

December 5, 2024

### **CSIRO Collaboration Recommends Extending R&D Program**

#### **HIGHLIGHTS**

- Tambourah has received the final report from the collaboration with CSIRO (Australia's national science agency) which recommends expanding the R&D program.
- Tambourah commissioned new HyVista, HyMap hyperspectral surveys in August 2024 over the Haystack Well and Shaw River Projects. This data is currently being interpreted.
- These studies were supported by a \$160,588 Federal Government Research & Development ("R&D") Tax Incentive payment, emphasising the importance of the work undertaken by Tambourah at the Haystack Well and Russian Jack Projects.

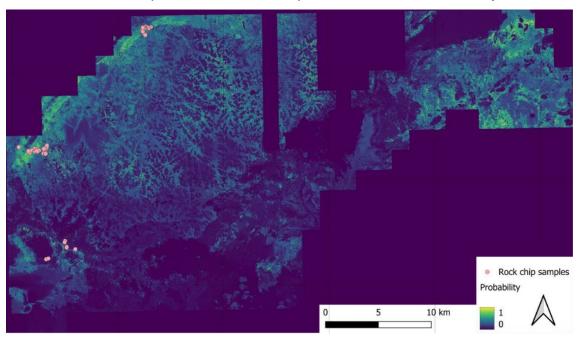


Figure 1: "LCT Pegmatite Probability Map" at Haystack Well and Russian Jack Projects using composite hyperspectral image<sup>1</sup>

Tambourah Metals Ltd (ASX: **TMB**) is pleased to announce the results of the machine learning partnership ("Partnership") with Australia's national science agency, CSIRO and the follow up work conducted at Tambourah's Pilbara Tin and Lithium Projects. The collaborative research involved integration of advanced geospatial datasets (including hyperspectral data) with field sample data and using machine learning to identify potential target zones and significantly reduce the search space. The Shaw River and Haystack Well projects are well-suited to the application of airborne hyperspectral mapping that can effectively cover large areas of outcrop and can identify specific mineralogy related to LCT pegmatites.

<sup>&</sup>lt;sup>1</sup> Zhang et al, Leveraging Supervised Machine Learning to Enhance Critical Mineral Discovery in the Pilbara



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#### **CEO Nic Matich commented:**

"Tambourah would like to thank the CSIRO for the opportunity to collaborate on the research and development program to identify LCT Pegmatites within our projects and look forward to utilising the newly acquired hyperspectral data in our own research and development work at Shaw River and Haystack Well."

### **Haystack Well and Russian Jack**

The CSIRO Partnership highlighted a zone of potential LCT Pegmatites to investigate on the margins of the Bonney Downs Monzogranite (Figure 1). The program initially used reprocessed hyperspectral data and Tambourah LCT pegmatite field sampling at Russian Jack<sup>2</sup>.

In July 2023, Tambourah acquired the Shaw River and Haystack Well projects, which have historic alluvial tin and tantalum workings, from Minrex Resources Ltd (ASX: MRR)<sup>3</sup>. Following the R&D collaboration with CSIRO, Tambourah commissioned HyVista HyMap hyperspectral surveys at the Haystack Well and Shaw River Projects in August 2024.

Work is continuing at Haystack Well combining the methodology developed with CSIRO and the HyVista HyMap hyperspectral data to identify hard rock LCT Pegmatite drill targets with potential to host tin, tantalum and critical minerals.

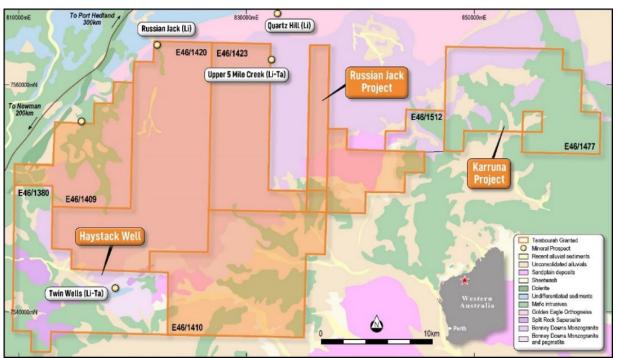


Figure 2: Haystack Well and Russian Jack Tenements.

<sup>&</sup>lt;sup>2</sup> Tambourah ASX announcement 21<sup>st</sup> of November 2022

<sup>&</sup>lt;sup>3</sup> Tambourah ASX announcement 3<sup>rd</sup> of July 2023



### **Shaw River - Sn/Ta Prospect**

At Shaw River, target generation utilising the new hyperspectral data commissioned in August 2024 has effectively outlined large areas of outcrop and identified specific mineralogy related to LCT pegmatites. Tambourah's recent tin (Sn) assays (Figure 3) in rock chips at the project returned:

- **86,931ppm (8.69%) Sn** (TRCC0861)
- **4,251ppm Sn** (TRCC0847)

The Shaw River Project is part of the Shaw River Tin Field which produced 6,585 t of tin and 548 t of tantalite concentrates (containing 20.2 t of  $Ta_2O_5$ ), with the greatest production from alluvial placer deposits. The pegmatites are thought to be the primary source of the tin and tantalum mineralisation<sup>4</sup>.

