

MULTIPLE EM CONDUCTORS IDENTIFIED WITHIN BANGEMALL NI-Cu-PGE PROJECT TENEMENT APPLICATION

Miramar Resources Limited (ASX:M2R, "Miramar" or "the Company") is pleased to advise that a review of historical data has identified multiple electro-magnetic (EM) conductors within the "Dooley Downs" tenement application within the Bangemall Ni-Cu-PGE Project in the Gascoyne region of Western Australia.

E09/2484 is one of seven 100%-owned granted Exploration Licences and/or Applications held by Miramar in the Bangemall region (Figure 1).

The Company believes the Bangemall Project is prospective for craton-margin Ni-Cu-PGE mineralisation, such as that discovered at Nova-Bollinger and Nebo-Babel, and the giant Norilsk and Voisey Bay deposits.



Figure 1. Bangemall projects showing regional geology, major structures and Proterozoic dolerite sills.



Dooley Downs Project Background

The Dooley Downs prospect is located adjacent to a major crustal-scale structure which has the potential to be a conduit for the emplacement of the voluminous Proterozoic dolerite sills in the area.

A desktop review of historical data has identified a detailed magnetic/EM survey which covers the central quarter of the new tenement (Figure 2). The 160m line-spaced data shows a series of linear EM anomalies interpreted to be related to the various dolerite sills and/or sulphidic sediments ("stratigraphic EM conductors").

More interesting are several discrete EM anomalies, in the order of 400-500m diameter, that are located immediately adjacent to the stratigraphic conductors ("pinpoint EM conductors").

These smaller anomalies appear in both the late time (Channel 30 - 11.7ms) and deeper depth slice (60-100m) images and appear to coincide with areas of demagnetisation within strike-parallel structures (Figures 3 and 4).

Historical surface geochemical sampling has been sporadic and mostly focussed on exploration for manganese. As such, there is limited useful data in terms of Ni, Cu and/or PGE analyses.

A number of historic rock chip samples are reported to contain malachite, but most samples have not been assayed for Ni or Cu and no samples have been taken directly over the EM conductors (Figure 5).

There is no evidence for any relevant historical drilling in the vicinity of the conductors.

The Company plans to model the EM data and will field-check the anomalies once the tenement is granted.



Figure 2. Historic EM survey data (channel 30) showing stratigraphic and pinpoint EM conductors.





Figure 3. Image of late-time EM (channel 30) showing pinpoint EM conductors.



Figure 4. Magnetic image showing pinpoint EM conductors in areas of demagnetisation.





Figure 5. Dooley Downs target showing historic rock chip samples with significant results.

Sample No	Easting	Northing	Description	Assay Results
NF16-116	510022	7332386	Quartz vein with malachite	2280ppm Cu , 102ppm Ni, 45ppm Co
NF16-058	510658	7334461	Lots of malachite through quartz vein	1900ppm Cu , 22ppm Ni
NF16-082	511232	7333131	Malachite in quartz vein breccia	12ppm Cu, 14ppm Ni
NF16-083	511180	7333222	Malachite in quartz breccia vein with visible sulphides	308ppm Cu , 160ppm Ni, 70ppm Co
NF16-047	510245	7334636	Fault zone vein with malachite	148ppm Cu, 66ppm Ni, 35ppm Co

Table 1	. Summary	of historic roc	k chip results	s from Dooley Downs	s Target (ref WAM	EX a089788).
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For more information on Miramar Resources Limited, please visit the company's website at <u>www.miramarresources.com.au</u> or contact:

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



About the Bangemall Ni-Cu-PGE Project

In 2016, Geoscience Australia completed a continent-scale assessment of the potential for intrusionhosted Ni-Cu-PGE deposits and highlighted several previously unrecognised areas, including the southwest Yilgarn and the Bangemall/Ashburton area.

The so-called "Atlas" was one of the key ingredients which led to the discovery of the Julimar deposit by Chalice Mining Limited.



