

# **Exploration Targets at Calypso and Mt Keith Prospects & Company Update**

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ANNOUNCEMENT

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#### **Background**

In late November 2018 Torian Resources Ltd (ASX:TNR) ("TNR" or the "Company") commissioned consultants BM Geological Services Pty Ltd ("BMGS"), to provide independent estimates of gold exploration targets at Torian's gold prospects.

The Calypso and Mt Keith Prospects are the first BMGS reports to have been received and verified by the TNR technical team. Further exploration targets from Torian's other prospects prepared by BMGS will be released over the coming weeks.

This work was commissioned to provide an independent examination of TNR projects and included looking at results of various drill programmes both historical and carried out by TNR, also geological mapping, data capture and interpretation and other exploration methods. The results are being used to assist the Company in prioritising its future exploration strategy.

## **Exploration Targets**

All available results from previous exploration drilling have been compiled and an Exploration Target defined for the Calypso and Mt Keith Projects.

The current Exploration Targets in these two areas are estimated to be between 3.0 and 4.1 million tonnes at a grade of between 1.6g/t to 2.2g/t Au (Table 1); highlighting the regions potential to host a large gold deposit. The Exploration Targets for the Calypso and Mt Keith Projects, describing the potential quantity and grade, are conceptual in nature. There has been insufficient exploration completed to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Leonora Region Exploration Targets						
Project	Deposit	Rank	Low (T)	High (T)	Low (Gold)	High (Gold)
Calypso	Calypso	High	2,942,500	3,981,000	1.62 g/t	2.20 g/t
Mt Keith	Bartons	Med	84,300	114,000	1.32 g/t	1.78 g/t
	Waldecks	Med	10,900	14,800	2.36 g/t	3.20 g/t
Totals			3,037,700	4,109,800	1.61 g/t	2.19 g/t

Table 1: Exploration Target Estimate (February 2019)



The Exploration Target tonnage estimate has been determined by available new and historic aircore, RC and diamond drilling. The majority of the historic data has been sourced from printed reports and entered directly into the digital database from drill logs, assay sheets, collar files, cross sections and underground plans. Where more than one gold assay was recorded, repeat and duplicate results were not used. Wireframes were digitised in Surpac, and data from old workings was digitised from mine plans and cross sections, with volumes removed from wireframes. Bulk density has been applied according to the oxidation state of the material, oxide 2.0t/m³, transitional 2.4t/m³ and fresh 2.7t/m³. The exploration target grade estimate is based upon drilling results. Historic QAQC data was not available.

The Leonora district is contained within the 2.7Ga late Archaean Eastern Goldfield Superterrane, the eastern division of the Archaean Yilgarn Craton. The district, located around 250km north of Kalgoorlie, covers an area 100km long and 80km wide and contains an abundance of orogenic gold deposits.

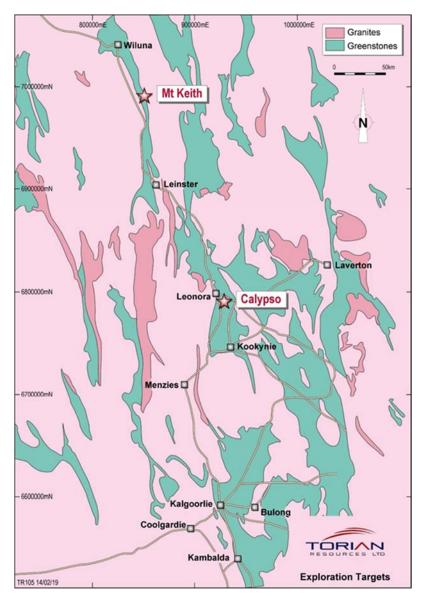


Figure 1: Location of Mt Keith and Calypso Exploration Targets



The geological and structural history of the area is steeped in controversy despite many years of mining in the region. This is primarily due to the poor outcrop exposure and the lengthy structural evolution of the area. Numerous studies have been conducted across the area, and are summarised below.

In addition to Archean mafic and ultramafic rocks, the Leonora district contains interbedded sedimentary units, felsic volcanic and late sedimentary basins, all of which are intruded by the Raeside pluton to the west and the Bundarra pluton to the northeast. The greenstone sequence can be divided into two domains, based on contrasting lithostratigraphic contact along the Mt George discontinuity, these being the Leonora Western Domain and the Leonora Eastern Domain.

