

## Quarterly Activity Report

### For the Period Ending 31 December 2024

#### Overview

Zenith Minerals delivered a highly productive quarter, achieving significant milestones across its core projects and corporate initiatives.

Drilling was successfully completed at the Company's flagship assets, Dulcie Far North (DFN) and Red Mountain. At DFN, drilling resulted in a 40% increase in the JORC Inferred Mineral Resource, now standing **at 5.14 Mt @ 1.30 g/t Au for 210,000 ounces of gold<sup>1</sup>**, highlighting the project's growth potential. Meanwhile, drilling and geological reviews at Red Mountain, **completed during the quarter, reinforced** the potential for a large-scale gold system, with significant gold results returned post-quarter (see ASX: ZNC 20<sup>th</sup> Jan 2025).

The Company's financial position was strengthened by raising A\$2.48 million through a well-supported placement and oversubscribed Share Purchase Plan (SPP), ending the quarter with **A\$4.0 million in cash and liquid assets**.

Additional progress was made at the Earraheedy Zinc Joint Venture (25% Zenith), where metallurgical testwork confirmed the feasibility of producing a high-grade bulk base metal concentrate - a development that could significantly enhance the project's value.

Zenith also welcomed Euan Jenkins, a seasoned professional in global banking and capital markets, as a Non-Executive Director, further strengthening the team.

With a focus on aggressive exploration and strategic partnerships, Zenith remains committed to delivering long-term shareholder value.



**Figure 1: Zenith's Australian Based Projects**

<sup>1</sup> The Mineral Resource estimate was prepared and reported in accordance with the guidelines of JORC (2012 edition) as of 8th December 2024, with John Horton acting as competent person.

For personal use only

## Gold Portfolio Overview

Zenith continues to prioritise the advancement of its gold projects, particularly **Dulcie Far North (DFN)** and **Red Mountain**, both of which offer significant near-term potential amidst a favourable gold price environment. Situated in regions renowned for substantial gold endowments, these projects are key drivers of the Company's growth strategy.

At **Red Mountain** in Queensland, recent drilling completed during the quarter and geological reviews have further highlighted the potential for a large-scale gold system. High-grade zones along the breccia pipe's western flank provide a strong foundation for resource definition. Geochemical analysis has also identified a surface molybdenum anomaly in the core of the breccia pipe, suggesting proximity to a hotter, more prospective part of the system. To evaluate this potential, a deep diamond drilling program is planned to test the core of the breccia.

**Post-quarter**, Zenith released results from its recent drilling program at Red Mountain, which identified wide gold intercepts near the surface.<sup>2</sup> These results further underscore the project's potential and provide critical insights to guide ongoing exploration. To support this work, Zenith has engaged **RSC Consulting**, an independent firm specialising in intrusion-related gold system (IRGS) modelling, to refine geological interpretations and advance exploration planning.

In addition to these flagship projects, Zenith is exploring **strategic options** to extract value from its **20% interest in the Kavaklitepe Gold Project** in Turkey and its **26% stake in Oxley Resources**, the owner of the **Cowarra Gold Project** in New South Wales.

At DFN, Zenith remains committed to resource growth and development. **Post-quarter**, the Company is planning an **infill and extensional drilling program** to further boost the **inferred resource**, reflecting its dedication to unlocking additional value and expanding its gold portfolio

## Eraheedy Zinc Joint Venture Overview

Progress at the **Eraheedy Zinc Joint Venture** was underscored by excellent metallurgical test results, highlighting the development potential of this world-class base metal discovery. Testing confirmed the feasibility of producing a high-grade, marketable bulk concentrate with significant energy and cost savings, supporting a simplified and efficient processing strategy.

A scoping study is currently underway to assess the economic viability of the project. These results reinforce Zenith's commitment to leveraging its 25% interest in the project and maximising shareholder value.

## Lithium Projects Overview

Zenith Minerals is strategically positioned in the lithium sector, with two key Australian assets that showcase significant potential for battery minerals. The **Split Rocks Lithium Project**, spanning 385 km<sup>2</sup> in the Forrestania Greenstone Belt, is highly prospective with over 80 identified targets, including the extensive Cielo Target. The Company continues to evaluate these targets. Additionally, the **Waratah Well Lithium Project** in the Murchison Region complements Zenith's portfolio, offering further opportunities for high-grade lithium mineralisation.

---

<sup>2</sup> See ASX Announcement "Highly Encouraging New Drilling Results – Red Mountain Gold" 20<sup>th</sup> January 2025

In October 2024, Zenith was awarded an A\$85,000 Exploration Incentive Scheme (EIS) grant by the Western Australian Government to co-fund 50% of direct drilling costs at Waratah Well, reflecting strong support for the project's development. Previous drilling at Waratah Well has confirmed high-grade petalite mineralisation, highlighting its strategic value in the Company's dual-commodity approach. This strategy balances near-term gold profitability with long-term lithium market growth, ensuring a diversified and adaptable portfolio to deliver sustained shareholder value.

## CORPORATE

### Capital

Zenith Minerals ended the quarter with a cash balance of **A\$2.38 million**, demonstrating the Company's strong financial position. Equity investments held by Zenith were valued at approximately **A\$1.59 million** as at 31 December 2024. These holdings include **43.9 million AIM:BHL shares** and **10.2 million ASX:QML shares**.

In accordance with **Listing Rule 5.3.1**, the Company reports that **A\$0.88 million** was incurred on exploration expenditure during the quarter. Zenith has sufficient funds to continue with its budgeted activities across its key projects.

As outlined in **section 6.1 of the Appendix 5B**, payments to Directors during the quarter amounted to gross wages, fees, and superannuation. See Appendix One for the company tenement position.

On **9 October 2024**, Zenith Minerals announced a **capital raising** at an issue price of **A\$0.045 per share**, secured through a combination of sophisticated investors and director participation. Directors committed **A\$125,000**, subject to shareholder approval at the Annual General Meeting held on **29<sup>th</sup> November 2024**, where the resolutions were passed.

The Company also completed an **oversubscribed Share Purchase Plan (SPP)**, raising an additional **A\$919,224**. In total, Zenith raised **A\$2.48 million**, significantly bolstering its balance sheet and enabling the acceleration of high-impact exploration activities at its flagship projects.

*Table 1: Summary of Funds Raised*

Date of Issue	Type	Price ZNC (cents)	Number	Funds
16-Oct-24	Sophisticated	4.5	22,744,443	A\$ 1,023,500
22-Oct-24	Sophisticated	4.5	6,555,556	A\$ 295,000
30-Oct-24	Sophisticated	4.5	1,111,111	A\$ 50,000
6-Nov-24	Share Purchase Plan	4.5	20,427,207	A\$ 919,224
13-Nov-24	Sophisticated	4.5	1,444,444	A\$ 65,000
17-Dec-24	Directors	4.5	2,777,778	A\$ 125,000

### Investments

Zenith holds strategic investments in several listed entities as a result of project-based transactions. As of 31 December 2024, these investments included:

- Bradda Head Holdings Ltd (LON & TSX-V: BHL): 43.9 million shares.
- Oxley Resources Pty Ltd: 9.4 million shares, representing a 26% interest.
- QMiner Ltd (ASX: QML): 10.2 million shares.

**Oxley Resources** owns the **Cowarra Gold Project** in New South Wales, which features multiple regional prospects and gold targets over an 8km strike. Limited systematic drilling has occurred to date, and discrete IP geophysical targets identified by Oxley's surveys are high-priority for follow-up drilling. Additionally, **S2 Resources Limited** has entered into an agreement with Oxley to earn a 70% interest in the Warraweena Ni-Cu project in NSW (ASX: S2R Release 4<sup>th</sup> December 2023).

Zenith's joint venture partner for the **Kavaklitepe Gold Project** in Turkey, **Gubretas Maden**, is planning an infill Reverse Circulation (RC) drilling program to enable a JORC-compliant resource estimate. Zenith has elected not to contribute to this program and will dilute its current 20% equity in the project. Should Zenith's equity fall below 10%, it will revert to a **5% Net Profit Royalty (NPR)**.

#### **New Opportunities and Divestments**

Zenith is actively exploring a range of opportunities, including potential acquisitions and disposals. While ongoing negotiations remain incomplete at this stage, the Company will provide appropriate disclosures upon the finalisation of any agreements or significant developments. The strategic focus remains on enhancing the portfolio through selective acquisitions and divestments aligned with long-term objectives.

#### **Board Update**

During the quarter, **Euan Jenkins** was appointed as a **Non-Executive Director (NED)** following shareholder approval of his nomination at the Annual General Meeting. Euan brings over 25 years of experience in global banking and capital markets, with expertise in equity capital markets, M&A, and corporate advisory. His involvement in high-profile transactions further strengthens Zenith's governance and strategic planning capabilities as the Company progresses its exploration and development efforts.

#### **Results of Annual General Meeting**

Zenith held its Annual General Meeting on **29 November 2024**, with 17 resolutions put forward for shareholder consideration. All outcomes complied with ASX Listing Rule 3.13.2 and section 251AA of the Corporations Act. Further details are available in the ASX announcement dated 29<sup>th</sup> November 2024.

## -Gold Projects-

During the quarter, Zenith Minerals focused on advancing its two 100% owned gold projects, Dulcie Far North and Red Mountain. Field-based activities, including drilling preparations and surveys, were conducted across both projects, aimed at expanding existing resources and unlocking additional value from these highly prospective gold zones.



Figure 2: Zenith's Australian Gold Projects

1. ASX Releases: 14-Jun-2022 & 25-Jan-2023
2. ASX Release: 3-Aug-2020 & 29-Aug-2023
3. ASX Release: 5-Oct-2022

### DULCIE FAR NORTH (DFN)– WESTERN AUSTRALIA (ZENITH 100%)

The Dulcie Far North (DFN) Gold Project, 100% owned by Zenith Minerals, is situated within the Southern Cross-Forrestania Greenstone Belt, approximately 400 km east of Perth, Western Australia, see Figure 4. This region is well-known for its multi-million-ounce gold endowment<sup>3</sup>.

