

# Soil Geochemistry update at Phillips River Lithium Project.

## Highlights

- **Five laterally persistent soil geochemistry anomalies for lithium were identified at Phillips River.**
- **The comprehensive ultrafine fraction soil program collected 727 samples and 13 rock chips.**
- **The program aimed to define potential pegmatite-hosted mineralisation in areas marginal to Bulletin Resource's Phillips South Lithium discovery.**

Five laterally persistent soil geochemistry anomalies for lithium (Figure 1) were identified at Summit Minerals Limited (ASX: SUM, "Summit" or the "Company") 100% owned Phillips River Project, located 2.5 km southeast of Bulletin Resources (ASX: BNR) Phillips South lithium discovery and its Ravensthorpe Lithium Project.

Summit's Phillips River project is considered prospective as it includes parts of the Annabelle volcanic sequence, which hosts the spodumene-bearing pegmatites at BNR and Alkem's Mt Cattlin Lithium mine and processing plant 20km to the north.

The observed low tenor anomalies correspond with two deeply weathered settings. Those with a distinctive north-westerly linear trend lie over interpreted, similarly trending, generally thin dacitic porphyry dykes that invade the Manyutup Tonalite Complex. Those with a subtle north-to-northeasterly trend located in the project's southern half lie over remnants of the substantially younger Pallinup Siltstone that previously mantled much of the landscape in the Ravensthorpe area.

## Work Program

Summit, via XM Logistics, collected 727 soil samples and 13 rock chips across the surveyed area. The ultrafine soils program was conducted at 100 m centres on 400 m spaced lines. Rock chips were taken where outcropping rocks presented something unusual. The rock chip samples failed to yield any significant results.

The full suite of multielement, ultrafine fraction soil assays have also been received. Interpretation of the multielement geochemistry has confirmed the presence of intrusive-related mineralisation, with the observed subtle Li and associated pathfinder enrichment corresponding with interpreted dacitic dykes rather than pegmatite in one setting and with remnants of Pallinup Siltstone in another. In both settings, the rocks are often profoundly weathered and extensively leached.

