18 November 2024

Two Outcropping Supergene Manganese Discoveries in Lautém Exploration Licenses

HIGHLIGHTS

- **New Ira Miri Prospect** discovered during reconnaissance mapping (Figure 1)
  - A 3-metre-high bed of outcropping supergene manganese discovered in reconnaissance mapping
  - Portable XRF on crushed field **samples graded 57.5% Mn and 63.4% Mn, some of the highest grades seen to date.**
  - Ira Miri lies across the river valley to the east on a predicted duplication of the Noni Formation approximately 4.4km SE of the Sica Prospect
- **In-situ supergene manganese located** in hills surrounding the **Sica Prospect**
  - Estrella's exploration model predicted the position of the secondary supergene correctly
- Samples will be collected for analysis in coming days and follow-up geophysics being planned for the prospects and surrounding hills to locate additional in-situ supergene buried below scree material
- These discoveries were made on Exploration and Evaluation License MEL2023-CA-ZA001 in the manganese-rich Lautém Municipality of Timor-Leste

Figure 1: Estrella MD Chris Daws at the partially outcropping supergene manganese exposure at Ira Miri within concession MEL2023-CA-ZA001. Visual estimates of the mineral abundances present within the exposure exhibited ~80% manganese-iron-oxide minerals along with ~20% weathered chert clasts. Crushed rock chip samples graded 57.5% Mn and 63.4% Mn, some of the highest grades seen to date.

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Estrella Resources Limited (ASX: ESR) (Estrella or the Company) is pleased to announce two new in-situ supergene manganese discoveries located within granted exploration licenses at the Lautém Manganese Project in Timor-Leste.

Commenting on the new discoveries Estrella Managing Director Chris Daws said:

"We are thrilled to delineate further instances of wide-scale manganese mineralisation in the unexplored nation of Timor-Leste. While it is early exploration work, making discoveries is a numbers game. Identifying a swathe of encouraging prospects gives us a better chance of developing a high-grade manganese deposit.

Furthermore, I am particularly impressed with the modelling work undertaken by our exploration team. What began with a blank sheet of paper when Estrella was first awarded tenure in December last year has emerged into a detailed and increasingly predictive discovery tool.

Estrella will continue to develop and refine this model, which is expected to become even more powerful with the introduction of Induced Polarisation surveys, which are set to get underway soon."

Exploration Model

The discovery of Ira Miri and Sica supergene zones have been made through recent developments in Estrella's exploration model which is proving increasingly successful. The model blends stratigraphy with the differing mineralisation forms identified within the tenure.

The exploration model differentiates between primary, secondary and tertiary manganese, with a corresponding increase in manganese grade from primary to tertiary. Secondary manganese can also be high-grade, however more importantly, secondary supergene deposits have a larger size potential.

The in-situ secondary supergene manganese outcrops at the Ira Miri and Sica prospects are around 4.5km apart with the Ira Miri Prospect in an area predicted to have occurrences of Noni Formation that have not historically been mapped. The predictive capacity of the model is opening up new areas of prospectivity which the Company will now investigate further.

Both new discoveries consist of secondary supergene enrichment obscured by scree from overlying limestones. The discoveries were made by predicting the location of prospective contacts and then deploying geological personnel to those areas for in-depth mapping.