During the quarter, Zenith completed a **17-hole Reverse Circulation (RC)** drilling program totalling **2,400 metres**. This campaign focused on unclassified mineralised zones and high-grade targets identified in prior exploration. Results released to the ASX on 12<sup>th</sup> December 2024 confirmed a 40% increase in the JORC Inferred Mineral Resource, now standing at **4.6Mt @ 1.5 g/t Au for 210,000 ounces of gold** (See ASX Announcement 17<sup>th</sup> December 2024), and Table 2.

<sup>3</sup> Mueller, A. et. al (2004): "The Nevorvia Gold Skarn Deposit, Southern Cross Greenstone Belt, Western Australia:II. Pressure-Temperature-Time Path and Relationship to Postorogenic Granites"; Economic Geology Vol. 99, pp. 453-478

**Table 2 Inferred Mineral Resource for Dulcie Far North as at 8 December (0.5 g/t Au cut-off by weathering zone)**

Weathering Zone	Tonnes Mt	Bulk Density t/m <sup>3</sup>	Gold Au g/t	Metal Au koz
Oxide	0.30	1.70	1.14	11
Saprolite	0.64	1.70	1.18	24
Fresh	4.20	3.00	1.33	179
<b>Total</b>	<b>5.14</b>	<b>2.63</b>	<b>1.30</b>	<b>214</b>

The resource upgrade underscores the project's potential as a cornerstone of Zenith's gold portfolio. Efforts included heritage surveys and securing Program of Work (POW) approval to ensure the successful execution of the campaign. The new resource estimate reflects the Company's commitment to resource expansion and highlights the opportunity for further drilling to unlock additional value.

The DFN project is located on a granted mining lease (M77/1292) and benefits from excellent infrastructure, including proximity to underutilised gold processing facilities just 35 km to the north, offering strategic opportunities for toll treatment.

Previous significant intersections<sup>(2)</sup> include:

- **19m @ 1.9 g/t Au from 102m in SRRC020, including 4m @ 6.4 g/t Au from 110m**
- **12m @ 6.1 g/t Au from 108m in SRRC018, including 5m @ 10.5 g/t Au from 113m**
- **7m @ 7.8 g/t Au from 90m in ZDRC090, including 5m @ 10.6 g/t Au from 91m**
- **8m @ 4.2 g/t Au from 99m in ZDRC098, including 3m @ 10.7 g/t Au from 103m**
- **5m @ 7.4 g/t Au from 47m in ZDRC095**
- **9m @ 2.0 g/t Au from 57m in ZDRC095**

<sup>(2)</sup> ZNC ASX Release 14-Jun-2022, 25-Jan-2023, and 13-Jun-2023

Significant Intercepts<sup>(3)</sup> from the Q4 2024 Drilling include:

- **SRRC035: 10m @ 2.00 g/t Au from 75m, including 4m @ 4.58 g/t Au from 78m**
- **SRRC033: 3m @ 5.51 g/t Au from 104m, including 2m @ 8.07 g/t Au from 105m**
- **SRRC030: 11m @ 1.30 g/t Au from 77m**

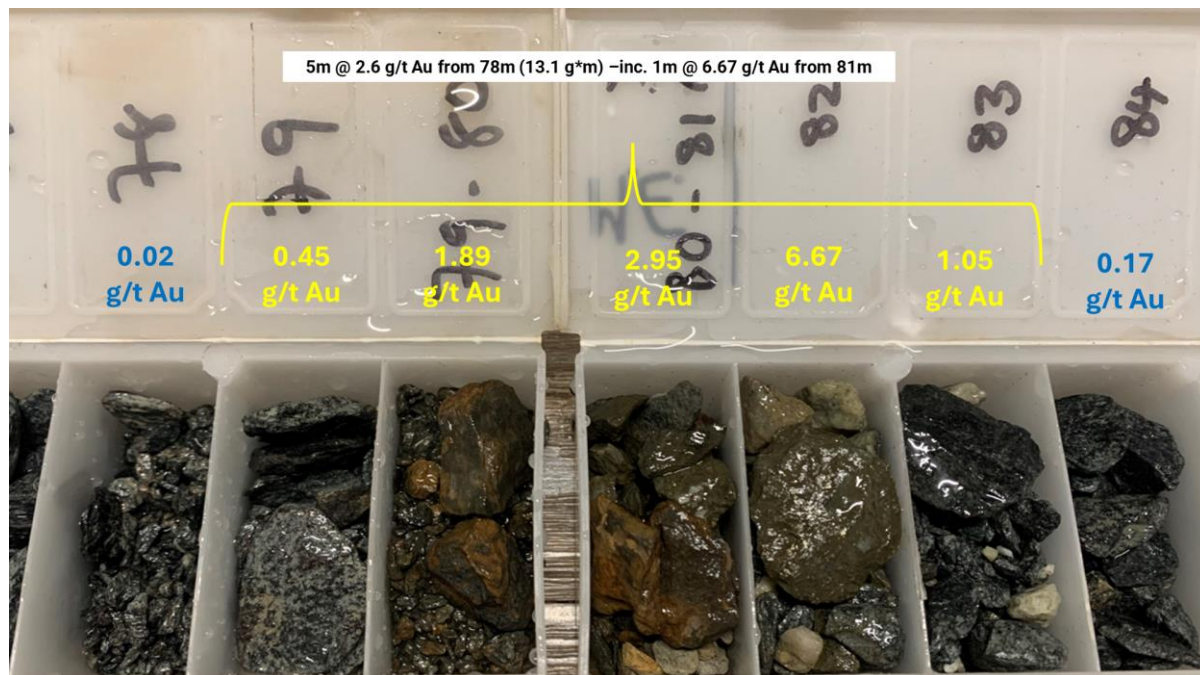
<sup>(3)</sup> ZNC ASX Release 28<sup>th</sup> November 2024

### Exploration Strategy:

The Dulcie Far North (DFN) Gold Project remains integral to Zenith's broader gold-focused strategy. Building on a 40% increase in its JORC Inferred Mineral Resource to 5.1Mt @ 1.3 g/t Au for 210,000 ounces of gold, as announced on 12<sup>th</sup> December 2024, the Company continues to prioritise resource expansion. The latest drilling program, comprising 17 Reverse Circulation (RC) holes completed in October 2024, successfully extended known lodes and identified new footwall lodes. Zenith's focus includes assessing standalone development options for DFN or integrating nearby gold resources to optimise value. Additionally, the project's strategic location within the Southern Cross-Forrestania Greenstone Belt provides proximity to underutilised processing facilities, offering potential cost advantages.

**Next Steps:**

Zenith is planning further drilling campaigns to test newly identified footwall lodes and extend mineralisation along strike and at depth. Tighter infill drilling will aim to increase the size of the Inferred Resource, and pave the way for conversion to an Indicated classification, ensuring robust support for economic evaluations. The Company is committed to leveraging its geological insights to unlock DFN's full potential, with resource growth and development remaining key priorities for the coming year.



**Figure 3: SRRC026 -Gold mineralisation in BIF with pyrrhotite alteration; mineralisation extends into the ultramafic wall rock on either side of the interval. (ASX Release 28 October 2024).**

