ASX Announcement/Press Release
Zenith Minerals Limited (ASX:ZNC)
2 November 2022

Zenith Commences Lithium Drilling

Lithium Follow-up Drilling Commenced at Waratah Well

Investment Highlights

- Follow-up RC drill program has commenced at the Waratah Well Lithium Project
- Drilling to provide deeper test below thick, shallow dipping, lithium bearing pegmatites identified in the mid-year drill program (ASX Release 6-Jul-22):
    - Pegmatites up to 24m thick, beneath soil cover, with significant lithium results including: 7m @ 0.67% Li_2O, incl. 3m @ 1.31% Li_2O in fresh rock at the base of a 24m thick pegmatite.
    - Upper portion of pegmatite strongly weathered and possibly depleted in lithium.
- Drill test of nickel-copper-platinum group element (Ni-Cu-PGE) target to immediately follow the lithium drill program.

Zenith Minerals Limited (ASX:ZNC) ("Zenith" or "the Company") is pleased to advise that drilling has commenced to test both lithium and Ni-Cu-PGE drill targets at the Waratah well project in Western Australia. The project is part of the Zenith Lithium Joint Venture with EV Metals Group.

Lithium Drilling Program

This drilling program is designed to test below the depth of weathering and possible lithium depletion of the previous shallow drilling campaign, as well as to assess potential for lithium spodumene at deeper depths. Approximately 12 holes to depths of 150m are planned.

Robust Ni-Cu-PGE Target Defined During Lithium Exploration Program

As previously announced (ASX Release 6-Sep-22) new Ni-Cu-PGE drill targets have been identified by Zenith's technical team as part of a holistic approach to exploration on the Waratah Well project area.

Technical Details

The Waratah Well Project is located approximately 20km northwest of the regional town of Yalgoo in the Murchison Region of Western Australia and is being explored as part of the Zenith Lithium Joint Venture with EV Metals Group (ASX Release 13-Jan-22). Lithium along with Ni and Cu form part of the battery minerals suite that are included in the joint venture, with PGE's being retained 100% by Zenith.

Background on Lithium Target

An initial phase of 7 wide-spaced (1km spacing) RC drill holes were completed in early 2022 at the Waratah Well project to test a zone (>3km x >2km) of outcropping lithium-tantalum rich pegmatite dykes.

That initial drilling program 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-22). Individual drill holes intersected up to 21 cumulative metres of pegmatite, with individual pegmatites up to 11 metres in thickness.

Four holes, over a 4km long zone, intersected strongly anomalous lithium, with the two north-western most holes returning:

- ZWWRC004 - 12m @ 0.30%Li_2O
- ZWWRC002 - 8m @ 0.22% Li_2O

Mineralisation was identified as a mixture of holmquistite and trilithionite, not the target mineral, which is spodumene, but a confirmation of the presence of fertile lithium-caesium-tantalum (LCT) pegmatite dykes.

The area north and east of the lithium mineralised drill holes is soil covered with no outcrop (Figure 1). This area was the priority zone for testing with four (4) fences of RC drill holes to test for pegmatites under the soil cover.

