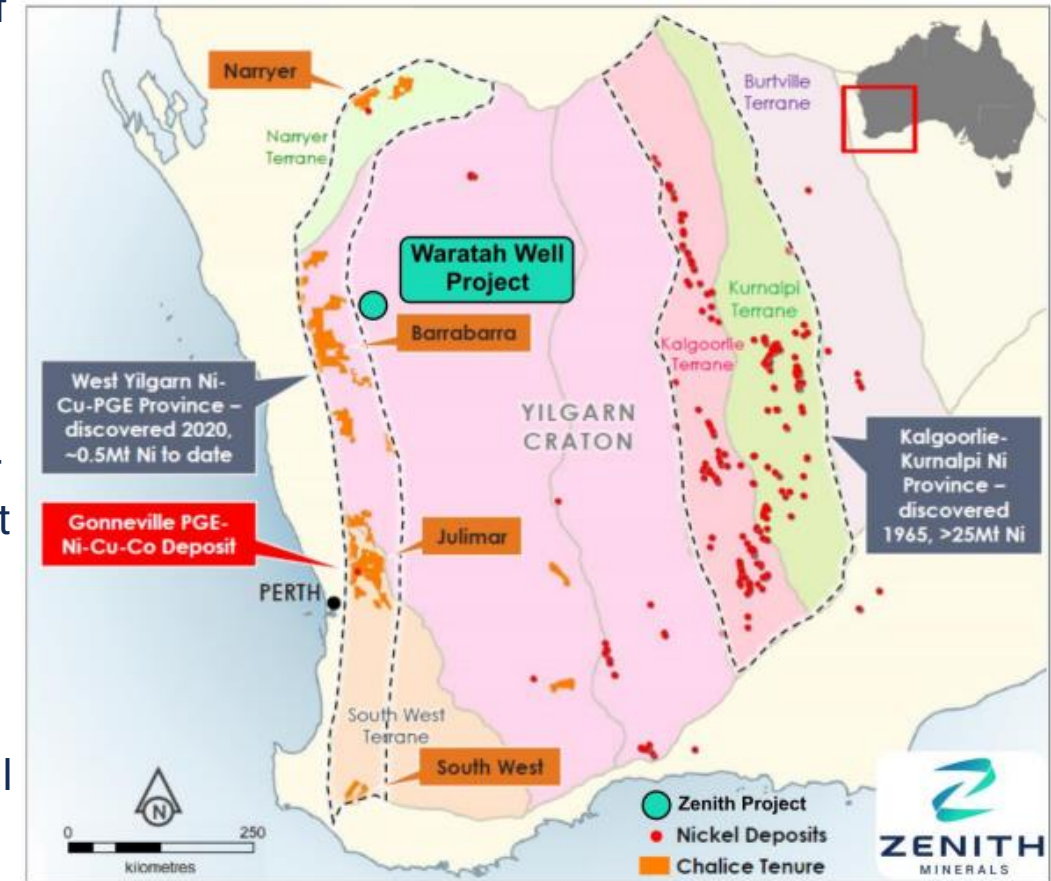
# Split Rocks



\* For full results and intersections refer ASX announcement 20/9/22

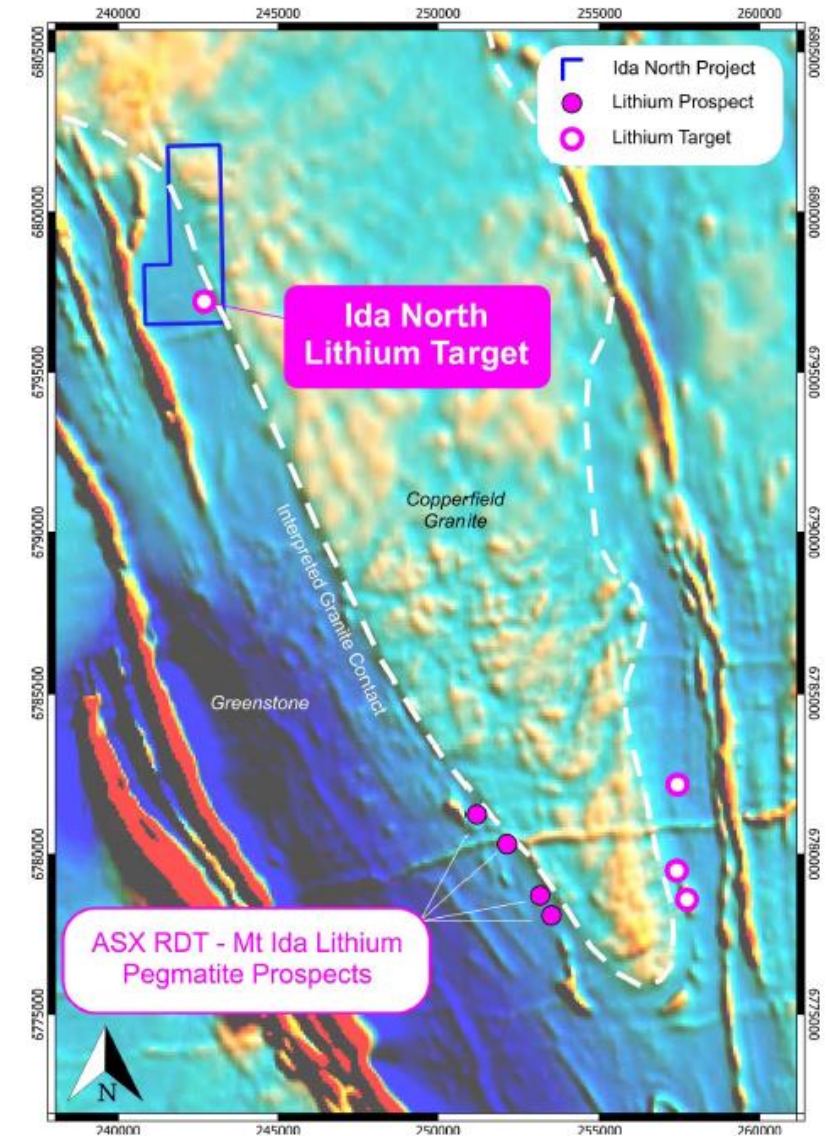
# Waratah Well

- The Waratah Well project is located approximately 20km northwest of the regional town of Yalgoo in the Murchison Region of Western Australia.
- Tantalum and locally lithium bearing pegmatite sills and dykes crop out over a 3km x 2km area with a range of dips. Lithium rock chip sample grades up to 2.09% Li<sub>2</sub>O in the north-western portion of the target area. The key lithium target is the blind lithium spodumene mineralisation beneath the tantalum bearing dykes, a geological architecture like that noted at the Bald Hills lithium mine and a similar picture that can be noted at Liontown's Kathleen Valley lithium project whereby relatively narrow surface pegmatite dykes merge at depth to form a thick flay lying lithium spodumene rich sill.
- A new Ni-Cu-PGE drill target has been identified by Zenith's technical team as part of a holistic approach to exploration on the Waratah Well project area. The target is defined by a strong Ni-Cu-PGE surface soil anomaly with coincident EM bedrock conductors, hosted within a mafic-ultramafic intrusion. The intrusion is also the host to lithium rich pegmatites that are the focus of exploration at Waratah Well.



