

## NEW EXPLORATION LICENCE APPLICATION

### HIGHLIGHTS

- ◆ New 100% SPX Exploration Licence Application covering 38.2km<sup>2</sup> of prospective mineralised basement stratigraphy.
- ◆ Under-explored banded iron formation hosted gold intercepts.
- ◆ Gold-copper potential at depth and along strike.

Spectrum Rare Earths Limited (“SPX”) is pleased to announce a new mineral exploration licence application (E08/2924) covering 38.2km<sup>2</sup> and host to prospective mineralised Banded Iron Formation (“BIF”) approximately 40km east of Onslow, Western Australia (Fig. 1). The new application is host to the undeveloped Whaleshark Gold- Copper prospect previously explored by (“WMC”) Limited from 1993 to 1997 and comprises the Winning Group suite of clastic sedimentary and igneous formations.

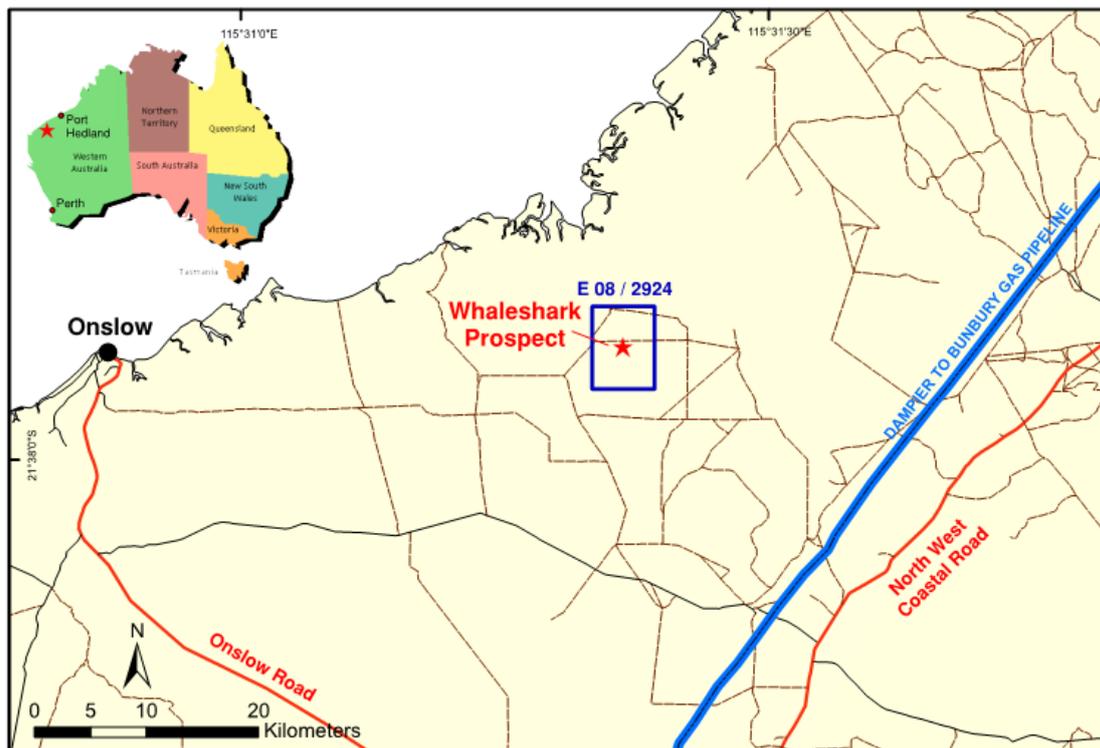


Figure 1. New mineral Licence application E 08 / 2924 Location.

