



ASX ANNOUNCEMENT

BANGEMALL CONFIRMED AS NEW NICKEL-COPPER PROVINCE

- Micro-XRF analysis highlights disseminated pentlandite and chalcopyrite in multiple drill holes at the Mount Vernon Ni-Cu-Co-PGE Project
- Bangemall now confirmed as a major new mafic-hosted magmatic nickel-copper-PGE province in which Miramar has a dominant land position

Miramar Resources Limited (ASX:M2R, “Miramar” or “the Company”) is pleased to advise that further mineralogical analysis of samples from EIS co-funded RC drilling at the Company’s 100%-owned Mount Vernon Project has confirmed the presence of disseminated nickel (Ni) and copper (Cu) sulphides (pentlandite and chalcopyrite respectively) in multiple drill holes.

Miramar’s Executive Chairman, Mr Allan Kelly said the new data confirmed the Bangemall as a major new nickel-copper mineral province with the potential to host large mafic-hosted magmatic Ni-Cu-Co-PGE sulphide deposits and where Miramar has first-mover status and a dominant land position.

“We targeted the Bangemall region on the basis of several regional-scale data sets which indicated the potential for Norilsk-style mafic intrusion hosted magmatic Ni-Cu-Co-PGE mineralisation,” he said.

“We now have proof that an extensive volume of mafic magma carrying nickel and copper has assimilated sulphate minerals and then undergone differentiation to produce mafic cumulate rocks containing disseminated nickel and copper sulphides,” he said.

“Now that we have proven our initial concepts, the aim is to find out where those sulphides have accumulated to form an economic mineral deposit,” he said.