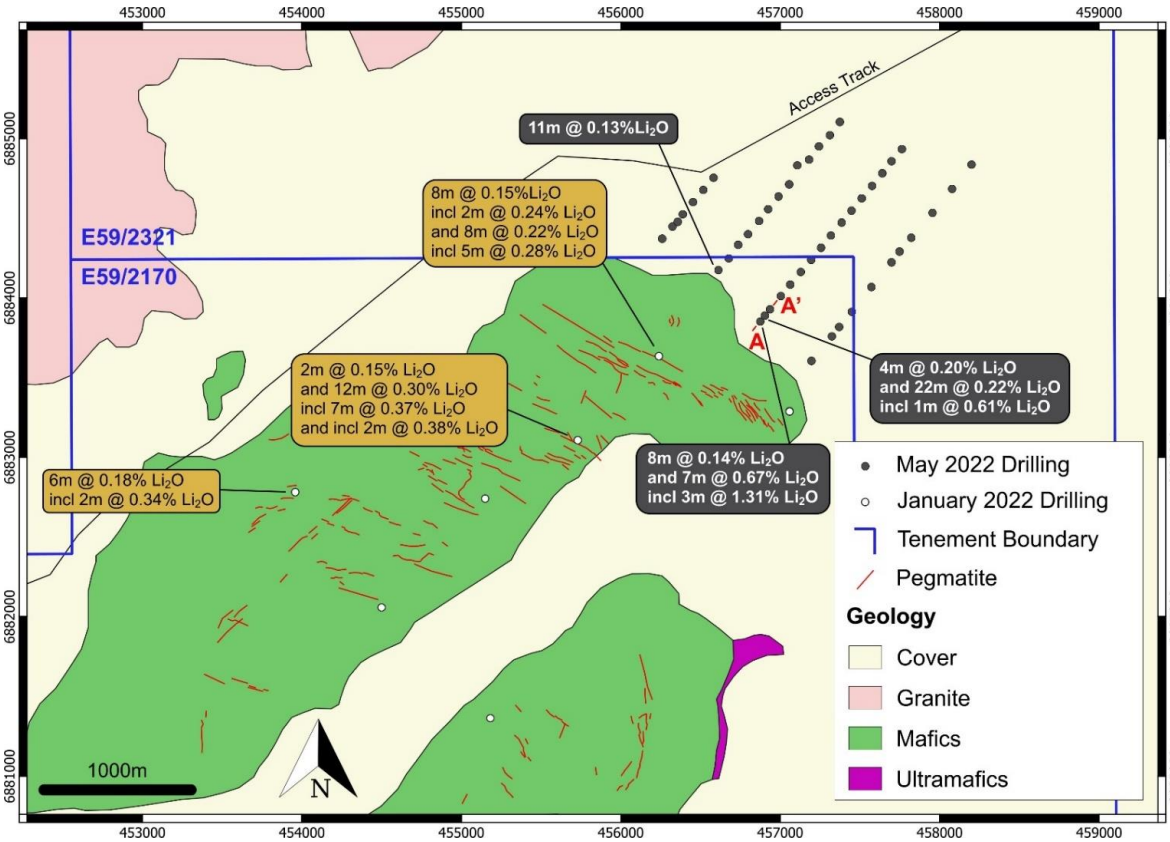

Figure 1: Waratah Well Lithium Prospect Area - Lithium Drilling Results and Location of Cross Section A-A'

A total of 47, slimline RC holes (average depth 48m, max depth 90m) were completed for a total of 2,267m. The presence of pegmatites was confirmed, with 22 out of the 47 holes intersecting pegmatites, ranging in thickness from 1m up to 24m, the thickest pegmatite identified in the project area to date.

Significant lithium results were intersected in 3 drill holes (ASX Release 6-Jul-22), with the higher lithium zones occurring at the base of the pegmatites in fresh rock, implying that the lithium may be depleted in the near surface weathered zone (Figure 2). Better results include:

- ZWWRC029 - 7m @ 0.67% Li_2O, including 3m @ 1.31% Li_2O at the base of the 24m thick pegmatite, with the upper portion being strongly weathered.
- ZWWRC030 – 22m @ 0.22% Li_2O including 1m @ 0.61% Li_2O, upper portion of the pegmatite also weathered
- ZWWRC016 – 11m @ 0.13% Li_2O.

XRD analysis shows that the lithium minerals, of the better mineralised zones, are dominantly petalite with only minor lithium mica and holmquistite. The chemistry and conditions of formation of petalite are more like those of spodumene than the lithium micas. This is a very positive change in lithium mineralogy compared to the southwest of the prospect area where lithium mica and holmquistite were the only lithium minerals identified.

