

8 NOV 2022

# WIDESPREAD RECOGNITION OF SINTER UNDERPINS CASE FOR BAULOORA EPITHERMAL SYSTEM PRESERVATION

Sinter related lithology over 5.6km with gold observed at the Quarry Prospect

# **Highlights**

- Petrographic analysis (the study of the mineral content and the textural relationships within rocks) supports geological mapping of widespread sinter related lithology over the 27km<sup>2</sup> low sulphidation epithermal vein field.
- Sinter is a sedimentary rock primarily composed of silica that is precipitated at or near surface from hot waters at the vents of hot springs and geysers.
- The presence of widespread sinter over 5.6km strongly supports Legacy Minerals interpretation that the footprint of a large epithermal gold system is preserved at depth at the Bauloora Project.
- Previous geochemistry samples from the Breccia Sinter Prospect have returned some of the highest gold results across the Bauloora Project to date:

Prospect	Sample Number	Au g/t	Ag g/t	Sb ppm
Breccia Sinter	2966	32.2	196	120
Breccia Sinter	2951	17.75	8.34	28
Breccia Sinter	2965	16.25	162	114

### **Management Comment Legacy Minerals Managing Director, Christopher Byrne said:**

"Following on from our successful use of satellite hyperspectral data at Bauloora, and our drive to unpack the scale and potential of this system, we are extremely pleased with the outcome of the petrographic examination.

This is the first-time petrography has been done on these prospects and the results, along with the high-grade gold found in previous rock chip sampling, have strongly reinforced our belief that we are sitting on a large, preserved epithermal gold system. This sinter preservation is a key part in the potential size of the Bauloora Project with similar sinter geology seen at many world class epithermal gold deposits.

As evidenced by the broad epithermal minerology and mapped vein scale, the epithermal system is extensive. For Legacy Minerals our next steps are to incorporate this new information into our geological understanding with a view to refining priorities across our high conviction drill targets."



Legacy Minerals Holdings Limited (ASX: **LGM**, "**LGM**", "**the Company**" or "**Legacy Minerals**") is pleased to announce the resent petrography across the Bauloora Gold-Silver low-sulphidation epithermal project (Bauloora) has confirmed the presence of siliceous sinter.

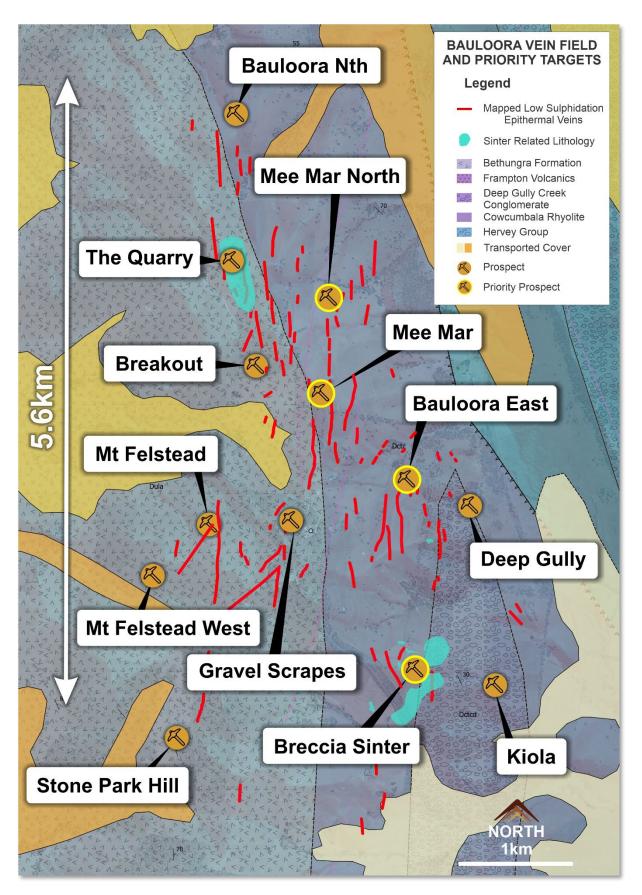
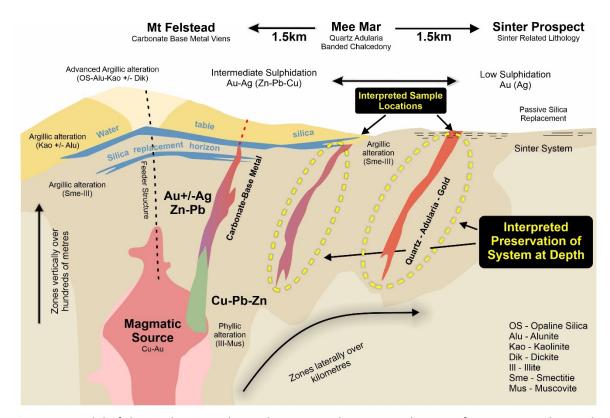