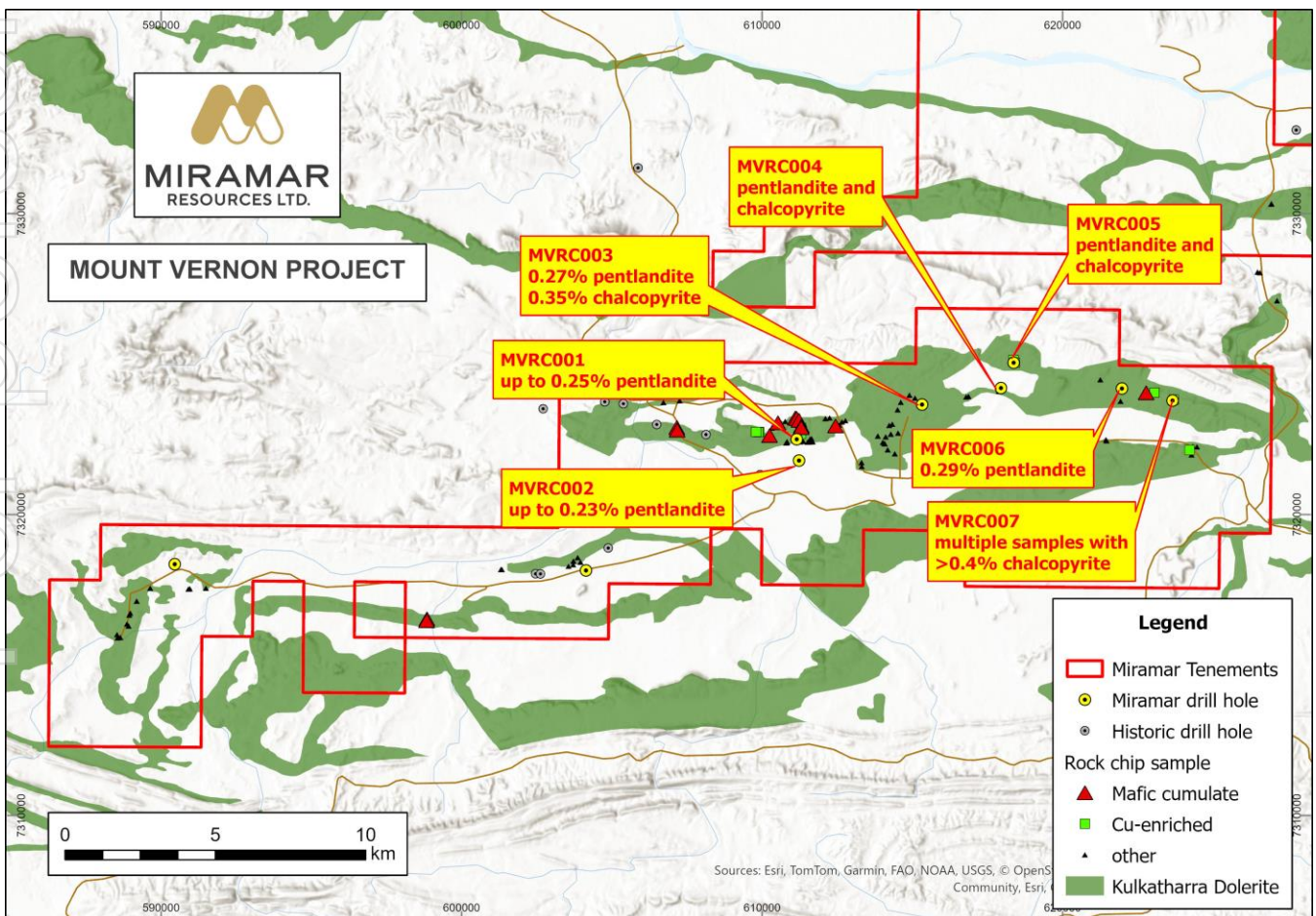


Figure 1. Mount Vernon Project showing nickel and copper sulphide occurrences.



Micro-XRF analysis

Following the successful trial of “Micro-XRF” analysis on selected samples from the EIS co-funded RC drilling programme completed at Mount Vernon in August 2024, the Company has completed systematic analysis on a suite of 159 samples of mafic cumulate rocks across 7 of the 9 holes drilled at Mount Vernon.

The aim of the analysis was to determine the major mineralogy of the samples including olivine, pyroxenes, and plagioclase, and confirm which sulphides were present.

The new results show disseminated pentlandite and chalcopyrite, along with more abundant pyrrhotite, in multiple samples across all 7 holes. The average ratio of chalcopyrite to pentlandite is roughly 3:1, which is similar to that seen at Norilsk, and there is zonation down the hole consistent with differentiation.

Figure 2 shows an example of the downhole sulphide data for three holes whilst Figure 3 shows pentlandite and chalcopyrite results for all 159 samples and shows the highest chalcopyrite values in MVRC007.

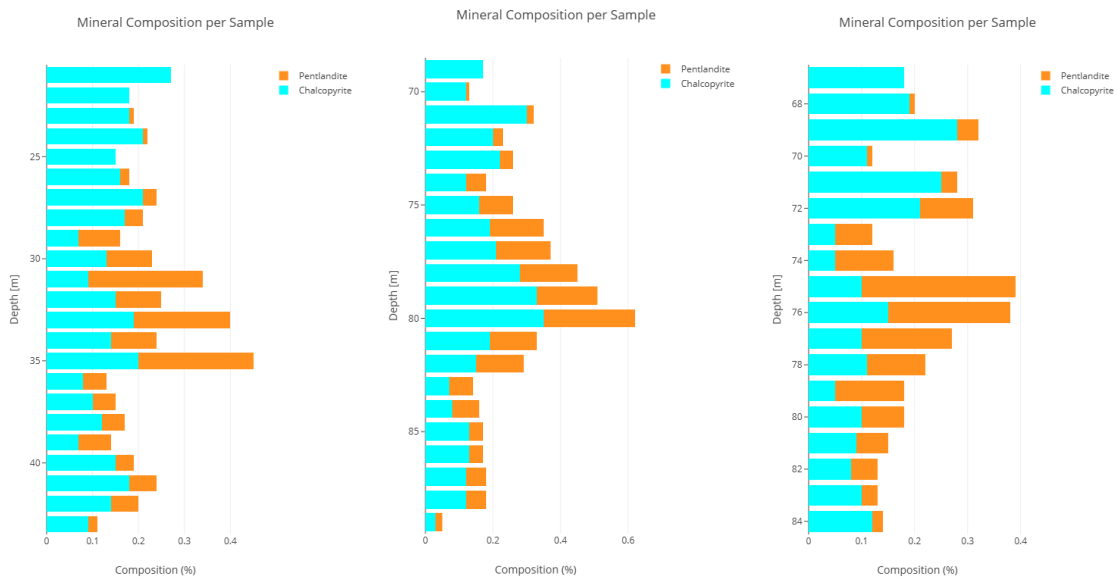


Figure 2. Example Micro-XRF data for MVRC001 (left), MVRC003 (middle) and MVRC006 (right) showing pentlandite and chalcopyrite percentages downhole (in wt%).