# Mt Ida North

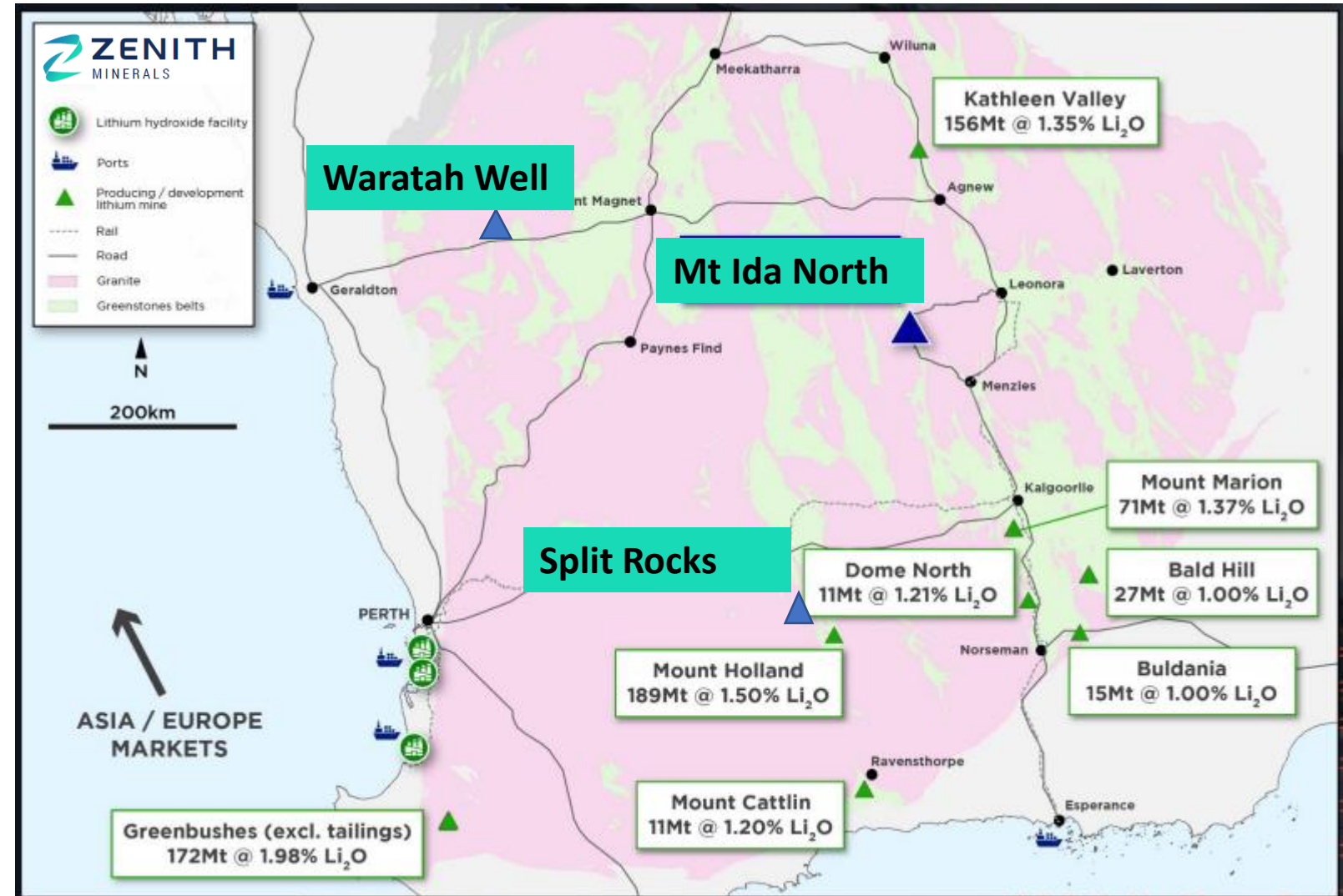
- In May 2022, a third lithium project was introduced to the portfolio. The Mt Ida North project was secured under an option agreement and is located 95km west of the town of Leonora in the Goldfields Region of Western Australia.
- Reconnaissance mapping and sampling by Zenith's technical team has identified a zone of high rubidium and tantalum bearing pegmatite dykes that crop out over a 1km x 1km area with a cluster of very high density in the south-east of the project area.
- With permits of work now received, drilling has commenced with an initial 10 – 12 drill hole program through the month of October 2022. The key lithium target is to drill for blind lithium spodumene mineralisation beneath the tantalum bearing dykes, a geological architecture similar to that under investigation at the Company's Waratah Well project and noted at the Bald Hills lithium mine.
- To the south, Red Dirt Minerals, is hoping to release a resource at the end of the 4<sup>th</sup> quarter 2022. Mineralisation sits adjacent to the same granite contact that Zenith is targeting.





# Why Exploration matters

Company	Asset
Wesfarmers (50%) SQM	Mount Holland
Mineral Resources Ganfeng	Mount Marion (50%)
Allkem (100%)	Mount Cattlin
Liontown Resources	Kathleen Valley
Liontown Resources	Buldan

