



Zenith
MINERALS
LIMITED

14th October 2019

Split Rocks Project - Expansion of Landholdings

Zenith has further expanded its very strong ground position in the Forrestania belt, adjacent to SQM-WES's Mt Holland/Earl Grey lithium deposit (Figures 1 & 2 below);

Two new Exploration Licences successfully secured adding another 150 sqkm to Zenith's 100% owned land position, taking total area to over 650 sqkm;

Initial review of historical data for the 2 new licences and Zenith's immediately adjoining existing tenure has highlighted extensions to known lithium and gold prospectivity and identified iron ore potential, with new targets including;

- Lithium - Thick pegmatites (up to 65m true width) recorded in logs of historical (1980's) drill holes have not been analysed for lithium and associated elements,

- Gold - Parker South gold prospect has drill intersections incl. 10m @ 0.64g/t Au,

- Iron Ore - Wrathchild iron ore prospect ~15 km south of the Parker Range iron project which was recently purchased by Mineral Resources Ltd (ASX-MIN) for \$20 million cash plus royalty¹. Wrathchild drilled with only 12 RC holes over approximately 1km strike of hematite enriched Banded Iron Formation (BIF) outcrop, best intersections include: 13m @ 56.9% Fe incl. 9m @ 58% Fe, and 27m @ 54.2% Fe incl. 12m @ 55.9% Fe;

Zenith Minerals Limited ("Zenith" or "the Company") is very pleased to announce that it has increased the size of its 100% owned, highly prospective Split Rocks project landholdings to over 650 sqkm in the Forrestania greenstone belt. This emerging lithium district is host to SQM-Wesfarmers' Mt Holland/Earl Grey lithium deposit containing 189Mt @ 1.5% Li₂O (KDR:ASX Release 19th Mar 2018), while also hosting significant gold, nickel and iron ore deposits. (Figures 1 & 2).

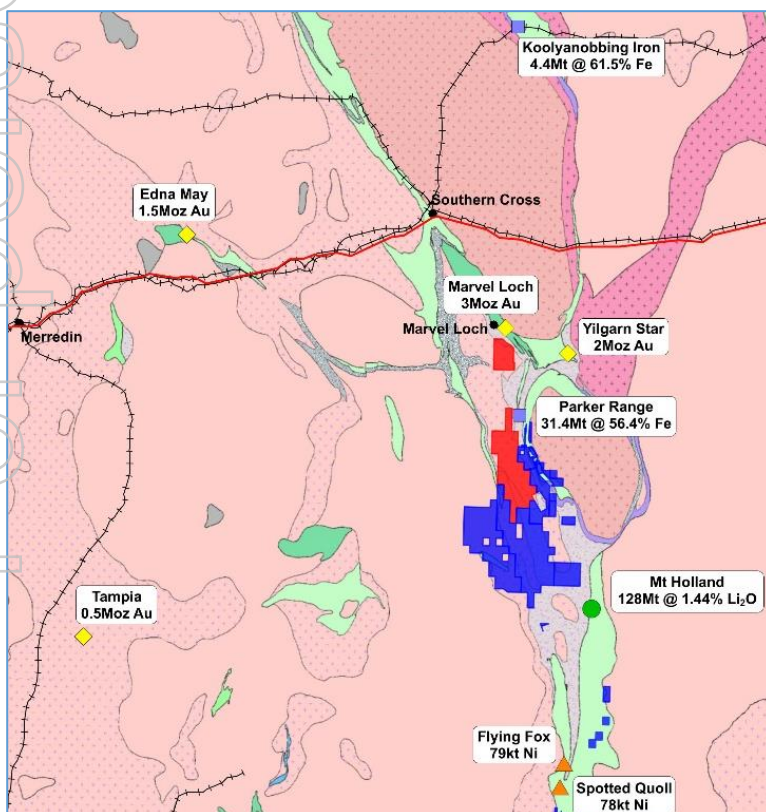


Figure 1- Split Rocks Project Location Map
Showing Regional Mineral Projects. Zenith's current tenure in blue, and new Zenith ELAs in red.

