

## 83 LITHIUM TARGETS AT SPLIT ROCKS

Reassessment of existing and new geochemical data significantly expands the number of targets for drill testing

### Investment Highlights

- New surface sample assays, a review of existing soil geochemical data and assessment of drill data has resulted in a total of 83 lithium targets being defined within Zenith's large tenement holding at Split Rocks, a significant increase from the 30 targets previously reported (ASX Release 10-Aug-23).
- Targets include the very large (>9km long by 2km wide), untested Cielo Lithium Target previously announced to ASX on 9-Feb-23, with a peak auger value of 880ppm Li.
- Included in the total are 6 targets that contain pegmatite drill intersections up to 50m thick, that are classified as lithium, caesium, tantalum (LCT) pegmatites, based on their geochemical character, further enhancing the highly prospective nature of the Split Rock project leases.
- The new targets all lie outside of Zenith's Rio Lithium Deposit (11.9Mt @ 0.72% Li<sub>2</sub>O)<sup>1</sup> lying northwest of the Mt Holland Lithium Mine owned by SQM-Wesfarmers.
- 318 drill holes are fully permitted and ready for drilling, whilst Permits of Work are in place for a further 193 AC drill holes, covering Cielo and 14 additional targets.
- Written notice has been provided to EV Metals Group (EVM) advising of the 11-January-2024 bankable feasibility study deadline (FS deadline date), with the likely outcome being that Zenith will reassume full control of a 100% interest in both the Split Rocks project and the Waratah Well project, on the FS deadline date. The Company expects to be able to provide a further update around that time.

<sup>1</sup>ZNC:ASX Release 28-Sep-23

**Managing Director Michael Clifford said:** *"The technical team has now had time to reassess the way we target lithium pegmatites on our Split Rocks project. With some additional assays now to hand, and a significant review of the details of our extensive surface geochemical and drilling databases, we are now able to reclassify our lithium drill anomalies at Split Rocks, resulting in a total of 83 targets. The exercise reaffirms our strong belief in the prospectivity of the Split Rocks project area that has already delivered one JORC Mineral Resource. We very much look forward to January 2024 when we anticipate regaining full control of the project on a 100% basis."*

Zenith Minerals (ASX:ZNC) ("**Zenith**", or the "**Company**") is pleased to advise that 83 lithium targets have now been defined at the Split Rocks Lithium Project in Western Australia.

The Split Rocks Project is located approximately 40km south of the regional town of Marvel Loch, and some 20km northwest of the Mt Holland Lithium Mine owned by SQM-Wesfarmers (Figure 1).

### Technical Details

During 2022 and 2023 a total of 10,652 geochemical samples were collected across the Split Rocks project area, comprised of both auger and soil samples with the sampling method determined by the regolith (nature of the materials present near surface). To date, first pass sampling has now covered approximately 80% of the project area with additional sampling planned.

In November 2023 an in-house review by Zenith's technical team of new surface sample assays, a review of existing soil geochemical data and assessment of historic and Zenith drill data resulted in 83 lithium targets being defined within Zenith's large tenement holding at Split Rocks, a significant increase from the 30 targets previously reported (ASX Release 10-Aug-23) – refer Figures 2 - 4.

Targets include the very large (>9km long by 2km wide), untested Cielo Lithium Target previously announced to ASX on 9-Feb-23, with a peak auger soil value of 880ppm Li.