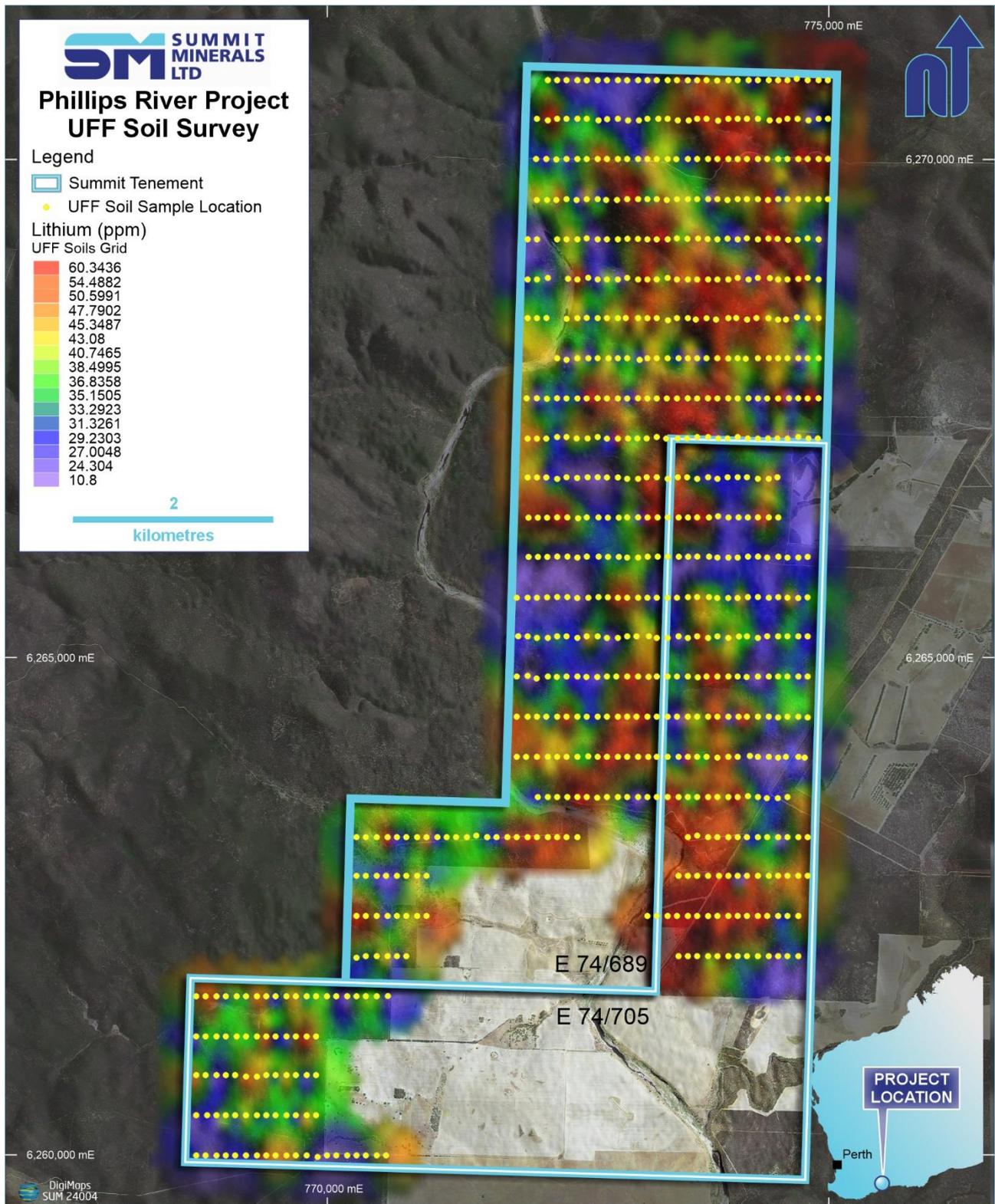


Figure 1 – Lithium geochemistry in the ultrafine soils survey completed at Phillips River.

Spodumene can readily weather when exposed to surface conditions, losing primarily its Li content, which can then be deposited in the lower parts of the landscape. This process may explain the subtle enrichments preserved in the Palilup Siltstone, which generally sits topographically below the Annabelle Volcanics which host spodumene-bearing pegmatite near Ravensthorpe.

### Forward Work Program

The Company has yet to fully consider the results against the baseline geology and geophysical data, including several features delineated in the recent high-resolution magnetic survey and ALOS-1, WorldView3, and Sentinel-2 infrared [VNIR] and shortwave infrared [SWIR] imagery. It will do so before deciding whether to move onto its next field program.

Approved for release by the Board of Summit Minerals Limited.

– ENDS –

### For More Information:

#### Summit Minerals

#### Contact

[gower.he@summitminerals.com.au](mailto:gower.he@summitminerals.com.au)

T: +61 8 9426 0666

#### Jane Morgan

#### Media & Investor Relations

[jm@janemorganmanagement.com.au](mailto:jm@janemorganmanagement.com.au)

T: +61 405 555 618

Additional information is available at [www.summitminerals.com.au](http://www.summitminerals.com.au).

### **About Summit Minerals Limited**

Summit Minerals Limited is an Australian-focused ASX-listed battery mineral exploration Company with a portfolio of projects in demand-driven commodities. It is focused on systematically exploring and developing its projects to delineate multiple JORC-compliant resources.

Summit Minerals' projects include the Niobium-Tantalum-Lithium projects in Brazil, the Castor Lithium Project in the prolific James Bay District, Quebec, Canada; the Stallion REE-Uranium Project in Ponton Creek, WA; and the Phillips River Lithium Project in Ravensthorpe, WA. Through focus, diligence, and execution, the board of Summit Minerals is determined to unlock previously unrealised value in our projects.