Hence the intersection of thick pegmatite containing ore grade petalite (3m @ 1.31% Li_2O) is considered as a positive step forward in understanding the zonation of lithium at Waratah Well. The deeper drilling in this program is designed to test below the depth of weathering and possible lithium depletion, as well as to assess potential changes in lithium mineralogy down dip.

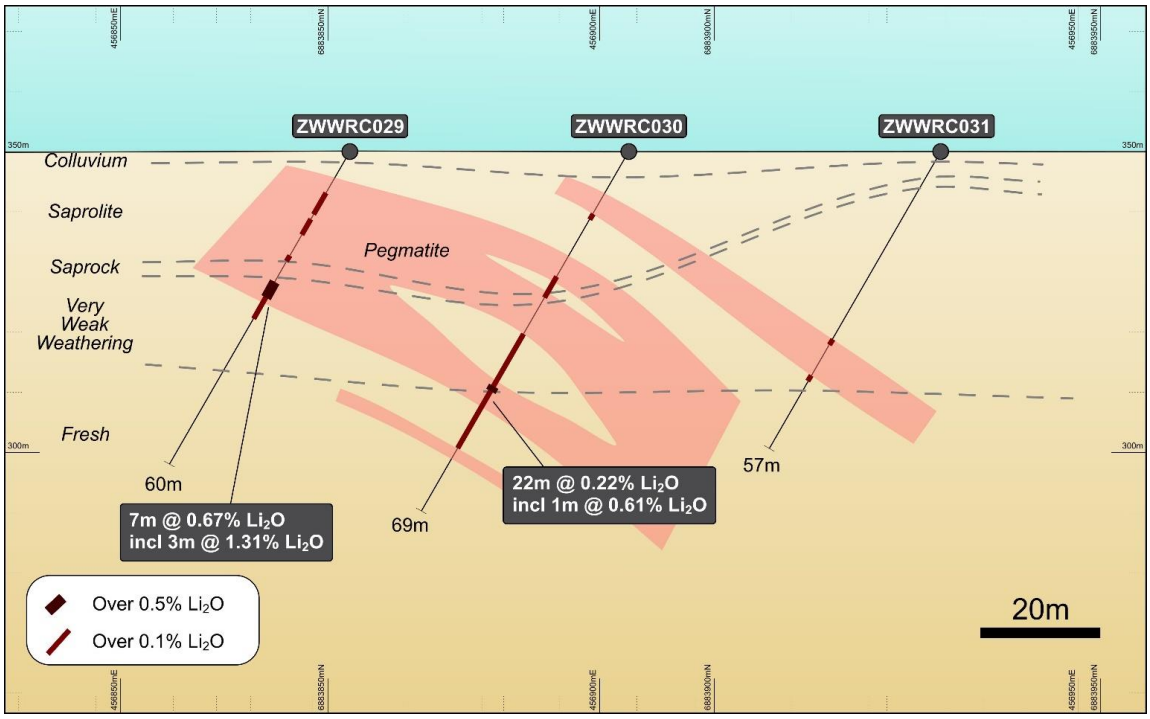

Figure 2: Waratah Well Lithium Prospect Drilling Cross Section A-A'

Background on Ni-Cu-PGE Target

The Waratah Well project area lies immediately adjacent to the West Yilgarn Ni-Cu-PGE province that is host to Chalice Mining Ltd (ASX:CHN) Gonneville PGE-Ni-Cu-Co-PGE deposit (Figure 3).