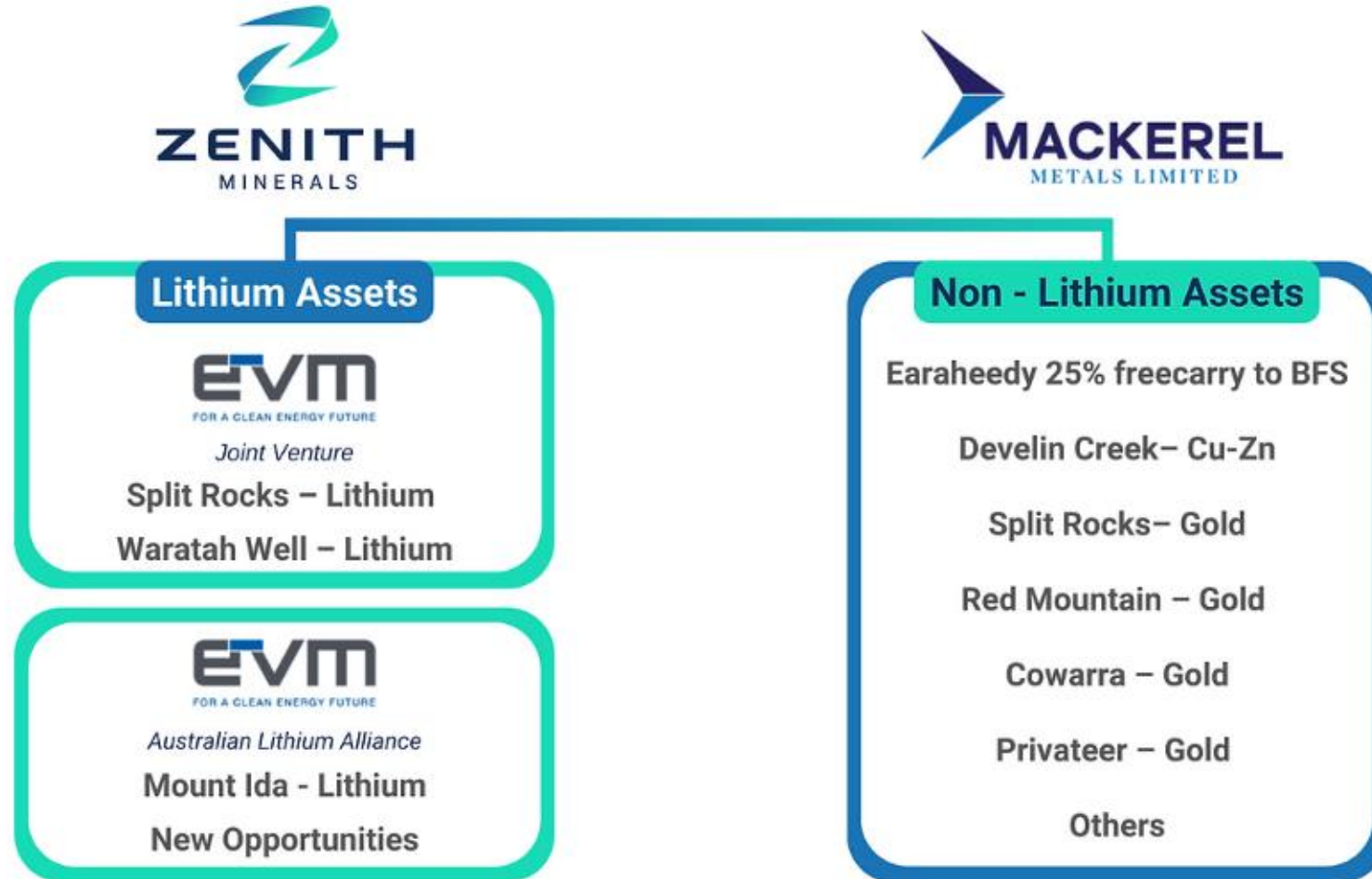


# We are focusing on battery minerals





Zenith Minerals (ASX:ZNC) is a battery minerals exploration company focused on supporting the increasing demand for metals critical to the global energy transition. Hence the proposed gold and base metal assets spin out.

**ZNC Market  
Capitalisation**  
Based on \$0.30  
Pre-demerger

**\$107M**





Company	Producer	Technical Team	Engineering	Pathway to market
Zenith Minerals				



A demerger of the base metal and gold assets into Mackerel Metals is planned so that they can be subject to proper market valuation.



# Listed investments

(value: \$8.8 million as of Sep-2022)



BRADDA HEAD  
— LITHIUM —

43.9M shares in  
Bradda Head Holdings Limited  
AIM



AMERICAN  
RARE EARTHS

2.5M shares in  
American Rare Earths  
(ASX:ARR)



RUMBLE  
RESOURCES LTD

3.88M shares in  
Rumble Resources Limited  
(ASX:RTR)



NICKEL X  
LIMITED

0.5M shares in  
Nickel-X Limited  
(ASX:NKL)



# Board and Management

---

## David Ledger

### Executive Chairman

David Ledger has spent over 35 years in investment banking, with experience working in the United Kingdom and Australia. He is a former Executive Director of a major European Bank and has been advising institutional and corporate clients throughout his career. He currently works in Sydney as a Corporate Advisor with MST Financial, a specialist investment firm that provides research, sales trading and corporate finance solutions for domestic institutional clients and corporates.

## Michael Clifford

### Chief Executive Officer

Mick Clifford is a geologist (BSc (Hons) 1987, MSc) with over 30 years' experience in the exploration industry. Mick held senior technical and business development roles and explored for most major metal commodities during a successful career with Billiton Australia, Acacia Resources and AngloGold Ashanti rising to the position of Regional Exploration Manager Australia.

Mick was Managing Director of ASX listed PacMag Metals Ltd from 2005 until its takeover in 2010, when he co-founded private explorer S2M2 Coal Pty Ltd. He is experienced in international exploration and has had exposure to mining and exploration in the USA, Indonesia, Brazil, PNG, Angola, Democratic Republic of Congo, Mexico and Mongolia.

## Stan Macdonald

### Non-Executive Director

Stanley Macdonald has been associated with the mining and exploration industry for many years, having been instrumental in the formation of numerous ASX listed companies, including Giralia Resources NL, where he was Director for over 23 years.

## Julian Goldsworthy

### Non-Executive Director

Julian Goldsworthy was formerly Chief Geologist at Gascoyne Resources Ltd; prior to that, Exploration Manager at Giralia Resources NL until its takeover by Atlas Iron Ltd. He has over 30 years' experience in the minerals industry, in particular with Newcrest Mining (and its predecessor Newmont Australia), where he led and conducted successful exploration programs for gold in Australia and South America.

## Emma Scotney

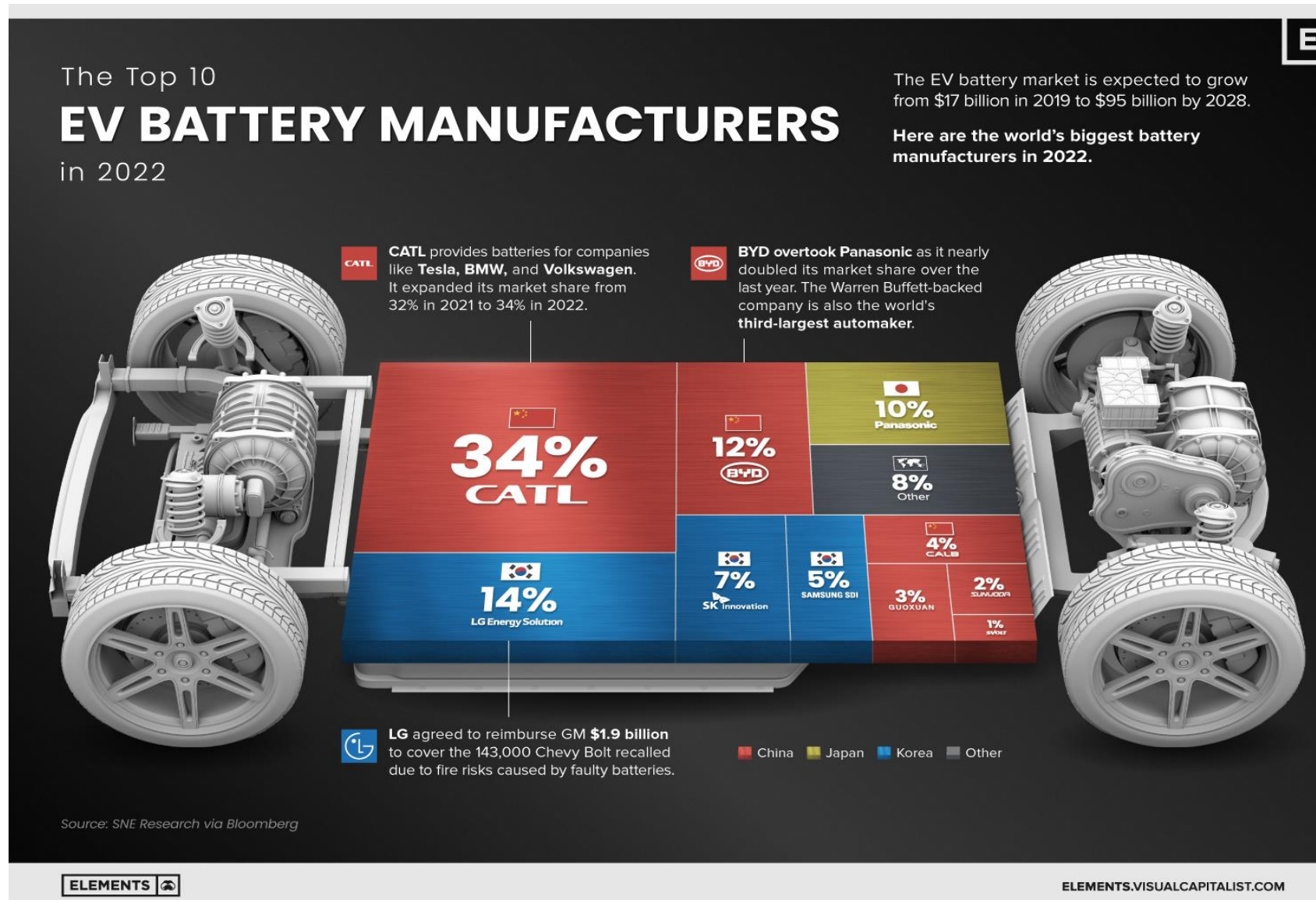
### Non-Executive Director

Emma Scotney is a highly experienced Business Advisor and Corporate Lawyer who has over 25 years' combined experience in the property, agricultural and mining industries. Emma provides in-house legal counsel services to an ASX-listed global mining technology company, advising on corporate and commercial matters (including M&A and corporate governance policy). She is currently a Non-Executive Director of ASX-listed Minerals 260 Limited (ASX:MI6) and a Commissioner of the Insurance Commission of Western Australia. Emma is will be considered an independent Director of Zenith.