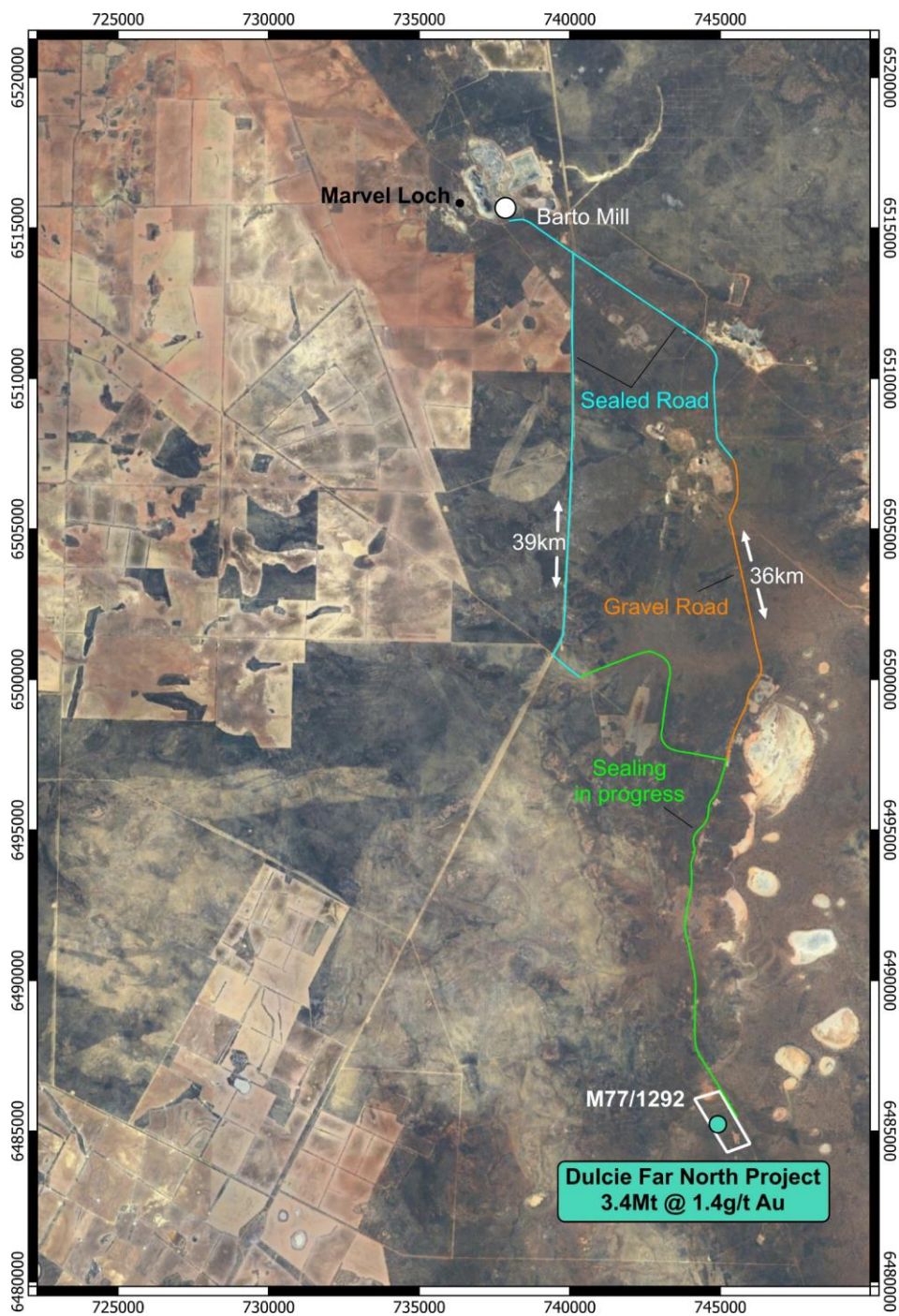


Figure 4: Split Rocks Project Location Map showing the Dulcie Far North Gold Deposit.

### RED MOUNTAIN (QUEENSLAND) (Zenith 100%)

The **Red Mountain Gold Project**, 100% owned by Zenith Minerals, is located in Queensland within the historically significant **Auburn Arc** (Figure 5). The project benefits from **favourable terrain** and excellent **access to infrastructure**, providing logistical advantages for exploration and future development. An **intrusion-related gold system (IRGS)** breccia pipe has been identified at the project (Figure 6). Mineralisation occurs along the contact between the breccia pipe and a **flow-banded rhyolite unit** within the **Rawbelle Granodiorite**, offering excellent potential for depth extensions of gold mineralisation positioning Red Mountain as a key focus within Zenith’s gold portfolio. Drilling and geophysical studies have confirmed high-grade **gold and silver** mineralisation, with significant widths in multiple zones, see Figure 7.

IRGS deposits, like those at **Mt Wright**, **Mt Rawdon**, and **Kidston**, are renowned for their large-scale mineralisation potential, offering significant exploration upside.

### Previous Drilling Results

Diamond drilling in 2023 confirmed the depth continuity of gold and silver mineralisation occurring as stockwork, sheeted and extensional quartz and minor base metal veins hosted primarily within rhyolite and granodiorite. Results reported (ASX Release 29-Aug-23) include:

- **129m at 0.51 g/t Au + 11.9 g/t Ag from 225m in ZRMDD052, including**
  - **12m at 1.36 g/t Au + 4.93 g/t Ag from 288m and,**
  - **9m at 1.24 g/t Au + 6.30 g/t Ag from 323m**
- **11m at 0.45 g/t Au + 4.54 g/t Ag from 183m, and**
- **11m at 1.16 g/t Au + 1.08 g/t Ag from 224m in ZRMDD051**

The tenor of the mineralisation encountered confirms there is excellent potential for a large mineralised system at Red Mountain. These intercepts confirm that the system has excellent potential for a large-scale gold deposit at depth.

Previous shallow drilling also returned high-grade intersections<sup>(1)</sup>, such as:

- **13m @ 8.0 g/t Au from surface in ZRMRC001, incl 6m @ 16.7 g/t Au from surface**
- **15m @ 3.5 g/t Au from 57m in ZRMRC019, incl 2m @ 22.4 g/t Au from 70m**
- **12m @ 4.9 g/t Au from 102m in ZRMRC021, incl 6m @ 9.4 g/t Au from 103m**
- **5m @ 10.4 g/t Au from 67m in ZRMRC023, incl 1m @ 49.9 g/t Au from 67m, and**
- **7.7m @ 4.4 g/t Au from 63m in ZRMCD041, incl 1m @ 19.3 g/t Au from 63m**

<sup>(1)</sup> ZNC ASX Release 3-Aug-20, 13-Oct-20, 9-Nov-20, 21-Jan-21, and 14-Apr-21

These results, combined with updated 3D geological modelling and geophysical data re-interpretation, have identified several **high-priority targets** for future drilling. The project remains open at depth and along strike, providing a strong case for further exploration.

Metallurgical tests from 2021 confirmed that the gold mineralisation is **free-milling and non-refractory**, with average gold recovery rates of **83.3%**, including **95.8%** for low-arsenic samples. This highlights the processing potential of the deposit through conventional cyanide leaching techniques.

### Developments During the Quarter:

During the current quarter, Zenith focused on refining the 3D geological model and reinterpreting Induced Polarisation (IP) data, successfully identifying new high-priority drill targets. Based on the updated geological model, the Company completed a Reverse Circulation (RC) drilling program consisting of 11 holes for 1,809 meters targeting shallow IP anomalies to further understand the mineralisation. The results of this program were released to the market post-quarter (See ASX ZNC Announcement 20<sup>th</sup> Jan 2025).

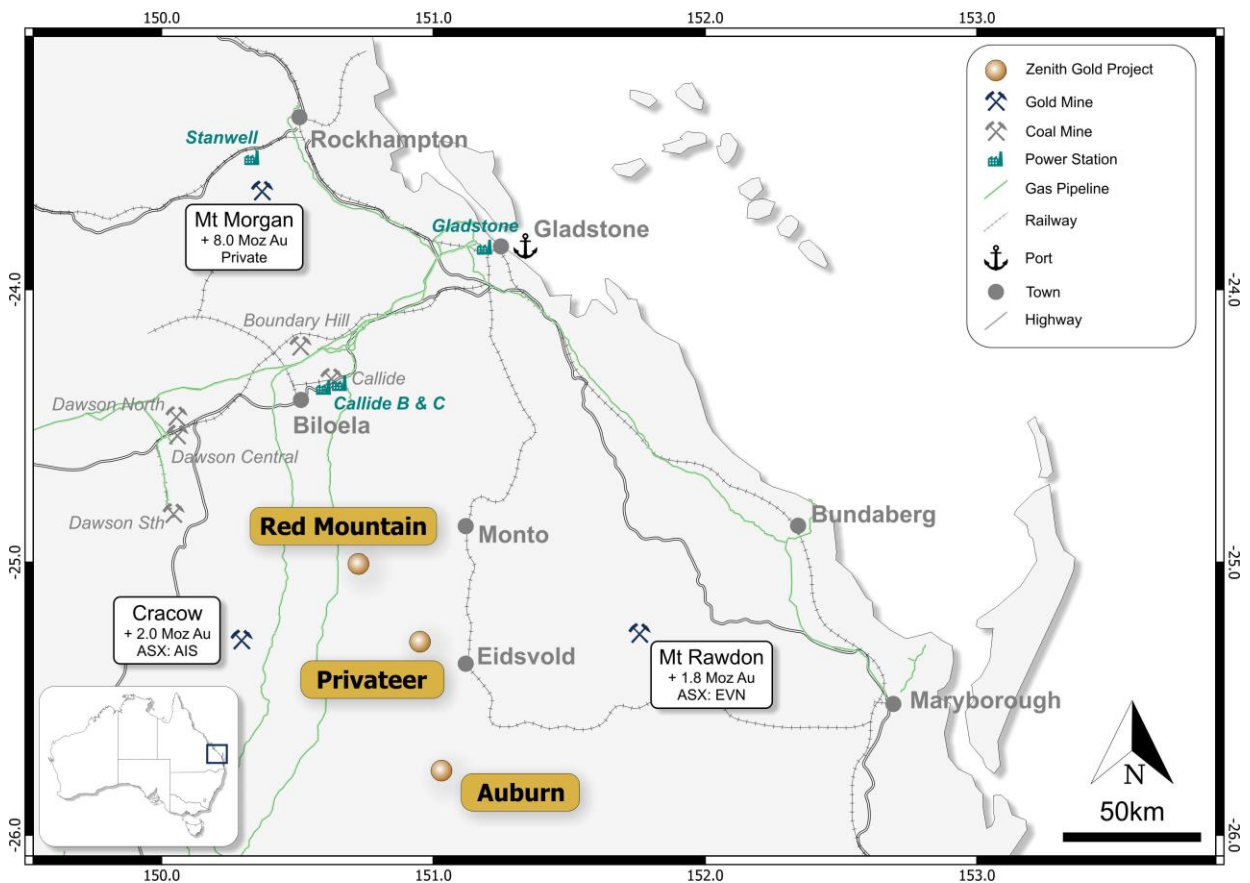
Additionally, 629 metres of previously unassayed core samples were prepared for analysis. Results from these assays, which are still pending, are expected to provide valuable insights into the mineralisation and guide future exploration efforts.

**Next Steps:**

Following the completion of the RC drilling phase, Zenith plans to advance to a deep diamond drilling program in 2025. The successful pre-collar drilling provides a clear pathway for this planned diamond drill hole, enabling the Company to test the nature of the intrusion at depth. A surface molybdenum anomaly in the core of the breccia pipe suggests proximity to the hotter part of the system, highlighting its potential for copper and gold mineralisation at depth.

Zenith Minerals is also awaiting the outcome of a Queensland Government grant application for up to A\$ 250,000, submitted during the quarter, to support this next phase of exploration. A decision is expected in February-March 2025. If awarded, the grant will provide vital funding to accelerate deep drilling efforts and further geophysical studies, enabling a more detailed evaluation of the mineralisation controls and the depth extent and nature of the potential causative intrusion at Red Mountain.