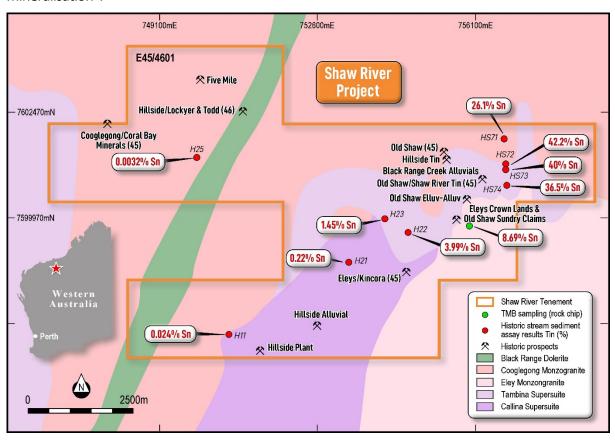


Figure 3: Shaw River Project - Historical Tin Occurrences<sup>5</sup>

Work at the project will continue and includes field reconnaissance to map and sample the LCT pegmatite targets generated from the hyperspectral data, in order to define hard rock cassiterite (Sn) drill targets.

This announcement has been authorised by the Board of Directors of Tambourah Metals Ltd.

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<sup>&</sup>lt;sup>4</sup> Blockley, 1980, The tin deposits of Western Australia, GSWA Mineral resources Bulletin 12

<sup>&</sup>lt;sup>5</sup> Tambourah Presentation 6<sup>th</sup> of August 2024



### **Forward Looking Statements**

Certain statements in this document are or may be "forward-looking statements" and represent Tambourah's intentions, projections, expectations, or beliefs concerning among other things, future exploration activities. The projections, estimates and beliefs contained in such forward-looking statements don't necessarily involve known and unknown risks, uncertainties, and other factors, many of which are beyond the control of Tambourah Metals, and which may cause Tambourah Metals actual performance in future periods to differ materially from any express or implied estimates or projections. Nothing in this document is a promise or representation as to the future. Statements or assumptions in this document as to future matters may prove to be incorrect and differences may be material. Tambourah Metals does not make any representation or warranty as to the accuracy of such statements or assumptions.

The references in this announcement to Exploration Results were reported in accordance with Listing Rule 5.7 in the following announcements:

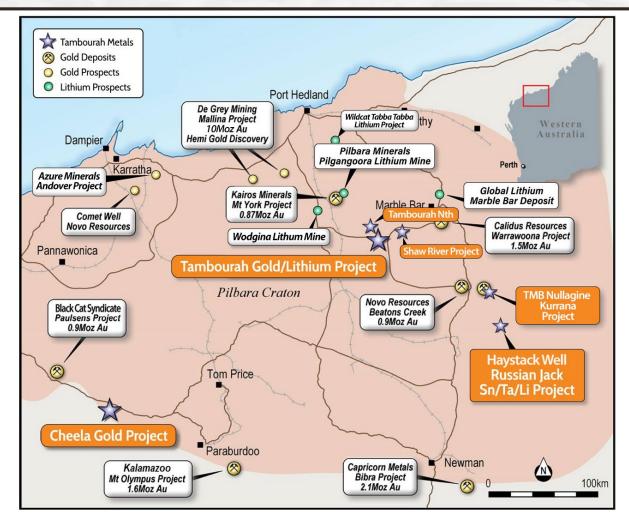
- 'Lithium Exploration Progressing at Shaw River". 12th of February 2022.
- 'L-C-T Pegmatites Exploration Expanded at Russian Jack'. 21st of November 2022.
- 'Tambourah Completes Acquisition of Pilbara Projects.' 3<sup>rd</sup> of July 2023
- 'Tambourah Metals add 1% lithium at Russian Jack Project'. 25<sup>th</sup> of July 2023

The Company confirms it is not aware of any new information or data that materially affects the information in the original reports and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.

### **Competent Person's Statement**

The information in this report that relates to Exploration Results is based on information compiled by Mr. Bill Clayton, Geology Manager and a shareholder and Director of the Company, who is a Member of the Australian Institute of Geoscientists. Mr. Bill Clayton has sufficient experience which is relevant to the style of mineralisation and type of deposits 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. Clayton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.





