

# XRD CONFIRMS HIGH SPODUMENE CONTENT AT ANDOVER SOUTH PROJECT

## **Highlights**

- **Spodumene confirmed** by X-ray diffraction ("**XRD**") **as the lithium bearing mineral** from Andover South Project samples
- Spodumene content up to 29% confirmed from initial samples
   (Azure Mineral's recent results indicated ~15% Spodumene from Andover discovery drill core)<sup>4</sup>
- Initial XRD analysis completed on three samples with reported grades of 2.22%, 0.98% and 0.37% Li<sub>2</sub>O<sup>1</sup>
- Subsequently reported<sup>1,2,3</sup> results from Andover South (those >2% Li<sub>2</sub>O) indicate potential for higher grades across a significant strike extent, including:
  - o **2.73% Li<sub>2</sub>O** sample R21532
  - o **2.70% Li<sub>2</sub>O** sample R21499
  - o **2.59% Li<sub>2</sub>O** sample R21596
  - o **2.44% Li<sub>2</sub>O** sample R21526
  - o **2.42% Li<sub>2</sub>O** sample R21896
  - 2.27% Li<sub>2</sub>O sample R21895
  - o **2.22% Li<sub>2</sub>O** sample R21160
  - o **2.14% Li<sub>2</sub>O** sample R21533
  - o 2.11% Li<sub>2</sub>O sample R21826
  - 2.07% Li<sub>2</sub>O sample R21631
- Reported XRD samples are located within the high-grade Li<sub>2</sub>O trend, within the central part of the pegmatite field which extends over 1.5km along strike
- Additional samples have been collected and will be submitted for further XRD analysis

ASX CODE: RDN DAX CODE: YM4

BOARD & MANAGEMENT

Non-Executive Chairman Mr Michael Davy

**Managing Director** Mr Dusko Ljubojevic

Non-Executive Director
Mr Dale Ginn

Non-Executive Director & Company Secretary Ms Kyla Garic

**Chief Operating Officer** Mr Warrick Clent

ASSET PORTFOLIO

SERBIA Cu & Au

BULGARIA Cu, Au & Ag

**AUSTRALIA** Li, Au, Cu, Ni & PGE



**Raiden Resources Limited (ASX: RDN FRA: YM4) ("Raiden" or "the Company")** is pleased to confirm high Spodumene content from initial results of X-ray diffraction ("**XRD**") analysis of Andover South project samples.

**Mr Dusko Ljubojevic, Managing Director of Raiden commented:** "The XRD analysis has confirmed our field interpretations and observations that Spodumene mineralisation is present and driving the Li<sub>2</sub>O values in our results. It is highly encouraging to see the similarities between these results and the similarities with the Azure discovery, where lithium mineralisation is also predominantly Spodumene related. We will be analysing further samples from the entire pegmatite field to gain further understanding of grade zonation and controls on spodumene distribution."

#### **XRD** analysis

Samples from the initial reconnaissance program in July were submitted to ALS Global Laboratories in Perth for semi-quantitative XRD analysis.

Samples with higher grade results (available at the time), were selected for analysis and which returned 2.22%, 0.98% and 0.37% Li<sub>2</sub>O values.

The XRD analysis reveals that Spodumene is the dominant lithium bearing mineral in the three (3) samples being reported.



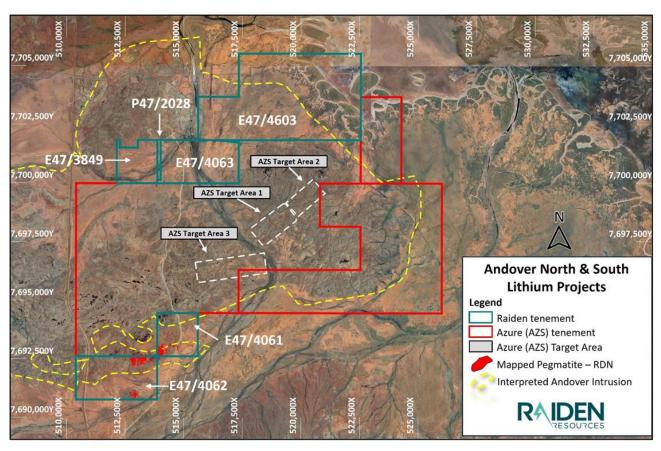


Figure 1: Raiden's Andover South Project and adjacent Azure Minerals Ltd.'s Andover Lithium project<sup>1</sup>