# Investment Highlights

- Zenith Minerals is pivoting to be a 100% focused battery metals business.
- The lithium portfolio is extensive and growing. Zenith will continue to make acquisitions that make sense and build its portfolio that increases the chances of exploration success and de-risks the downside.
- The planned spin-out of the gold and base metal assets is underpinned by the 25% stake in Earraheedy. The other projects deliver further upside.
- Our commitment to exploration success is driven by the desire for EVM to get feedstock into their planned processing facility at Yanbu in Saudi Arabia.
- Our Split Rocks and Waratah Well drilling campaigns are funded by EV Metals with no capital required from Zenith shareholders until the delivery of a FS.





# Gold and Base Metal Projects

Zenith Minerals also holds an extensive portfolio of gold and base metal projects across Australia. **It is proposed that shareholders owning Zenith shares prior to the ex-date will get a 100% in specie share distribution in Mackerel Metals**

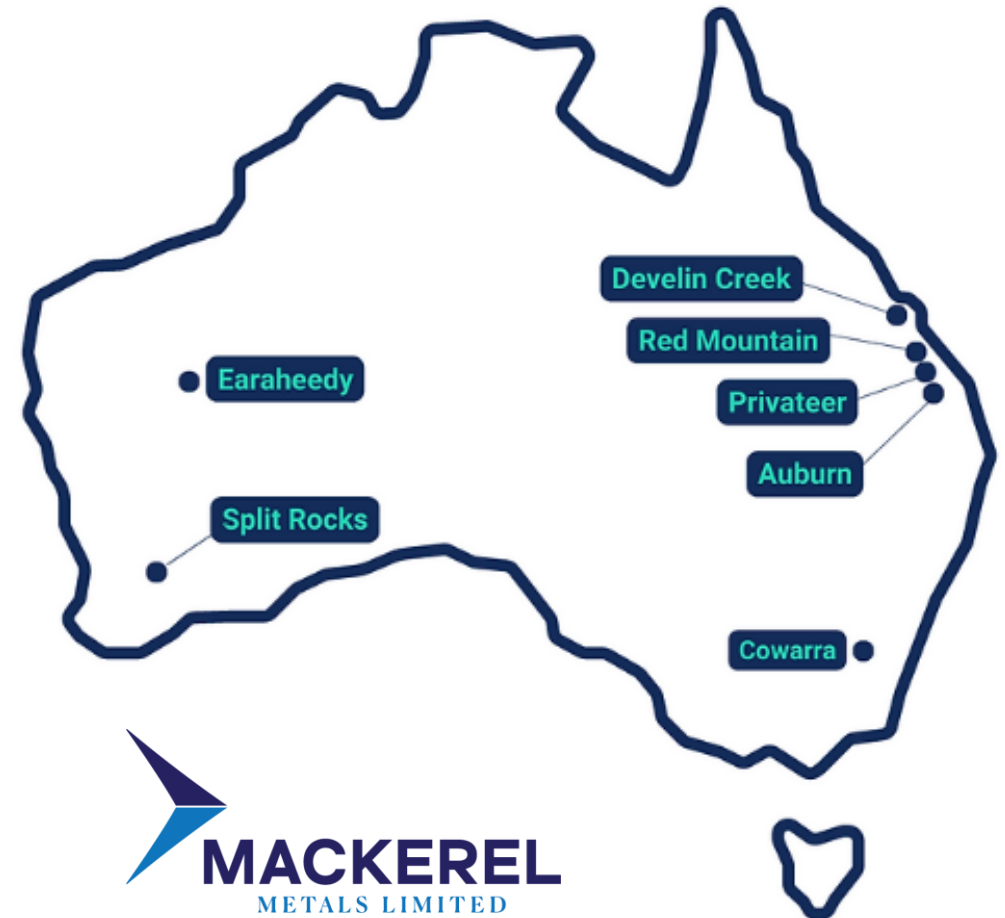
**Split Rocks Gold:** Adjacent to the lithium site in Western Australia – 100% interest

**Develin Creek Copper / Zinc:** Northern Queensland – 100% interest

**Red Mountain Gold:** Queensland – 100% interest

**Earaheedy Zinc / Lead:** Western Australia - 25% interest. Rumble Resources 75% (ASX:RTR Mkt Cap \$200m)

**It is proposed that these assets will be transferred into a separate company called Mackerel Metals Limited to be listed on the ASX\*.**

