



16 October 2024

# Samalari Exploration Update

## HIGHLIGHTS

- ➔ Estrella continues to explore the newly granted and highly prospective Baucau Licenses in Timor-Leste:
  - A significant new **supergene Manganese** exposure has been located **500m south of Samalari** prospect from ongoing reconnaissance mapping (See Figure 1 and Figure 3)
  - **Outcropping manganese oxides** have been traced over 1.7km strike at Samalari and **between 2m to 6m in width.**
  - Community engagement and education programs are ongoing.



Figure 1: Estrella Geologist Kharol Varela mapping and sampling chert bedding below supergene development in an exposed outcrop 500m south-west of the Samalari discovery area within concession MEL2024-DA-ZB-001. Visual estimates of the mineral abundances present within the exposure is not possible for safety reasons. The scree from this exposure exhibited >70% manganese-iron-oxide minerals and results are presented in Table 1.



Estrella Resources Limited (ASX: ESR) (Estrella or the Company) is pleased to announce an exploration update covering the newly awarded Baucau project (Figure 2).

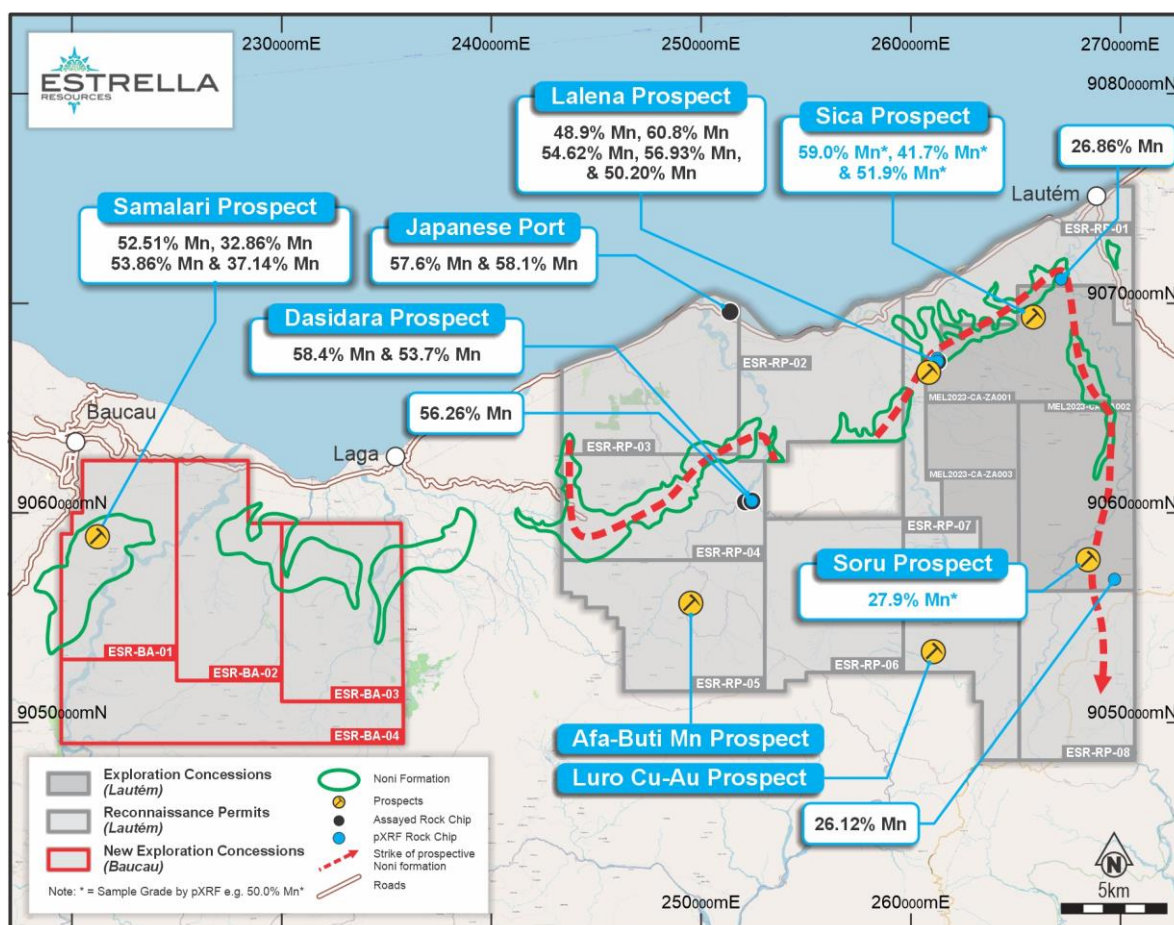


Figure 2: Location of the Samalari Prospect within the four granted Exploration and Evaluation Licenses

### Commenting on the new discovery Estrella Managing Director Chris Daws said:

*"The more time our exploration teams spend in the field the more manganese they keep finding. This most recent discovery of outcropping supergene manganese south of the Samalari manganese prospect is one of the most spectacular that we have located to date in Timor-Leste."*

*"With our partners Murak Rai Timor the Company has been able to secure the largest exploration ground holding in Timor-Leste which gives us a very strong opportunity for many more mineral discoveries to be made."*

*"Our pivot to Timor-Leste has been the right move and we are starting to see reward for our efforts. I'm very excited to see what our next stage of development looks like as we continue our mapping and sampling work while also preparing for surveying and ground-disturbing activities which will allow us to explore for manganese mineralisation below surface."*

The Samalari Prospect is located just 5km from Baucau, the third largest city in Timor-Leste. Existing roads connect the prospect to a major national highway to the north. Grid power is readily available within the Exploration License. Mineralisation occurs in an area with very low population and little farmland.

Figure 3 below shows the location of an extensive manganese outcrop captured in Figure 1,500m to the south of the main outcrop at Samalari. Surface mapping is ongoing with mineralisation at Samalari open to both the north-east and south-west. The mineralisation in the pictured outcrop has not yet been sampled given difficult access to the location and with the outcrop exposed around 8m up a steep gully face.