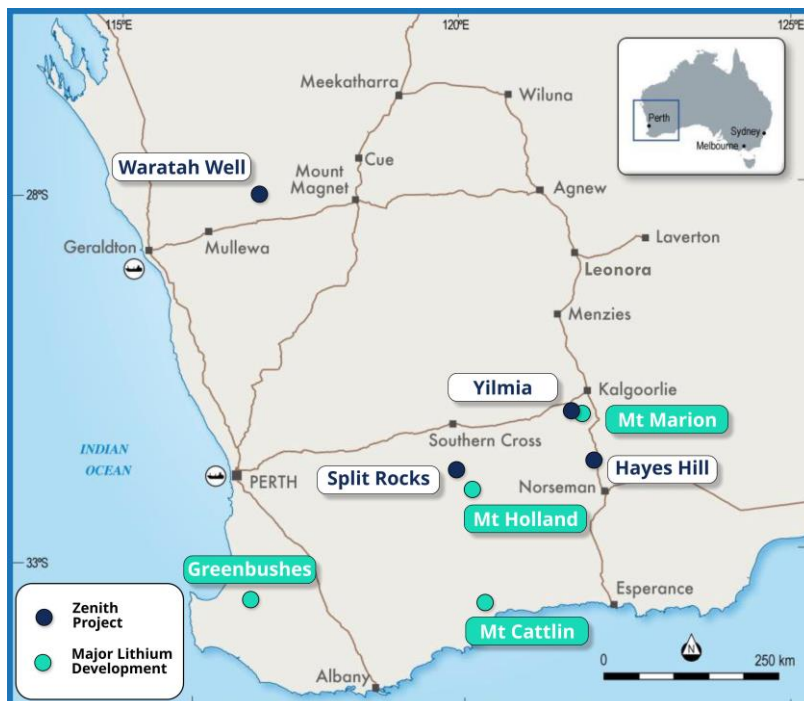
The review reassessed the surface geochemical lithium anomaly threshold at 46ppm Li (or 100ppm Li<sub>2</sub>O). This threshold was based on the surface geochemical signature surrounding the Company's Rio lithium deposit, the soil anomaly covering the Mt Holland Lithium Deposit<sup>2</sup> and other competitor announcements that included soil anomalies that upon drill testing have successfully intersected significant lithium rich LCT pegmatites<sup>2</sup>.

Zenith has also included additional targets based on a Li Suite Index. Where each anomalous element (above a certain threshold) contributes 1 to the index with 6 elements (Li, Cs, Rb, Ta, Nb, Sn) being used for this review.

Finally, a review of Zenith's drill database has defined 6 targets requiring drill follow-up that contain historic, near surface, weathered pegmatite drill intersections up to 50m thick. These pegmatites are considered highly significant, based on their LCT pegmatite chemistry (K/Rb ratio less than 50), with additional anomalous contents of Cs, Li, Ta, or Nb).