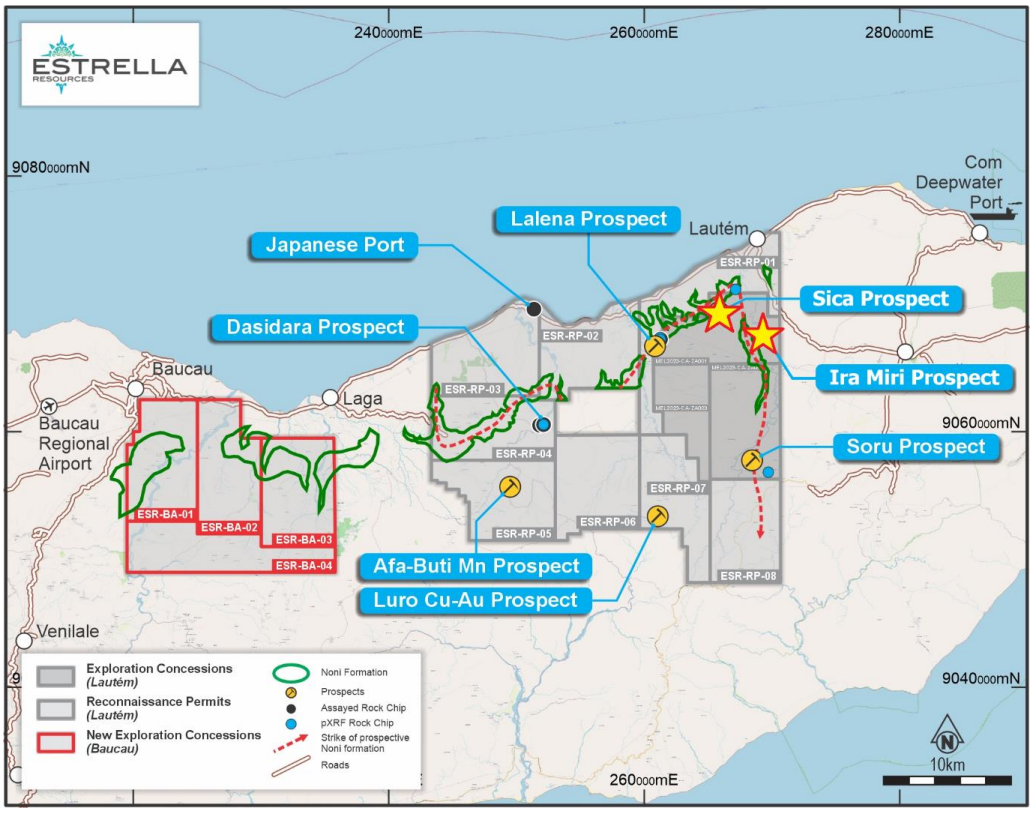

Figure 2: Location of the Ira Miri and Sica Prospects

The Ira Miri ("New Water") Manganese Discovery

The outcrop at Ira Miri consists of the top three metres of an in-situ, secondary supergene blanket formed within the Noni Formation. The mineralisation is covered by scree from the overlying limestones and so its true thickness cannot yet be ascertained.

The discovery was made on a predicted duplication of the Noni Formation across a river valley from the Sica Prospect (Figure 3). Two samples were taken from the field for immediate pXRF analysis in Estrella's Dili office, with the high-grade manganese results presented in Table 1. The handheld XRF determinations on the crushed rock chip samples are some of the highest grades seen to date.

The samples will be brought to Australia for laboratory analysis in early December with assay results expected in January 2025.

Table 1: PXRF Results from the Ira Miri Prospect

Prospect	Sample ID	Mineralogy / Geology	Mn%	Al2O3%	Fe%
Ira Miri	CBR114689	85% manganese oxides with minor iron oxides, 15% manganiferous chert.	57.5	0.8	0.4
Ira Miri	CBR114690	85% manganese oxides with minor iron oxides, 15% manganiferous chert.	63.4	1.7	0.9

Cautionary Statement of pXRF - pXRF results that are announced in this report are from crushed, rock-chip samples and are preliminary only. The use of the PXRF is an indication only of the order of magnitude of expected final assay results. The samples that are the subject of this report will be submitted for laboratory assay in Australia and some variation from the results presented herein should be expected.