Corporate Details

ASX: ZNC

Issued Shares (ZNC) 212.8M

Unlisted options 4.15M

Mkt. Cap. (\$0.07) A\$14M

Cash (30th June 19) A\$1.1 M

Debt Nil

Directors

Michael Clifford:
Managing Director

Mike Joyce:
Non-Exec Chairman

Stan Macdonald:
Non-Exec Director

Julian Goldsworthy:
Non-Exec Director

Graham Riley:
Non-Exec Director

Major Shareholders

HSBC Custody. Nom. 12.2%

Nada Granich 5.4%

J P Morgan 4.8%

Miquilini 4.3%

Abingdon 4.1%

Contact Details

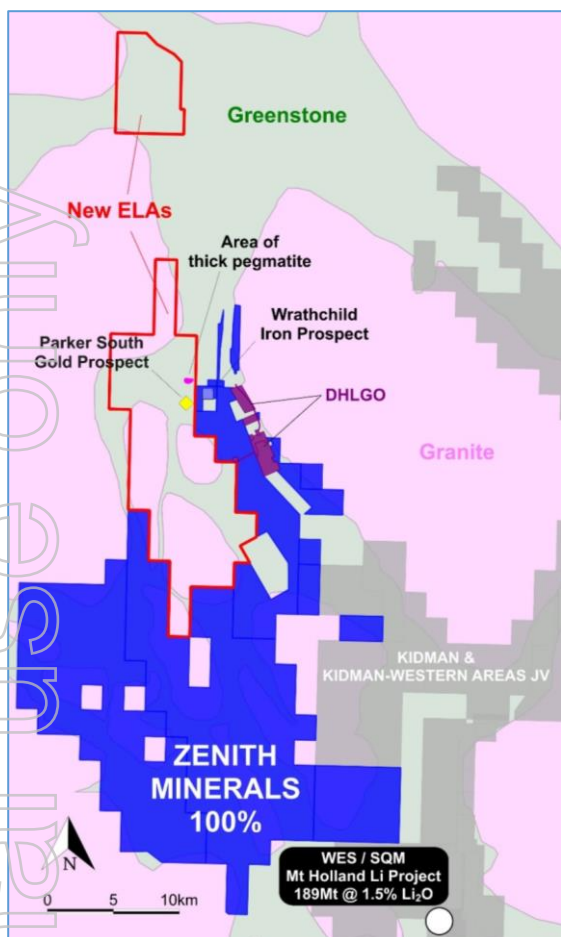
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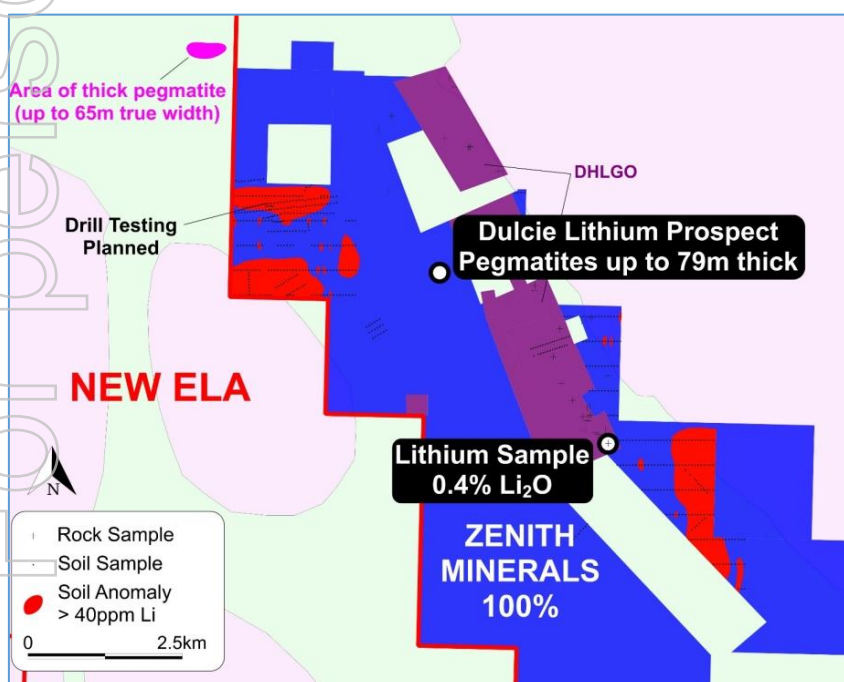


Ongoing review of previous gold, nickel and iron ore exploration conducted on the area covered by the 2 new licences applied for by Zenith has identified several targets requiring immediate follow-up including historic exploration drill holes that intersected thick pegmatite bodies that were never analysed for lithium.