Figure 1: Bauloora Project targets and sinter locations





**Figure 2:** Sinter outcrop at the Breccia Sinter Prospect, and inserts showing sinter related lithology sample 4241 of the Breccia Sinter Prospect and sample 4242 from the Quarry Prospect. Samples show dominant light and dark grey chalcedonic-quartz banding with yellow to light brown oxides after possible iron-carbonate.



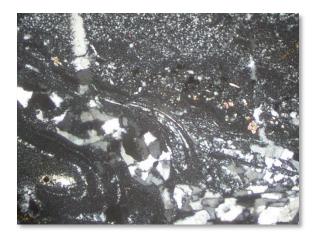
**Figure 3**: Model of the Bauloora Epithermal Project and interpreted zones of preservation beneath sinter horizons



## **Petrology Report Extracts**

#### Sample 4241 Thin Section

<u>Summary</u>: Thinly layered, fine grained siliceous chemical sedimentary rock, considered as a possible hot spring sinter product. Layers are sub-planar, but locally disrupted (micro-breccia zones) and range from ultrafine ('cherty") to finely recrystallised, as well as some containing minor layer silicate material (e.g. illite-sericite). In places, colloform banded texture and small crystalline infill zones occur. In many of the recrystallised layers, there are zones of vein-like and irregular recrystallisation, grading locally into small zones of hydrothermal breccia. Layering is also cut at high and low angles by sub-planar veining, with infill fine to medium grained quartz having typical "epithermal" texture.





**Figure 4:** Thinly layered siliceous sedimentary rock containing illite-sericite (yellowish), zones of hydrothermal guartz infill (field view of 2mm across)

# Sample 4242 Polished Thin Section

Summary: Fine grained siliceous rock, considered to possibly represent an original chemical sedimentary type, perhaps formed as a hot spring precipitate (e.g. silica sinter). It is massive to locally layered, including having crustiform growth textures in places. The rock is dominated by quartz, ranging from ultrafine through to finely recrystallised to granular aggregates, and to zones in which there has been substantial hydrothermal overprinting, resulting in replacement and network and sub-planar veining by fine to medium grained "epithermal texture" quartz. In a few places, the rock has scattered aggregates of a fine-grained layer silicate phase, e.g. illite-sericite, as well as having contained rare small grains of pyrite. The imposition of supergene alteration led to any pyrite being leached out, forming voids, or being replaced by goethite. A few thin goethite-filled fractures occur, one of which has a single grain ~15 µm across of gold.



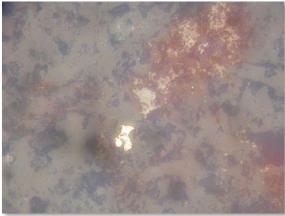


Figure 5: Goethite-impregnated illite-sericite aggregates (orange) hosted in very fine grained quartz and adjacent to a quartz vein (lower) (left image field of view 2mm across) and single grain of gold  $\sim$ 15  $\mu$ m across associated with small aggregates of supergene goethite (grey to orange) (right image field of view 0.25mm across)



# **Regional Setting in the Lachlan Fold Belt**

The Bauloora Project is located in the Central Lachlan Fold Belt NSW, which is host to world-class copper-gold orebodies including the Cadia-Ridgeway, Northparkes, and Cowal Mines. It is in a zone which is bounded to the west by the Gilmore Fault Zone and to the east by the Cootamundra Fault. Bauloora contains structural remnants of Early Silurian dominantly dacitic volcanic rocks and related granites, Siluro-Devonian sediments and felsic volcanic rocks deposited on a basement of Late Ordovician turbidites, Late Ordovician to Early Silurian intermediate volcanic rocks and related intrusions and sedimentary rocks.

