ASX Announcement/Press Release
Zenith Minerals Limited (ASX:ZNC)
4th October 2023

YILMIA LITHIUM PROJECT – DRILLING COMMENCED

8km Long Lithium Prospective Corridor

Investment Highlights

- Drilling has commenced at the Yilmia Lithium Project located south of Coolgardie – Western Australia.
- Lithium pegmatite target in greenstone host sequence in a similar geological setting to the recent Kangaroo Hills lithium pegmatite discovery by Future Battery Metals - ASX:FBM (Figures 1 - 2).
- Zenith's first drill line confirms greenstone host extends under soil cover into the project area, with three holes within that drill line intersecting pegmatites, up to 20m thick.
- Geophysical data and historic soil geochemistry, targeting nickel, indicates prospective greenstone sequence likely extends, under cover, over an 8km long target zone.
- No previous drill testing, with Zenith the first to test the prospective area for lithium pegmatites.

Managing Director, Michael Clifford said: *"I am pleased to report that a maiden drill test is underway of the Yilmia Lithium Project. The project was added to the Company's lithium portfolio in May this year. Our initial drill holes confirm the presence of pegmatites, up to 20m thick, within the greenstone rock package. We infer from geophysical and geochemical data an 8km long greenstone rock sequence, wrapping around the southern margin of the Woolgangie Monzogranite, that we consider prospective for lithium pegmatites. The recent Kangaroo Hills lithium pegmatite discovery by Future Battery Metals is in a similar setting on the western margin of the Woolgangie Monzogranite, some 13km to the northwest of our target zone."*

Yilmia Lithium Project

The Yilmia Lithium Project is inferred to contain an 8km long greenstone package that is considered highly prospective for lithium pegmatites on the southern margin of the Woolgangie Monzogranite (Figure 1). A strong aeromagnetic anomaly is coincident with ultramafic and mafic rock units that are shown on government geological maps, further east of the Yilmia project area. That same aeromagnetic anomaly extends through the northern portion of the project area, under soil cover, indicating that the greenstone belt likely extends further west through the Yilmia project tenure (Figures 1& 2). Furthermore, the presence of greenstone within the Yilmia project area, is also supported by a historic soil sampling program and a historical EM geophysical survey that were conducted as part of nickel exploration in the area of interest to Zenith. There is no rock outcrop within the target zone, so drill testing is required.

An initial program of approximately 3000 to 6000m of aircore drilling on 800m spaced lines is underway to test the 8km long lithium target zone (Figure 2). Drill holes (YLAC001 – 015) on the first line completed at the eastern margin of the project area, intersected pegmatites up to 20m thick, within a greenstone host rock package comprising ultramafic and mafic lithologies (Figure 2 and Tables 1 & 2). All assays are awaited.