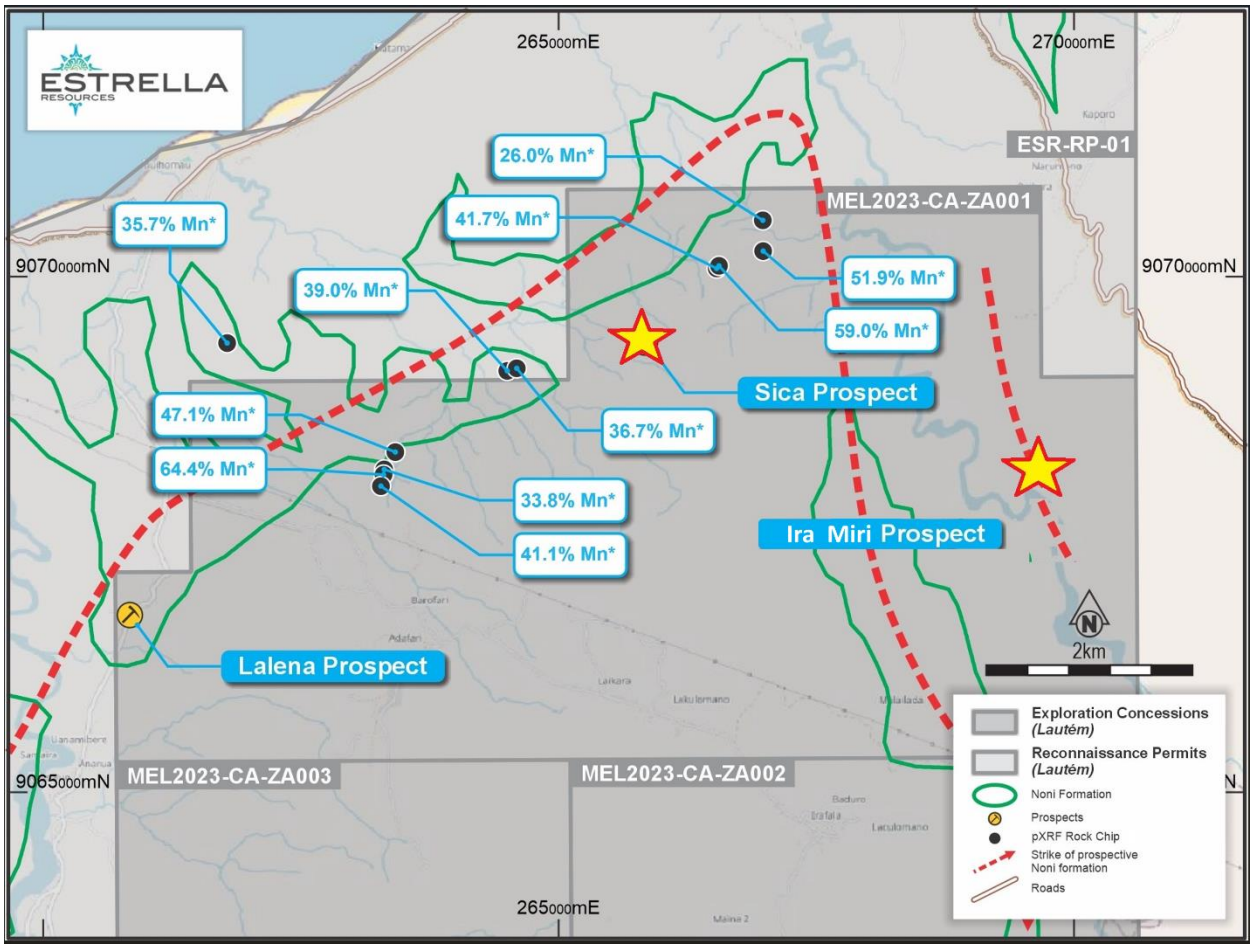

Figure 3: Location of the Sica and Ira Miri in-situ secondary supergene manganese discoveries

Sica Manganese Discovery

The Sica Prospect was first discovered in August this year, consisting of a layer of concentrated high-grade tertiary manganese supergene rubble at surface[1].

Additional work on the exploration model has allowed the Company's geologists to predict the possible location of the source cherts and associated secondary enrichment in the hills above the Sica valley.

Further field investigations at the initial Sica discovery revealed geology consistent with the model so that the correct stratigraphic position could be followed and mapped. This process led to the discovery of the outcropping supergene manganese in the hills surrounding the Sica valley. Figure 4 shows a portion of the outcropping supergene horizon that dips gently back into the hillside to the east of the valley floor.

Figure 4: Estrella CEO Chris Daws looking over the new Sica discovery. Visual estimates of the mineral abundances present exhibited ~80% manganese-iron-oxide minerals along with ~20% limestone. Samples will be taken to Dili this month and brought to Perth in December for assaying.

Next Steps

The Company is assembling in-country capability to run geophysical programs. An Induced Polarisation system (IP) and geophysical expert will be brought in to train Estrella's Timor-Leste employees and a testing program is being developed.

IP is very successful in manganese exploration around the world and no hinderances are foreseen within Timor-Leste geology. In addition, IP is simpler to deploy in more remote environments than many other geophysical systems.

[1] Refer to ASX Announcement dated: 1 August 2024

The aim of the tests will be to develop resistivity and chargeability signatures that correspond with known, extensive manganese outcrops such as those seen at Samalari and Sica. If the trials are successful, the Company will look to deploy the system at a broader scale.

As the wet season approaches, the Company will look to increase mapping coverage using the predictive model. Following the mapping activities, Estrella will seek to deploy the IP system widely over its manganese prospects with a focus on areas where the overlying scree has mostly obscured the secondary enrichment, such as at the new Ira Miri Prospect and the Soru Prospects.

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

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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.

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.