### About the Whaleshark Prospect

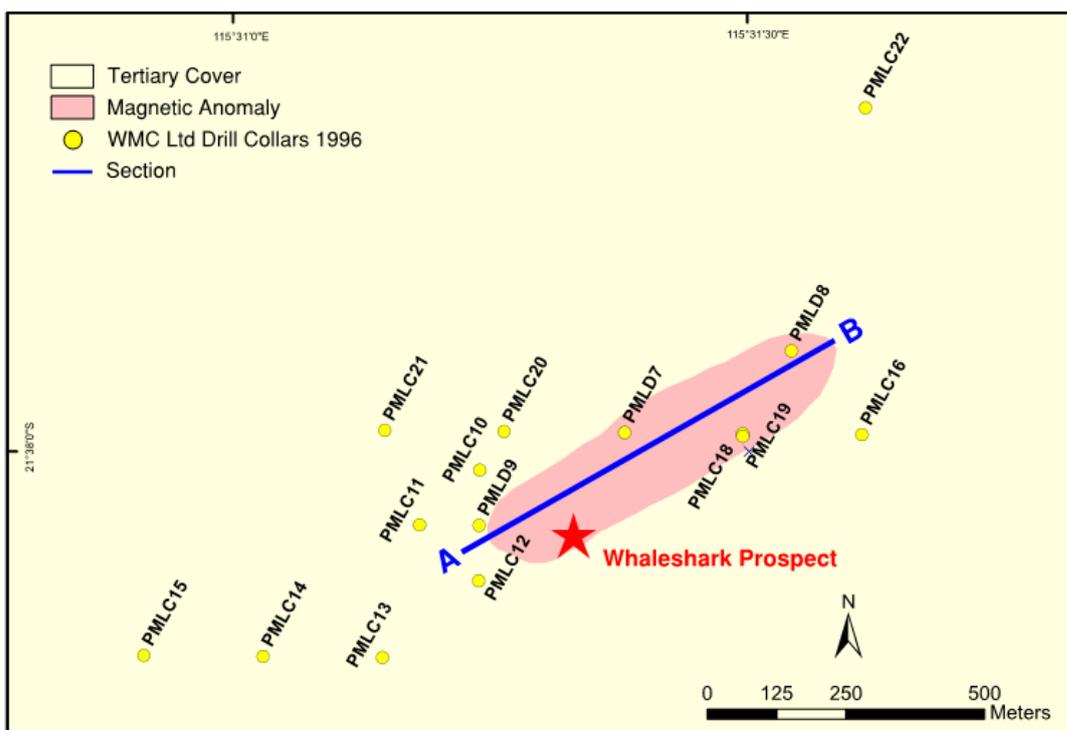
The tenure is accessible by serviced sealed and unsealed roads. Within close vicinity to Onslow, the tenure may be accessed and explored year-round.

The local geology consists of approximately 30m of Tertiary cover comprising of sand, gravel, calccrete clay and laterite. A further 100m of indurated clastic Cretaceous sedimentary sequences unconformably overlie the prospective Proterozoic, deformed banded iron formation (“BIF”) and tourmaline bearing granitoid intrusions.

Early exploration in the 1970’s targeted roll front uranium style deposits. From 1993 WMC conducted detailed magnetic and gravity geophysical surveys to define conceptual gold and copper drill targets in the vicinity of covered magnetic anomalies.