	Sample 1	Sample 2	Sample 3
Mineral or mineral group	R21160	R21163	R21168
		Mass %	
Li <sub>2</sub> O geochemistry analysis result (previously reported) <sup>1</sup>	2.22	0.98	0.37
Spodumene	29	3	4
Annite - biotite - phlogopite	1	1	0
Muscovite	4	1	1
Plagioclase	14	75	71
K-feldspar and/ or rutile	4	4	5
Quartz	48	15	19

Table 1: Summary of XRD Results – presented as percentages

Further observations from the analysis indicate that the samples contain **low content of micas**, which supports the theory that the **Li<sub>2</sub>O mineralisation is predominantly derived from Spodumene mineralisation** and unlikely to be associated with lithium bearing Micas, which were not defined by the XRD analysis from the samples submitted to date.



The reason for the variability in the range of the Spodumene content (3-29%), may relate to variable lithium content in the Spodumene minerals, potential weathering effects from outcropping material and potential alteration overprinting, but at this stage it is not clear and will be investigated further. Mineralogical studies will be undertaken in order to understand the size and distribution of Spodumene mineralisation, where the Company hopes to confirm coarse grained mineralisation.

In order to further the understanding of the mineralogy on Andover South and in order to assist with drill program planning, further XRD analysis and mineralogical evaluations will be undertaken.

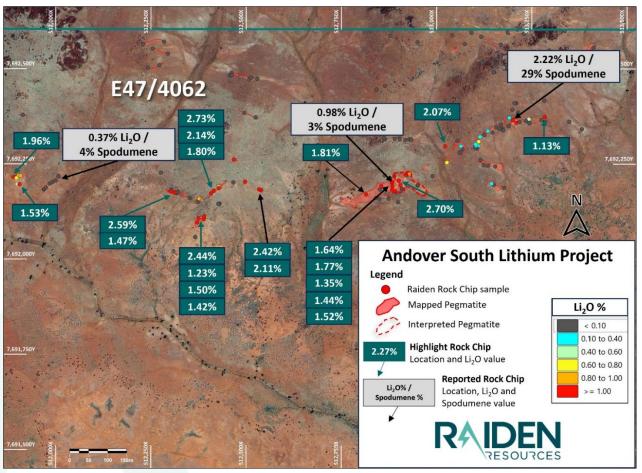


Figure 2: Spodumene and significant rock chip Li<sub>2</sub>O results within E47/4062 (Andover South Project)<sup>1,2,3</sup>









Rock sample R21160, collected from a 6-metrewide pegmatite outcrop

Pegmatite outcrop at rock sample R21160 location, with further pegmatite outcrops along strike (in background)

Rock sample R21163 on pegmatite outcrop

Figure 3: Photographs of the samples processed XRD analysis<sup>1</sup>

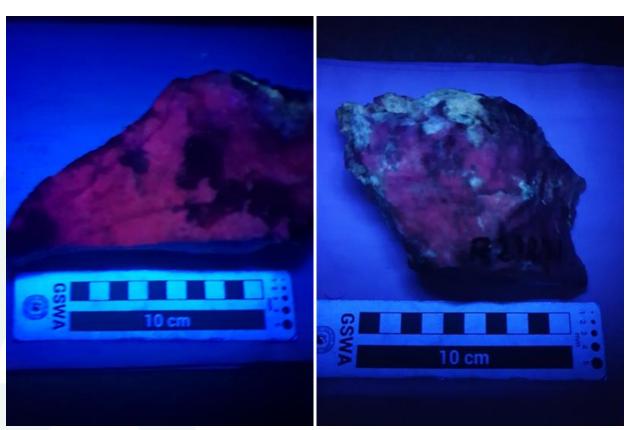


Figure 4: Previously released<sup>5</sup> samples from the Andover South project under UV light, indicating Spodumene mineralisation (note - these samples are not related to the current XRD analysis results)



The two samples in Figure 4 above (Sample R21830 (513060mE/7692431mN GDA94\_Z50E), and R21831 (513224mE/7692407mN GDA94\_Z50E), indicate that Spodumene mineralisation may be present.

In relation to the disclosure of visual mineralisation, the Company cautions that visual estimates of spodumene material abundance should never be considered a proxy or substitute for laboratory analysis. The Company will update the market when laboratory analytical results become available.