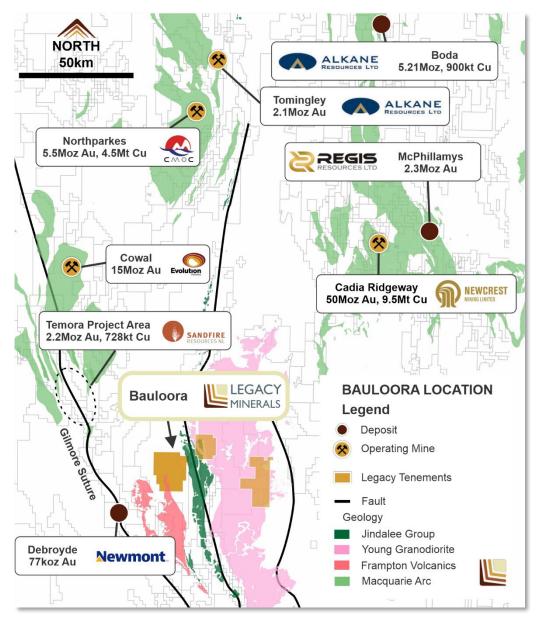


Figure 6: Regional setting of the Bauloora Epithermal Project

#### LEGACY MINERALS INTERACTIVE INVESTOR HUB

Engage with us directly by asking questions, watching video summaries, and seeing what other shareholders have to say about this and past announcements at our Investor Hub

https://investorhub.legacyminerals.com.au/



#### Approved by the Board of Legacy Minerals Holdings Limited.

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#### DISCLAIMER AND PREVIOUSLY REPORTED INFORMATION

Information in this announcement is extracted from reports lodged as market announcements referred to above and available on the Company's website <a href="https://legacyminerals.com.au/">https://legacyminerals.com.au/</a>. The Company confirms that it is not aware of any new information that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

This announcement contains certain forward-looking statements. Forward looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside of the control of Legacy Minerals Holdings Limited (LGM). These risks, uncertainties and assumptions include commodity prices, currency fluctuations, economic and financial market conditions, environmental risks and legislative, fiscal or regulatory developments, political risks, project delay, approvals and cost estimates. Actual values, results or events may be materially different to those contained in this announcement. Given these uncertainties, readers are cautioned not to place reliance on forward-looking statements. Any forward-looking statements in this announcement reflect the views of LGM only at the date of this announcement. Subject to any continuing obligations under applicable laws and ASX Listing Rules, LGM does not undertake any obligation to update or revise any information or any of the forward-looking statements in this announcement to reflect changes in events, conditions or circumstances on which any forward-looking statements is based.

#### COMPETENT PERSON'S STATEMENT

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Thomas Wall, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Wall is the Technical Director and a full-time employee of Legacy Minerals Pty Limited, the Company's wholly owned subsidiary, and a shareholder of the Company. Mr Wall has sufficient experience that is relevant to the style of mineralisation and type of deposit 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. Mr Wall consents to the inclusion in the report of the matters based on his information in the form and context in which it appears in this announcement.

#### **REFERENCED DOCUMENTS**

Company's Prospectus dated 28 July 2021 lodged 9 September 2021 (ASX: LGM)



# **About Legacy Minerals**

Legacy Minerals is an ASX listed public company that has been involved in the acquisition and exploration of gold, copper, and base-metal projects in the Lachlan Fold Belt since 2017. The Company has six wholly owned and unencumbered tenements that present significant discovery opportunities for shareholders.

#### Au-Cu (Pb-Zn) Cobar (EL8709, EL9256)

Undrilled targets next door to the Peak Gold Mines with several priority geophysical anomalies Late time AEM conductors, IP anomaly, and magnetic targets Geochemically anomalous - gold in lag up to 1.55g/t Au.

#### Au-Ag Bauloora (EL8994, EL9464)

A 27km² hydrothermal alteration area containing low-sulphidation epithermal-style gold silver targets. Historical bonanza grades at the Mt Felstead Prospect included face sampling up to 3,701g/t Ag, 6.9g/t Au, 29% Pb, 26% Zn, and 6.4% Cu.