### Calypso Project

The Calypso Deposit, completely covered with transported sediments including aeolian sands, laucastrine clays and hardpan is located within a regional dilational zone immediately west of the Keith-Kilkenny lineament. Due to the deep depth of cover over the prospect, lithology across the area has been determined by drilling and aeromagnetic interpretation. A fault zone trending 120° (magnetic) separates a northeast trending siliciclastics in the south from northwest to northerly trending clastics, mafic volcanic and intrusives in the north. Siliciclastics include a thinly bedded to laminated magnetite rich siltstone; laminated, in places schistose chloritic siltstone; siliceous pale grey siltstone; black carbonaceous shale; greywacke; mass flow breccia and polymictic conglomerate. The magnetite-siltstone sequence defines a reclined macroscopic fold pair, with limbs dipping between 40 and 60° to the northwest.

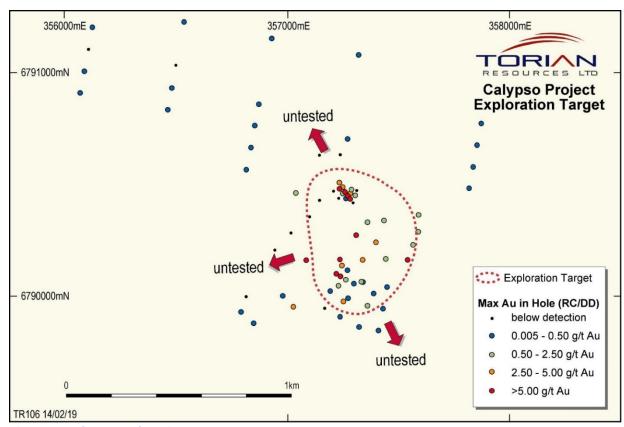


Figure 2: Calypso Exploration Target



Gold mineralisation at Calypso is associated with strong iron-carbonate-pyrite-quartz alteration within the magnetite siltstone unit and at the contact between this unit and the mass flow breccia, conglomerate or chloritic siltstone units. Higher gold grades are associated with zones of higher pyrite abundance within the strong to intensely carbonate-pyrite-quartz alteration zones, which is enveloped by a halo of moderate chlorite alteration.

The Exploration target exists over fold hinge zones within the magnetite siltstone and in areas where this unit has been terminated or offset by faults, as well as in the supergene zone, and has been defined using 61 diamond and RC drillholes completed across the project to date.

Sectional interpretations of geology, oxidation and mineralisation was digitised in Surpac and used to create wireframes. Volumes were then calculated. Assumed densities were applied to the volume and tonnage was calculated. Grades are based on the drillhole information. An exploration target has been calculated to be in the order of 2.9 - 3.9 Mt at a grade of 1.6 - 2.2 g/t gold. There has been insufficient exploration completed to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

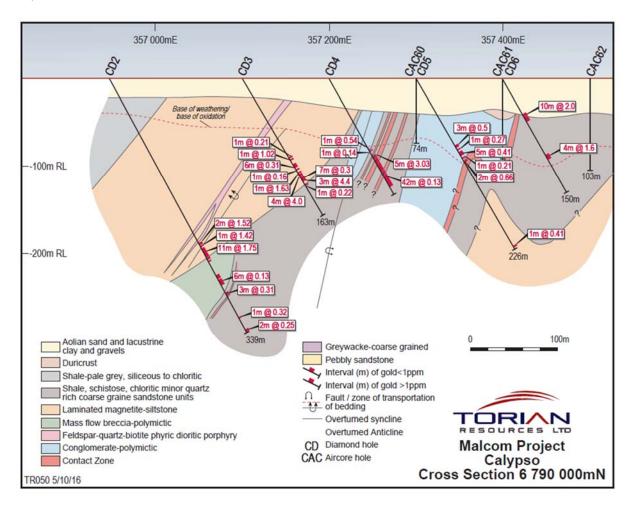


Figure 3: Calypso Cross Section 6790000N showing Lithology



#### Mt Keith Project

#### Waldecks and Bartons Prospects

The project area lies along a significant northwest trending deflection of the main Agnew-Wiluna greenstone belt in a structurally complex and elongated greenstone stratigraphy disrupted by granoid intrusions of various ages and textures. Three main lithological associations are found in the area, a sequence of predominantly ultramafic rocks to the west, a continuation of the units hosting nickel mineralisation at Mt Keith and Yakabindie, a central sequence of felsic and mafic volcanics which may be part of a bimodal volcanostratigrapic package, and granitoid rocks in the east containing numerous greenstone belt xenolithic remnants. Faults are found along stratigraphic contacts. A Proterozoic dyke cross cuts the stratigraphy in a north-northwest orientation.