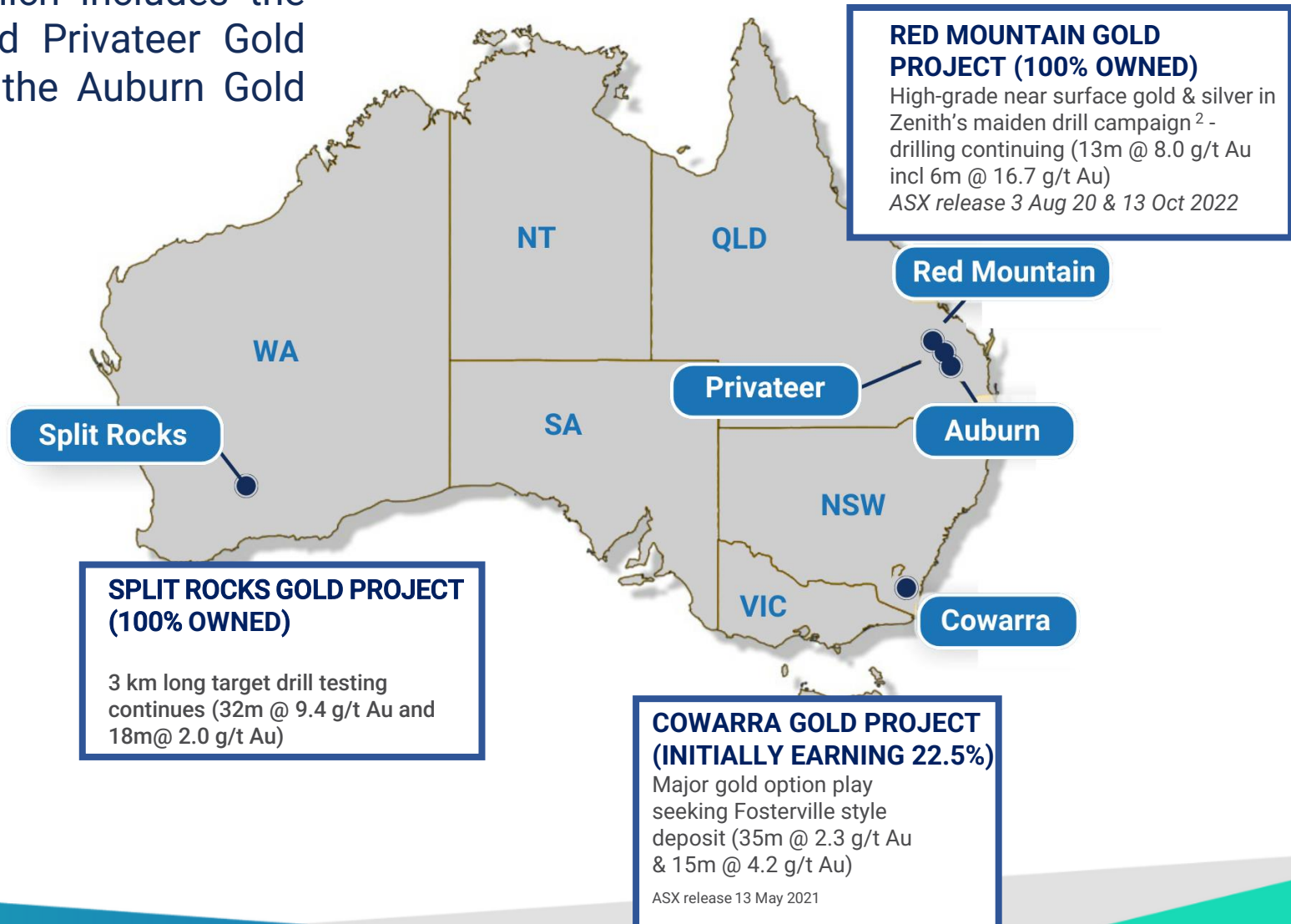


\*This remains subject to ASX, shareholder and other regulatory approvals.

# Gold Projects

There are five gold projects across Queensland, New South Wales and Western Australia which includes the recent acquisitions of the 100% owned Privateer Gold project announced in March 2022 and the Auburn Gold project announced in April.

- Red Mountain
- Split Rocks
- Cowarra



# The Split Rocks Project

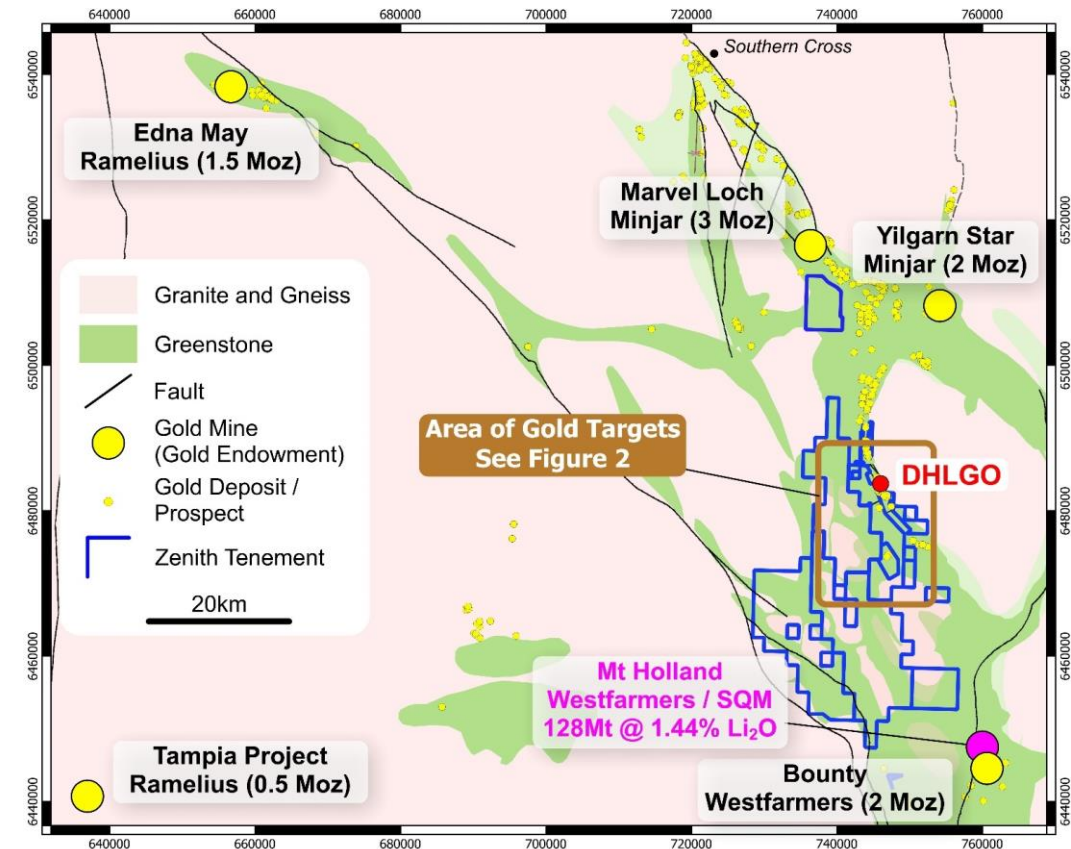
- The Split Rocks project is another 100% owned gold project located within the same tenement boundary as the lithium exploration ground, immediately south of Southern Cross. This is a well established and recognised gold district with a gold endowment exceeding 10M oz around the Parker Dome. Several very large current and formerly operated gold mines are located north and south along strike from Zenith's project area that attest to the regional gold endowment of this area. These include both Marvel Loch and Yilgarn Star.
- The geological team initially identified 12 high quality gold drill targets at Split Rocks, subsequently expanding to 18 targets in the north-eastern sector of the project area. New results from the last campaign have demonstrated the strength of mineralisation from the Dulcie Far North area where strong grades extend into fresh rock beneath those zones reported previously. High grade mineralisation occurs in moderately west dipping zones at Dulcie Far North that is associated with sheared mafic rocks with variable alteration and quartz veining typically 2% - 10%.

More recent positive high grade gold results include\*:

- 7m @ 7.8 g/t including 5m @ 10.6 g/t Au
- 5m @ 7.4 g/t and 9m @ 2.0 g/t Au
- 8m @ 4.2 g/t including 3m @ 10.7 g/t Au
- 5m @ 4.9 g/t including 2m @ 11.3 g/t Au
- 6m @ 2.8 g/t including 2m @ 7.3 g/t Au
- 16m @ 1.4 g/t including 2m @ 8.5 g/t Au
- 14m @ 1.3 g/t including 1m @ 9.3 g/t Au
- 15m @ 1.2 g/t including 4m @ 3.5 g/t Au

The continuing positive results being delivered from Split Rocks confirms the strength of mineralisation that warrants continued exploration focus. To date, the programs being undertaken have justified the confidence within the tenement boundary that is expected to see additional drilling moving forward.