## This ASX announcement has been authorised for release by the Board of Raiden Resources Limited.

FOR FURTHER INFORMATION PLEASE CONTACT

#### **DUSKO LJUBOJEVIC**

**Managing Director** 

### **RAIDEN RESOURCES LIMITED**

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#### ASX Announcements referenced to directly in this release

<sup>1</sup>ASX:RDN 1 August 2023 Raiden defines high-grade lithium pegmatites at Roebourne

<sup>2</sup>ASX:RDN 19 September 2023 Andover High-grade Li<sub>2</sub>O samples & New 50m wide pegmatite

<sup>3</sup>ASX:RDN 10 October 2023 Highest grade Lithium & Rubidium results from Andover

<sup>4</sup>ASX:AZS 09 October 2023 Outstanding Metallurgical Results from Andover Lithium

<sup>5</sup>ASX:RDN 22 September 2023 General Meeting Presentation September 2023

The information in the referenced in announcements footnoted at 1 - 3 and 5 above that relate to exploration results have previously been released on the ASX. The Company confirms that it is not aware of any information or data that materially affects the information included in the market announcements, and that all material assumptions and technical parameters continue to apply. The Company confirm that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Competent Person's Statement The information in this announcement that relates to exploration results, is based on and fairly represents information and supporting documentation, and has been reviewed and approved by Mr Warrick Clent, a competent person who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Warrick Clent is employed by Raiden Resources Limited. Mr Warrick Clent has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code. Mr Warrick Clent has provided his prior written consent as to the form and context in which the exploration results and the supporting information are presented in this announcement.



## **Appendix**

**Table 1: Tenement Schedule** 

Tenement	Holder	Grant Date	Expiry	Area	RDN %
E47/4061		06/08/2019	05/08/2024	1BI	80%
E47/4062	Welsome Exploration Dtv	Appli	cation	2BI	80%
E47/4063	Welcome Exploration Pty Ltd	04/04/2019	03/04/2024	2BI	80%
E47/3849	Lta	16/07/2018	15/07/2028	1BI	80%
P47/2028		Appli	cation	23.5 Ha.	80%
E47/4603	Pilbara Gold Corporation Pty (Wholly owned subsidiary)	Application		7BI	100%

#### **Disclaimer:**

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)", "potential(s)"and similar expressions are intended to identify forwardlooking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forwardlooking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Investors are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and the Company does not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

#### **About Raiden Resources**

**Raiden Resources Limited** . (ASX:RDN / DAX:YM4) is a dual listed lithium, base metal—gold exploration Company focused on the Andover North-South; Mt Sholl and Arrow lithium projects. The Company also holds the rights to the advanced Mt Sholl nickel-copper-cobalt- PGE project in the Pilbara region of Western Australia. In addition, the Company holds the rights , as well as the emerging and prolific Western Tethyan metallogenic belt in Eastern Europe, where it has established a significant exploration footprint in Serbia and Bulgaria. The Directors believe the Company is well positioned to unlock value from this exploration portfolio and deliver a significant mineral discovery.



## JORC Code, 2012 Edition. Table 1

**Section 1 Sampling Techniques and Data** (Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Rock chip sampling taken opportunistically from pegmatite outcrop during a dedicated mapping and sampling program.</li> <li>Pegmatite was identified in outcrop.</li> <li>The rock chip samples were restricted to outcrop of potential pegmatitic rocks.</li> <li>Samples were dispatched to ALS Global Laboratories in Perth for analysis.</li> </ul>
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	In relation to this announcement no drilling has been conducted as yet and no drill assays are being reported
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	In relation to this announcement no drilling sampling has been conducted as yet and no drill assays are being reported



Criteria	JORC Code explanation	Commentary
	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.	
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	In relation to this announcement no drilling has been conducted as yet.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Rock chip samples were dispatched to ALS Global Laboratories in Perth for analysis using their ME_ICP89 &amp; ME_MS91 techniques.</li> <li>The laboratory reported the use of standards and blanks as part of the analyses for QA/QC for determination of Li2O content.</li> <li>The samples were collected opportunistic in nature and taken from insitu outcrop.</li> <li>Samples were approximately 1.6kg to 3.4kg in weight.</li> <li>The samples were considered generally representative of the outcrop being sampled</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times,</li> </ul>	<ul> <li>XRD analysis was conducted by ALS Mettallurgical Laboratory in Perth using sample pulps from previously analysed rock chip samples.</li> <li>The XRD methodology involved each sample being pressed into a back-packed sample holder to minimise preferred orientation of the particles.</li> </ul>