These activities are designed to expand known mineralisation zones and reinforce Red Mountain’s position as a cornerstone asset in Zenith’s multi-asset gold portfolio.



**Figure 5: Red Mountain Project Location**

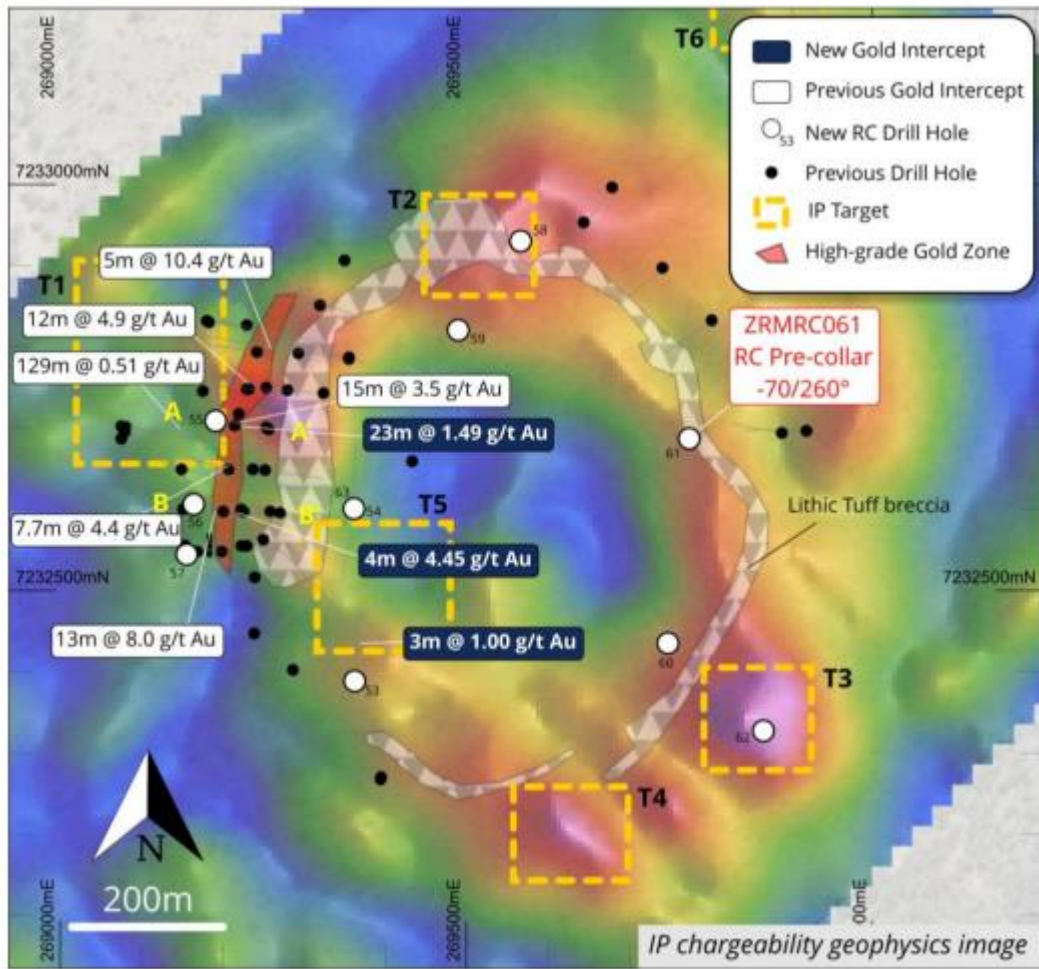


Figure 6: Red Mountain Project circular breccia pipe highlighting significant drilling results within the northwestern quadrant.

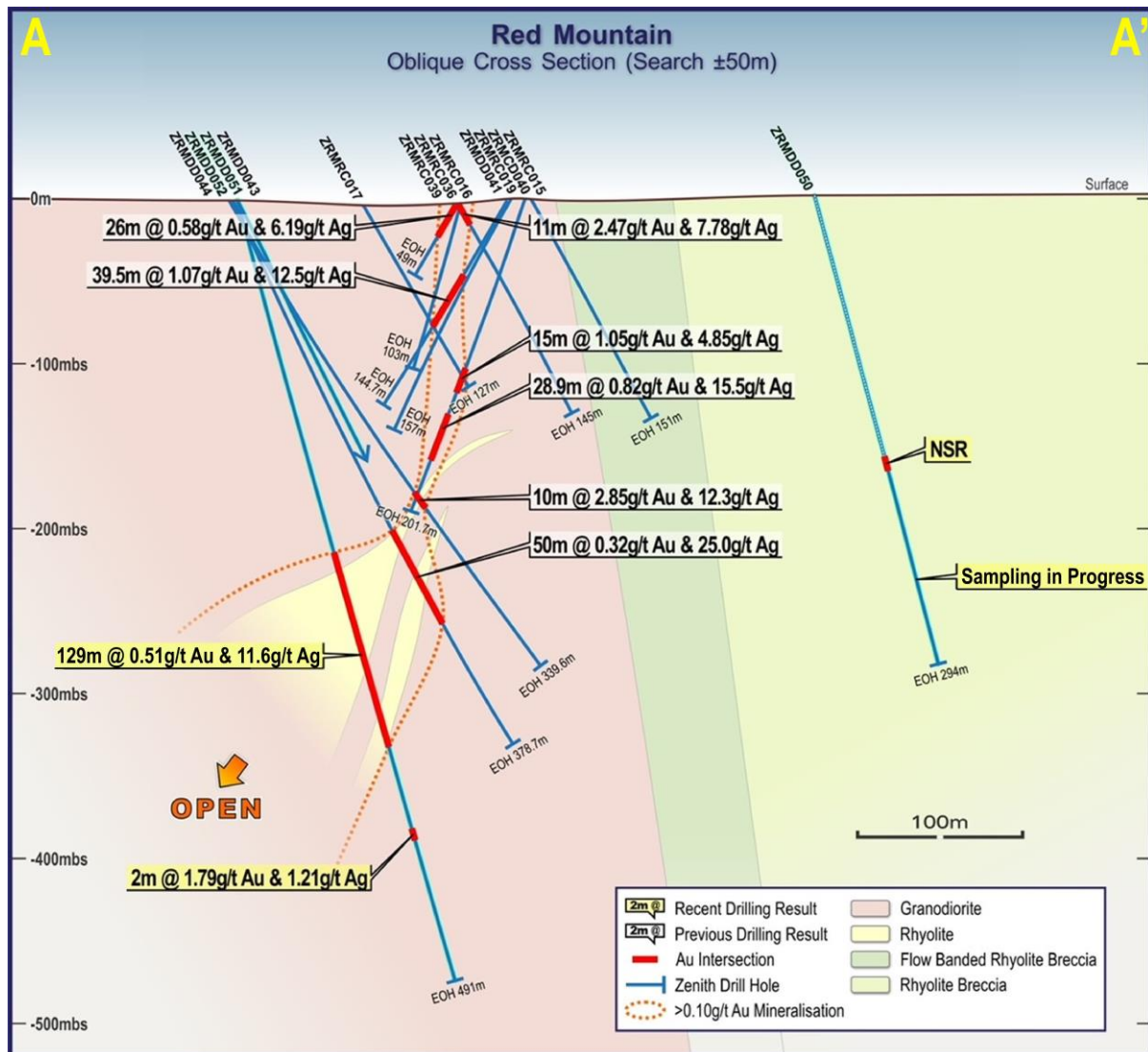


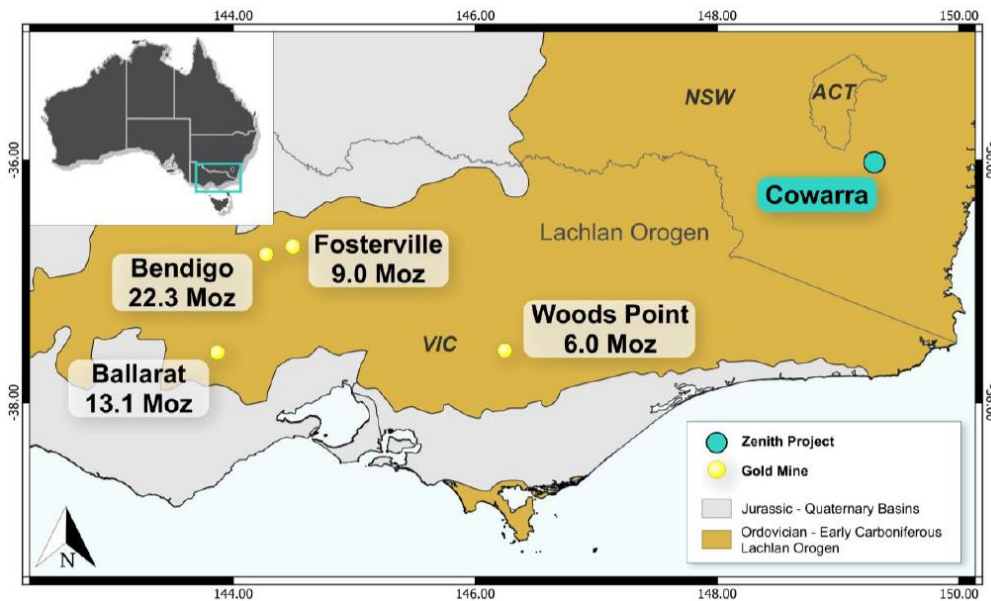
Figure 7: Cross Section through ZRMDD050 – ZRMDD052, using a 0.10 g/t Au lower cut-off