Figure 5. Potential for tholeiitic intrusion-hosted Ni-Cu-PGE sulphide deposits in Australia with the Bangemall and southwest Yilgarn areas highlighted in red ellipses (source Geoscience Australia).

Miramar used this Atlas, along with other regional datasets, and was a first mover in the Bangemall region following recognition of the potential for Ni-Cu-PGE mineralisation based the following indicators:

- Proximity to a series of major crustal-scale structures between the Yilgarn and Pilbara cratons
- Presence of Proterozoic aged dolerite dykes and sills with the same age as the West Musgraves
- Regional-scale Ni-Cu-PGE stream sediment anomalies from government surveys
- Regional-scale EM conductors identified from government airborne surveys



ABOUT MIRAMAR RESOURCES LTD

Miramar Resources Limited is a WA-focused mineral exploration company with highly prospective exploration projects in the Eastern Goldfields, Murchison and Gascoyne regions of Western Australia.

Miramar listed on the ASX in October 2020, following a heavily oversubscribed \$8 million IPO.

Miramar's Board has a track record of successful discovery, development and production within Australia, Africa, and North America, and aims to create shareholder value through the acquisition, exploration and monetisation of high-quality mineral assets.





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 presentation of the matters based on his information and in the form and context in which it appears.

Information on historical exploration results for the Bangemall Project, including JORC Table 1 and 2 information, is included in the Miramar Prospectus dated 4 September 2020.



JORC 2012 Table 1 – Dooley Downs historical sampling

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (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. 	 Historical report suggests grab samples were representative of outcropping geology Samples were only submitted for base metal analysis where obvious mineralisation was observed.
Drilling techniques	 Drill type (eg core, reverse circulation, openhole 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). 	Not applicable
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	Not applicable
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the 	 Historical report contains descriptions of geology, alteration and mineralisation



Criteria	JORC Code explanation	Commentary		
	relevant intersections logged.			
Sub- sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to 	Not applicable		
	the grain size of the material being sampled.			
Quality of assay data and laboratory tests Verification of	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. The verification of significant intersections by either independent or alternative 	 Historical reports indicate the analytical method was suitable for the type of sampling conducted Most samples were analysed for Mn and related elements of interest, but not for Ni, Cu or PGE's Samples were only submitted for base metal analysis where obvious mineralisation was observed. Not verified as yet 		
sampling	company personnel.			
and assaying	 The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 			
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	 Historic reports record sample locations, but accuracy is unknown 		
Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been 	Sample spacing is appropriate for regional reconnaissance exploration		



Criteria	JORC Code explanation	Commentary
	applied.	
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	• Unknown
Sample security	The measures taken to ensure sample security.	Unknown
Audits or reviews	 The results of any audits or reviews of sampling techniques and data. 	No audits or review 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
<i>Mineral tenement and land tenure status</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. 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. 	 E09/2484 is 100% owned by MQ Minerals Pty Ltd, a wholly owned subsidiary of Miramar Resources Limited E09/2484 is currently an application awaiting grant Miramar has no reason to believe the application will not be granted
Exploration done by other parties	 Acknowledgment and appraisal of exploration by other parties. 	 Work conducted by various parties including Aurora Minerals Limited who collected the relevant samples
Geology	 Deposit type, geological setting and style of mineralisation. 	 Proterozoic craton-margin Ni-Cu-PGE mineralisation
Drill hole Information	 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: 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. 	Not applicable



Criteria	JORC Code explanation	Commentary
Data aggregation methods	 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. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	Not applicable
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known'). 	Not applicable
Diagrams	 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	 See various diagrams in text for sample locations
Balanced reporting	 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. 	 All sample locations shown, and significant assay results tabulated
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. 	Not applicable
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	 Field checking of historic sample sites Modelling of historic geophysical data Grid surface geochemical sampling Potential ground EM survey and/or extension of airborne survey