Additionally, review of the past data has highlighted potential for iron ore in near surface hematite enrichment of BIF horizons around 15km south of the Parker Range iron deposit which was purchased recently by Mineral Resources Ltd (ASX-MIN) in a \$20m cash transaction.

The Wrathchild iron prospect located on Zenith's wholly owned tenements consists of approximately 1km strike of outcropping hematite enriched BIF, which has been tested by only 12 RC drill holes to date. Downhole intersections of over 50 metres grading +50% iron (Fe) were recorded, with better results including **13m @ 56.9% Fe incl. 9m @ 58% Fe, and 27m @ 54.2% Fe incl. 12m @ 55.9% Fe** (WAMEX Open file reports a088038 & a099406).

Figure 2- Split Rocks Project – Location of Zenith's current and new tenure, and new prospects including the Wrathchild iron prospect, relative to WES/SQM Mt Holland Lithium Project.



Additionally, drilling by CRA in 1987-88 reported very thick shallow dipping pegmatite intersections - up to 76m downhole thickness (estimated by Zenith as ~65m true width) in 3 consecutive drill holes on one section over 280m width within Zenith's new exploration licence applications. The nearest effective drilling to the south is 590m away and one RC hole on that section also intersected pegmatite over 8m true width. The shallow dipping pegmatite body remains open to the north. The pegmatite was not analysed for lithium. (WAMEX Open file reports a29425 and a26162).

Figure 3 – Split Rocks (Northern Sector) showing detail of Lithium Prospects & Anomalies.



DHLGO – High-Grade Gold Potential

As announced to the ASX on the 12th September 2019 Zenith recommenced drilling at its Split Rocks project in Western Australia. An initial program of approximately 2000m of RC (13 holes to depths of 150m) will test bedrock gold targets beneath the currently operating Dulcie Heap Leach Gold Project (DHLGO). Zenith announced on the 21st March 2019 that it had executed an option agreement with the owners of the DHLGO whereby the Company has an exclusive right to explore for bedrock gold mineralisation beneath the large laterite rich gold cap currently being mined and treated on leases located contiguous with Zenith's Split Rocks project licences (Figure 3).

Historical exploration reports on the area of the DHLGO leases highlight that high-grade gold mineralisation is predominantly hosted by moderately west dipping BIF units. High-grade historic drill results include: **6.0m @ 16.91 g/t Au, 2.0m @ 32.73 g/t Au, 2.0m @ 16.5 g/t Au, 2.0m @ 15.40 g/t Au, 5.0m @ 4.73 g/t Au, 4.0m @ 4.90 g/t Au and 9.0m @ 2.20g/t Au**, presenting several high-priority target zones for follow-up by Zenith.

Of note, most historic drill holes have failed to adequately test Zenith's high-priority BIF target zone, where the shallow, wide, west dipping mineralised structures (with results such as: 32m @ 0.6 g/t Au and 57m @ 0.28g/t Au) intersect the north-south moderately west dipping preferred host rock BIF units. Most of the historic exploration drill holes have been collared to test the main laterite gold zone and are too far east of the target BIF host unit to be an effective test. In addition, most historic drill holes have only focused on the near surface laterite rich gold zone with only 38 holes of a total of 1,777 being drilled deeper than 75m. The average historic drill hole depth for the project area is only 19.7m.

Historic drill holes were drilled either vertical or at -60° east. Assuming moderate west dipping gold mineralisation then the intersection widths will be close to true widths, however there is insufficient drill density to be confident that all gold zones are dipping west and therefore caution must be applied regarding the widths of reported gold zones.