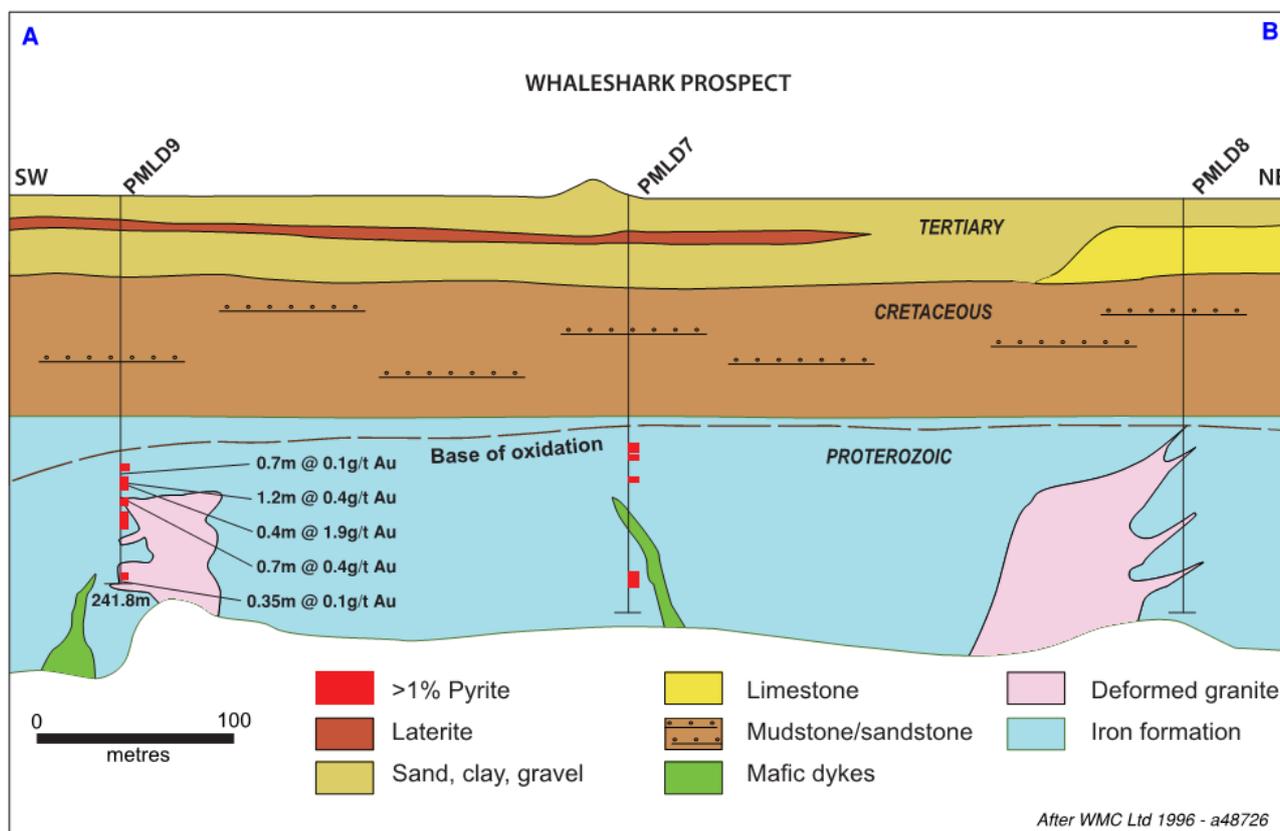
WMC completed RC and diamond drilling along the most notable high amplitude NE-SW trending magnetic anomaly. Drill hole PMLD9 (GDA94 MGA Zone 50, 7606740 N 346760 E) was drilled (-70°/360°) to test the SW termination of the NE-SW magnetic high. PMLD9 was drilled Reverse Circulation Percussion to 136m at the basement BIF interface and further as diamond core. The BIF was noted as dipping steeply to the SE. Drill hole PMLD9 terminated at 241.8m ending in gold mineralization including the following significant intercepts sourced from open file WAMEX report A48726;

- ~ Split Core Sample - AB927141 173m to 173.7m - 0.7m @ 0.1g/t Au
- ~ Split Core Sample - AB927146 176.8m to 178m - 1.2m @ 0.4g/t Au
- ~ Split Core Sample - AB927147 178m to 178.4m - 0.4m @ 1.9g/t Au
- ~ Split Core Sample - AB927158 186.9m to 187.6m - 0.7m @ 0.4g/t Au
- ~ Split Core Sample - AB928914 241.45m to 241.8m - 0.35m @ 0.1g/t Au



**Figure 2.** Location of the Whaleshark Prospect and WMC resources RC / Diamond drilling.

Diamond drilling confirmed that the large magnetic anomaly is due to magnetite rich BIF and that the gold mineralisation may postdate basement deformation events.



**Figure 3.** Schematic section of WMC Ltd RC / Diamond drilling, geology and Au Intercepts.

From diamond core logging PMLD9, sulphides were observed over much of the drilling intensifying around gold occurrence. Gold occurrence is notable in carbonate, pyrite, quartz, veins with a sulphide selvage.

Linear zones of demagnetisation are observed from the historical geophysical magnetic data sets at and around the Whaleshark prospect. These zones are coincident with interpreted NS cross cutting features and are considered prospective drill targets for gold mineralisation based on magnetic susceptibility data, associated gold mineralisation in PMLD009 and the conceptual model that demagnetised zones may represent fluid mineralisation conduits.