### Cowarra Gold Project (NSW) (Zenith 26%)

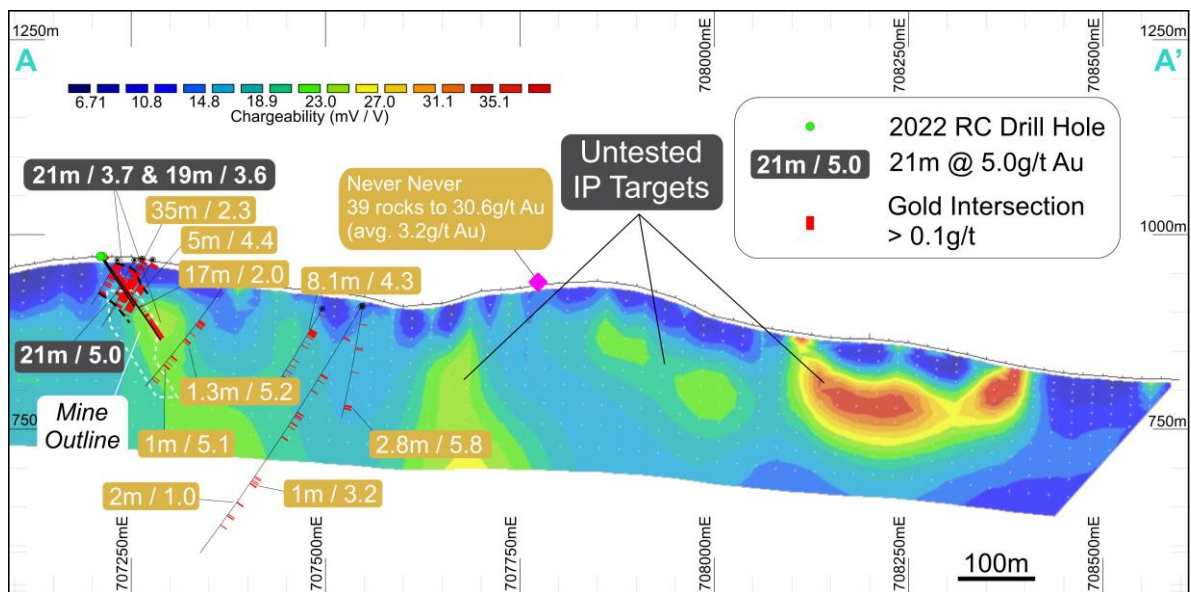
Zenith Minerals holds an **indirect interest** in the **Cowarra Gold Project** through our ~26% stake in **Oxley Resources**. The project is located within the highly prospective **Lachlan Orogen** in New South Wales, a region renowned for hosting significant gold deposits. Cowarra comprises multiple gold zones associated with extensive shear zones, providing excellent potential for both near-surface and deeper gold mineralisation.

Historical production from Cowarra includes approximately **14,000 oz of gold** mined by BHP in the 1930s and **19,300 oz** produced by Horizon Pacific in the 1980s, with average grades of **6-8 g/t Au**.

Recent exploration has focused on defining high-grade gold shoots within a mineralised corridor that has seen only limited drilling. Surface analyses and **Induced Polarisation (IP) surveys** have identified numerous drill targets that remain open at depth and along strike, offering significant resource expansion potential.



**Figure 8: Map showing the location of the Cowarra Gold Project, where the host rocks and structural setting are similar to those of major Victorian gold deposits, highlighting its potential for significant gold mineralisation.**



**Figure 9: IP geophysics technique indicates multiple untested targets**

Oxley is actively working with consultants to complete a JORC Resource Update for the Cowarra Project. Although no additional drilling is currently planned, the project remains highly prospective. At the same time, Oxley is exploring strategic opportunities to secure a potential buyer or joint venture partner, either for the company as a whole or specifically for the Cowarra Project. This approach is focused on unlocking the project's full value while leveraging external expertise and resources to advance its development.

## -Lithium Projects-

Zenith Minerals is strategically positioned in the growing lithium sector, with two premium Australian projects showcasing significant potential in battery minerals. The **Split Rocks Lithium Project**, spanning 375 km<sup>2</sup> in the Forrestania Greenstone Belt, hosts the **Rio Lithium Deposit**, one of only seven undeveloped JORC-classified lithium resources in Australia. With over 80 advanced lithium targets, including the extensive Cielo Target, the project offers strong expansion potential.

The **Waratah Well Project** in Western Australia's Murchison Region targets high-grade lithium-caesium-tantalum (LCT) pegmatites, including significant petalite mineralisation. These projects align with Zenith's dual-commodity strategy, balancing near-term gold profits with long-term lithium growth, ensuring a diversified and future-ready portfolio.



Figure 10: Location of Split Rocks in relation to other Western Australia Major Lithium Projects.

### SPLIT ROCKS LITHIUM PROJECT – Western Australia (Zenith 100%)

The **Split Rocks Lithium Project** covers approximately 375 km<sup>2</sup> in the **Forrestania Greenstone Belt**, located 40 km south of **Marvel Loch** and 30 km north of the **Mt Holland Lithium Mine** (a joint venture between **Sociedad Química y Minera** and **Wesfarmers**) in the **Goldfields Region** of Western Australia, see Figure 10). The tenement is large and strategically bordered by the **Forrestania Road** to the east, offering excellent infrastructure and logistical advantages for future development.

The **Rio Lithium Prospect** within Split Rocks hosts a **Maiden Inferred Mineral Resource (JORC 2012)** of 11.9Mt @ 0.72% Li<sub>2</sub>O, as reported on **28 September 2023**, see Table 3. The **Rio Lithium Resource** is based on wide-spaced drilling (generally 200m x 100m) and remains **open at depth and along strike**, with significant potential for further expansion.

**Table 3: Rio Lithium Deposit Inferred Mineral Resource Estimate**

Zone	Million Tonnes	Li <sub>2</sub> O %	Cs ppm	Nb ppm	Sn ppm	Ta ppm	Domain
Upper	8.45	0.76	426	77	157	62	31
Middle	3.48	0.62	387	71	364	49	32
<b>Total</b>	<b>11.9</b>	<b>0.72</b>	<b>415</b>	<b>75</b>	<b>217</b>	<b>59</b>	<b>-</b>

Notes to Rio Lithium Resource Table:

1. The Mineral Resource is estimated with all drilling data available at 3-Aug-23, and reported at a 0.5% Li<sub>2</sub>O cutoff.
2. The Mineral Resource is reported in accordance with the JORC Code 2012 Edition.
3. The Competent Person is Phil Jankowski FAusIMM of CSA Global
4. Rounding may lead to minor apparent discrepancies

To date, lithium mineralisation has been identified as a mixture of **eucriptite**, **spodumene**, **petalite**, and **lepidolite**, confirmed through multiple methods including optical microscopy, SEM, Raman spectroscopy, and XRD analyses. Early-stage metallurgical work, including flotation and calcination-leach tests, has shown that eucriptite can be processed effectively, confirming the potential for commercial extraction of lithium from the deposit.

The project area hosts over **80 advanced lithium targets**, including the large **Cielo Lithium Target**, which spans **>9km long by 2km wide** with a peak auger soil value of **880ppm Li** (ASX Release 9 February 2023). Further lithium targets were detailed in the announcements and presentations released to the ASX on **3 July 2024**.

#### Recent Developments:

- **Heritage Survey and POW Approval:** During the quarter, Zenith conducted a **heritage survey** and completed **soil sampling** to support future drilling. The Company also reapplied for a **Program of Works (POW)** to transition from air core to **Reverse Circulation (RC) drilling**, enabling an upcoming RC drilling campaign to test high-priority targets, including the **Cielo Lithium Target**.
- **Identification of Previously Unrecognised Pegmatites in Historic Drilling:** During field operations in the current quarter, Zenith identified previously unrecognised **pegmatite occurrences** within **historic drill holes**. Where logged at all, previous workers had misidentified the intervals as quartz veins. These pegmatite intervals, located approximately **360 metres east** of the Rio Lithium Resource, add to the **Dolphin Pegmatite** and have the potential to significantly expand the lithium-bearing zones near the Rio deposit (ASX Release 10 September 2024). This finding underscores the prospectivity of the Split Rocks Project and will be a key focus for further drilling campaigns.

Zenith's exploration strategy at Split Rocks focuses on expanding the lithium resource through targeted drilling and unlocking the project's broader potential. With recent discoveries and ongoing advancements, the project is well-positioned for resource expansion, ensuring significant growth potential in a rising lithium market.

#### **WARATAH WELL PROJECT - Western Australia (Zenith 100%)**

The Waratah Well Project, located approximately 20 km northwest of the regional town of Yalgoo in Western Australia's Murchison Region, covers around 123 km. This project targets a potentially large lithium-caesium-tantalum (LCT) pegmatite system, offering promising