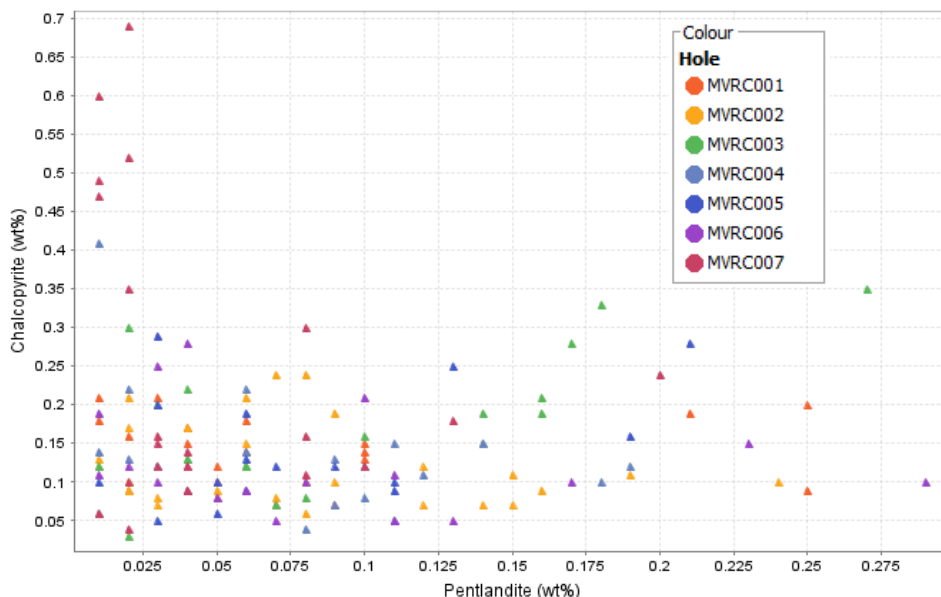


Figure 3. Pentlandite and chalcopyrite contents (in wt%) with symbols coloured by hole.



Analysis of the major mineralogy shows that most of the mafic cumulate samples can be classified as “olivine gabbro-norite” (Figure 4), which has formed through the differentiation of the dolerite sills and is the same lithology that hosts the large Nebo-Babel Ni-Cu-Co-PGE deposits in the West Musgraves of Western Australia.

In addition, samples from several holes contain gypsum, in some cases up to 7.5%, which appears to have been assimilated from evaporitic sediments (stromatolitic dolomite etc) that the dolerite sills have intruded through before final emplacement and crystallisation.

Along with sulphides such as pyrite, sulphate minerals such as gypsum and anhydrite are thought to be key sources of the external sulphur needed to form Norilsk-style nickel-copper sulphide deposits.

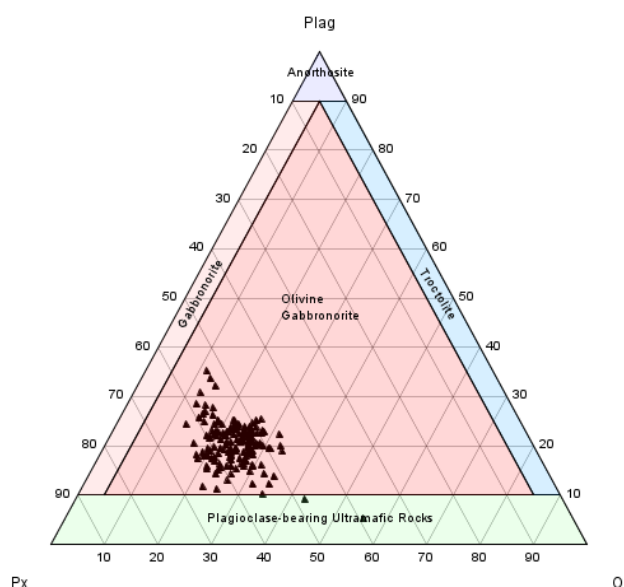


Figure 4. Classification of mafic cumulate samples using olivine, plagioclase and pyroxene showing most samples plotting as “olivine gabbro-norite”

The new data confirms that the mafic magma which created the dolerite sills has carried nickel and copper sulphides (pentlandite and chalcopyrite), whilst the presence of mafic cumulate rocks indicates the potential for depositional sites where these nickel-copper sulphides could have accumulated into a significant deposit (Figure 5).