#### Cu-Au Rockley (EL8296)

Prospective for porphyry Cu-Au and situated in the Macquarie Arc Ordovician host rocks the Project contains historic high-grade copper mines that graded up to 23% Cu.

#### Au Harden (EL8809, EL9257)

Large historical high-grade quartz-vein gold mineralisation open along strike and down plunge. Significant drill intercepts include 3.6m at 21.7g/t Au 116m and 2m at 17.17g/t Au from 111m.

#### Au-Cu Fontenoy (EL8995) EARTH AI-Alliance

The Project exhibits a greater than 8km long zone of Au and Cu anomalism **defined** in soil sampling and drilling. Significant drill intercepts include **79m at 0.27% Cu** from 1.5m with numerous untested anomalies along the 8km strike length.

## Sn-Ni-Cu Mulholland (EL9330) EARTH Al-Alliance

Associated polymetallic mineralisation. There are several tin and nickel occurrences in the Project area with trends up to 2.6km defined in drilling. Significant drill intercepts include **44m at 0.45% Ni.** 

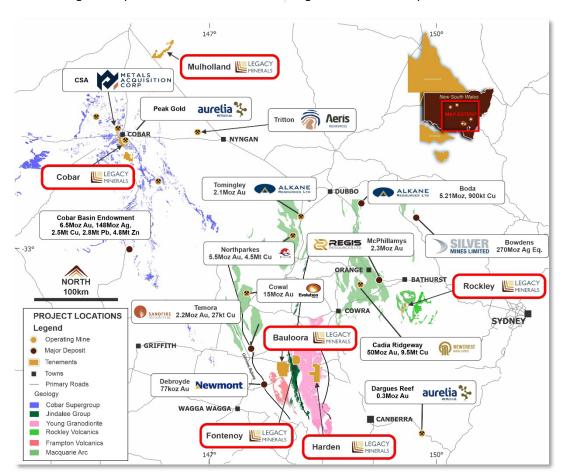


Figure 7: Legacy Minerals Tenements, NSW, Australia



# Appendix 2 – JORC Code, 2021 Edition Table 1

**Section 1 Sampling Techniques and Data** 

Section 1 Sa	mpling Techniques and Data	
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.	Rock samples taken from the Quarry and the Breccia Sinter Prospects. Samples were not assayed.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples are representative of the textural features from the areas in which they are 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.	Not applicable. No assays being reported.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diametre, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	Not Applicable. No drilling conducted.
	Method of recording and assessing core and chip sample recoveries and results assessed.	Not Applicable. No drilling conducted.
Drill sample	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Not Applicable. No drilling conducted.
recovery	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.	Not Applicable. No drilling conducted.
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.	Not applicable. No drilling conducted.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Not applicable. No drilling conducted.
	The total length and percentage of the relevant intersections logged.	Not Applicable. No drilling conducted.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Not applicable. No assays being reported.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Not applicable. No assays being reported.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Not applicable. No assays being reported.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Not applicable. No assays being reported.
	Measures taken to ensure that the sampling is representative of the in-situ material collected,	Not applicable. No assays being reported.



	including for instance results for field duplicate/second-half sampling.	
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Not applicable. No assays being reported.
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.	Not applicable. No assays being reported.
	For geophysical tools, spectrometres, handheld XRF instruments, etc, the parametres used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Not applicable. No assays being reported.
Verification of sampling and assaying	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.	Not applicable. No assays being reported.
	The verification of significant intersections by either independent or alternative company personnel.	Not applicable. No assays being reported.
	The use of twinned holes.	Not applicable. No assays being reported.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Not applicable. No assays being reported.
	Discuss any adjustment to assay data.	Not applicable. No assays being reported.
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.	Not applicable. No assays being reported.
	Specification of the grid system used.	Not applicable. No assays being reported.
	Quality and adequacy of topographic control.	Not applicable. No assays being reported.
Data spacing and	Data spacing for reporting of Exploration Results.	Not applicable. No assays being reported.
distribution	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. Whether sample compositing has been applied.	Not applicable. No assays being reported.
	Whether sample compositing has been applied.	Not applicable. No assays being reported.
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.	Not applicable. No assays being reported.
	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.	Not applicable. No assays being reported.
Sample	The measures taken to ensure sample security.	Not applicable. No assays being reported.
security		
Audits or		

# Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding section)