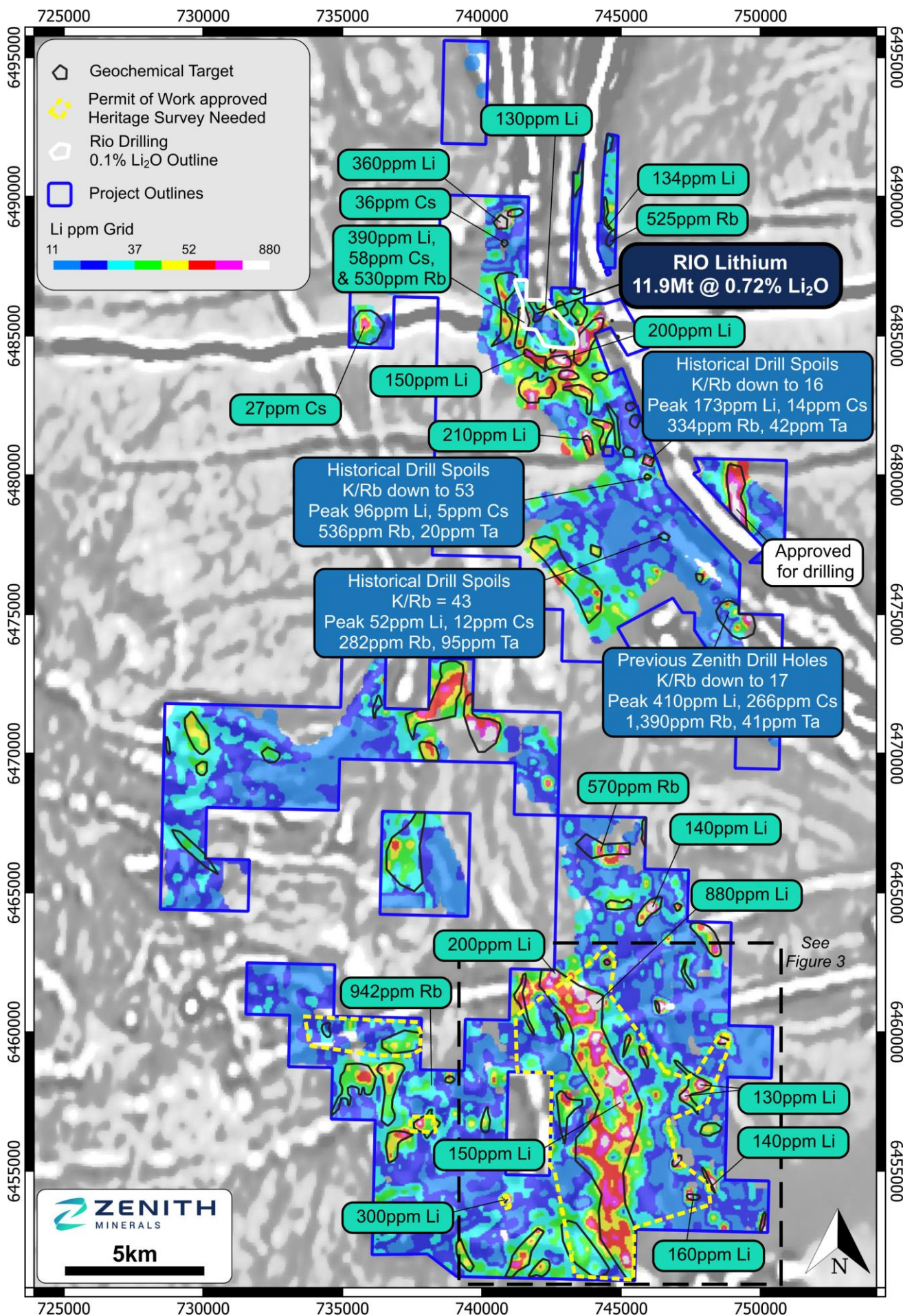
### References<sup>2</sup> :

- Mt Holland Lithium Deposit >50ppm Li (108ppm Li<sub>2</sub>O) – KDR ASX Release 16-Apr-19
- King Col Lithium Pegmatites >50ppm Li (108ppm Li<sub>2</sub>O) – DEG ASX Release 1-Dec-16
- Malinda Lithium Pegmatites >46ppm Li (100ppm Li<sub>2</sub>O) – DL1 ASX Release 21-Aug-23.