### **Competent Person Statement**

The information related to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on data compiled by Jonathan King, a Competent Person and Member of The Australian Institute of Geoscientists. Jonathan King is a director of Geoimpact Pty Ltd. Jonathan King 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 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Jonathan King consents to the inclusion in presenting the matters based on his information in the form and context in which it appears.

### **Forward-Looking Statements**

This announcement contains 'forward-looking information based on the Company's expectations, estimates and projections as of the date the statements were made. This forward-looking information includes, among other things, statements concerning the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by using forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions and that the Company's results or performance may differ materially. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance, or achievements to materially differ from those expressed or implied by such forward-looking information.

# Appendix 1: JORC Code, 2012 Edition- Section 1- Phillips River Lithium Project

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Comment
<b>Sampling techniques</b>	<input type="checkbox"/> 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.	Soil samples were taken in undisturbed ground. The surface was scrapped clear of organic material before the hole was centred and dug. Digging was pushed beyond any roots or organic material until a salt precipitation horizon was intersected. The soil media was collected at this point and sieved to - 1mm with 200 grams taken for further processing by the laboratory as part of the Ultrafines+ technique.
	<input type="checkbox"/> Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples were generally taken between 30 to 50 cm below the natural surface, wherever the salt encrustation was encountered.
	<input type="checkbox"/> 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 (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.	Industry-standard work  Sampling was restricted to beneath any organic material and where salt precipitates accumulated in the profile.
<b>Drilling techniques</b>	<input type="checkbox"/> 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).	No drilling performed
<b>Drill sample recovery</b>	<input type="checkbox"/> Method of recording and assessing core and chip sample recoveries and results assessed.	No drilling
	<input type="checkbox"/> Measures taken to maximise sample recovery and ensure representative nature of the samples.	No drilling
	<input type="checkbox"/> 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.	No drilling
<b>Logging</b>	<input type="checkbox"/> 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.	No drilling
	<input type="checkbox"/> Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	No drilling
	<input type="checkbox"/> The total length and percentage of the relevant intersections logged.	No drilling

Criteria	JORC Code explanation	Comment
<b>Sub-sampling techniques and sample preparation</b>	<input type="checkbox"/> If core, whether cut or sawn and whether quarter, half or all core taken.	200g of -1mm material collected and provided to LabWest.
	<input type="checkbox"/> If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	No drilling
	<input type="checkbox"/> For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were dried and pulverised
	<input type="checkbox"/> Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Lab inserted certified standards to monitor performance.
	<input type="checkbox"/> 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.	Assay results passed the company's internal QAQC process
<input type="checkbox"/> Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes were considered appropriate for the grain size of the sampled material.	
<b>Quality of assay data and laboratory tests</b>	<input type="checkbox"/> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	A certified laboratory, Labwest using their proprietary UltraFines+ analytical technique, was used on all samples submitted. LabWest technique - MMA04 - microwave-assisted, HF-based digestion with ICP-MS determination for 62 elements
	<input type="checkbox"/> 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 instruments used
	<input type="checkbox"/> 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.	Laboratory-certified standards were inserted at regular intervals, and some duplicate analyses were performed for QC checks.
<b>Verification of sampling and assaying</b>	<input type="checkbox"/> The verification of significant intersections by either independent or alternative company personnel.	No verification was undertaken
	<input type="checkbox"/> The use of twinned holes.	No soils were duplicated or replicated.
	<input type="checkbox"/> Discuss any adjustment to assay data.	No adjustments identified
<b>Location of data points</b>	<input type="checkbox"/> 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.	Soil samples were surveyed by a handheld GPS with 5m accuracy.
	<input type="checkbox"/> Specification of the grid system used.	MGA94 Zone 51
	<input type="checkbox"/> Quality and adequacy of topographic control.	GPS data was used to provide topographic control
<b>Data spacing and distribution</b>	<input type="checkbox"/> Data spacing for reporting of Exploration Results.	Sampling was conducted on a 400m line-spaced grid and sampled on 100 m centres. Line lengths varied. Data spacing is suitable for early exploration reporting of results.