\* Refer ASX announcement of 14<sup>th</sup> June 2022





# Red Mountain

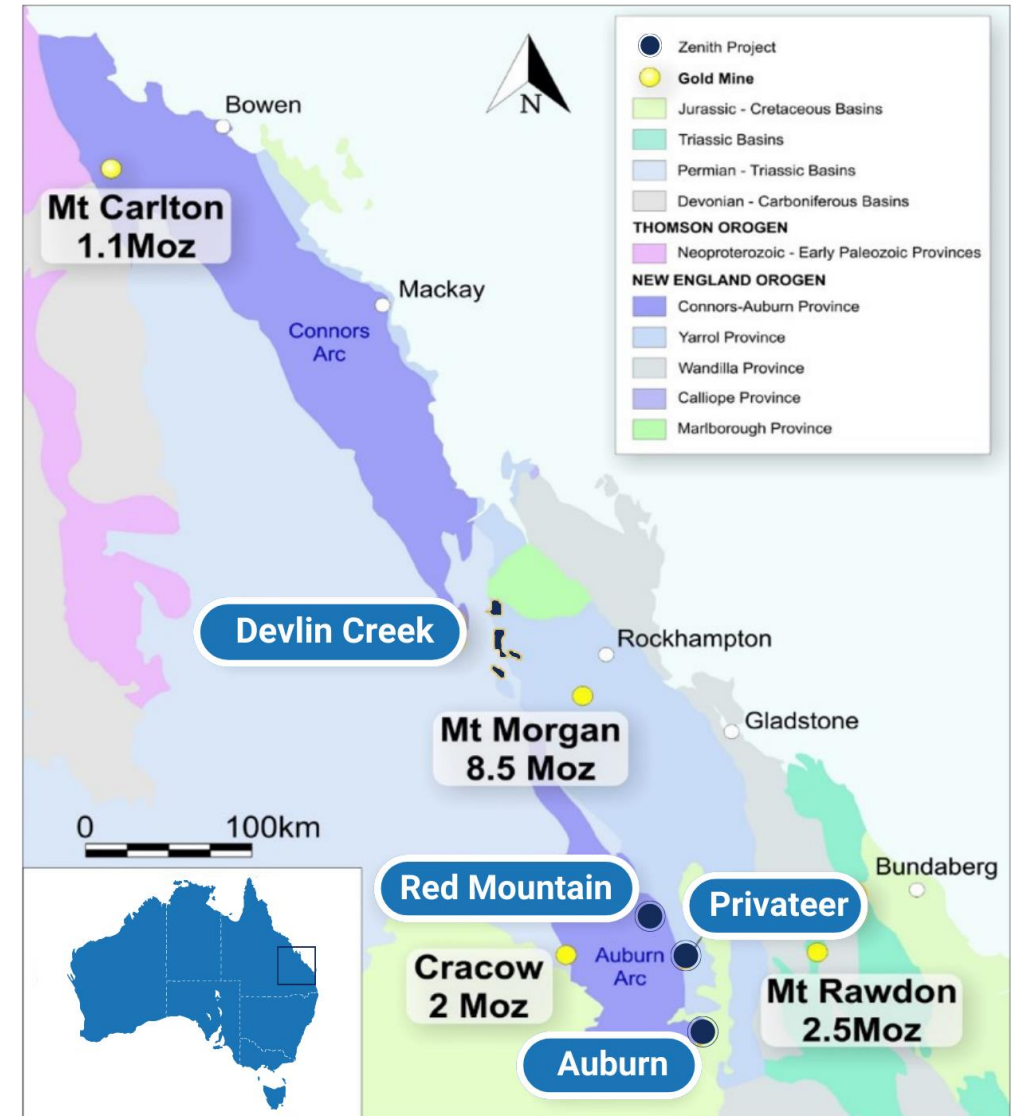
Red Mountain is a 100% owned asset of the Company which is located in central Queensland between two existing operational mines at Cracow (a low-sulphidation epithermal gold deposits owned by Aeris Resources) and Mt Rawdon (an epizonal intrusion-related gold deposit owned by Evolution Mining).

Red Mountain continues to provide encouraging high grade gold drilling assay results through ongoing exploration activity. Gold and silver drilling results have returned results including:

- 13m @ 8.0g/t Au from surface including 6m @ 16.7 g/t Au
- 15m @ 3.5 g/t Au including 2m @ 22.4 g/t Au
- 12m @ 4.9 g/t Au including 6m @ 9.4 g/t
- 5m @ 10.4 g/t Au including 1m @ 49.9 g/t Au
- 5m @ 3.5 g/t Au and 54.3 g/t Ag
- 10m @ 2.7 g/t from surface including 4m @ 4.9 g/t Au
- 7m @ 4.4 g/t

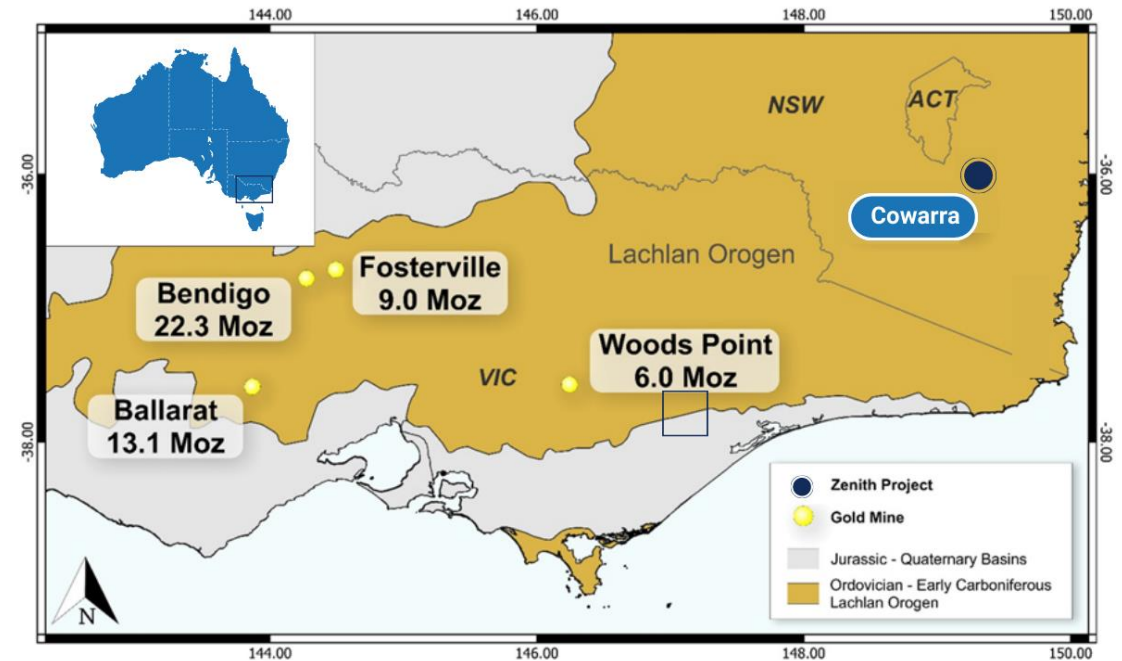
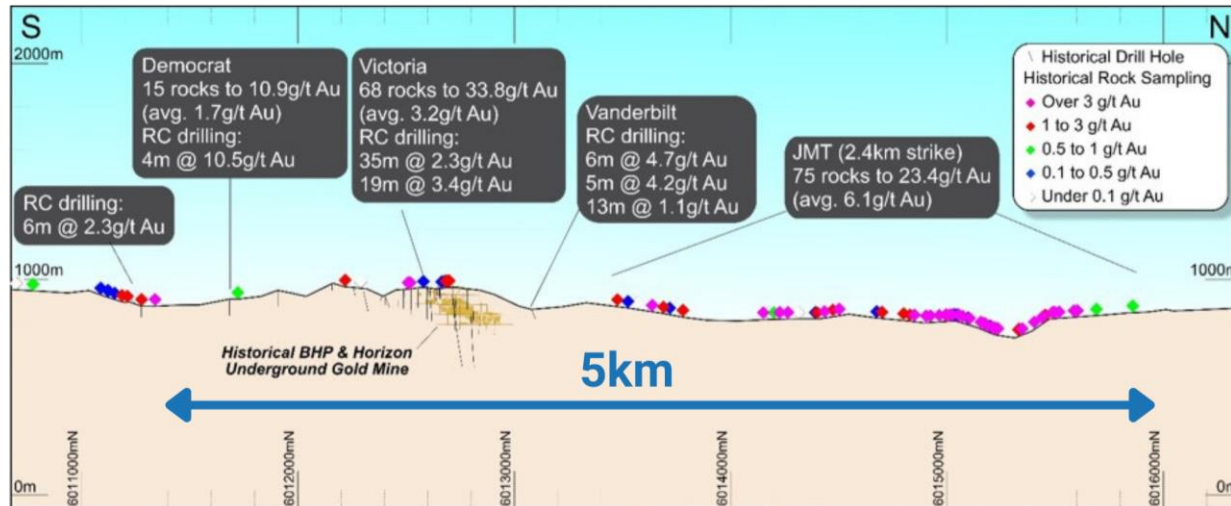
Continued drilling is scheduled later in 2022 to follow up on these high grade near-surface gold and silver deposits that have been intersected in the drilling to date.