Explorers successive to WMC focused drilling predominantly on iron ore drill targets. Further geophysical surveys and desktop modelling progressed in developing a deeper geological and geophysical understanding although no further drilling was undertaken after the exercise.

From preliminary open file data compilation work, SPX considers the gold mineralisation to be open at depth. The mineralisation strike extents at depth may be linear to cross cutting features or continuous along the strike length of the high amplitude magnetic anomaly.

SPX plans to undertake a detailed review of geophysical datasets using modern technologies and tooling in conjunction with exploration targeting to further define prospective mineralisation zones.

Follow up geophysical and drilling programs are to be designed in preparation for grant of license.

SPX Chairman Mr Hewlett is pleased to have captured a mineral licence with a readily advanced understanding of the mineral system, conceptual prospective mineral targets and drill ready targets.

**Table 1.** Drill hole collars, completed drilling by WMC Ltd.  
(Reverse Circulation "RC", Diamond Drill Core continuation "RCD").

| Hole Id | Hole Type | Datum | Projection  | Easting | Northing | Depth RC (m) | Depth D (m) |
|---------|-----------|-------|-------------|---------|----------|--------------|-------------|
| PMLC10  | RC        | GDA94 | MGA Zone 50 | 346918  | 7606995  | 153.7        | 0           |
| PMLC11  | RC        | GDA94 | MGA Zone 50 | 346798  | 7606895  | 166          | 0           |
| PMLC12  | RC        | GDA94 | MGA Zone 50 | 346898  | 7606795  | 162          | 0           |
| PMLC13  | RC        | GDA94 | MGA Zone 50 | 346738  | 7606655  | 166          | 0           |
| PMLC14  | RC        | GDA94 | MGA Zone 50 | 346538  | 7606655  | 190          | 0           |
| PMLC15  | RC        | GDA94 | MGA Zone 50 | 346338  | 7606655  | 178          | 0           |
| PMLC16  | RC        | GDA94 | MGA Zone 50 | 347538  | 7607065  | 130          | 0           |
| PMLC18  | RC        | GDA94 | MGA Zone 50 | 347338  | 7607065  | 50           | 0           |
| PMLC19  | RC        | GDA94 | MGA Zone 50 | 347338  | 7607060  | 130          | 0           |
| PMLC20  | RC        | GDA94 | MGA Zone 50 | 346938  | 7607065  | 156          | 0           |
| PMLC21  | RC        | GDA94 | MGA Zone 50 | 346738  | 7607065  | 160          | 0           |
| PMLD7   | RCD       | GDA94 | MGA Zone 50 | 347140  | 7607065  | 128          | 242.1       |
| PMLD8   | RCD       | GDA94 | MGA Zone 50 | 347418  | 7607215  | 124.8        | 244         |
| PMLD9   | RCD       | GDA94 | MGA Zone 50 | 346898  | 7606895  | 136          | 241.8       |

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### **Competent Persons Statement**

The information in this report that relates to Targets and Exploration Results is based on information compiled by Mr Luke Forti, who is a consulting geologist to Spectrum Rare Earths Limited (“SPX”). Mr Forti is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (‘JORC Code 2012’). Mr Forti holds no interest in SPX, its related parties, or in any of the mineral properties that are the subject of this report. Mr Forti consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

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### **About Spectrum Rare Earths Ltd**

Spectrum Rare Earths Limited (ASX: SPX) is a resource development company whose focus is the commercialisation of mineral assets. SPX achieves this goal through exploration of under explored terrains by enthusiastic and creative people who know how to use technology to maximise success.

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### **References**

Johnson, J.P., and Kerslake, T.G., 1996, Onslow Second Annual Report for the period 31 March 1995 to 30 March 1996. Onslow Project. Reporting Group 1: Peedamulla and Centenary Well Areas. Exploration Licences 08/696, 697 and 724. WAMEX Annual Report No. A48726.