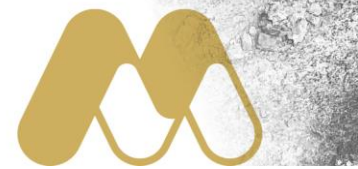
This data shows that the same processes that formed the giant Norilsk deposits in Siberia have also occurred within the Bangemall region and confirms the Bangemall as a new Proterozoic mafic-hosted magmatic nickel-copper province (Figure 6) with the potential to host multiple large deposits, and where Miramar was the first-mover and secured a dominant landholding over the most prospective ground.

Next Steps

The Company has now proved its initial concepts about the Bangemall and is excited about the potential to discover a large mafic-hosted magmatic Ni-Cu-Co-PGE deposit within its Bangemall tenement holding.

Further work is planned including:

- Signing up to the CSIRO’s “Indicator Minerals for Magmatic Nickel Sulphides” Study
- Applying for EIS funding for detailed magnetic and electromagnetic surveys to cover Trouble Bore and the recently granted tenement applications
- Completing a diamond drill hole at the high-priority Trouble Bore EM target, which was previously co-funded under Round 29 of WA Government’s Exploration Incentive Scheme (EIS)



For personal use only

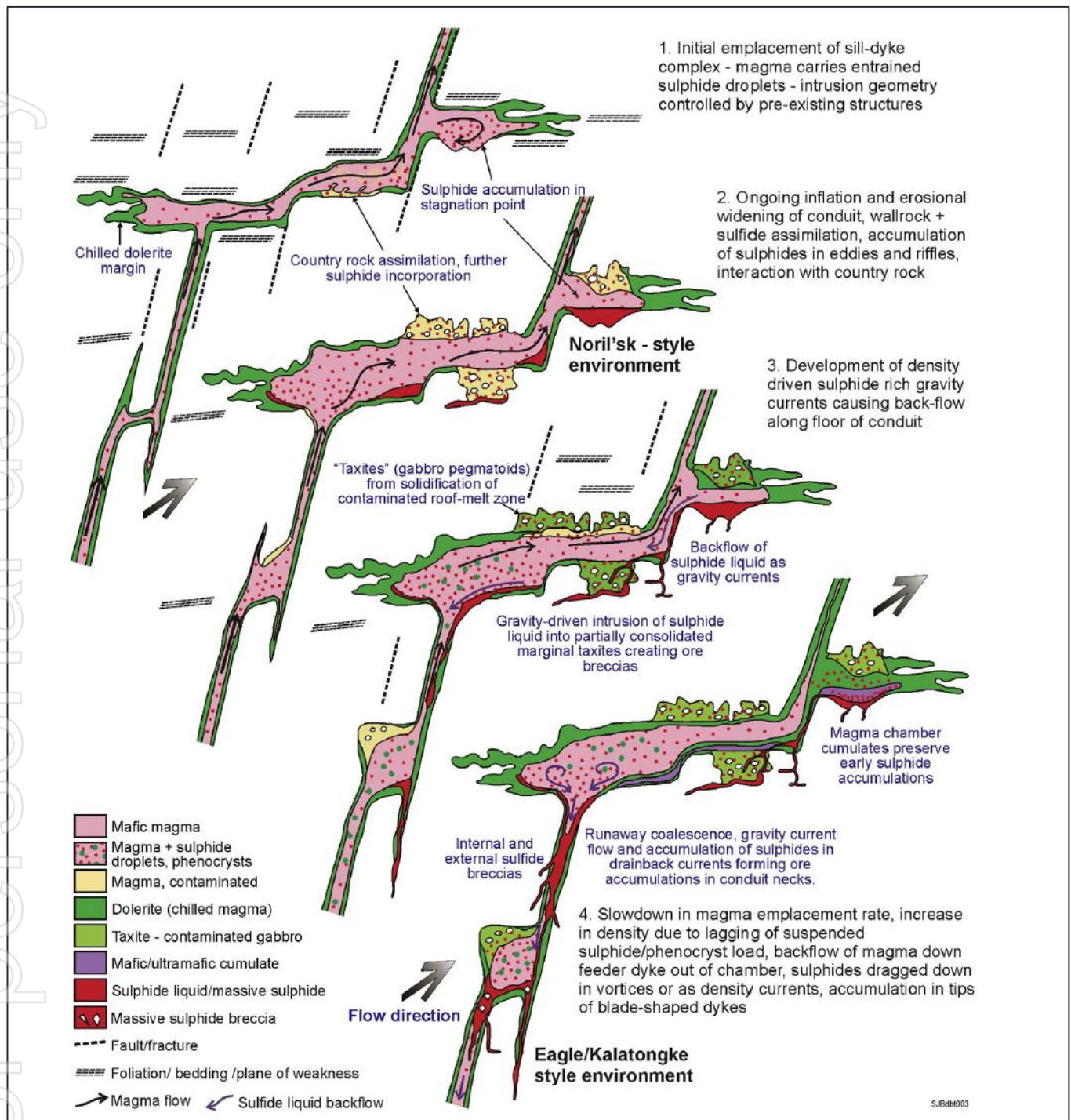


Figure 5. Schematic illustration of an idealised magmatic plumbing system, showing a hypothetical sequence of events leading to the development of Noril'sk style, Eagle-Kalatongke style and Voisey's Bay style mineralisation. (Barnes et al, 2015)