Both the recently acquired Privateer and Auburn projects compliment the existing Red Mountain where high grade gold has been confirmed at surface through sampling.



# Cowarra - Gold (Zenith 22.3% earning up to 47%)

The Cowarra gold project is located south-east of Cooma in New South Wales. It consists of one granted exploration license and is made up of gold zones hosted in the Lachlan Orogenic Belt sedimentary rocks associated with gold mineralisation strike extensive zones. The Company holds a 22.3% interest in the project that is owned by a private exploration group, Oxley Resources. Zenith has the ability to increase its interest in the project up to 47% subject to an additional modest investment.



- Overview Investment into unlisted entity Oxley Resources
- Similar age and style to major gold deposits in Lachlan Orogen
- 5km long target zone
- Shear hosted, gold-arsenic association
- Historic shallow UG workings, historic CIP plant (non-refractory ore)
- High-grade drill results 35m @ 2.3 g/t Au
- High-grade surface results no drilling to date
- Ongoing 1,200 meter drill program

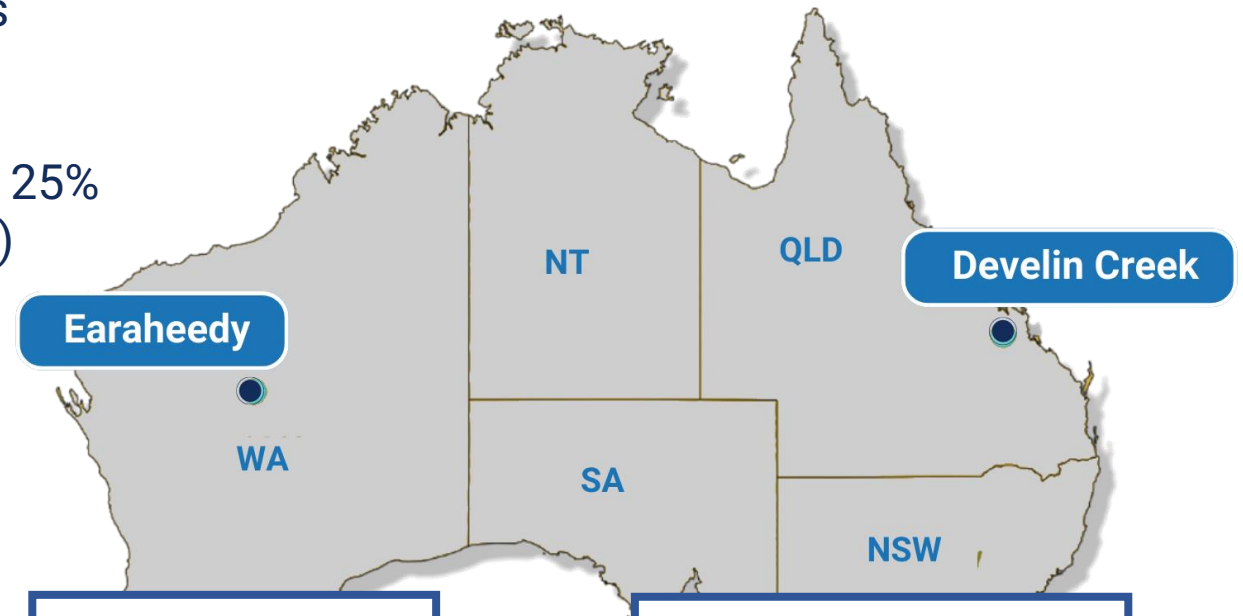
# Base Metals Projects

The Company has a focus on two base metal projects within the asset base:

- ❖ The Earraheedy Joint Venture in which Zenith owns 25% free-carried interest (Rumble Resources owns 75%)
- ❖ The 100% owned Develin Creek project



<sup>1</sup> ASX Release 18-Oct-21, 23-Aug-21, 8-Jul-21, 2-Jun-21 <sup>2</sup> ASX Release 5-Jul-21, 2-Sep-21



## EARAHEEDY ZINC (25% OWNED)

- Major discovery
- Drilling & metallurgy will be ongoing
- Well funded JV partner - RTR \$40m capital raise
- 40,000m drill program completing in 2022, assays awaited

Multi-rig Program planned 2022

## DEVELIN CREEK COPPER-ZINC PROJECT (100% OWNED)

- District scale VMS play
- 34m @ 3.5% Cu+Zn, incl 10m @ 6.0% Cu+Zn, and 29m @ 3.5% Cu+Zn, incl 12.3m @ 6.7% Cu+Zn
- New massive sulphide zones discovered at regional prospects