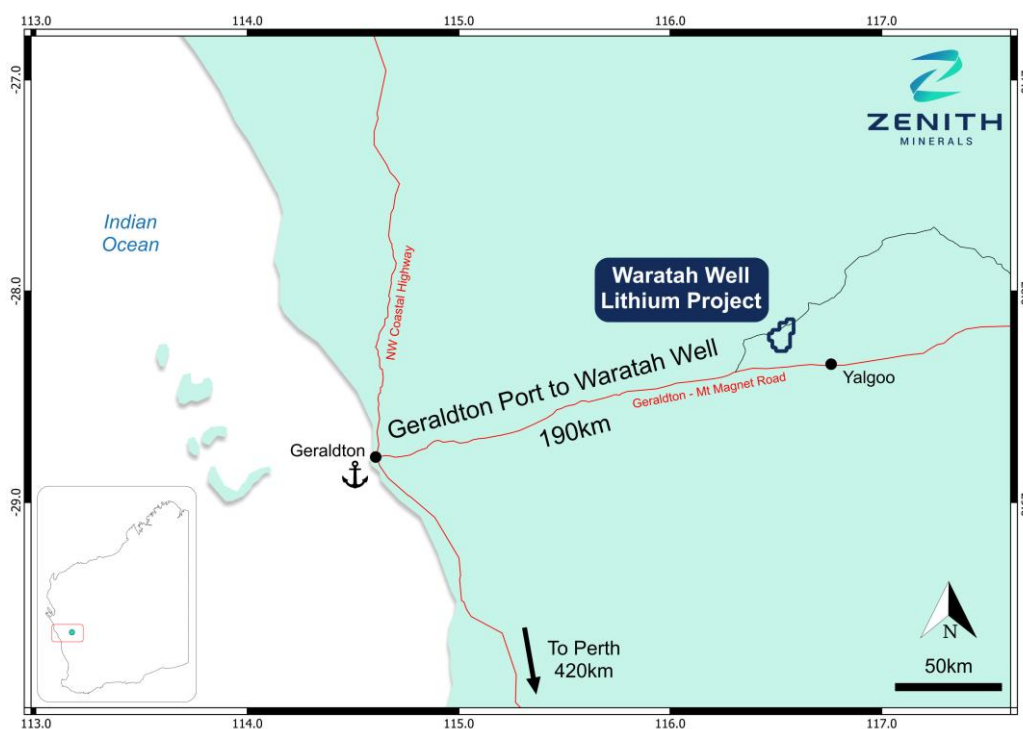
potential for lithium and other critical minerals. Previous drilling at Waratah Well has yielded multiple intersections, including >10 m @ 1.0% Li<sub>2</sub>O (ASX Release, 24 January 2023), confirming the presence of significant lithium-bearing pegmatites.

An initial drilling program in early 2022 confirmed the presence of widespread lithium bearing pegmatite dykes over a 4km zone, open to the north and east under soil cover (ASX Release 10-Mar-2022) –Figure 12.

**In October 2024**, Zenith received an **A\$ 85,000** Exploration Incentive Scheme (EIS) grant from the Western Australian Government to co-fund 50% of direct drilling costs at Waratah Well. This grant will accelerate exploration efforts and underscores the potential of this project to contribute significantly to Zenith's battery metals strategy.

Drilling to date has confirmed the presence of high-grade lithium below the depth of weathering, refer to Figures 11 and 12 (ASX Release 24-Jan-23), including:

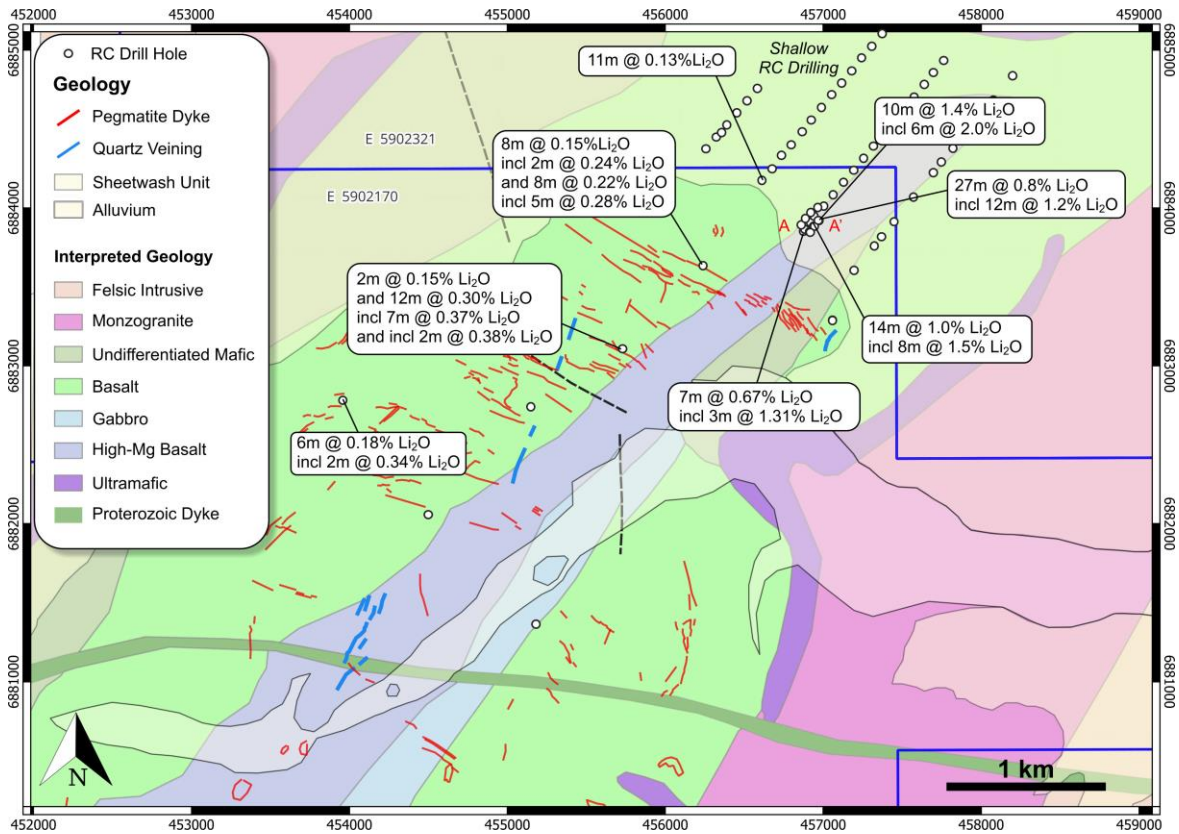
- 14m @ 1.0% Li<sub>2</sub>O, incl 8m @ 1.5% Li<sub>2</sub>O.
- 10m @ 1.4% Li<sub>2</sub>O, incl 6m @ 2.0% Li<sub>2</sub>O.
- 27m @ 0.8% Li<sub>2</sub>O (true width 10m), incl 12m @ 1.2% Li<sub>2</sub>O (true width 6m).



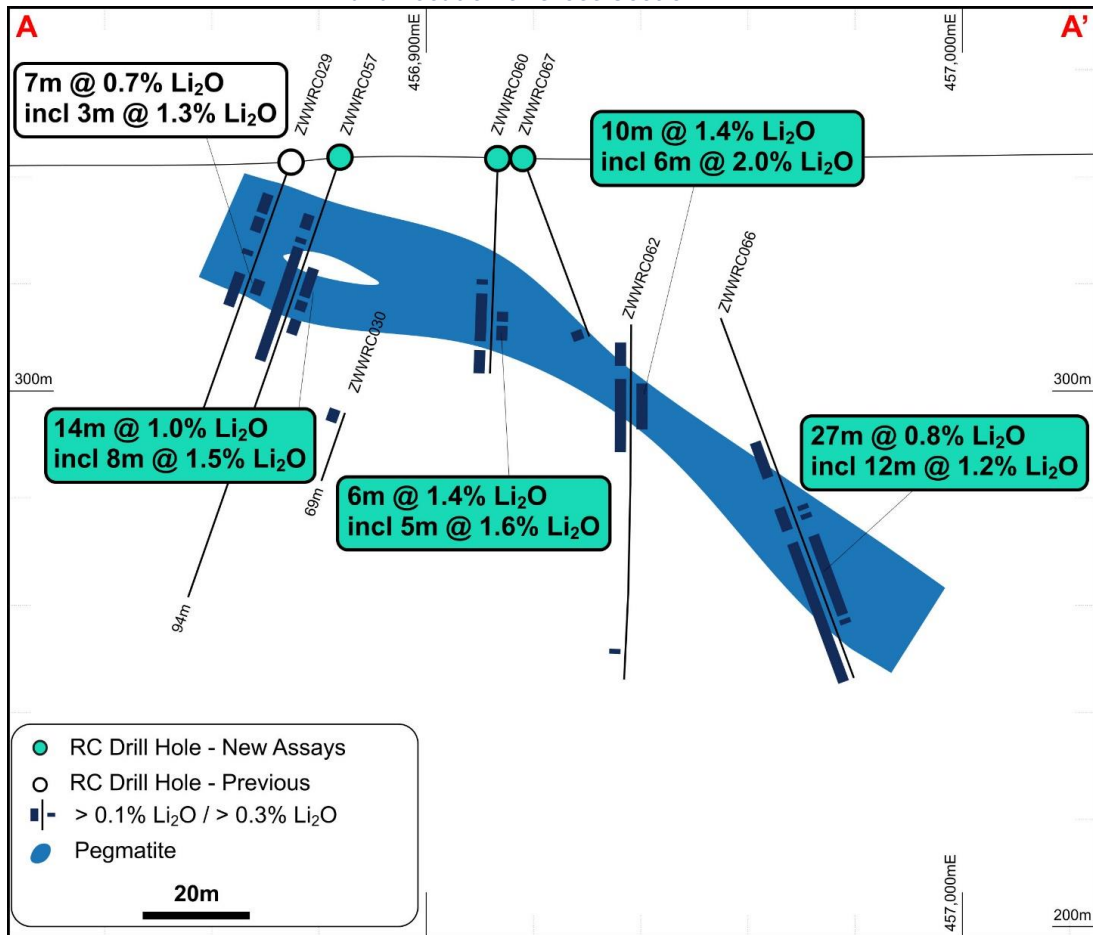
**Figure 11: Location of Waratah Well**

Lithium mineralisation has been identified by laboratory XRD analysis as containing up to 84% petalite. High-grade petalite is not well documented in Western Australia but is known in several overseas deposits. An example of a lithium deposit containing significant petalite is the Arcadia lithium deposit in Zimbabwe formerly owned by Prospect Resources Ltd (ASX:PSC). Prospect reported a JORC 2012 Mineral Resource of 72Mt @ 1.06% Li<sub>2</sub>O\* and then subsequently completed a feasibility study and pilot plant before divesting its 87% project interest for \$US 378M (\$US 422M on a 100% basis)\*\* as announced by ASX:PSC on 23-Dec-21, highlighting petalite as a potential significant economic contributor to lithium projects. (\*full details are disclosed in ASX:PSC Release 11-Oct-21, \*\*Refer to ASX:PSC Release 23-Dec-21).