## Appendix 1 – Whaleshark Prospect

### JORC Code (2012) Table 1, Section 1 and 2.

*The subject of this release is to report on the E08 / 2924 mineral exploration licence application and the historic Whaleshark copper gold prospect and related drilling therein. Mr. Luke Forti, compiled the information in Section 1 and Section 2 of the following JORC Table 1 and is the Competent Person for those sections. The following Table and Sections are provided to ensure compliance with the JORC Code (2012 edition) requirements for the reporting of Mineral Resources.*

#### Section 1 Sampling Techniques and Data

\*Criteria in this section apply to all succeeding sections in this information release.

| Criteria                   | JORC Code explanation  | Commentary  |
|----------------------------|--|---|
| <i>Sampling techniques</i> | <i>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.</i> | Historical WAMEX report A48726 relating to PLMD9, percussion samples are denoted as “cuttings” and core samples denoted as “Split Core” only. Percussion samples are denoted as being composite to 2m intervals by an unknown method. Diamond core sample are selectively sampled at varying intervals from 10cm. |
|                            | <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>   | No information has been obtained to date regarding the type of primary sampling system utilized for percussion drilling or compositing samples. Diamond core samples are representative of the interval sampled.  |

| Criteria              | JORC Code explanation  | Commentary   |
|-----------------------|--|--|
| Sampling techniques   | <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p><i>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.</i></p> | Historical WAMEX report A48726 relating to PLMD9, only denotes analytes assayed and not the sample size, analysis type or methodology.   |
| Drilling techniques   | <p>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.).</p>   | Data pertaining to the diameter or dynamics of percussion and diamond core drill components are not identified from historical reports to date.  |
| Drill sample recovery | <p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>  | No information collated to date is available as to the sampling method, weights, recovery and duplicates of percussion and diamond core samples.   |
| Logging               | <p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>   | <p>Historic drill logs denote drill chip logging was completed on one meter intervals at the rig by the geologist and drill core logging was undertaken as measured intervals depicted by geology, alteration and or mineralisation.</p> <p>Logging was qualitative in nature. There is no information as to the data transfer for computing and modelling. Dates noted on drilling logs coincide with the dates of the drilling program.</p> <p>The entire length of holes reported have were logged.</p> |

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
| <p><i>Sub-sampling techniques and sample preparation</i></p> | <p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p> <p><i>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.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p> | <p>No information collated to date is available as to the sampling method, weights, recovery and duplicates of percussion and diamond core samples.</p> <p>Mineralisation occurs in deformed banded iron formation in association with iron sulphides. Sample intervals are appropriate and representative of the mineralisation intersected at the stage of exploration.</p>   |
| <p><i>Quality of assay data and laboratory tests</i></p>     | <p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>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.</i></p>  | <p>There is no collated data to date to verify the analysis method or laboratory procedures. Only analytes are present on historical reports and documentation.</p> <p>There is no available to date to determine if duplicates, standards or blanks were used as part of a quality control process.</p> <p>No information available denotes the use of any geophysical assay tools.</p>                                      |
| <p><i>Verification of sampling and assaying</i></p>          | <p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>   | <p>For the purposes of this report scanned copies of historical drill logs were consulted. There are no reports of twinned holes in relation to the drill holes reported herein. Information on the process and supervision of analysis is not available to date.</p> <p>Historical reports suggest original samples and core have been discarded.</p> <p>Data has been reported to first decimal place and not adjusted.</p> |

| Criteria   | JORC Code explanation   | Commentary  |
|--|---|---|
| <i>Location of data points</i>                                 | <p><i>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.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>   | <p>The accuracy of drill hole locations may be within 10 to 20m given the discrepancy between digital and paper logs. The method of surveying drill collars is denoted as differential GPS although supporting information is yet to be located. Topography is relatively flat over the drilling locations, although elevation is not available to date. Downhole survey data is available although the type of instrument is not available to date.</p> <p>The grid system utilized is denoted as AGD84 Zone 50. Data has been re-projected to GDA94 MGA Zone 50.</p>  |
| <i>Data spacing and distribution</i>                           | <p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>                            | <p>Holes were variably spaced and were consistent with industry standard exploration style drilling in accordance with the collar details/coordinates supplied in Table 1.</p> <p>Sample compositing and spacing has not been addressed due to the lack of information available and stage of drilling denoted in historical reports.</p>   |
| <i>Orientation of data in relation to geological structure</i> | <p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>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.</i></p> | <p>The nature of the drilling reported is exploratory. True widths are not determined as part this report only the specific interval intersected downhole. Drillhole PMLD9 was drilled at -70° to determine orientation.</p> <p>Due to the high degree of deformation, nature of mineralisation and the intervals encountered, true widths may be very close to true. In addition, the relationship between the drilling orientation and the orientation of mineralised structures is not considered to have introduced a sampling bias. More detailed analysis is required to determine an appropriate drill angle and azimuth for follow up drilling.</p> |
| <i>Sample security</i>   | <p><i>The measures taken to ensure sample security.</i></p>   | <p>There is no historical information collated to date on the security of samples or sampling denoted herein.</p>   |
| <i>Audits or reviews</i>                                       | <p><i>The results of any audits or reviews of sampling techniques and data.</i></p>   | <p>There is no historical information collated denoting auditing completed.</p>   |