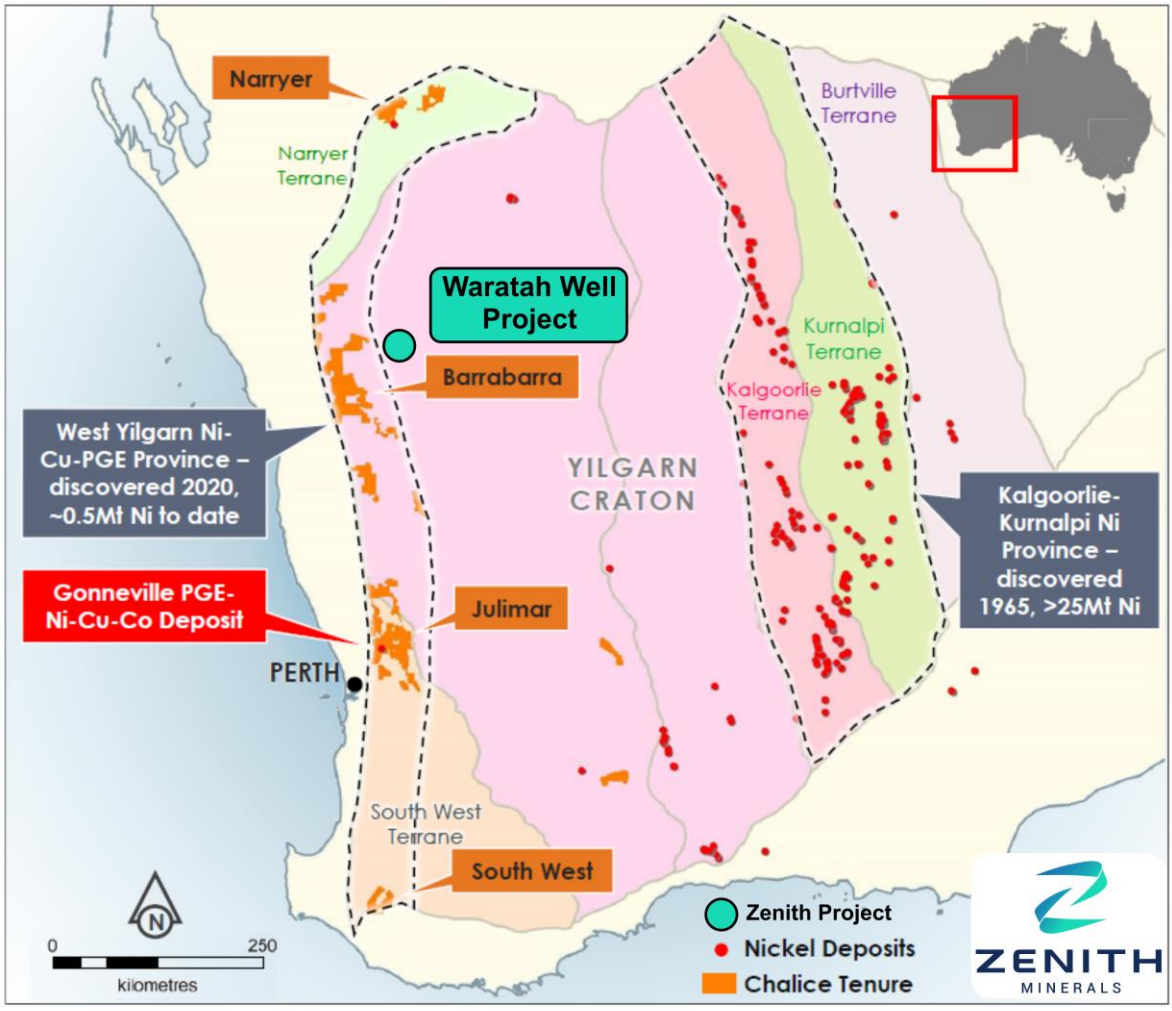

Figure 3: Waratah Well Project Area with Respect to the West Yilgarn Ni-Cu-PGE Province

At Waratah Well a layered mafic–ultramafic intrusive (comprising leucogabbro-norite grading into gabbronorite, anorthosite and leuconorite as well gabbro and minor pyroxenite, basalt and ultramafic schists) crops out over an area approximately 10km x 4.5km, extending under alluvial cover to the northeast and southwest. Primary igneous layering in the prospect area dips shallowly to the south. The layered intrusion is host to lithium pegmatites that are the focus of exploration at Waratah Well (Figure 4).