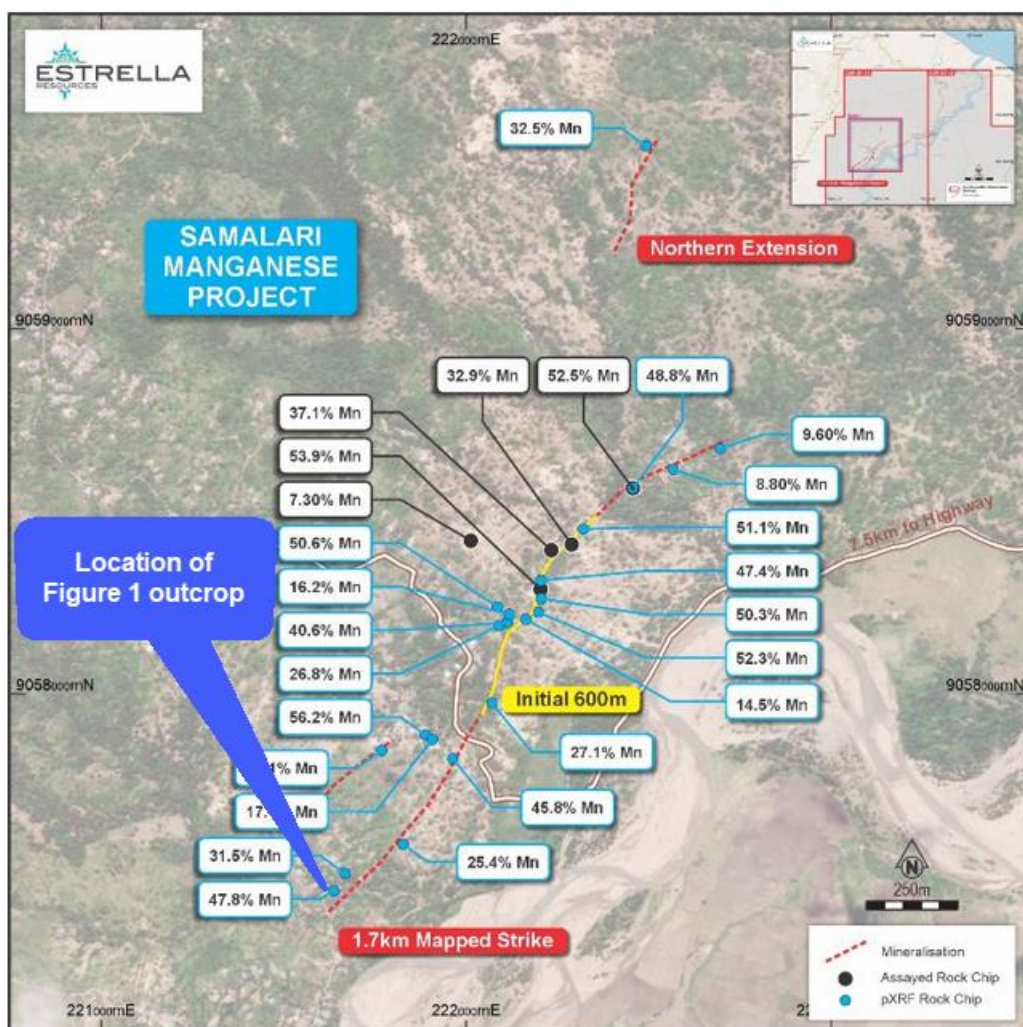


Figure 3: Location Plan of the Samalari Prospect (5km from Baucau and 7.5km by road from a national highway)

Table 1 below presents spot rock-chip pXRF results that were taken during mapping of the area. None of this material was collected for assay at the time. Proper sampling of the outcrop will be conducted in due course.

Table 1: Portable XRF results from spot rock-chip samples just down stream from the exposure in Figures 1 and 3

Description	Mineralogy	Latitude	Longitude	pXRF Mn%
Manganese float material in creek	>95% Manganese oxides	-8.51473	126.474	56.2
Manganese float material in creek	45% Fe-Mn oxides	-8.51485	126.474	17.1
Supergene sub-crop side of creek	>95% Manganese oxides	-8.51532	126.475	45.8

**Cautionary Statement of pXRF** - pXRF results that are announced in this report are from uncrushed, rock-chip samples. The use of the PXRF is an indication only of the order of magnitude of expected manganese content. None of the samples that are reported will be submitted for laboratory assay in Australia.

## Next Steps

Estrella has expanded its in-country technical team with additional experienced Timor-Leste geological and geophysical personnel to expedite its exploration programs.

Estrella is looking to develop a specific Induced Polarisation (IP) tool to be available in-country, which it can deploy to areas where mapping shows the greatest potential of supergene manganese development.

IP is an excellent geophysical method for manganese exploration. Manganese oxides often exhibit distinct electrical properties compared to the surrounding materials. IP can help identify these differences, making it easier to locate manganese deposits in 3D and at depth.