For personal use only

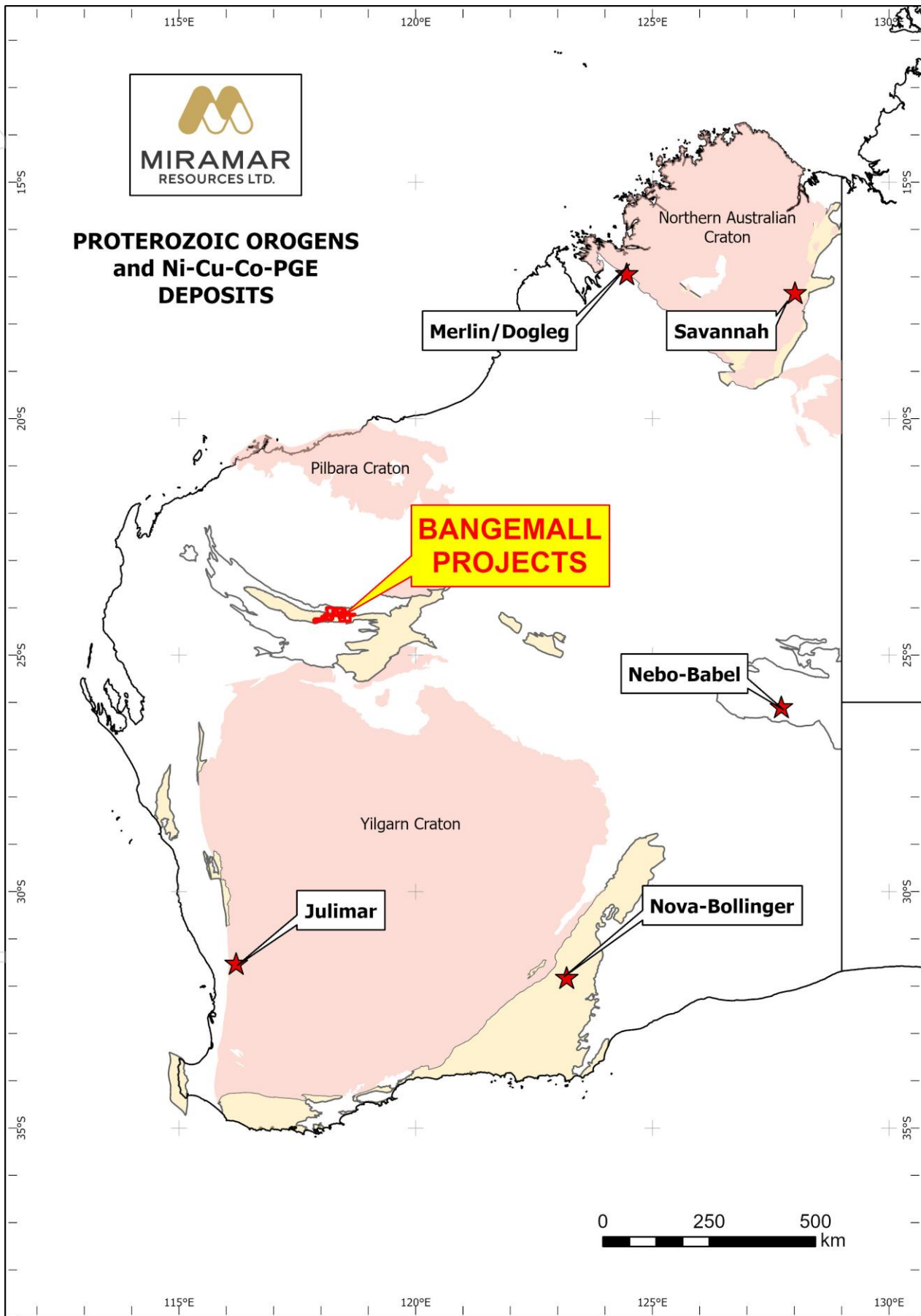
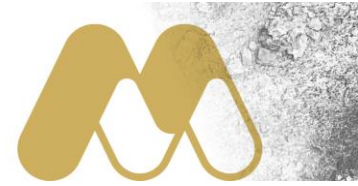


Figure 6. Archaean cratons (pink) and surrounding Proterozoic orogens of Western Australia showing mafic intrusion hosted magmatic Ni-Cu-Co-PGE deposits.