A strong soil geochemical anomaly occurs at the western end of the mafic-ultramafic intrusive outcrop, before being obscured to the west by alluvium cover. The anomaly has broad Ni anomalism (>100ppm Ni) extending over an area 1km x 0.5km with a peak value of 186ppm Ni. The Cu anomaly extends over an area 1km x 0.25km (>100ppm Cu) peak

value 290 ppm Cu, whilst PGE anomaly is 1km x 0.1 to 0.2km in width defined by the >50ppb Pt+Pd with a 112ppb Pt+Pd peak.

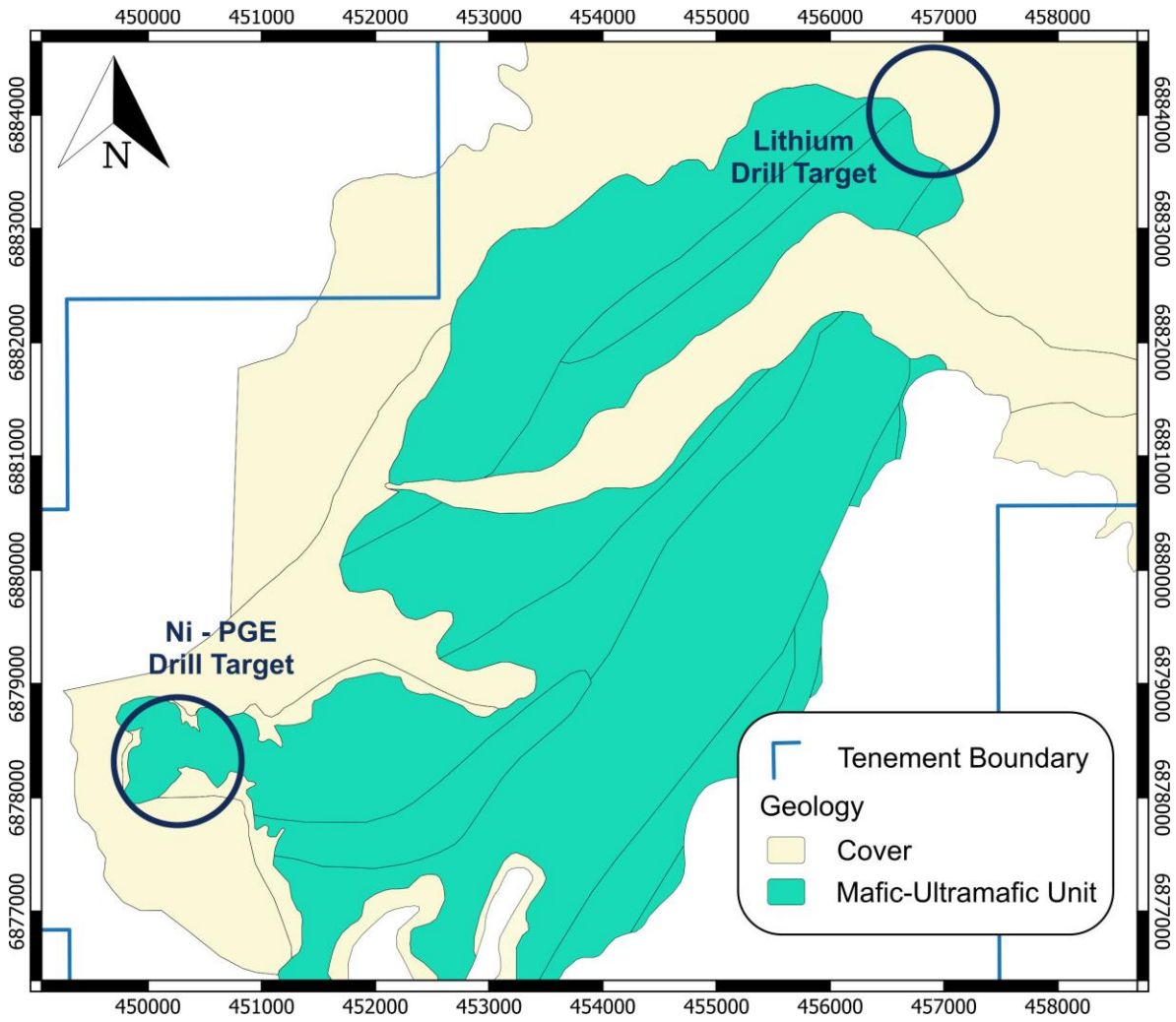

Figure 4: Waratah Well – Ni-Cu-PGE Drill Target and Lithium Prospect

Moving loop EM geophysical surveying defined two EM conductors (NE and SW) of interest that are likely of bedrock origin and worthy of drilling follow-up (Figure 5). The south dipping EM conductors are compatible with the shallow south dip of primary igneous layering within the mafic–ultramafic intrusive body (ASX Release 19-Oct-22).

The NE moving loop electromagnetic (MLEM) anomaly has an estimated time constant of 28ms and is best modelled using two EM plates, namely a flat lying 155m x 75m plate at 75m depth with a conductance of 1,150 S underlain by a shallow south dipping 460m x 220m plate at 95m depth with a conductance of 1,350 S.

The SW MLEM anomaly has an estimated time constant of 48ms and is also best modelled using two shallow SSE dipping EM plates, namely a 450m x 260m plate at 165m depth with a conductance of 1,100 S underlain by an 880m x 680m plate at 215m depth with a conductance of 820 S.

Drill testing of the Ni-Cu-PGE target is planned to immediate follow the lithium drill program, described in the earlier part of the ASX Release.