For personal use only



**Figure 12: Waratah Well Lithium Prospect Area - Lithium Drilling Results and Location of Cross Section A-A'**



**Figure 13: Waratah Well Lithium Prospect Drilling Cross Section A-A'**

## Base Metal Projects

### EARAHEEDY ZINC PROJECT – WA (Zenith 25% free carry to end BFS, ASX: RTR 75%)

Zenith Minerals, through its wholly owned subsidiary **Fossil Prospecting Pty Ltd**, holds a **25% non-contributing equity interest** in the **Earaheedy Joint Venture (JV)** and is **free carried** by **Rumble Resources** through to the completion of a **Bankable Feasibility Study (BFS)**. The Earaheedy Project, located 110 km northeast of Wiluna in Western Australia, continues to demonstrate its potential as a significant base metal discovery, with ongoing metallurgical and development studies advancing the project toward feasibility.

#### Chinook Metallurgical Test Work

On 28 November 2024, Rumble Resources announced the completion of an extensive metallurgical test work program at Chinook. The program utilised material derived from a 10-hole diamond drilling program (see Figure 14), which provided a 2,300 kg representative metallurgical core sample. Key highlights included:

- **Recovery Efficiency:** Achieved 79% zinc recovery into a high-grade bulk concentrate grading 61% Zn+Pb, suitable for the Imperial Smelting Process (ISP).
- **Energy Optimisation:** The coarse primary grind (P80 > 200 µm) is expected to deliver significant energy savings.
- **HydroFloat™ Technology:** Innovative coarse gangue rejection tests demonstrated over 30% barren material could be removed early in processing, enhancing plant efficiency and reducing environmental impacts.
- **Simplified & Cost-Efficient Flowsheet:** The test work confirmed that Chinook ore is amenable to semi-autogenous milling (SAG) with a coarse grind, supporting a low-capex, low-opex processing strategy adaptable to varying feed grades.

#### HydroFloat™ Technology Advantages

The use of HydroFloat™ technology within the test work program highlighted several advantages:

- A 30% reduction in plant footprint and operating costs.
- Improved tailings stability and water recovery.
- Enhanced environmental sustainability through energy and water use efficiency.

#### Resource Expansion

Rumble Resources continued to expand the inferred mineral resource, which now stands at 94Mt @ 3.1% Zn+Pb and 4.1 g/t Ag, with 2.2Mt of contained zinc, 0.7Mt of lead, and 12.6Moz of silver. The discovery at the Mato Prospect, outside the JV area, provided further evidence of the district's large-scale, low-cost mining potential. Key intercepts at Mato included:

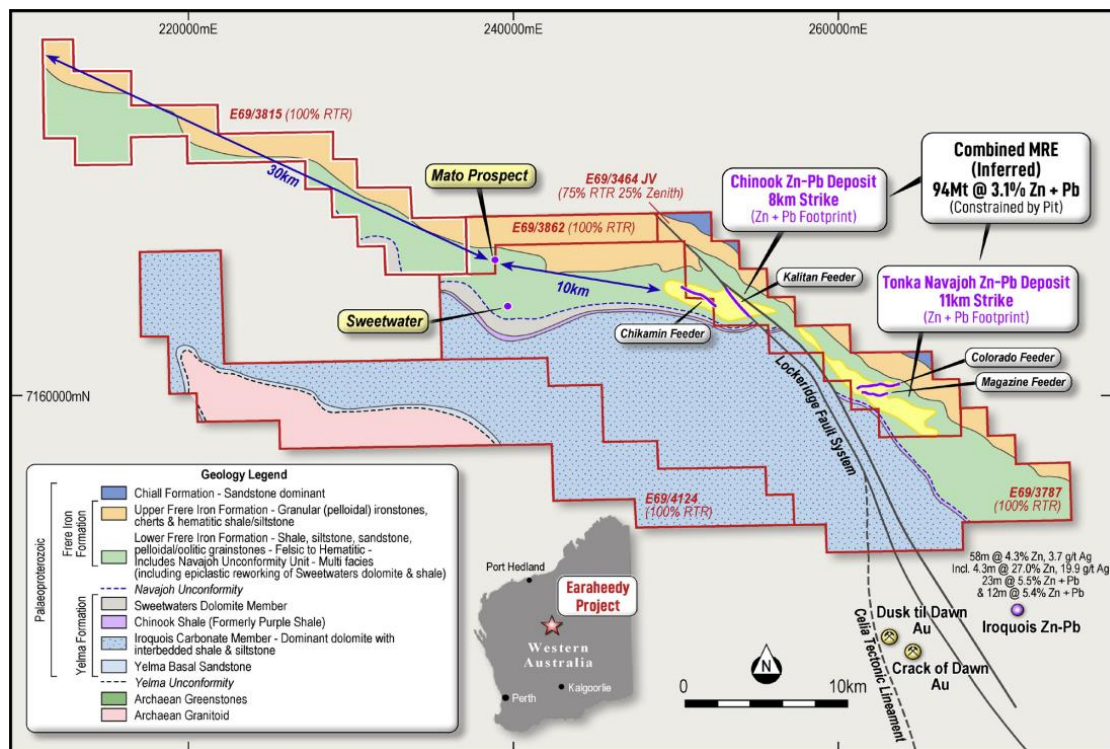
- 16m @ 5.09% Zn+Pb, including 10m @ 7.05% Zn+Pb.
- 29m @ 3.12% Zn+Pb, including 14m @ 5.04% Zn+Pb.

#### Next Steps

Work in the upcoming quarters will focus on **further de-risking** and optimising the project ahead of feasibility studies, with key initiatives including:

- **Internal Scoping Study:** Assessing project economics, optimised pit design, and finalising the preferred processing flowsheet.
- **Geometallurgical Studies:** Refining ore characterisation and process block modelling for efficient mine scheduling.
- **Processing Optimisation:** Enhancing lead and silver recoveries and identifying opportunities to reduce potential penalty elements in the bulk concentrate.
- **Market Study:** Reviewing potential offtake opportunities for the bulk concentrate.
- **Tailings Management & Geotechnical Studies:** Conducting filtration, thickening, and geotechnical test work to support future engineering design.

With strong metallurgical performance, an expanding resource base, and a clear development roadmap, the Earaaheedy Project is positioned to deliver significant value growth, with Zenith Minerals continuing to support Rumble Resources in advancing this emerging base metal camp toward feasibility.



**Figure 14: Earaaheedy Project – Prospectivity Map - highlighting area of maiden MRE and location of Mato Prospect**

Following these successful trials, two process flowsheet options (see Figure 15) have been developed to maximise project economics:

1. Conventional Flotation Circuit – A bulk Zn-Pb concentrate produced via a standard flotation flowsheet.
2. HydroFloat™ Circuit – Incorporates HydroFloat™ technology in the grinding stage to remove coarse gangue material early in the process, improving efficiency.