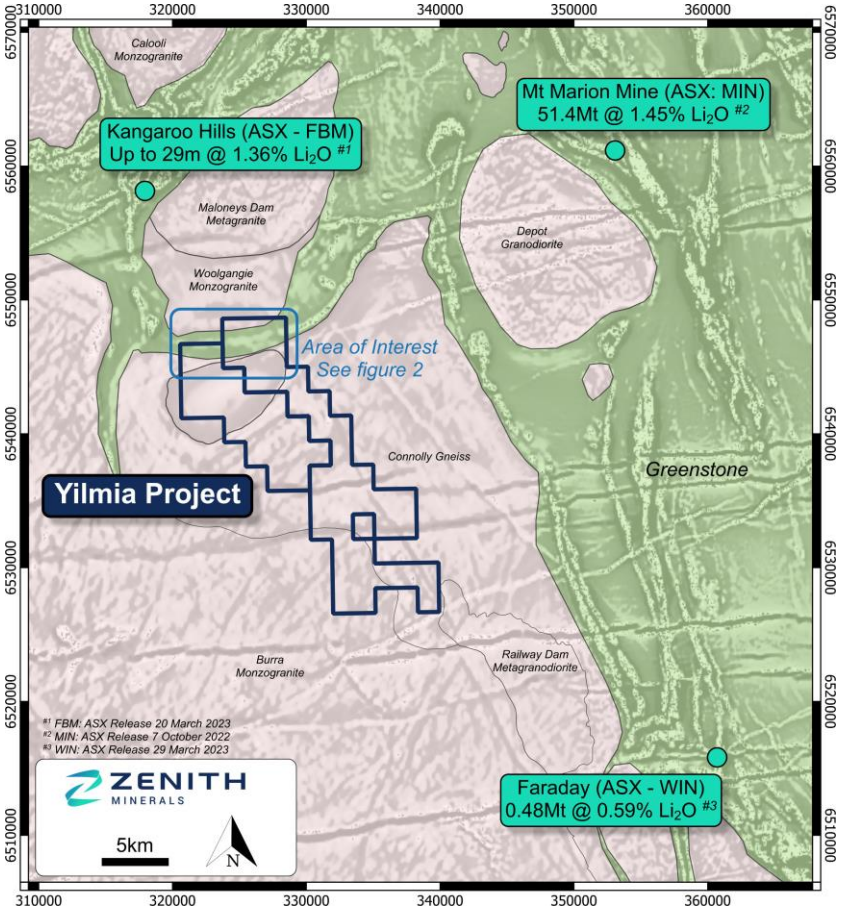

Figure 1: Yilmia Lithium Project - Location Map
(Greenstone Outlines over Aeromagnetic Greyscale _ RTP Image)

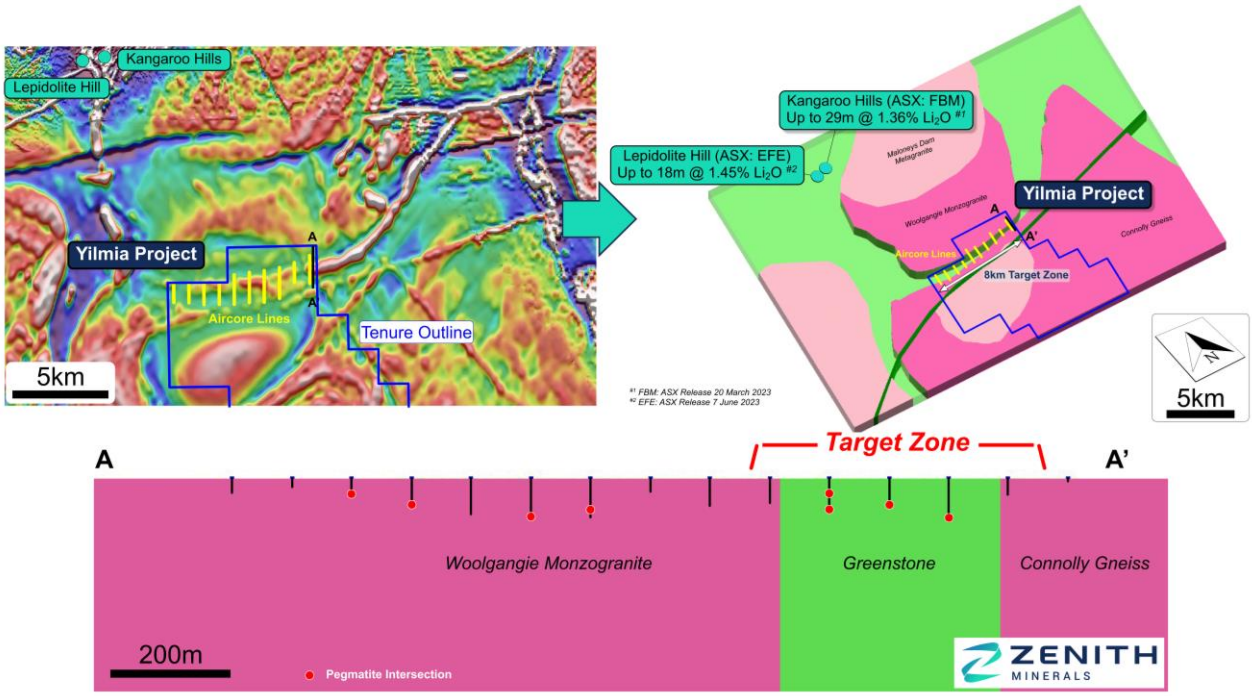

Figure 2: Yilmia Lithium Target and Proposed Drill Lines (Cross Section Red Dots = Pegmatite)