References:

¹CAZ ASX Release 30 August 2019 - Parker Range sale total cash consideration of \$20M (ex GST) plus royalty \$0.50/tonne of iron ore after first 10 million tonnes of production.

²RMS ASX Release 17 September 2019 – Tampia Mineral Resource 460k oz Au.

³CAZ ASX Release 26 March 2019 – Parker Range Proven & Probable Ore Reserve 3.4Mt @ 56.4% Fe (61.9% calcined Fe) and 0.02% P, 6.0% SiO₂ and 2.50% Al₂O₃.

⁴MIN ASX Release 26 August 2019 – Koolyanobbing Iron Ore Production - Currently running at 7.5Mt run rate.

⁵WSA ASX Release 20 August 2019 – Flying Fox resource 1.69Mt @ 4.7% Ni (79,332 Ni tonnes), Spotted Quoll resource 1.49Mt @ 5.3%Ni (78,894 Ni tonnes).

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. Mr Clifford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

14th October 2019

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JORC Tables

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<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>	<p>Cazaly Resources Limited WAMEX Open file reports a088038 & a099406 detail iron ore drilling at Wrathchild for the period 2010 and 2013.</p> <p>Parker Range South drilling 86PRR078 by CRA 30 to 40m, 10m @ 0.64 g/t Au, WAMEX Open file report a18740. 10m composite sample.</p> <p>Drilling by CRA reported thick shallow dipping pegmatite intersections up to 76m downhole thickness (estimated 65m true thickness) in 3 consecutive drill holes on one section over 280m width. Nearest effective test is a drill section 590m south that also intersected pegmatite over 8m true width. Pegmatite remains open to the north (WAMEX report a29425 and a26162). Pegmatite was never analysed for lithium, no . lithium minerals are noted in drillhole geological logs.</p>
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Samples are considered to be representative of the intervals sampled.
	<i>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.</i>	RC were used to obtain 1m samples for iron ore and RAB drilling for 10m composite samples (2m individual samples composited into 10m) for gold which were analysed for gold and iron ore (see below).
Drilling techniques	<i>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.).</i>	RAB and RC drilling.



Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Drill chip recoveries not documented in historical report. Appropriate controls will be put in place in future infill drilling programmes.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	As above.
	<i>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.</i>	As above.
Logging	<i>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.</i>	Drill samples were logged by qualified geologists.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Qualitative logging.
	<i>The total length and percentage of the relevant intersections logged.</i>	All intersections were logged.
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No core
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	Iron ore - 1m samples from cyclones were riffle split and composited to final sample. Samples were generally dry. Gold drilling – 10m composite tube sample.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Iron samples were analysed at Kalassay Laboratories in Perth and analysed via XRF for Fe, SiO ₂ , Al ₂ O ₃ , TiO ₂ , Mn, MnO, CaO, P, S, MgO, K ₂ O and Loss on Ignition (LOI). Gold assaying by fire assay 50g charge with an AAS finish at non-disclosed laboratory.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Standard industry laboratory procedures are assumed to have been in place following pulverising of the sample material (80% passing 75um).
Sub-sampling techniques and sample preparation - continued	<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>	Generally, not reported.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample sizes are assumed to be following industry standards and appropriate.



Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Techniques are industry standard and considered as near to total.
	<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>	No geophysical tools used.
	<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>	Not reported in historic reports.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	All information on historic drilling is by independent 3 rd party companies.
	<i>The use of twinned holes.</i>	No specific twin hole drilled drilling campaigns identified to date.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Field data were recorded on paper logs for gold drilling and digital database for iron ore drilling.
	<i>Discuss any adjustment to assay data.</i>	No adjustments were made.
Location of data points	<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>	Iron ore drill holes located using GPS with +/- 3m accuracy. Original gold drill collar locations based on compass and tape surveys or GPS depending on year of drilling. Selected drill hole collar locations have been verified in the field using GPS with +/- 3m accuracy.
	<i>Specification of the grid system used.</i>	The grid system used to compile data was MGA94 Zone 50
Location of data points – continued	<i>Quality and adequacy of topographic control.</i>	Topography control is +/- 5m.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Iron ore RC drill holes on 200 to 300m spaced drill lines, with drill holes spaced approximately 20m down dip on each drill section. Gold RAB holes drilled on 75m spaced lines with holes along lines at 50m spacing. Holes generally to 40m depth.
	<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</i>	Further drilling would be required to estimate a Mineral Resource (JORC 2012).