Whilst the IP capabilities are being assembled, Estrella is embarking on its Community Liaison and Public Education Programs and planning Cultural Ceremonies with the local villages within the Baucau License areas.

The Company will update shareholders as more information comes to hand.

The Board has authorised for this announcement to be released to the ASX.

## **FURTHER INFORMATION CONTACT**

**Christopher J. Daws**  
**Managing Director**  
**Estrella Resources Limited**  
**+61 8 9481 0389**  
[info@estrellaresources.com.au](mailto:info@estrellaresources.com.au)

**Media:**  
**David Tasker**  
**Managing Director**  
**Chapter One Advisors**  
**E: [dtasker@chapteroneadvisors.com.au](mailto:dtasker@chapteroneadvisors.com.au)**  
**T: +61 433 112 936**

## **Forward Looking Statements**

This announcement contains certain forward-looking statements which have not been based solely on historical facts but, rather, on ESR's current expectations about future events and on a number of assumptions which are subject to significant uncertainties and contingencies many of which are outside the control of ESR and its directors, officers and advisers.

## **Cautionary Statement of pXRF**

pXRF results that are announced in this report are from uncrushed, rock-chip samples. The use of the PXRF is an indication only of the order of magnitude of expected manganese content. None of the samples that are reported will be submitted for laboratory assay in Australia.