**Figure 4: Tambourah Metals Pilbara Project Locations** 

#### **About Tambourah Metals**

Tambourah Metals is a West Australian exploration company established in 2020 to develop gold and critical mineral projects. Tambourah is exploring for Gold and Critical Minerals at the Tambourah project and Gold at the Cheela project in the Pilbara. Since listing the Company has extended the portfolio to include additional critical mineral projects in the Pilbara and has completed an earn-in and exploration agreement with major Chilean lithium developer SQM at Julimar North.

# 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 (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.</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 (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.</li> </ul>	<ul> <li>103 alluvial and grab samples were collected by Kookynie Resources NL in 1989. Grab sampling techniques are not described (HS1-HS25). Samples HS26 to HS103 are bulk stream samples collected from first-order drainages with measured volumes between 9 and 18 litres. The method of sample collection and measurement is not described.</li> <li>Methods to ensure sample representivity are not described, although alluvial material can often be homogenous.</li> <li>Assay grades reflect shedding of potentially economic resistate minerals into drainages but there is insufficient data to reach any conclusions regarding mineral potential.</li> <li>Sample and assay data is included in the Kookynie report within a report submitted by Mt Edon Mines (WAMEX 40371). The details of the sampling method and analytical repots are not included in the Kookynie report. The Mt Edon report includes a summary of the Kookynie bulk sampling program.</li> <li>Bulk samples were passed through a sluice box and panned to produce predominantly clean mineral concentrate. If supported by visual estimation, samples were submitted to Australian Assay Laboratories in Perth to determine their cassiterite and tantalum content. Selected samples were assayed for Ta, Sn, Y, Nb and W using partial digest and ICP-OES.</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling to report.
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> <li>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.</li> </ul>	No drilling to report.

Criteria	JORC Code explanation	Commentary
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>	There is no description of the sample site selection, sampling method or sample description in historic reports.
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 insitu 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>	No drilling to report.
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, calibrations factors applied and their derivation, etc.</li> <li>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.</li> </ul>	There are no laboratory assay sheets included in the historic reports and the assay method and quality of the assay results cannot be determined. Use of a partial digest method is not optimal for determination of metals or elements within resistate minerals.
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>Significant assay results within the historic reports cannot be verified as information is not provided.</li> <li>There has been no adjustment made to the historic assay data.</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>	No coordinates are given and the method of sample location is not recorded. Sample locations are provided on a 1:50 000 scale geological interpretation dated 1994 that is based on aerial photography.
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>The sample spacing was sufficient for a reconnaissance sampling program over the tenement intended to</li> <li>a) Identify the presence of resistate minerals of potential economic interest and Locate areas where exploration could be focussed to follow up anomalous results and any relationship to geological features.</li> <li>c) A concentrate sample has been submitted for assay after gravity separation; given known sample volume and weight, an approximate grade can be calculated.</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>	No drilling to report, surface reconnaissance exploration program.
Sample security	The measures taken to ensure sample security.	No information on the means of securing the samples or transport is recorded.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There have been no audits conducted on these results.

# **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<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>	The alluvial sampling was conducted on E45/4601. E45/4601 is held in the name of Tambourah Metals Limited. The tenement expires on 29 <sup>th</sup> December 2026. The tenement is in good standing and there are no third-party encumbrances applying to the tenement. TMB has a heritage agreement in place with the local traditional owners, the Palyku People and all exploration activity is conducted under the terms of the heritage agreement.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>E45/4601 has experienced very limited historic exploration for pegmatite-hosted lithium mineralisation. The exploration that has been historically conducted is listed below.</li> <li>There has been extensive mining of alluvial tin-tantalum shed from the Cooglegong Monzogranite, dating from the 1890's to the 1970's. Extensive exploration, (including trial mining and pre-feasibility work) was carried out by Greenbushes Limited and its subsidiaries from the 1970's to the 1990's. Greenbushes completed mapping and extensive sampling of drainages and dumps using pit sampling, trenching, auger drilling, and bulk excavation. Mt Edon Mines followed Greenbushes work using regional alluvial sampling and assaying for Sn, Ta and REE mineralisation.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Archaean pegmatite-hosted tin-tantalum and lithium (spodumene) related to the Split Rock Supersuite event.
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>	A location plan and summary of the assay results historic alluvial and rock chip samples has been included in this announcement.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>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.</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 values should be clearly stated.</li> </ul>	<ul> <li>There have been no data aggregation methods applied to the assay results.</li> <li>No metal equivalent grades have been reported or used in the calculating of the assay results.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <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 (e.g. 'down hole length, true width not known').</li> </ul>	No drilling to report.
Diagrams	<ul> <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>	See body of this 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.	Historic surface sampling only.
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.	There are no other substantive exploration results to report besides what is reported in this announcement.
Further work	<ul> <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> <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>	Further work will consist of reviewing the recently acquired hyperspectral data over Haystack Well and Shaw River and using this information, extend geological mapping and sampling to gain a better understanding of pegmatite distribution and composition.