Cautionary Statement of pXRF - pXRF results that are announced in this report are from crushed, rock-chip samples and are preliminary only. The use of the PXRF is an indication only of the order of magnitude of expected final assay results. The samples that are the subject of this report will be submitted for laboratory assay in Australia and some variation from the results presented herein should be expected.

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.

APPENDIX 1 JORC TABLE 1 – TIMOR-LESTE EXPLORATION

Section 1 - Sampling 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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.*	• 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. • Initial rock-chip samples were taken and pXRF determinations on uncrushed samples made in the field. • Samples are then brought back to Dili and pulverized to 100% passing 1mm before the powder is again subjected to PXRF • A sub-sample of 150g is then dispatched through customs and quarantine in Australia to ALS in Malaga for multi-element analysis. • Exported samples are analysed using a 4-acid digest, ME-XRF26s, ME-MS61L at ALS in Malaga
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 has been undertaken to date.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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 has been undertaken to date. • The installation of pulverising sample prep facilities in Timor-Leste ensures sample representivity when presented to the PXRF.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Rock-chip samples were geologically logged for mineral content and photographed prior to sending for assay or screening by pXRF.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise*	• Sample sizes are appropriate to the grain size of the mineralisation which in manganese oxides is very fine. • 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.

Criteria	JORC Code explanation	Commentary
	representivity of samples. • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
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.* • *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.* • *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.*	• Three sample types are quoted: • 1 – Uncrushed Field PXRF (a fresh mineral face is chipped from samples prior to the XRF determination in the field) • 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. • 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. • 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. • Currently, uncrushed field samples are being analysed by PXRF on location,. The Cautionary statement is included when assessing pXRF.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No prior modern exploration has been conducted in the area. • No adjustments to assay data were undertaken save where the ME-XRF26s method reports MnO%. • Mn% is derived by dividing MnO by 1.2912
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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. • Topographic control is accomplished using 30m spaced satellite point data.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.*	• No systematic sampling has been conducted at this early stage.
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.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have*	• No orientation-based sampling bias has been identified.

Criteria	JORC Code explanation	Commentary
	introduced a sampling bias, this should be assessed and reported if material.	
Sample security	• *The measures taken to ensure sample security.*	• 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. • Non-exported samples remain with ESR personnel past Darwin Airport Customs.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No independent audit or review has been undertaken. • Internal QAQC involves frequent standard checks on the PXRF instrument to determine any drift of accuracy. • 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.

Section 2 - Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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.*	• 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%). • 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%) • Exploration and Evaluation Concessions MEL2024-DA-ZB001, MEL2024-DA-ZB002 and MEL2024-DA-ZB003 are awarded for four years to Estrella Murak Rai, forming the joint-venture between Estrella Resources Representante Permanente (70%) and Murak Rai Timor (30%). • Estrella Resources Limited Representante Permanente and Estrella Murak Rai are registered in Timor-Leste and is a wholly-owned subsidiary of Estrella Resources Limited (Australia). • All of the Concessions and Permits are current and in good standing.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• 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. • 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. • Local geologists and companies have sporadically explored the area however there has been no documentation collected nor systematic exploration to quantify mineral occurrences. • No minerals drilling has taken place. • No close-spaced geophysics has taken place. • No systematic, modern exploration has taken place. • 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.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The current Concessions and Permits host three main forms of manganese mineralisation. • 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. • Secondary mineralisation exists as a supergene blanket above the cherts

Criteria	JORC Code explanation	Commentary
		where they have been exposed to chemical weathering. • Tertiary mineralisation exists where high rainfall and erosion has sorted and concentrated detrital manganese into river paleo-channels or scree deposits. • Alluvial gold mineralisation has been reported in the area however no exploration has been undertaken. • 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.

Drill hole information	• *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:*
	  • *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*
	• *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.*
		• No drilling has been undertaken in the area.
		• Sample locations are shown in the body of the text.

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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Exploration results with all relevant drillhole information are reported in the body of the text. • No aggregation methods have been used. • Metal equivalent values have not been used.
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 (e.g. 'down hole length, true width not known').*	• Any relationships have been discussed within the body of the text.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Relevant diagrams have been included within the main body of text.
Balanced Reporting	• *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.* • *Where comprehensive reporting of all*	• No new information has been withheld.

Criteria	JORC Code explanation	Commentary
	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.	
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.*	• No other substantive data exists as the program is in its early stages. • All observations are discussed within the body of the text.
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.*	• Further work by ESR will include systematic mapping and sampling along with stratigraphic and structural classification. • Additional work on specific areas will be included under the heading Next Steps in the body of the text when appropriate to do so.