	<i>applied.</i>	
	<i>Whether sample compositing has been applied.</i>	Simple length weighted arithmetic average for all sample composites.
<i>Orientation of data in relation to geological structure</i>	<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>	Iron ore RC drill holes are generally inclined 60° to the north-northeast (original local grid east) which is adequate to test interpreted steep dipping BIF units, further drilling near surface to test for hematite enrichment. Gold drilling testing for flat lying supergene gold zones.
	<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>	No bias based on current interpretation of ore zones.
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Industry standards are inferred to have been used.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews documented.

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>	<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>	Historic 3 rd party exploration results are reported on the Company's exploration licence applications EL77/2615 & E77/2616
	<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>	Tenements are applications and are subject to grant with normal industry procedures with no known impediment to future granting of a mining lease.
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Cazaly Resources Limited WAMEX Open file reports a088038 & a099406 detail iron ore drilling at Wrathchild for the period 2010 and 2013. Parker Range South drilling 86PRR078 by CRA 30 to 40m, 10m @ 0.64 g/t Au, WAMEX Open file report a18740. 10m composite sample. Drilling by CRA reported thick shallow dipping pegmatite



		<p>intersections up to 76m downhole thickness (estimated 65m true thickness) in 3 consecutive drill holes on one section over 280m width. Nearest effective test is a drill section 590m south that also intersected pegmatite over 8m true width. Pegmatite remains open to the north (WAMEX report a29425 and a26162).</p> <p>Refer to figures in text.</p>
Geology	<p><i>Deposit type, geological setting and style of mineralisation.</i></p>	<p>The Wrathchild iron prospect located on Zenith's new applications consists of approximately 1km strike of outcropping hematite enriched BIF</p> <p>Gold mineralisation is oxide mineralisation in near surface banded iron formation (BIF) within amphibolite.</p>
Drill hole Information	<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"> <i>o easting and northing of the drill hole collar</i> <i>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> <i>o dip and azimuth of the hole</i> <i>o down hole length and interception depth</i> <i>o hole length.</i> <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>Summary information is provided in text of this release and on associated figures, references to the original exploration reports are provided in this JORC table and are available from the Western Australian Department of Industry, Mines and Resources online WAMEX system. Reference numbers (WAMEX report "A" numbers) are provided in the appropriate sections in this JORC table</p>
Data aggregation methods	<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>A lower cut-off of 0.5g/t Au for gold results reported, whilst a lower cut-off of 52% Fe was used for iron ore results</p> <p>A maximum on 1m dilution was included in the iron intercepts.</p>
Data aggregation methods - continued	<p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>No metal equivalents used.</p>



Relationship between mineralisation widths and intercept lengths	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	Drill holes are generally inclined 60° to the east-northeast assumed to represent adequately the shallow dipping mineral structures.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	As above
	<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>	Length reported are down-hole lengths but are believed to be close to true thickness.
Diagrams	<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>	Summary results of historic exploration activities are being referenced in this ASX release, references to the original exploration reports are provided in this JORC table and are available from the Western Australian Department of Industry, Mines and Resources online WAMEX system. Reference numbers (WAMEX report "A" numbers) are provided in the appropriate sections in this JORC table.
Balanced reporting	<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>	Summary results of historic exploration activities are being referenced in this ASX release, references to the original exploration reports are provided in this JORC table and are available from the Western Australian Department of Industry, Mines and Resources online WAMEX system. Reference numbers (WAMEX report "A" numbers) are provided in the appropriate sections in this JORC table.
Other substantive exploration data	<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>	No other data to report at this stage of exploration. Data compilation and assessment continuing.
Further work	<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>	Further work required includes completion of a detailed review of historic exploration activities, field follow-up including mapping and surface sampling and infill/extension drilling with a focus on appropriate QAQC and metallurgical testwork.
	<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>	See figures in body of text.