For more information on Miramar Resources Limited, please visit the company's website at www.miramarresources.com.au, follow the Company on social media (Twitter @MiramarRes and LinkedIn @Miramar Resources Ltd) or contact:

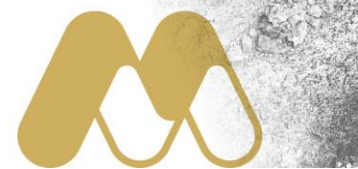
Allan Kelly
Executive Chairman
info@miramarresources.com.au

Margie Livingston
Ignite Communications
margie@ignitecommunications.com.au

This announcement has been authorised for release by Mr Allan Kelly, Executive Chairman, on behalf of the Board of Miramar Resources Limited.

Reference:

Barnes, S. J. Cruden, A. R., Arndt, N. and Saumur, B., 2015 "*The mineral system approach applied to magmatic Ni-Cu-PGE sulphide Deposits.*" Ore Geology Reviews.



COMPETENT PERSON STATEMENT

The information in this report that relates to Exploration Targets or Exploration Results is based on information compiled by Allan Kelly, a “Competent Person” who is a Member of The Australian Institute of Geoscientists. Mr Kelly is the Executive Chairman of Miramar Resources Ltd. He is a full-time employee of Miramar Resources Ltd and holds shares and options in the company.

Mr Kelly has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken 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 Kelly consents to the inclusion in this Announcement of the matters based on his information and in the form and context in which it appears.

Information on historic and recent exploration results from the Bangemall Projects, including JORC Table 1 and 2 information where applicable, was included in the following ASX Announcements:

- 12 December 2024 – “Nickel & Copper Sulphides Confirmed at Mount Vernon”
- 31 October 2024 – “Bangemall Project Exploration Update”
- 10 September 2024 – “Bangemall Project Update”
- 16 August 2024 – “EIS Co-Funded Drilling Underway at Bangemall Projects”
- 29 April 2024 – “Miramar Secures EIS Funding for Bangemall Ni-Cu-Co-PGE Drilling”
- 19 March 2024 – “Bangemall Ground EM Surveys Outline Multiple Drill Targets”
- 6 March 2024 – “Strong EM Conductors Identified at Mt Vernon Project”
- 22 February 2024 – “Bangemall Ni-Cu-PGE Exploration Update”
- 13 February 2024 – “Multiple EM Conductors Outlined at Mount Vernon”
- 8 February 2024, “Multiple Large Uranium Targets in Bangemall”
- 5 February 2024 – “Bangemall Exploration Update”
- 15 January 2024 – “Ground EM Survey Underway at Mount Vernon”
- 2 January 2024 – “Tenement Grant Expands Bangemall Project”
- 24 July 2023 – “Approval Received for Mount Vernon Drilling”
- 17 July 2023 – “Gascoyne Projects Update”
- 21 June 2023 – Gascoyne Projects Funded Following Capital Raising”
- 25 May 2023 – “High-Priority Ni-Cu-PGE Targets Identified at Mt Vernon”
- 14 March 2023 – “Gascoyne Plans Finalised Following Capital Raising”
- 9 March 2023 – “Gascoyne Region Exploration Update”
- 17 January 2023 – “Multiple Large REE Targets Identified at Dooley Downs”
- “14 November 2022 – “Large REE Targets Identified at Dooley Downs”
- 3 October 2022 – “Diamond occurrence & uranium targets identified at Bangemall”
- 12 June 2022 – “New Ni-Cu-PGE targets identified at Bangemall”
- 3 February 2022 – “Multiple Large EM Anomalies Identified at Mt Vernon”
- 25 January 2022 – “EM Survey Commenced at Bangemall Ni-Cu-PGE Target”
- 1 September 2021 – “Multiple EM Conductors Identified within Bangemall Project”
- 6 January 2021 – “Bangemall Ni-Cu-PGE Project Tenement Granted”