Table 1: Yilmia AC Drilling – Pegmatite Intersection (Drill Traverse 1 Section A-A' only)

Hole	From (m)	To(m)	Pegmatite Interval (m)
YLAC001	36	56	20
	65	66 (eoh)	1
YLAC002	45	48	3
YLAC003	14	19	5
	25	30	5
	44	45	1
	50	55 (eoh)	5
YLAC007	53	58	3
YLAC008	66	67 (eoh)	1
YLAC010	42	43	1
YLAC011	28	29 (eoh)	1

Table 2: Yilmia AC Drilling – Collars (Drill Traverse 1 Section A-A' only)

Hole	Easting	Northing	Depth (m)
YLAC001	328100	6547300	66
YLAC002	328100	6547400	53
YLAC003	328100	6547500	55
YLAC004	328100	6547600	44
YLAC005	328100	6547700	49
YLAC006	328100	6547800	25
YLAC007	328100	6547900	68
YLAC008	328100	6548000	67
YLAC009	328100	6548100	63
YLAC010	328100	6548200	47
YLAC011	328100	6548300	29
YLAC012	328100	6548400	17
YLAC013	328100	6548500	27
YLAC014	328100	6547200	30
YLAC015	328100	6547100	7

Yilmia Option

Zenith signed a binding agreement with Kalgoorlie Mining Associates Pty Ltd (KMA) that grants Zenith the right to acquire up to a 100% interest, in the lithium and rare earth mineral rights, in two exploration licences (E15/1760 and E15/1783), in the Coolgardie region of Western Australia over a 6-year period, for details refer to ZNC ASX Release 22-May-23 for details.

About Zenith Minerals

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

The Company currently has four lithium projects all located in Western Australia. Split Rocks covers landholdings of approximately 600 km^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 pegmatite with ongoing exploration required.

In January 2022, Zenith granted EV Metals Group (EVM) the exclusive right, but not the obligation, to earn a 60% project interest in the Split Rocks and Waratah Well projects, by sole funding the completion of a feasibility study before January 2024. Under the relevant agreement:

- The feasibility study must have a Mineral Resource of a minimum of 35Mt @ 1.2% Li_2O and be capable of producing 330,000 tonnes of spodumene concentrate with a grade of not less than 6%Li_2O for a minimum of a 10-year period: and
- If EVM fails to complete the feasibility study prior to 6 January 2024, then it will be deemed to have withdrawn from the earn-in and the agreement will terminate on 6 January 2024.

As far as Zenith is aware the feasibility study has not yet commenced. Zenith does not believe that EVM will be able to complete the feasibility study within the earn-in period and is preparing to reassume full control of a 100% interest in the Split Rocks and Waratah Well lithium projects in early January 2024. Upon full control of these projects being regained, Zenith intends to update the market on its plans to advance these assets towards development and deliver enhanced value for its shareholders.

Zenith has an additional two lithium projects. In January 2023, Zenith secured an option to acquire 100% of the Hayes Hill lithium – nickel project, located in the Norseman – Widgiemooltha area of Western Australia. A further project Yilmia, covers an 8 km long lithium prospective area in the Coolgardie district, some 13 km southeast of the recent Kangaroo Hills lithium discovery by ASX:FBM. Zenith may earn up to a 100% interest in the lithium rights at the Yilmia project.

In addition to its battery metal assets Zenith owns a portfolio of gold and base metal projects. It retains a 25% free carried interest (to end bankable feasibility study) on the Earaheedy Zinc discovery, in Western Australia, with Rumble Resources Limited (ASX:RTR) and two main gold projects – Red Mountain in Queensland and Split Rocks in Western Australia.

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

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

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and a full-time 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:

Zenith Minerals Limited

David Ledger
Executive Chairman
P: +61 8 9226 1110
E: info@zenithminerals.com.au

Media & Investor Enquiries

Jane Morgan Management
Jane Morgan
E: jm@janemorganmanagement.com.au

JORC Tables

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	Drilling completed on the first line of the program, 15 holes YLAC001 - 015. 1m aircore drill samples were collected at depths ranging from 0 to 88m depth and sieved into chip trays. 4m composite samples were scooped from drill spoils – assays awaited.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples are considered to be representative of the intervals sampled.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	1m aircore chip tray samples were logged by a qualified geologist. Lithologies were logged along with mineral abundances, regolith and redox zones.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Aircore drilling (AC).
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Visual estimates of AC recovery were recorded by the field geologist based on the size of spoil piles recovered from the cyclone.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Aircore drilling is a reverse circulation drilling technique. Sample is bought up hole through the central inner tube to the sample hose and into a cyclone. Samples are collected via buckets from the cyclone output and placed on 1m sample piles at the drill site.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Acceptable overall sample recoveries through-out drill program no bias likely.

Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	All drill samples were logged by a qualified geologist and descriptions recorded in a digital data base.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	AC samples were qualitatively logged, representative sample retained for each drill metre. All samples photographed and assessed under natural and ultraviolet light to record fluorescent minerals.
	The total length and percentage of the relevant intersections logged.	100%
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	NA
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Samples taken via a scoop at 4m and selected 1m intervals.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples to be analysed at Jining Laboratories in Perth. 1-2 kg pulverised and a representative subsample to be analysed for lithium by sodium peroxide fusion with ICPMS/AES finish.– No assays yet reported.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	~200g of sample to be pulverised and a sub-sample taken in the laboratory and analysed. – No assays yet reported.
Sub-sampling techniques and sample preparation - continued	*Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*	Duplicate samples are taken in the field and analysed as part of the QA/QC process. – No assays yet reported.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Each sample was approximately 1-2kg in weight which is appropriate to test for the grain size of material sampled.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Samples to be analysed at Jining Laboratories in Perth. 1-2 kg pulverised and a representative subsample to be analysed for lithium by sodium peroxide fusion with ICPMS/AES finish.– No assays yet reported.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools used
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Blanks, certified reference material for lithium, and duplicate samples were included in the analytical batches and indicate acceptable levels of accuracy and precision. .– No assays yet reported.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	At least 2 Zenith company personnel have been to the prospect area and observed samples and representative drill chip and drill core.

	The use of twinned holes.	Nil
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Field data were recorded in a field laptop and then entered into a database.
	Discuss any adjustment to assay data.	No adjustments were made.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Sample location is based on GPS coordinates +/- 5m accuracy
	Specification of the grid system used.	The grid system used to compile data was MGA94 Zone 51
Location of data points – continued	*Quality and adequacy of topographic control.*	Topography control is +/- 10m.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	AC holes drilled at nominal 100m x 800m line spacing.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	This spacing is not sufficient to complete any Mineral Resource estimate
	Whether sample compositing has been applied.	NA
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Drilling is vertical and the orientation of the pegmatites is not yet known.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drilling is vertical and the orientation of the pegmatites is not yet known.
Sample security	*The measures taken to ensure sample security.*	All samples were taken by Zenith personnel on site and retained in a secure location until delivered directly to the laboratory by Zenith personnel.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	The sampling techniques and data have been reviewed by two company personnel who are qualified as Competent Persons

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	Zenith signed a binding agreement with Kalgoorlie Mining Associates Pty Ltd (KMA) that grants Zenith the right to acquire up to a 100% interest, in the lithium and rare earth mineral rights, in two exploration licences (E15/1760 and E15/1783), in the Coolgardie region of Western Australia over a 6-year period, for details refer to ZNC ASX Release 22-May-23 for details. The exploration licences are outside of any current reserves.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	Tenements are exploration licences. There are no known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Limited previous historic exploration in the rea for nickel sulphide mineralisation. No previous lithium exploration has been documented.
Geology	*Deposit type, geological setting and style of mineralisation.*	Archaean pegmatite hosted lithium.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*	See report
	o easting and northing of the drill hole collar	
	o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	o dip and azimuth of the hole	
	o down hole length and interception depth	
	o hole length.	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	No assays yet reported
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and	No assays yet reported

	some typical examples of such aggregations should be shown in detail.	
Data aggregation methods - continued	*The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No metal equivalents used.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	Drilling is angled -90 degrees and the orientation of pegmatites is unknown.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	As above
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	No assays yet reported, pegmatite intervals are downhole lengths and the true thickness has not yet been established.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	See report
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	See report
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No other meaningful or material exploration data to be reported at this stage.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Drilling in progress. Assays awaited
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See report