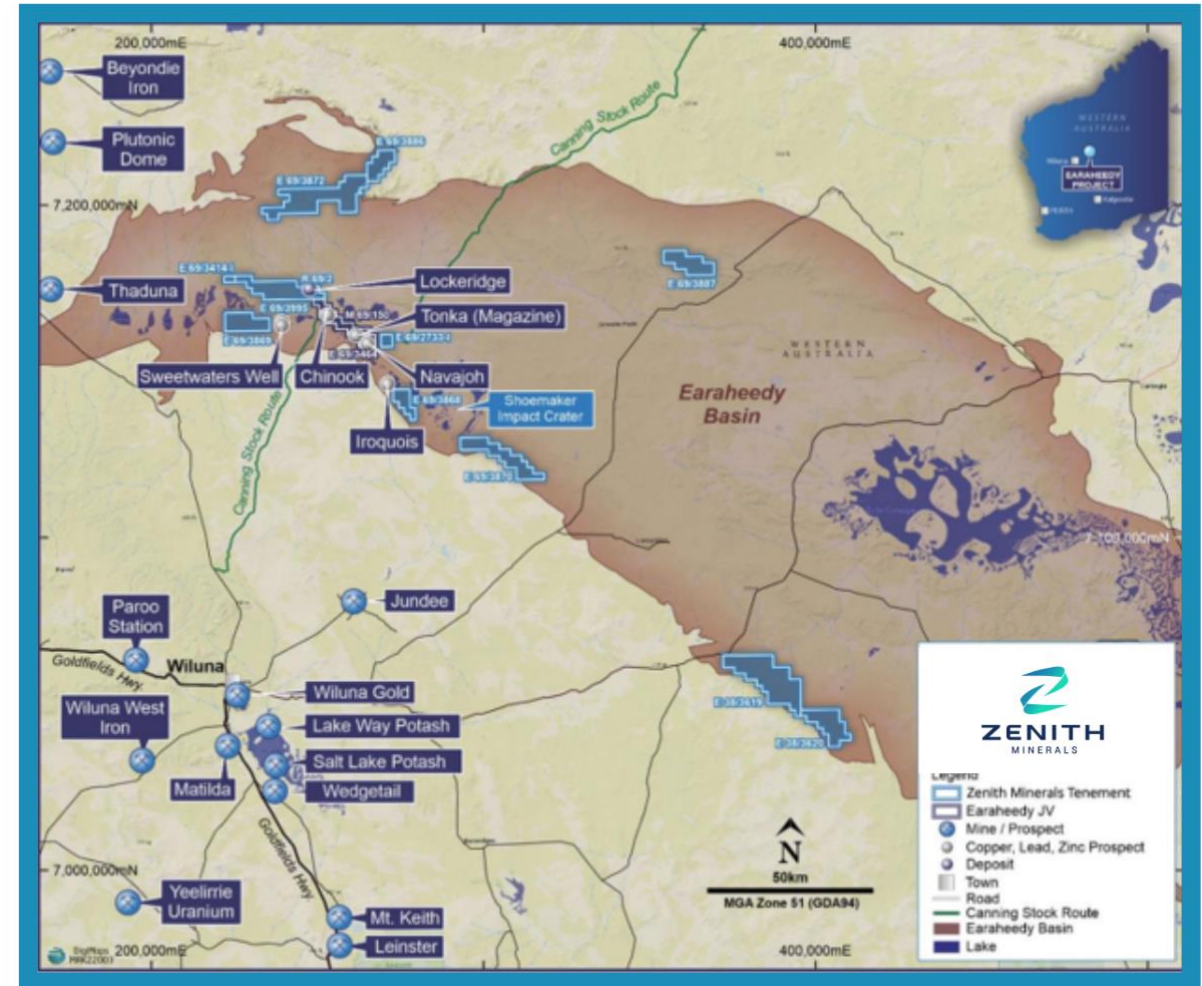
2 drill rigs active 2022



## Earaheedy – Zinc/Lead (25% owned)

- Zenith Minerals Ltd (ASX: ZNC) owns a 25% free carried interest in the Earaheedy JV whilst Rumble owns 75%.
- The Earaheedy Zinc project forms a key component of Zenith's base metal and gold portfolio for which an application has been submitted to ASX to be demerged into a separate listed entity (Mackerel Metals), so that Zenith may focus on its core lithium business.
- Programs at Earaheedy are conducted under management by our JV partner, Rumble Resources Ltd. Work to date has been successful in defining very widespread flat-lying zinc-lead mineralised bodies such as Chinook, Tonka and Navajoh as well as defining multiple discrete, continuous high-grade zinclead zones including: Kalitan, Spur, Colorado and Magazine.
- This is a project of global significance

Further details of these new Earaheedy Joint Venture highlights are detailed in the appended RTR ASX Release dated 30-Aug-22.





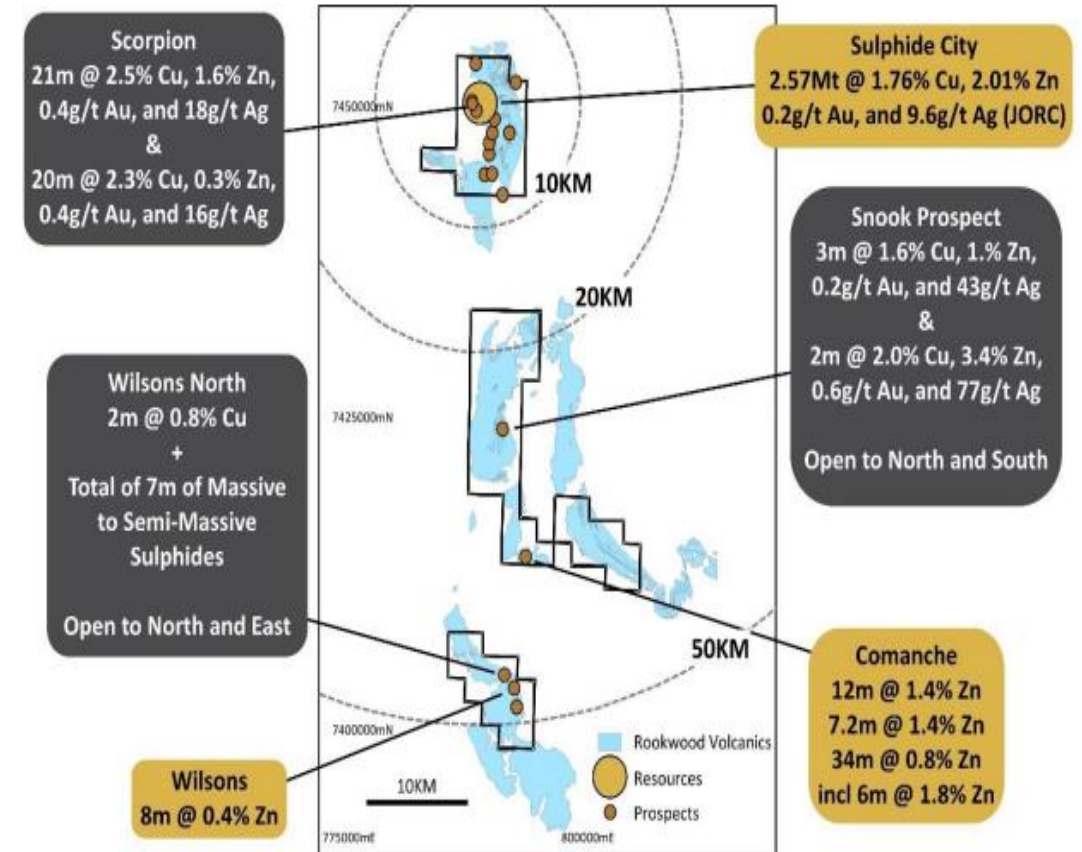
# Develin Creek - Copper - Zinc (100% owned)

The 100%-owned Develin Creek project, located 80km north-west of Rockhampton, is host to several high-grade volcanogenic massive sulphide (VMS) deposits within the Rookwood Volcanics. In December 2021, a massive copper–zinc sulphide deposit was intersected at both the Wilsons North and Snook prospects. Further high-grade copper–zinc drill results were announced at Sulphide City including the highest-grade zinc intersection for the project to date returning 9m @ 1.8% Cu, 18.1% Zn, 0.6 g/t Au and 28.4 g/t Ag.

The deposit has an Inferred Mineral Resource of 2.57Mt @ 1.76% Cu, 2.01% Zn, 0.24g/t Au and 9.6g/t Ag for a Cu equivalent of 2.62%.

Recent results from a further 7 drill holes that form part of a program that was undertaken to replace historic percussion drilling, and provide new data that will be used in an updated Mineral Resource Estimate at the Sulphide City copper-zinc massive sulphide deposit. New results include the highest-grade zinc intersection ever for the project returning:

- 9m @ 1.8% Cu, 18.1% Zn, 0.6 g/t Au and 28.4 g/t Ag within a wider mineralised zone of:
- 19m @ 1.2% Cu, 11.9% Zn, 0.4 g/t Au and 20.4 g/t Ag (reported intersection is downhole width and the orientation of this very high-grade zone is uncertain and may not represent true width. Further drilling is required to assess if this is potentially a high-grade mineralised vertical fault zone).







**Australian-based  
Lithium exploration  
For the products of tomorrow**

**Zenith Minerals Limited (ASX:ZNC)**

Investor Presentation  
October 2022

**David Ledger**

Executive Chairman  
[david@zenithminerals.com.au](mailto:david@zenithminerals.com.au)  
+61 413 621 964

[www.zenithminerals.com.au](http://www.zenithminerals.com.au)