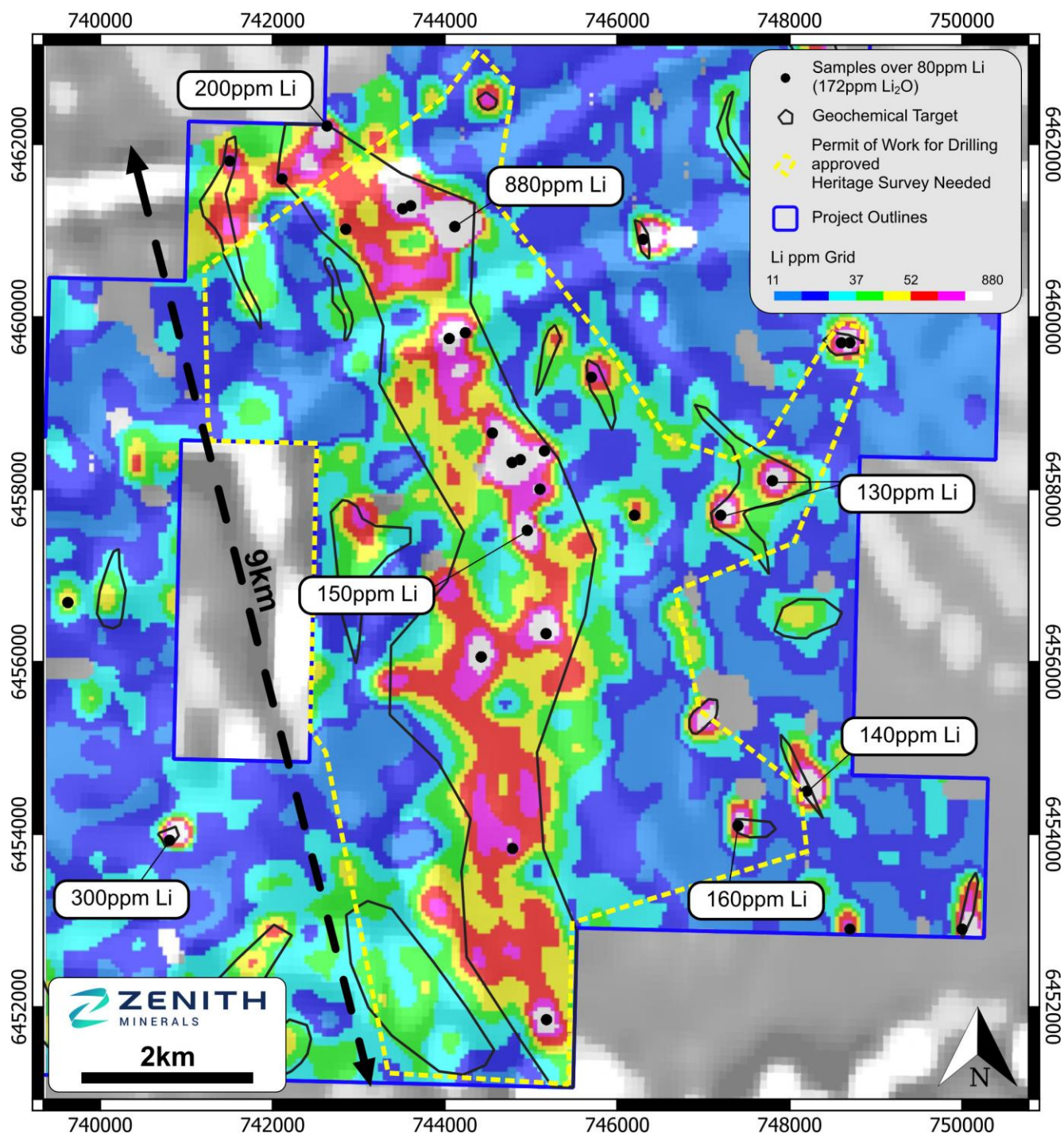


**Figure 1: Split Rocks Project Location Map**









**Figure 3: Split Rocks Cielo Lithium Target Details**

### Background on Split Rocks

The Split Rocks Project is located approximately 40km south of the regional town of Marvel Loch in the Goldfields Region of Western Australia.

The project area lies immediately north of the Mt Holland Lithium Mine that is being developed by Covalent Lithium (SQM and Wesfarmers) - Figure 1.

Drilling at the Rio Prospect has returned significant lithium mineralisation - refer to ASX Release 16-Nov-22, culminating in a maiden Inferred Mineral Resource (JORC 2012) - ASX Release 28-Sep-23. The

mineral resource for the Split Rocks Rio lithium pegmatite deposit has been estimated, using all data available as at 3-Aug-23. Drilling is currently relatively wide spaced (generally 200m x 100m).

To test the reasonable prospects for eventual economic extraction, a preliminary open pit optimisation was conducted. The resultant pit captured the majority of the lithium mineralisation; the remaining mineralisation is in shallow dipping sheets that would alternatively be amenable to low-cost room and pillar underground mining.

The Mineral Resource estimate for the Split Rocks Rio project reported at a 0.5% Li<sub>2</sub>O cutoff is shown below. The entire resource is classified Inferred and is open at depth and along strike.