For personal use only

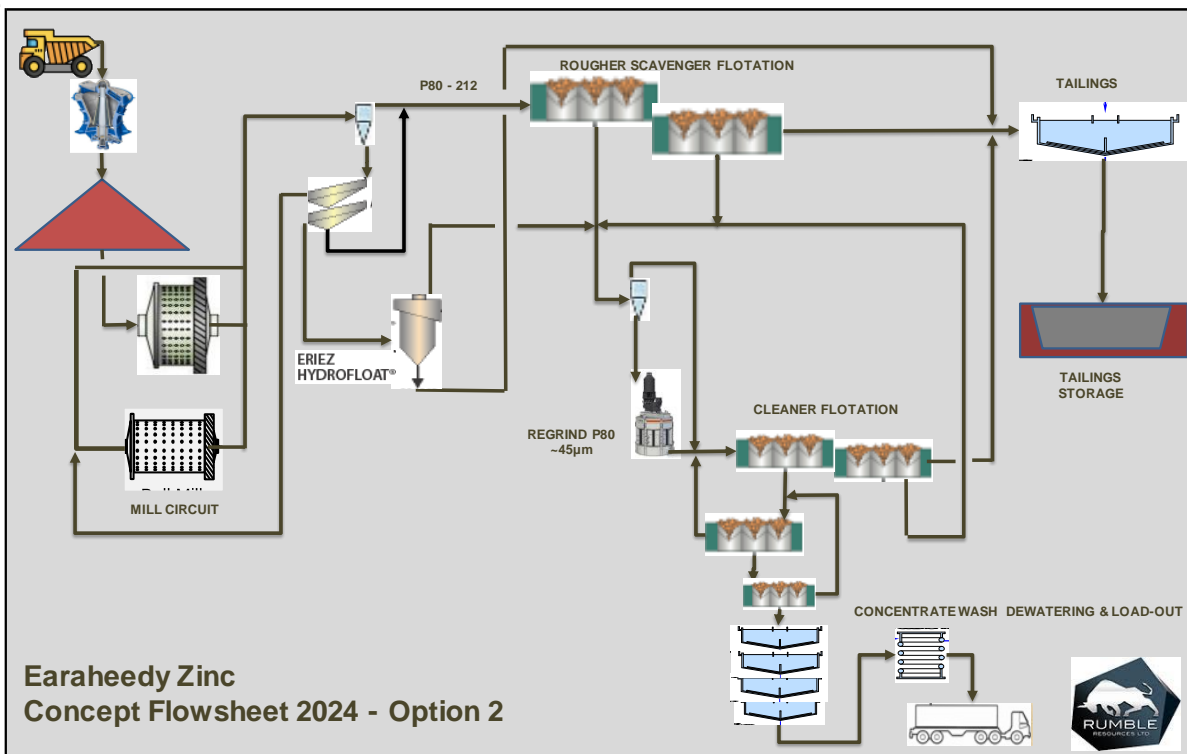
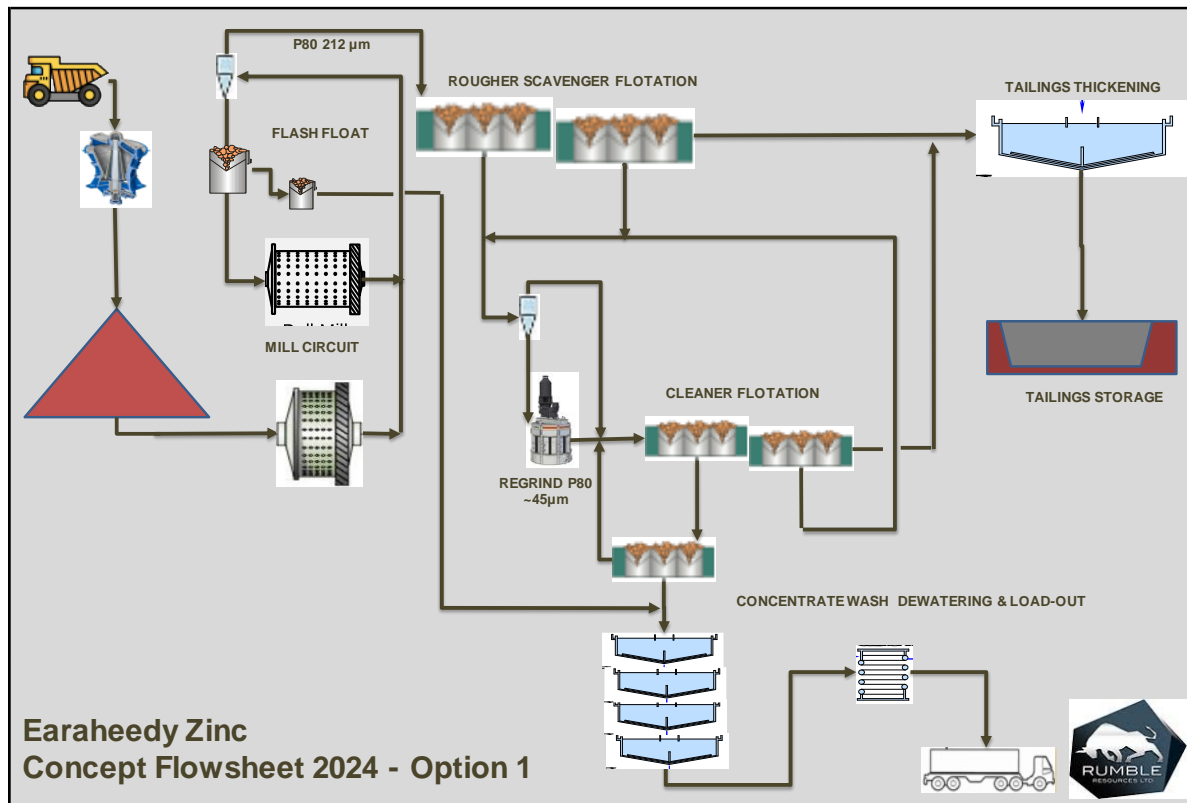


Figure 15: Proposed Flowsheet Options for the Chinook Deposit

### **EARAHEEDY ZINC PROJECT – WA (Zenith 100%)**

The Earahedy Zinc Project (EZP) covers an area to the northeast and west of the Earahedy Joint Venture project and comprises four granted exploration licences. No exploration was completed during the quarter. This ground comprises of E69/3414, R69/2. E69/2733, E69/3869, E69/3995.

For personal use only

## Appendix One Tenement Interests

Changes in tenements	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	nil			
Interests in mining tenements and petroleum tenements acquired or increased	Nil			

PROJECT	LOCATION	TENEMENT NUMBER	HOLDER	ZENITH MINERALS INTEREST	STATUS
Earaheedy Zinc JV	WA	E69/3464	Rumble Resources Ltd Fossil Prospecting Pty Ltd	75% 25%	Granted
Earaheedy Zinc JV	WA	M69/150	Rumble Resources Ltd Fossil Prospecting Pty Ltd	75% 25%	Pending
Earaheedy Mn	WA	E69/2733	Zenith Minerals Limited	100%	Granted
Earaheedy Mn	WA	E69/3414	Zenith Minerals Limited	100%	Granted
Earaheedy Mn	WA	R69/2	Zenith Minerals Limited	100%	Granted
Earaheedy Zinc	WA	E69/3869	Caldera Metals Pty Ltd	100%	Granted
Earaheedy Zinc	WA	E69/3995	Caldera Metals Pty Ltd	100%	Granted
Auburn	QLD	EPM27517	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Privateer	QLD	EPM27552	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Red Mountain	QLD	EPM26384	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Waratah Well	WA	E59/2170	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Waratah Well	WA	E59/2321	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2375	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2386	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2388	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2395	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2513	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2514	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2515	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2555	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2598	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	E77/2616	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	P77/4490	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks	WA	P77/4507	Black Dragon Energy (AUS) Pty Ltd	100%	Granted
Split Rocks-Dulcie	WA	M77/1292	Black Dragon Energy (AUS) Pty Ltd	ZNC owns mineral rights below 6m	Granted

For personal use only

PROJECT	LOCATION	TENEMENT NUMBER	HOLDER	ZENITH MINERALS INTEREST	STATUS
Earaheedy Zinc JV	WA	E69/4099	Rumble Resources Ltd Fossil Prospecting Pty Ltd	75% 25%	Application
Split Rocks	WA	E77/3253	Black Dragon Energy (AUS) Pty Ltd	100%	Application
Split Rocks	WA	E77/3254	Black Dragon Energy (AUS) Pty Ltd	100%	Application

### Competent Persons Statement

The information in this report that relates to exploration results, mineral resources, and exploration activities is based on information compiled by Mr **Christopher Shanley**, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. Mr Shanley 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 Shanley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating to **Exploration Results** and **Mineral Resources** compiled by Mr **Michael Clifford**, who is a Member of the Australian Institute of Geoscientists and was an employee of Zenith Minerals Limited at the time of preparation, is also included. Mr Clifford has sufficient experience relevant to the style of mineralisation and type of deposit under consideration 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.

The information in this report that relates to the **Dulcie Far North Gold Mineral Resource** is based on information compiled by Mr **John Horton**, who is a Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy and a full-time employee of ResEval Pty Ltd. Mr Horton has sufficient experience relevant to the style of mineralisation and type of deposit under consideration 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 Horton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the **Split Rocks - Rio Lithium Mineral Resource** is based on information compiled by Mr **Phil Jankowski**, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a full-time employee of CSA Global. Mr Jankowski has sufficient experience relevant to the style of mineralisation and type of deposit under consideration 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 Jankowski 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.

**For further information, please contact:**

#### **Zenith Minerals Limited**

##### **Andrew Smith**

Managing Director

P: +61 8 9226 1110

E: [info@zenithminerals.com.au](mailto:info@zenithminerals.com.au)

**To learn more, please visit [www.zenithminerals.com.au](http://www.zenithminerals.com.au)**

**This announcement has been authorised by the Board of Zenith Minerals Limited**

## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Zenith Minerals Limited

ABN

96 119 397 938

Quarter ended ("current quarter")

31 December 2024

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	2	8
1.2 Payments for		
(a) exploration & evaluation (see Note to 1.2(a))	(822)	(1,211)
(b) development	-	-
(c) production	-	-
(d) staff costs	(191)	(411)
(e) administration and corporate costs	(312)	(599)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	18	25
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid (refund)	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (GST)	(149)	(3)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,454)</b>	<b>(2,191)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	(1)	(3)
(d) exploration & evaluation	-	-
(e) investments	-	-
(f) other non-current assets	-	-

Note to 1.2(a) – For the quarter ended 31 December 2024, \$822 (rounded \$A'000) of the exploration & evaluation expenditure at 1.2(a) has been capitalised and its inclusion at 1.2(a) is to maintain consistency with Zenith Minerals Limited reporting in its Financial Report pursuant to the Australian Accounting Standard AASB 6 and AASB 107.

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	975
	(c) property, plant and equipment	-	-
	(d) investments	-	20
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(1)</b>	<b>992</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	2,488	2,488
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(45)	(45)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other – Contributions from Joint Venture partner	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>2,443</b>	<b>2,433</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	1,391	1,138
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,454)	(2,194)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1)	992
4.4	Net cash from / (used in) financing activities (item 3.10 above)	2,443	2,443

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	<b>Cash and cash equivalents at end of period</b>	<b>2,379</b>	<b>2,379</b>

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	2,379	1,391
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>2,379</b>	<b>1,391</b>

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	119
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

*Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.*

*Director fees and salaries \$118,534*

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. <b>Financing facilities</b>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 <b>Total financing facilities</b>	-	-
7.5 <b>Unused financing facilities available at quarter end</b>		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8. <b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(1,454)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(1,454)
8.4 Cash and cash equivalents at quarter end (item 4.6)	2,379
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	2,379
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	1.64
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: No. The Company was drilling at Dulcie Far North (DFN) during the December quarter which led to a significant increase in Mineral Resources. The is planning for additional drilling at DFN however it is unlikely drilling will occur during the March 2025 quarter.	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: The Company holds \$1.59m worth of listed shares as investment. It may liquidate these shares to supplement working capital.	

**Mining exploration entity or oil and gas exploration entity quarterly cash flow report**

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes. Refer to 8.8.1 and 8.8.2 above.

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 30 January 2025.....

Authorised by: **By the Board**.....  
(Name of body or officer authorising release – see note 4)

**Notes**

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

For personal use only