Mineral Tenement and Land Status  Exploration Done by Other Parties	Type, name/reference number, location and ownership including agreements or material issues with third parties including joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.  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.  Acknowledgment and appraisal of exploration by other parties.	The Bauloora Project is comprised of EL8994. The license is owned 100% by Legacy Minerals Pty Ltd (a fully owned subsidiary of Legacy Minerals Holdings Limited). There are no royalties or encumbrances over the tenement areas.  The land is primarily freehold land. There are no native title interests in the license area.  Teck Exploration - conducted mapping, IP geophysics, rock chip sampling, diamond and RC drilling. BP Minerals/MM&S - conducted detailed mapping, geochemical sampling and AC drilling. Billiton Australia -
		conducted mapping, IP geophysics, rock chip sampling.  North Limited – rock chip sampling, soil sampling, drilled  AC and RC holes. Robust Resources – soil sampling  diamond and RC drilling. Bushman Resources – Rock chip  sampling
Geology	Deposit type, geological setting and style of mineralisation	Known mineralisation at the Bauloora project sits within the Silurian Frampton Volcanics and Devonian Bethungra Formation, Cowcumbala Rhyolite and Deep Gully Creek Conglomerate. The project is considered prospective for low-sulphidation epithermal style gold-silver and basemetal mineralisation.
Drill hole Information	A summary of all information material to the understanding of the exploration results including tabulation of the following information for all Material drill holes:  • Easting and northing of the drill hole collar •Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • Dip and azimuth of the hole • Down hole length and interception depth • Hole length	Not Applicable. No drilling.
	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.	Not Applicable. No drilling.
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.	Not applicable. No aggregation.
	Where aggregated 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.	Not applicable. No aggregation.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Gold is deemed to be the appropriate metal for equivalent calculations as gold is the most common metal to all mineralisation zones.
		Bauloora gold reported equivalents are based on assumptions: AuEq(g/t)= Ag(g/t)+49*Zn(%)+32*Pb(%) and ZnEq(%)= Zn(%)+0.021*Ag(g/t)+0.648*Pb(%) calculated from 31 August 2022 spot prices of US\$1,710/oz gold, US\$18.88/oz silver, US\$3,540/t zinc, US\$7,719/t copper, US\$1,949/t lead and metallurgical recoveries of 88.3% gold, 96.9% silver, 97.4%, zinc, 94.6% copper, and 95.5% lead which is 3rd stage rougher concentration stage



		average recoveries in test work commissioned by LGM and reported in the ASX announcement dated 4 July 2022 titled "Exceptional Gold-Silver-Lead-Zinc Recoveries at Bauloora". It is LGM's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.  The mineralisation intercepted in the historical Mee Mar RC drilling indicates strong similarities to that intercepted at Mt Felstead. The close proximity of Mee Mar and Mt Felstead Prospects to one another, the high base metal and precious metal values and their association with vein breccia textures gives confidence in reporting metal equivalents based on the metallurgical test work conducted at Mt Felstead.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of exploration results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.	Not applicable. No drilling.
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 plane view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.  A prospect location map are shown in the Company's Prospectus dated 28 July 2021 and within the body of this report.
Balanced Reporting	Where comprehensive reporting of all Exploration Results is not practical, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All assay results have been reported.  Reports on historical exploration can be found in the Company's Prospectus dated 28 July 2021.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observation; 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.	Paul Ashley Petrographic and Geological Services were engaged to conduct petrographic analysis for the Company. The two samples from Bauloora were from outcrops of siliceous rock within the Cowcumbala Rhyolite of early Devonian age (samples 4241 and s4242).  Polished thin sections (PTS) were prepared from six samples (4234-4238, 4242), with the remainder (4239-4241) being prepared into standard thin sections (TS) by Thin Section Australia Pty Ltd in Brisbane. The PTS were subsequently examined microscopically in transmitted and reflected light, and TS in transmitted and oblique reflected light and photomicrographs were taken of representative textures and mineralogy. The samples were measured for magnetic susceptibility, with all having low to negligible susceptibility. Several section offcuts were tested with dilute HCl to check carbonate speciation.
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). 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 body of report.  See figures in body of report.  Further exploration is discussed in the announcement and will be planned based on ongoing geochemical and geophysical results and geological assessment of prospectivity.