About the Bangemall Projects

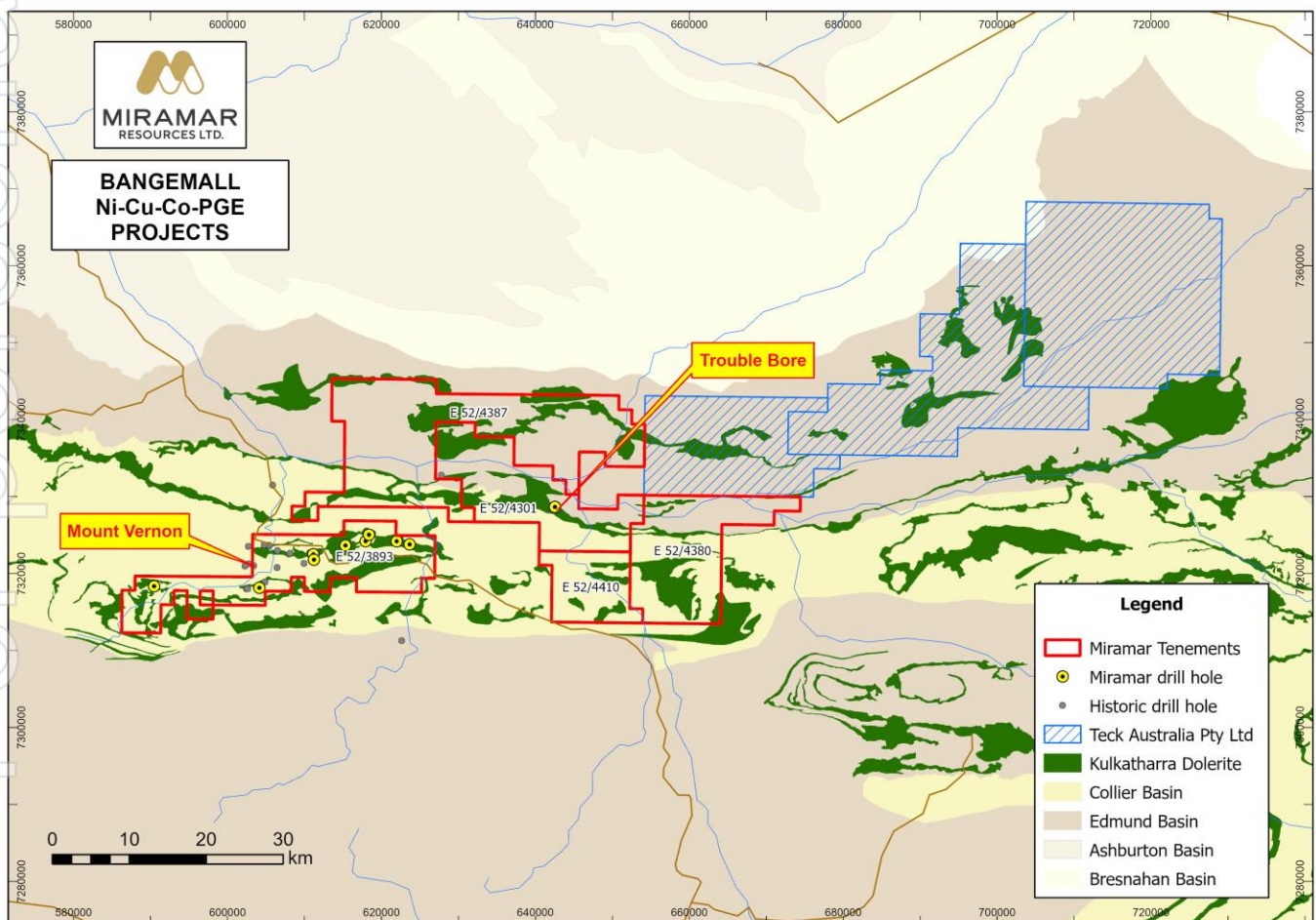
Miramar’s 100%-owned Bangemall Project comprises granted Exploration Licences and Applications covering approximately 1,230 km² within the Gascoyne region of Western Australia.

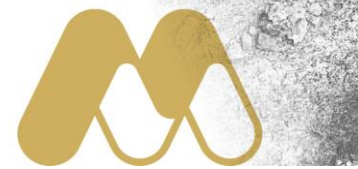
The Proterozoic Edmund and Collier Basins have been intruded by numerous 1070Ma aged Kulkatharra Dolerite sills, part of the Warakurna Large Igneous Province, and the same age as the Giles Complex which hosts the large Nebo and Babel Ni-Cu deposits in the West Musgraves.