Criteria	JORC Code explanation	Commentary
	calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>Powder X-ray diffraction (XRD) was used to analyse each sample and a combination of matrix flushing and reference intensity ratio (RIR) derived constants was used in the quantification of the minerals identified in the sample.</li> <li>XRD Analytical Procedure <ul> <li>Panalytical Empyrean Radiation - Co Kα 1.789 Å</li> <li>XRD Generator - 40 kV 40 mA Angular Range - 5 to 77 °2θ</li> <li>Time/Step - 120 s</li> <li>Step Size - 0.0131 °2θ 8 Divergence Slit - 1°</li> <li>Anti-Scatter Slit - 7.5 mm</li> <li>Slit Type - Fixed</li> <li>Detector - PIXcel in linear mode</li> <li>Rotation Speed - 60 rpm</li> </ul> </li> <li>Rock chip samples were dispatched to ALS Global Laboratories in Perth for analysis using their ME_ICP89 &amp; ME_MS91 techniques.</li> <li>The laboratory reported the use of standards and blanks as part of the analyses for QA/QC.</li> <li>No standards or blanks were submitted by the company</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All significant assay results have been verified against the results reported by ALS Global Perth by two experienced company personnel.</li> <li>All primary data has been uploaded into the company's data storage with standard data entry protocols checked and verified by two experienced company personnel.</li> </ul>



Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Sample points were determined by hand held GPS which is considered appropriate for the reconnaissance nature of the sampling.</li> <li>Co-ordinates are provided in the Geocentric Datum of Australia (GDA94) Zone 50.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Not applicable due to the reconnaissance nature of the sampling.</li> <li>No attempt has been made to demonstrate geological or grade continuity between sample points.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	Not applicable
Sample security	The measures taken to ensure sample security.	• For the current sampling program the sample chain of custody is managed by Raiden. All samples were collected in the field at the project site in number-coded calico bags/secure labelled polyweave sacks by Raiden's geological and field personnel. All samples were delivered directly to the associated carrier, RGR Road Haulage, by Raiden personnel before being transported to the ALS laboratory in Perth WA for final analysis.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No review of the sampling techniques has been undertaken.



## **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Raiden Resources Ltd tenements are located in the City of Karratha, within the Pilbara region of Western Australia.</li> <li>Refer to Appendix 1, Tenement Schedule</li> <li>Tenements E47/4061, E47/4063, and E47/3849 are granted tenure while E47/4062 and P47/2028 are in the application stage.</li> <li>Tenements are located on the Mt Welcome pastoral lease.</li> <li>Raiden is not aware of any existing impediments nor of any potential impediments which may impact ongoing exploration and development activities at the project sites.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>A search and compilation of historic exploration has been completed.</li> <li>Work included stream sediment, soil and rock sampling, geological mapping, and geophysical surveys.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Potential for lithium-caesium-tantalum bearing pegmatite mineralisation.</li> <li>Andover Project geological setting – previous explorers considered the area to be part of the Ruth Well Formation (Mafic and ultramafic volcanic and intrusive rocks; minor chert; metamorphosed), however a recent interpretation by the company shows that the rocks of the Andover Intrusion/Complex (Archean-age mafic-ultramafic intrusion) extend under cover further to the north</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>than previously suggested.</li> <li>It is further interpretated that the source of mineralising fluids for the lithium pegmatites are sourced from nearby felsic intrusive bodies, these being the Black Hill Well Monzogranite for the Andover Project area.</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	Not applicable
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent</li> </ul>	Not applicable
Relationship between	<ul> <li>values should be clearly stated.</li> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	Not applicable



Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	
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.	Maps are included in the body of the announcement.
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.	<ul> <li>All reported results from other companies are as they have been released to the ASX and are referenced at the end of this announcement.</li> <li>This announcement discusses the findings of recent reconnaissance sampling and associated assays.</li> </ul>
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.	<ul> <li>The underlying aeromagnetic data that forms the basis for reinterpretation of the Andover Complex rocks, as described in the body of previous announcements by Raiden, was sourced from open file GSWA data available through the MAGIX system at:</li> <li><a href="https://geodownloads.dmp.wa.gov.au/downloads/geo-physics/72204/WA_Magnetics_40m/">https://geodownloads.dmp.wa.gov.au/downloads/geo-physics/72204/WA_Magnetics_40m/</a></li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Raiden are currently planning further detailed mapping/sampling programs to further assess the potential for lithium-bearing pegmatites over its Andover Project to assist in drill planning, as well as further mineralogical and XRD analysis of further samples across the pegmatite field.