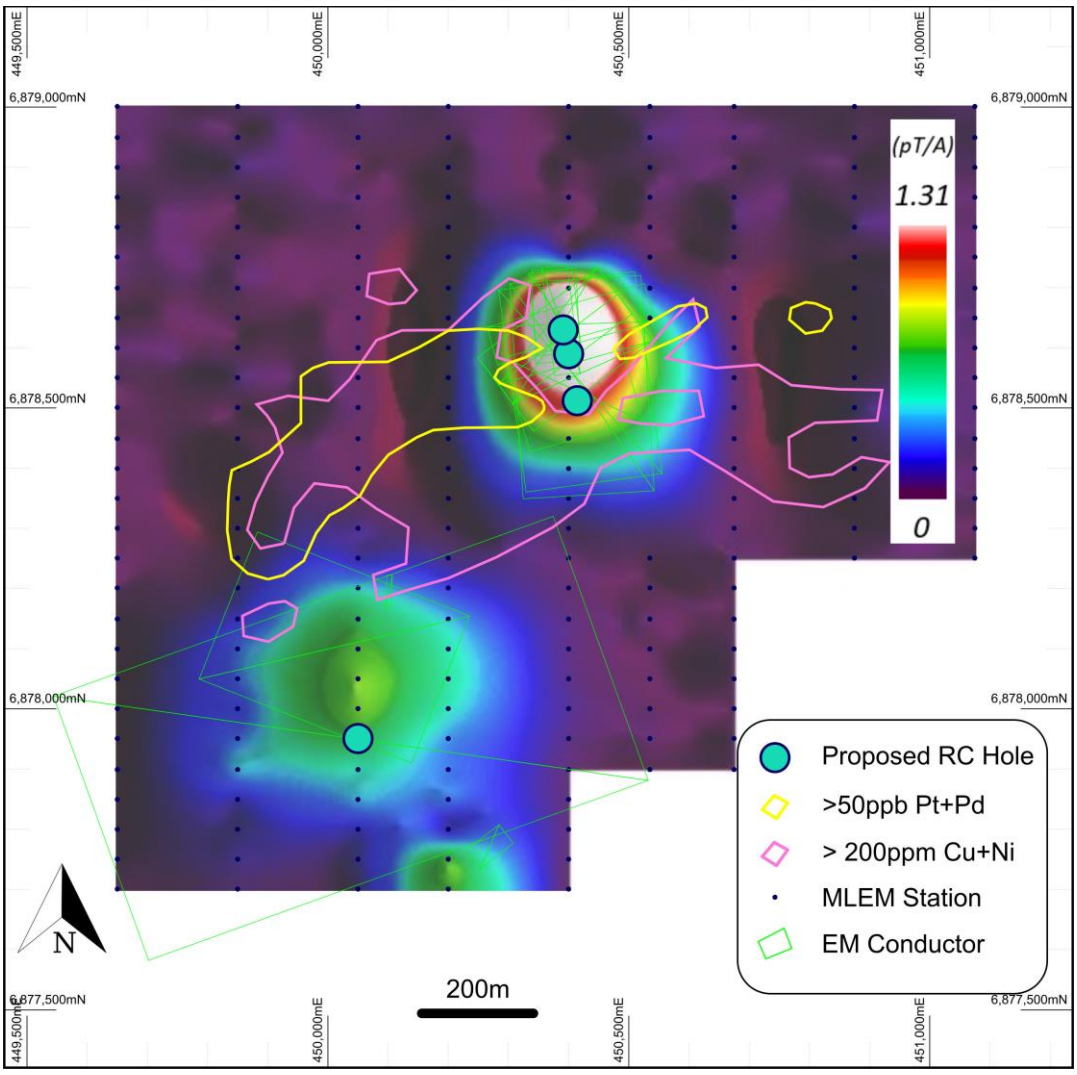

Figure 5: Waratah Well – Ni-Cu-PGE Drill Target (Modelled EM plates and proposed drill holes over MLEM Total Field (ch26) image)

Competent Persons Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. 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.

For further information, please contact:

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About Zenith Minerals
Zenith Minerals Limited (ASX:ZNC) is an Australian-based battery minerals explorer leveraged to the increasing global demand for metals critical to the production processes of new energy industrial sectors.

The Company currently has three lithium projects all located in Western Australia. Split Rocks, located within the Southern Cross region mid-way between Perth and Kalgoorlie, is now being systematically explored under the terms of the joint venture between Zenith and EV Metals Group (EVM). It covers landholdings of approximately 660km^2 in the Forrestania greenstone belt immediately north of the established Mt Holland lithium deposit. Waratah Well, located approximately 20km northwest of the regional town of Yalgoo in the Murchison Region holds a lithium-caesium-tantalum pegmatite target with ongoing exploration. More recently, Zenith acquired a third lithium prospect, the Mt Ida North Project, located approximately 95km west of the regional town of Leonora in WA's Goldfields Region.

In January 2022, Zenith entered into a joint venture with EVM, a global battery materials and technology company focussed on the production of high purity chemicals and battery materials required in rechargeable batteries for electric vehicles and renewable energy storage. 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. Any lithium concentrate produced from these projects will provide critical raw material supply for EVM's Battery Chemical Complex in Yanbu, Saudi Arabia as part of an integrated global supply chain currently being developed by EVM. This will contribute to meeting the growing demand for stable, long-term supplies of critical raw materials, high purity chemicals and cathode active materials. The number of Australian-based lithium/EV metal projects currently in the JV could be further expanded over time if appropriate acquisition opportunities present themselves.

Zenith Minerals also holds an extensive portfolio of gold and base metal projects that includes 100% interest in Split Rocks Gold adjacent to the lithium site, 100% of the Develin Creek copper/zinc project in northern Queensland, 100% of the Red Mountain gold project in Queensland and a 25% interest in the Earaheedy zinc/lead project in Western Australia. It is proposed that these assets will be transferred into a separate ASX-listed company called Mackerel Metals Ltd.

To learn more, please visit www.zenithminerals.com.au

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