Mineralisation at Waldecks is associated with shears and quartz veining within felsic porphyry and granite, whilst the gold is hosted within a sheared granite adjacent to a felsic tuff-granite contact at Bartons Reward. Similar geological settings exist along the full strike length of the tenements, contacts Sectional interpretations of oxidation geology, and mineralisation was digitised in Surpac and used to create wireframes. Volumes were then calculated. Assumed densities were applied the volume and tonnage was calculated. Grades based on the drillhole information. An exploration target has been calculated to be in the order of 95,000 - 130,000t at a grade of 1.1 - 1.4 g/t gold. There has been insufficient exploration completed to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

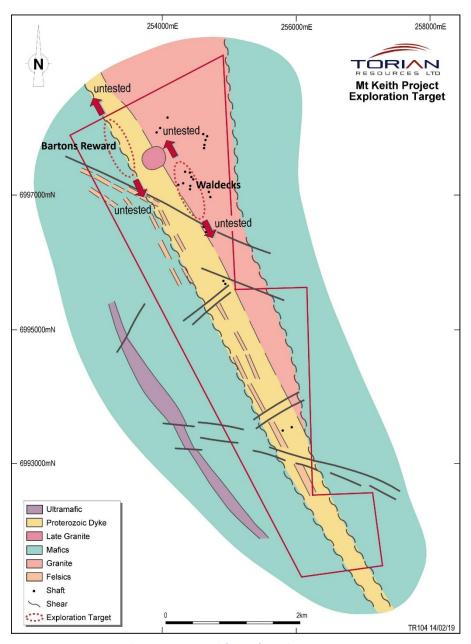


Figure 4: Mt Keith Exploration Target



### **Update on Company Activities**

The Board is also pleased to advise it has reviewed and accepted the strategic vision of the *5 year Operational Strategy* put forward for YR2018 (refer to ASX release dated 14 July 2017) which encompasses a number of key steps including:

- 1. Committed exploration programs;
- 2. Production joint ventures;
- 3. Exploration joint ventures; and/or
- 4. Asset acquisitions.

The Company is planning further exploration for 2019 within its core Zuleika Project, and is committed to rationalising its two regions of landholdings around Leonora and Kalgoorlie.

TNR has received interest from several parties in projects that are considered to be non-core to the Company's future exploration focus and is currently pursuing partnerships and alliances that will continue the exploration and development of those projects.

The Company has recently undertaken a technical review of assets and data using both geological and geophysical techniques and has identified the prospects within TNR's Zuleika and Credo Well Projects where it intends to focus further work and follow up on promising results. Comprehensive planning of the next 3 years of exploration is underway. The exploration will firstly aim at increasing the detailed knowledge of the potential mineralisation across the Zuleika and Credo Well Projects. The very promising results of the Calypso BMGS report (refer Table 1) will now be included in planning of future work.

TNR intends to advance the best opportunities for return on results and give benefit for future growth towards production. These plans and further information should be available to shareholders for the AGM expected to be held in late April or early May 2019.

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#### **Competent Person Statement**

The information in this report which relates to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled, reviewed and conclusions derived by Ms Lyndal Money, who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of the company. Ms Money has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves". Ms Money consents to inclusion in the report of the matters based on this information in the form and content in which it appears.



#### **Forward Looking Statements and Disclaimers**

This announcement is for information purposes only and does not constitute a prospectus or prospectus equivalent document. It is not intended to and does not constitute, or form part of, an offer, invitation or the solicitation of an offer to purchase or otherwise acquire, subscribe for, sell or otherwise dispose of any securities, or the solicitation of any vote or approval in any jurisdiction, nor shall there be any offer, sale, issuance or transfer of securities in any jurisdiction in contravention of any applicable law.

This announcement contains forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions.

The forward looking statements in this announcement are based on current expectations, estimates, forecasts and projections about Torian and the industry in which they operate. They do, however, relate to future matters and are subject to various inherent risks and uncertainties. Actual events or results may differ materially from the events or results expressed or implied by any forward looking statements. The past performance of Torian is no guarantee of future performance.

None of Torian, or any of their directors, officers, employees, agents or contractors makes any representation or warranty (either express or implied) as to the accuracy or likelihood of fulfilment of any forward looking statement, or any events or results expressed or implied in any forward looking statement, except to the extent required by law.

You are cautioned not to place undue reliance on any forward looking statement. The forward looking statements in this announcement reflect views held only as at the date of this announcement.