The region has been identified by the Geological Survey of Western Australia, Geoscience Australia and the CSIRO as having high prospectivity for Ni-Cu-PGE mineralisation associated with the Kulkatharra Dolerite sills, similar to the giant Norilsk-Talnakh Ni-Cu-PGE deposits in Russia.

Since 2020, Miramar has built a strategic land position in the Bangemall region, focussing on areas containing key ingredients and/or regional-scale indicators for Proterozoic mafic intrusion hosted Ni-Cu-PGE mineralisation including:

- 1070Ma Kulkatharra Dolerite sills – source of Ni, Cu +/- PGE’s
- Proximity to major crustal-scale faults - potential plumbing systems
- Sulphidic and/or evaporitic sediments - potential sulphur source
- Regional-scale geochemical anomalism (GSWA regional geochemistry)
- Regional-scale EM anomalism (2013 Capricorn AEM Survey)





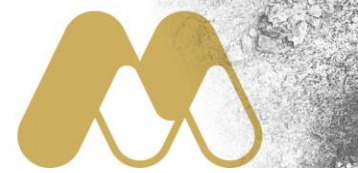
About Miramar Resources Limited

Miramar Resources Limited is an active, WA-focused mineral exploration company exploring for gold, copper and Ni-Cu-PGE deposits in the Eastern Goldfields and Gascoyne regions of WA.

Miramar’s aims to create shareholder value through discovery of high-quality mineral deposits and the Company’s Board has a track record of discovery, development and production within Australia, Africa, and North America.



For personal use only

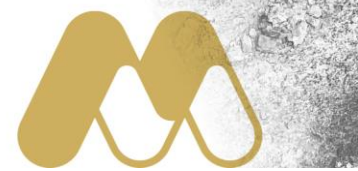


JORC 2012 Table 1 – Bangemall XRF Analysis

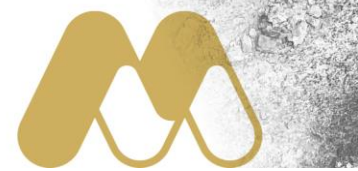
Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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 (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. 	<ul style="list-style-type: none"> Individual samples selected from RC sample chip trays Approximately 50g of material selected for each sample
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> No drilling reported
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No drilling reported
Logging	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> No drilling reported



Criteria	JORC Code explanation	Commentary
	<i>relevant intersections logged.</i>	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <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> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • Approximately 50g of sample taken from chip tray for analysis
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <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> • <i>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.</i> 	<ul style="list-style-type: none"> • No drilling reported • Samples analysed by Micro-XRF
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • No drilling reported
Location of data points	<ul style="list-style-type: none"> • <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> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> • No drilling reported
Data spacing and distribution	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <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> • <i>Whether sample compositing has been</i> 	<ul style="list-style-type: none"> • No drilling reported

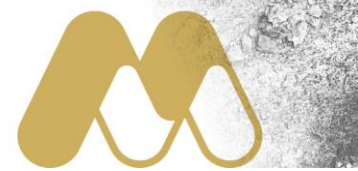


Criteria	JORC Code explanation	Commentary
	<i>applied.</i>	
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> No drilling reported
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Samples were transported from site directly to the laboratory by Miramar staff
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No audits have been undertaken

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 style="list-style-type: none"> 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 licence to operate in the area. 	<ul style="list-style-type: none"> The exploration was conducted on E52/3893 which is owned 100% by MQ Minerals Pty Ltd MQ Minerals Pty Ltd is a wholly owned subsidiary of Miramar Resources Limited
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Limited historical RC drilling has been conducted for sediment-hosted Pb-Zn mineralisation
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The target is Norilsk-style magmatic intrusion hosted Ni-Cu-Co-PGE mineralisation
Drill hole information	<ul style="list-style-type: none"> 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 style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Figure 2 shows data for all samples Location of drill holes previously reported



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul style="list-style-type: none"> <i>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.</i> <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> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> Figure 2 shows pentlandite and chalcopyrite results for all samples
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>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').</i> 	<ul style="list-style-type: none"> No drilling reported
Diagrams	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> See Figure 2
Balanced reporting	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> Figure 2 shows all results for pentlandite and chalcopyrite Figure 3 shows all results for olivine, pyroxene and plagioclase
Other substantive exploration data	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> No other relevant data
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <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> 	<ul style="list-style-type: none"> Further RC, diamond drilling and geophysical surveys planned