**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 Resource Table:

1. 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

Significant smoothing of lithium grades in the resource estimation process due to the current wide drill spacing (generally 200m x 100m). Closer spaced drilling has the potential to define more discrete high-grade lithium zones that could enhance the overall lithium grade of the deposit.

Lithium mineralisation remains open to the northeast, south and at depth, with further drilling required to define the full limits of mineralisation.

Lithium pegmatite mineralisation identified to date is a mixture of eucryptite with lesser spodumene, petalite and lepidolite confirmed by multiple methods including optical microscopy, SEM, Raman spectroscopy and XRD analyses.

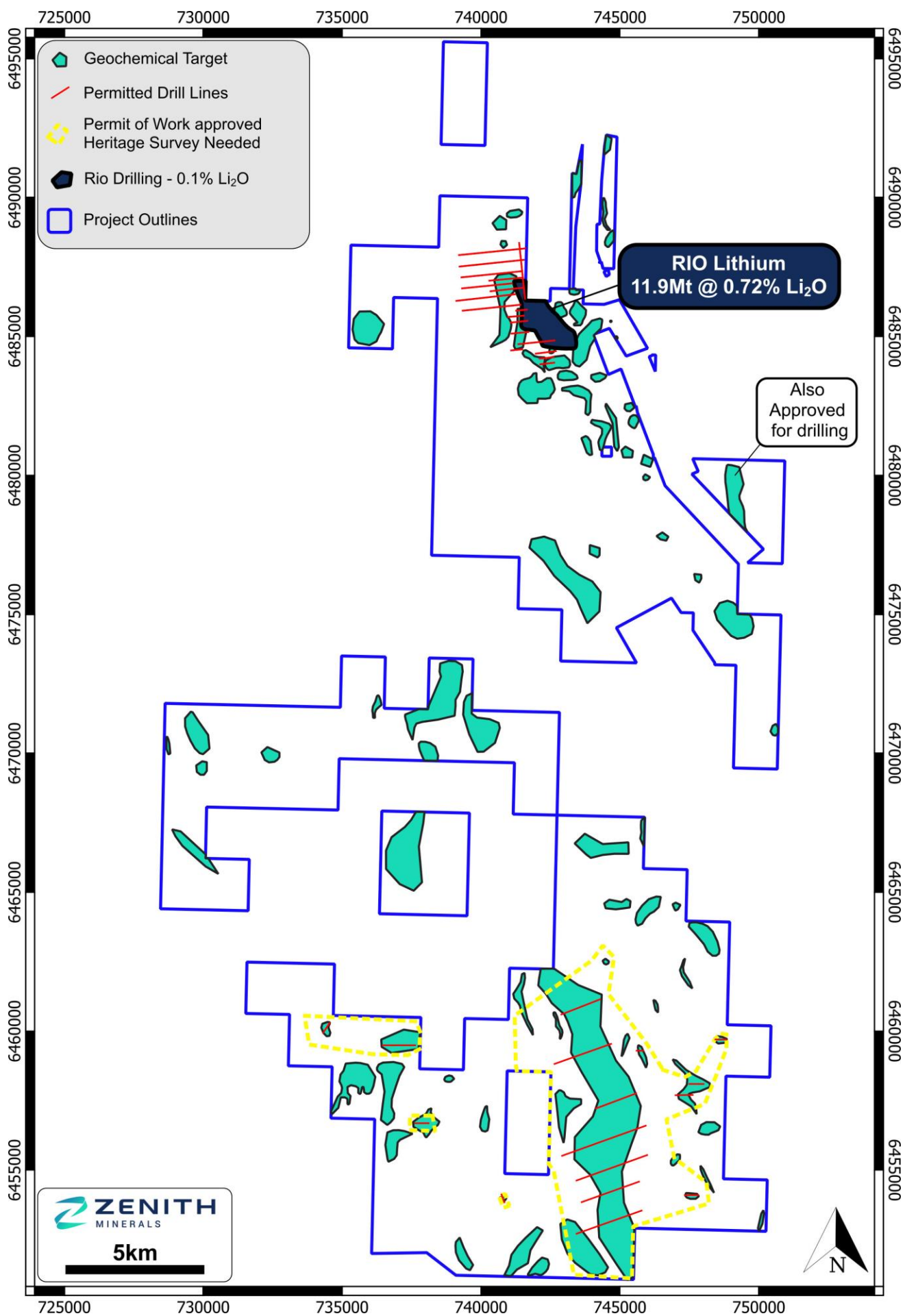
The amenability of eucryptite mineralisation to conventional treatment processes has been shown by positive sighter flotation testwork and bench scale calcination-leach tests, hence confirming the potential of eucryptite as a viable lithium target (ASX Release 26-Jul-22).