Criteria	JORC Code explanation	Comment
	<input type="checkbox"/> 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.	No resource has been identified at this point.
	<input type="checkbox"/> Whether sample compositing has been applied.	No composite sampling
<b>Orientation of data in relation to geological structure</b>	<input type="checkbox"/> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	No mineralisation has been identified. The sampling was controlled by a MGA north-south grid. The underlying trends generally crosscut obliquely to the grid, so some bias may be introduced, but this is considered acceptable in first-pass exploration
	<input type="checkbox"/> 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.	No drilling
<b>Sample security</b>	<input type="checkbox"/> The measures taken to ensure sample security.	The samples were delivered by the company personnel directly to LabWest in Perth.
<b>Audits or reviews</b>	<input type="checkbox"/> The results of any audits or reviews of sampling techniques and data.	No audits were conducted.

## Appendix 1: JORC Code, 2012 Edition- Section 2 – Phillips River Lithium Project

### Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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> </ul>	<p>The Phillip River Project comprises two granted Exploration Licenses (74/689 and 74/705) for an area of ~43sqkm.</p> <p>The project is between the southern Fitzgerald River National Park and the Cocanarup Timber Reserve in the north.</p> <p>The area is subject to the Wagyl Kaip &amp; Southern Noongar Indigenous Land Use Agreement</p>
	<ul style="list-style-type: none"> <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>	The tenements are held by Summit subsidiary Target Metals Pty Ltd.
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Minimal previous exploration has taken place across the project area.

Criteria	JORC Code explanation	Commentary
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	The Phillips River Lithium Project area is underlain principally by two related rock packages the Manyutup Tonalite and the Annabelle volcanic sequence. The latter hosts lepidolite and spodumene-bearing LCT-pegmatites, which also host the Mt Cattlin Lithium mine and processing plant 20km to the north. Summit believes an opportunity exists to discover economic quantities of spodumene mineralisation within the Annabelle Volcanics on their ground, particularly as the potential is preserved under shallow cover.
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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:</li> </ul>	No drilling
	<ul style="list-style-type: none"> <li>o easting and northing of the drill hole collar</li> </ul>	MGA94 Zone 51 co-ordinates were used
	<ul style="list-style-type: none"> <li>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	GPS data was used for elevation control
	<ul style="list-style-type: none"> <li>o dip and azimuth of the hole</li> </ul>	No drilling
	<ul style="list-style-type: none"> <li>o down hole length and interception depth</li> </ul>	No drilling
	<ul style="list-style-type: none"> <li>o hole length.</li> </ul>	No drilling
	<ul style="list-style-type: none"> <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
<b>Data methods</b>	<ul style="list-style-type: none"> <li>aggregation</li> <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> </ul>	No drilling or data aggregation methods applied
	<ul style="list-style-type: none"> <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> </ul>	No drilling or data aggregation methods applied

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No metal equivalents were calculated.
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	No mineralisation identified
	<ul style="list-style-type: none"> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	No drilling
	<ul style="list-style-type: none"> <li>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').</li> </ul>	No drilling
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	A relevant diagram is included within the body of the report.
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	The low tenor of the results has downgraded the prospectivity of the project.
		Summary statistics are presented in Table 1.
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	Not relevant.
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> </ul>	The Company has yet to fully consider the results against the baseline geology and geophysical data, including several features delineated in the recent high-resolution magnetic survey and ALOS-1, WorldView3, and Sentinel-2 infrared [VNIR] and shortwave infrared [SWIR] imagery. It will do so before moving into its next field program.
	<ul style="list-style-type: none"> <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>	Anomalous lithium distribution in the soils displays a northwesterly trend, which coincides with dacitic dykes. Elsewhere, the weak northerly to north-northeast trends correspond with remnants of substantially younger Pallinup Siltstone and are irrelevant for further consideration.



[info@summitminerals.com.au](mailto:info@summitminerals.com.au)



L1/389 Oxford Street Mount Hawthorn WA 6016



[www.summitminerals.com.au](http://www.summitminerals.com.au)