## **Cautionary Statement**

Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.

## **Competent Person Statement**

The information in this announcement relating to Exploration Results is based on information compiled by Steve Warriner, who is the Group Exploration Manager of Estrella Resources, and a member of The Australasian Institute of Geoscientists, and based on information compiled by Beau Nicholls, who is a Director of Sahara Natural Resources and is the Exploration Manager for Estrella Timor-Leste, and a fellow of The Australasian Institute of Geoscientists. Mr Warriner and Mr Nicholls have sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves". Mr Warriner and Mr Nicholls consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.



## APPENDIX 1 JORC TABLE 1 – TIMOR-LESTE EXPLORATION

### Section 1 - Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <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. 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 style="list-style-type: none"> <li>Determination of mineralisation has been based on geological mapping, visual mineral estimates and confirmation of metallic concentration using a Bruker S1 Titan Portable XRF instrument.</li> <li>Initial rock-chip samples were taken and pXRF determinations on uncrushed samples made in the field.</li> <li>Samples are then brought back to Dili and pulverized to 100% passing 1mm before the powder is again subjected to PXRF</li> <li>A sub-sample of 150g is then dispatched through customs and quarantine in Australia to ALS in Malaga for multi-element analysis.</li> <li>Exported samples are analysed using a 4-acid digest, ME-XRF26s, ME-MS61L at ALS in Malaga</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling has been undertaken to date.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>No drilling has been undertaken to date.</li> <li>The installation of pulverising sample prep facilities in Timor-Leste ensures sample representivity when presented to the PXRF.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Rock-chip samples were geologically logged for mineral content and photographed prior to sending for assay or screening by pXRF.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>Sample sizes are appropriate to the grain size of the mineralisation which in manganese oxides is very fine.</li> <li>The exploration program is in its very early stages and initial sample sizes are kept small due to freight and customs / quarantine restrictions. They are not considered representative of the bulk of mineralisation.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>sub-sampling stages to maximise representivity of samples.</p> <ul style="list-style-type: none"> <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>	
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Three sample types are quoted:</li> <li>1 – Uncrushed Field PXRF (a fresh mineral face is chipped from samples prior to the XRF determination in the field)</li> <li>2 – Crushed PXRF (samples from above are taken back to Dili, 1-3kg of material, and crushed/pulverised to 100% passing 1mm in the company's dedicated sample preparation facility, and 15g of powder is then taken for PXRF analysis. Crushed PXRF determinations have been subjected to repeat samples, standards and confirmation of accuracy by laboratory analysis.</li> <li>3 – Assay, where 150g of material is exported to ALS in Malaga via quarantine in Darwin. Standards and blanks have not been included in samples sent to Australia. The company relies on the internal standards and blanks used by ALS.</li> <li>Samples are being analysed at ALS in Malaga using a 4-acid digest, ME-ICP for 61 elements and all samples are also being tested for Pt, Pd and Au by fire assay and ICP-MS finish on a 50g sub-sample.</li> <li>Currently, uncrushed field samples are being analysed by PXRF on location. The Cautionary statement is included when assessing pXRF.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>No prior modern exploration has been conducted in the area.</li> <li>No adjustments to assay data were undertaken save where the ME-XRF26s method reports MnO%.</li> <li>Mn% is derived by dividing MnO by 1.2912</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Timor personnel use GRID software on mobile phones to record GPS locations, sampling data and photographs. Mobile phone accuracy (shown during coordinate capture) is set at a maximum tolerance of 5m.</li> <li>Topographic control is accomplished using 30m spaced satellite point data.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>No systematic sampling has been conducted at this early stage.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>No orientation-based sampling bias has been identified.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Exported samples are in the possession of ESR personnel from field collection to customs submission in Darwin. Possession then passes to the Department of Agriculture, Forestry and fisheries where Northline Couriers pick up the samples and take them by road to ALS in Malaga.</li> <li>Non-exported samples remain with ESR personnel past Darwin Airport Customs.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>No independent audit or review has been undertaken.</li> <li>Internal QAQC involves frequent standard checks on the PXRF instrument to determine any drift of accuracy.</li> <li>Additional checks involve analysis of any assayed samples in comparison to the crushed and uncrushed in-country PXRF determinations so as to provide confidence in in-country analysis.</li> </ul>