### Forward Program

Lithium mineralisation at Rio remains open to the north, south, east and at depth. Permits are now in place to enable infill and extensional drilling of up to a further 318 drill holes (159 RC and 159 DD, for one DD and one RC per approved drill pad), whilst Permits of Work are in place for a further 193 AC drill holes, covering Cielo and 14 additional targets. Heritage clearances will be required prior to drilling the latter 193 AC holes (Figure 4).

Rio is the first lithium target that was tested with extensive RC and diamond drilling and is one of > 80 targets within the Split Rocks project, that the Company wishes to drill test (ASX Release 10-Aug-23 and this release).

Drilling is planned to recommence once matters pertaining to the joint venture with EVM are resolved.



**Figure 4: Split Rocks Lithium Targets -Permitted Drilling**



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**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<sup>2</sup> 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<sub>2</sub>O and be capable of producing 330,000 tonnes of spodumene concentrate with a grade of not less than 6% Li<sub>2</sub>O for a minimum of a 10-year period: and
- If EVM fails to complete the feasibility study prior to 10 January 2024, then it will be deemed to have withdrawn from the earn-in and the agreement will terminate on 11 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 Earahedy 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](http://www.zenithminerals.com.au)

**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.



## JORC Tables

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>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.</i>	Systematic auger and soil sampling program on 400m x 100m spacing.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Samples are considered to be representative of the material sampled. Soil sampling was conducted over areas deemed to be residual soils or regolith whilst auger was completed over areas interpreted to be transported or having surface colluvium or alluvium.
	<i>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.</i>	200g of -2mm sieved soil or 200g of auger sample was collected in the field. Samples were analysed at SGS Laboratories in Perth, 0.2 kg was pulverised and a representative subsample was analysed for lithium by sodium peroxide fusion with ICPMS finish.
Drilling techniques	<i>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.).</i>	No new drilling reported in this ASX Release
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	No new drilling reported in this ASX Release
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No new drilling reported in this ASX Release
	<i>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.</i>	No new drilling reported in this ASX Release
Logging	<i>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.</i>	No new drilling reported in this ASX Release

	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Qualitative logging of soil samples was completed by field crew.
	<i>The total length and percentage of the relevant intersections logged.</i>	No new drilling reported in this ASX Release
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No new drilling reported in this ASX Release
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	No new drilling reported in this ASX Release
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Samples were analysed at SGS Laboratories in Perth, 0.2 kg was pulverised and a representative subsample was analysed for lithium by sodium peroxide fusion with ICPMS finish.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	~200g of sample was pulverised and a sub-sample was taken in the laboratory and analysed.
Sub-sampling techniques and sample preparation - continued	<i>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.</i>	Duplicate samples were taken in the field and analysed as part of the QA/QC process
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Each sample was approximately 0.2kg in weight which is appropriate to test for the grain size of material sampled.
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Samples were analysed at SGS Laboratories in Perth, 0.2 kg was pulverised and a representative subsample was analysed for lithium by sodium peroxide fusion with ICPMS finish.
	<i>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.</i>	No geophysical results reported and or tools used relevant to this ASX release.
	<i>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.</i>	Blanks, certified reference material for lithium, and duplicate samples were included in the analytical batches and indicate acceptable levels of accuracy and precision.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No new drilling reported in this ASX Release
	<i>The use of twinned holes.</i>	Nil
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Field data were recorded in a field laptop and then entered into a database.
	<i>Discuss any adjustment to assay data.</i>	No adjustments were made.
Location of data points	<i>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.</i>	Sample location is based on GPS coordinates +/-5m accuracy