# JORC Code, 2012 Edition - Leonora Region

# **1.1** 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 (eg 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Some data and results referred to in this report are historic, and date from the late 1980s to the present day. The historic data has been judged to be reliable following independent research, including discussions with previous operators and tenement holders.</li> <li>Samples from the Torian Resources drilling programme were collected via Reverse Circulation (RC) drill chips.</li> <li>All drilling yielded samples on a metre basis. The initial samples from this drilling were composited into intervals of 4m. Reverse Circulation (RC) drilling is utilised to obtain 1 m samples which are riffle split, from which approx. 2-3 kg is pulverised to produce a 40g charge for fire assay. The individual 1m samples for the anomalous intervals have been submitted to the lab and will be reported once the assays are received.</li> <li>Sample preparation method is total material dried and pulverized to nominally 85% passing 75 µm particle size. Gold analysis method is generally by 40g Fire Assay, with Atomic Absorption Spectrometry (AAS) finish (DL 0.01 – UL 50 ppm Au). Samples exceeding the upper limit of the method were automatically re-assayed utilizing a high grade gravimetric method.</li> </ul>
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	The RC drilling is usually 155mm in diameter. RC drilling was via a face sampling hammer.
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</li> </ul>	<ul> <li>Recoveries were logged onto paper logs during drilling. Recoveries were visually assessed.</li> <li>Sample recoveries were maximised in the RC drilling via collecting the samples in a cyclone prior to sub sampling.</li> <li>No relationship appears from the data between sample recovery and grade of the samples.</li> </ul>



Criteria	JORC Code explanation	Commentary
	occurred due to preferential loss/gain of fine/coarse material.	
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>	<ul><li>to be of a good quality and suitable for use in further studies.</li><li>Logging is qualitative in nature.</li></ul>
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 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>	<ul> <li>where sample is dry. In case of wet sample a representative 'grab' sample method is utilized.</li> <li>The sample preparation technique is total material dried and pulverized to nominally 85% passing 75 µm particle size, from which a 40g charge was representatively riffle split off, for assay.</li> <li>Standard check (known value) samples were used in all sample submissions to the lab. The known values correspond closely with the expected values. A duplicate (same sample duplicated) were commonly inserted for every 40 or 50 samples taken.</li> <li>Routine standards and duplicates were used to check for accuracy and precision of the results.</li> </ul>
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>internationally accredited for QAQC in mineral analysis</li> <li>No geophysical tools have been used to date</li> </ul>



Criteria	JORC Code explanation	Commentary
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>and the individual 1m samples are presently being assayed</li><li>No twinned holes have been used to date</li></ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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> <li>Survey control used is hand held GPS. No down hole surveys were completed. As the other drillholes were drilled to less than 100m significant deviations are not expected</li> <li>Grid systems are various local grid converted to MGA coordinates</li> <li>Topographic control is accurate to +/- 0.5 m</li> </ul>
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 drill spacing of the RC holes is variable and has been reported elsewhere in this report</li> <li>The infilled areas have drilling density sufficient for JORC Inferred category. Further infill will be required for other categories</li> <li>For the initial samples 4m compositing has been used. The individual 1m samples are currently in the lab for assay</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>	<ul> <li>The orientation of the drilling is approximately at right angles to the known mineralisation and so gives a fair representation of the mineralisation intersected</li> <li>No sampling bias is believed to occur due to the orientation of the drilling</li> </ul>
Sample security	The measures taken to ensure sample security.	Samples were delivered to the laboratory in batches at regular intervals. These are temporarily stored in a secure facility after drilling and before delivery
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engages independent consultants who regularly audit the data for inconsistencies and other issues. None have been reported to date



## 1.2 **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>	<ul> <li>The Calypso Project is located on P37/8791 – 8793 and P37/9105, 100% owned by Torian Resources. The Mt Keith Project lies on M53/490 and M53/491. These tenements form the Mt Keith Joint Venture. These tenements are held by a third party on behalf of the Joint Venture. Torian Resources is the Manager of the Joint Venture and holds executed transfers which will permit this tenement becoming the property of the Joint Venture. Torian has purchased a 51% interest in the project and is earning up to 90% by completing exploration on the tenements</li> <li>The tenements are in good standing</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The details of previous work have been released in previous announcements to the market</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	Details of geology are found elsewhere in this report
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>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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</li> </ul>	<ul> <li>All material data has been previously released to the ASX</li> <li>Previously reported intercepts have been length weighted to provide the intersection width</li> <li>No metal equivalents have been used</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	
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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>Downhole widths have been previously announced to the ASX</li> <li>True widths have not been announced</li> <li>Drilling at an angle perpendicular to the mineralised trend has occurred at all times where possible</li> </ul>
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>	This information has been previously announced to the ASX, and are also included in this report
Balanced reporting	<ul> <li>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.</li> </ul>	Both high and low grades have been previously reported accurately to the ASX
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.	The areas have been subject to previous exploration as detailed on the Western Australian Department of Mines, Industry Regulation and Safety website <a href="https://geoview.dmp.wa.gov.au/GeoViews/?Viewer=GeoVIEW&amp;layerTheme=WAMEX&amp;Module=WAMEX">https://geoview.dmp.wa.gov.au/GeoViews/?Viewer=GeoVIEW&amp;layerTheme=WAMEX&amp;Module=WAMEX</a>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	Planning of future work programs is in progress, with RC drilling and possibly diamond drilling to follow up the Exploration Targets outlined in this report and also to evaluate the remaining prospect areas not tested by previous programs