## Section 2 - Reporting of Exploration Results

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> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration and Evaluation Concessions MEL2023-CA-ZA001, MEL2023-CA-ZA002 and MEL2023-CA-ZA003 are awarded for two years to Estrella Murak Rai, forming the joint-venture between Estrella Resources Representante Permanente (70%) and Murak Rai Timor (30%).</li> <li>Reconnaissance Permits ESR-RP-01, ESR-RP-02, ESR-RP-03, ESR-RP-04, ESR-RP-05, ESR-RP-06, ESR-RP-07 and ESR-RP-08 are awarded to Estrella Resources Limited Representante Permanente (100%)</li> <li>Exploration and Evaluation Concessions ESR-BA-01, ESR-BA-02 and ESR-BA-03 are awarded for four years to Estrella Murak Rai, forming the joint-venture between Estrella Resources Representante Permanente (70%) and Murak Rai Timor (30%).</li> <li>Estrella Resources Limited Representante Permanente is registered in Timor-Leste and is a wholly-owned subsidiary of Estrella Resources Limited (Australia).</li> <li>All of the Concessions and Permits are current and in good standing.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The first exploration was conducted by Allied Mining Corporation in 1937 during which mineral potential was discovered. Very small-scale mining of manganese, gold and construction material was conducted. The exploration was not systematic and hampered by difficult access.</li> <li>Other work in the early 2000's has been conducted by the Pacific Economic Cooperation Council -PECC Minerals Network to assist Timor-Leste to understand and develop its minerals potential.</li> <li>Local geologists and companies have sporadically explored the area however there has been no documentation collected nor systematic exploration to quantify mineral occurrences.</li> <li>No minerals drilling has taken place.</li> <li>No close-spaced geophysics has taken place.</li> <li>No systematic, modern exploration has taken place.</li> <li>The Geological Institute of Timor-Leste (IGTL) has recently (and still is) conducting stratigraphic analysis and fossil dating to reconstruct the geological history of Timor-Leste.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The current Concessions and Permits host three main forms of manganese mineralisation.</li> <li>Primary mineralisation can be found in stratigraphic banded cherts and banded irons formed from direct precipitation of manganese onto the sea floor. Evidence for both microbial and inorganic processes exist.</li> <li>Secondary mineralisation exists as a supergene blanket above the cherts where they have been exposed to</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>chemical weathering.</p> <ul style="list-style-type: none"> <li>Tertiary mineralisation exists where high rainfall and erosion has sorted and concentrated detrital manganese into river paleo-channels.</li> <li>Alluvial gold mineralisation has been reported in the area however no exploration has been undertaken.</li> <li>Estrella will use and expand upon the current known stratigraphy to evaluate and document mineralisation styles and relate them back to the tectono-stratigraphic genesis of the area.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>No drilling has been undertaken in the area.</li> <li>Sample locations are shown in the body of the text.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Exploration results with all relevant drillhole information are reported in the body of the text.</li> <li>No aggregation methods have been used.</li> <li>Metal equivalent values have not been used.</li> </ul>
<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> <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>	<ul style="list-style-type: none"> <li>Any relationships have been discussed within the body of the text.</li> </ul>
<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>	<ul style="list-style-type: none"> <li>Relevant diagrams have been included within the main body of text.</li> </ul>
<b>Balanced Reporting</b>	<ul style="list-style-type: none"> <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>Where comprehensive reporting of all Exploration Results is not practicable,</li> </ul>	<ul style="list-style-type: none"> <li>No new information has been withheld.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No other substantive data exists as the program is in its early stages.</li> <li>• All observations are discussed within the body of the text.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Further work by ESR will include systematic mapping and sampling along with stratigraphic and structural classification.</li> <li>• Additional work on specific areas will be included under the heading Next Steps in the body of the text when appropriate to do so.</li> </ul>