	<i>Specification of the grid system used.</i>	The grid system used to compile data was MGA94 Zone 50
<i>Location of data points – continued</i>	<i>Quality and adequacy of topographic control.</i>	Topography control is +/- 10m.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	Auger & soil samples on 400m spaced lines with samples at 100m spacing
	<i>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.</i>	There is insufficient information to calculate a mineral resource
	<i>Whether sample compositing has been applied.</i>	Simple weight average mathematical compositing applied
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Drilling is angled -90 degrees (ZVCD079 drilled at -60 degrees dip) and based on current interpretation is thought to be representing true width thickness of the flat lying pegmatite zones however further drilling is required to confirm this interpretation.
	<i>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.</i>	No bias based on current interpretation of shallow to flat dipping lithium mineralisation
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	All samples were taken by Zenith personnel on site and retained in a secure location until delivered directly to the laboratory by Zenith personnel.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	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
<i>Mineral tenement and land tenure status</i>	<i>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.</i>	<p>Split Rocks exploration and prospecting licences are held by a wholly owned subsidiary of Zenith Minerals Limited. EV Metals Group (EVM) may earn a 60% interest in the lithium rights in two initial 100% owned Zenith projects Waratah Well and Split Rocks by sole funding the completion of a feasibility study within 24 months, with Zenith retaining a 40% project share.</p> <p>On and from completion of a feasibility study, Zenith and EVM will form a joint venture in respect of the project lithium rights. EVM will sole fund expenditure to a decision to mine, following which the parties will be required to fund future joint venture expenditure in accordance with their respective percentage shares. EVM must arrange all financing for the development, construction and commissioning of any future mine including Zenith's share. Zenith must repay its proportionate share of the project finance including interest from the sale of its proportionate share of minerals produced.</p>



		EVM to spend a minimum of A\$7M on exploration on the projects, in 24 months, before being able to voluntarily withdraw provided that if EVM does not complete a feasibility study within 24 months it will be deemed to have withdrawn and will not earn an interest in the project lithium rights. Refer ASX Release 14-Jan-22 for further details.
	<i>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.</i>	Tenements are exploration licences. There are no known impediments to obtaining a licence to operate in the area
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Refer to ASX release 21st March 2019 for details on the background of historic exploration activity.
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	Archaean pegmatite hosted lithium.
<i>Drill hole Information</i>	<i>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:</i>	Refer to Figures and Tables in body of text of this ASX release.
	<i>o easting and northing of the drill hole collar</i>	
	<i>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i>	
	<i>o dip and azimuth of the hole</i>	
	<i>o down hole length and interception depth</i>	
	<i>o hole length.</i>	
	<i>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.</i>	
<i>Data aggregation methods</i>	<i>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.</i>	No new drilling reported in this ASX Release
	<i>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 some typical examples of such aggregations should be shown in detail.</i>	No new drilling reported in this ASX Release
<i>Data aggregation methods continued</i>	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalents used.
<i>Relationship between mineralisation</i>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	No new drilling reported in this ASX Release

<i>widths and intercept lengths</i>	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	No new drilling reported in this ASX Release
	<i>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').</i>	No new drilling reported in this ASX Release
<i>Diagrams</i>	<i>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.</i>	Refer to Figures and Tables in body of text of this ASX release.
<i>Balanced reporting</i>	<i>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.</i>	Refer to Figures and Tables in body of text of this ASX release.
<i>Other substantive exploration data</i>	<i>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.</i>	No other meaningful or material exploration data to be reported at this stage.
<i>Further work</i>	<i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	Drill testing of the lithium geochemical targets planned
	<i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Refer to figures in body of this report.