## Section 2 Reporting of Exploration Results

\*Criteria listed in the preceding section also apply to this section.

| Criteria                                       | JORC Code explanation  | Commentary  |
|--|--|---|
| <i>Mineral tenement and land tenure status</i> | <p><i>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.</i></p> <p><i>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.</i></p>  | <p>Exploration Licence application E08/2924 is held by Zebra Minerals Pty Ltd a 100% owned subsidiary of Spectrum Resources Ltd.</p> <p>Exploration Licence E08/2924 is currently subject a public and native title objection period.</p>   |
| <i>Exploration done by other parties</i>       | <p><i>Acknowledgment and appraisal of exploration by other parties.</i></p>  | <p>Early exploration was undertaken by Hematite Petroleum Pty Ltd from 1972, WMC Resources Limited from 1993 in conjunction with successive explorer Onslow Iron Ore Syndicate chaired by Mr. W.J. Evans and furthermore, FMG explored until surrender in 2016.</p>   |
| <i>Geology</i>                                 | <p><i>Deposit type, geological setting and style of mineralisation.</i></p>  | <p>The mineralisation style discussed in this release refers to Iron-Oxide Copper Gold (IOCG) and Iron formation hosted Gold.</p>   |
| <i>Drill hole Information</i>                  | <p><i>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:</i></p> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> <p><i>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.</i></p> | <p>See Table 1.</p> <p>Only drillhole data that is available through WAMEX where Drillhole collar location can be validated is reported. From initial observations, there is up to seven additional reverse circulation drill holes that have been drilled over the Whaleshark prospect area by the Onslow Iron Ore Syndicate, although these drill holes require detailed investigation to identify the correct collar location due to mis-matching datasets across reporting years.</p> <p>The Author has made the best efforts to unearth all mineralisation data available through WAMEX. No mineralisation or no mineralised data has been excluded intentionally.</p> <p>Elevation data has not been sourced to date.</p> |

| Criteria  | JORC Code explanation   | Commentary  |
|---|---|---|
| <i>Data aggregation methods</i>   | <p><i>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.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p> | All drilling intersections are reported as the sampled interval denoted in historical documentation.  |
| <i>Relationship between mineralisation widths and intercept lengths</i> | <p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>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').</i></p>   | The spatial relationship between drillholes is yet to be determined at the stage of drilling. The historical drill core logs display no core orientation data. Mineralisation is only interpreted to be continuous along favorable NESW intermediate structures and or along strike of the reported high amplitude NESW magnetic anomaly.   |
| <i>Diagrams</i>   | <i>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.</i>  | See attached figures 1 -3.  |
| <i>Balanced reporting</i>   | <i>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.</i>  | Only drilling completed by WMC Resources limited focused on Copper / Gold mineralisation within the Whaleshark prospect have been denoted in this report. Further RC drilling has been completed the Onslow Iron Ore Syndicate although confidence to date in the sourced open file data poor due to mismatching meta data and assay information. Missing Drillhole information does not display any significant gold or copper mineralisation to date. |

| Criteria                                  | JORC Code explanation  | Commentary  |
|---|--|---|
| <i>Other substantive exploration data</i> | <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> | Refer to the release.   |
| <i>Further work</i>                       | <p><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></p> <p><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></p>                         | <p>Further work proposed is to be of a desktop nature pending grant of the licence.</p> <p>See Figures 2 &amp; 3.</p> |