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ASX: MGV

Gravity Survey Focuses Exploration on New Targets at Mamba

- **Five priority nickel-copper targets identified from recent gravity survey**
- **Three high priority gold targets identified**
- **Aircore drilling planned to follow-up targets**

Musgrave Minerals Ltd ("Musgrave" or "the Company") (ASX: MGV) is pleased to announce that it has identified five new priority nickel-copper targets and three priority gold targets at the wholly owned Mamba Project in the Fraser Range of Western Australia (Figure 1).

Musgrave has completed a gravity survey over the entire Mamba tenement (E28/2405). The integration of the new gravity data with the existing detailed aeromagnetic and ground electromagnetic (EM) data has highlighted the new targets (Figure 2). The nickel-copper targets correlate with bodies that commonly reflect the more dense lithologies associated with mafic-ultramafic intrusives that host nickel-copper mineralisation in the district.

Commenting on the gravity results Musgrave Managing Director, Rob Waugh said, "The Mamba project is in a very prospective and exciting area. These new targets are very compelling and will be prioritised and tested through an aircore drilling program next quarter."

The recently completed reverse circulation (RC) drilling program at Mamba intersected anomalous copper, gold and palladium in assay results from the two drill holes at M8.

The drill program consisted of two reverse circulation holes totalling 806m to test the M8 electromagnetic bedrock conductor. The drill holes intersected a combination of stringer pyrrhotite and pyrite with minor chalcopyrite and graphite within a metasediment in a sequence of mafic and intermediate granulite. Anomalous copper, gold and palladium was returned in both RC drill holes. A best interval of 1m @ 730ppm Cu, 214ppb Au and 16ppb Pd from 363m was identified in MAMRC001. All significant results are shown in Appendix 1.

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The Mamba nickel-copper project is in the same belt as the world class Nova-Bollinger nickel-copper sulphide discoveries of Sirius Resources NL in south-eastern Western Australia's Fraser Range. The tenement is located only 5km from the Trans Australian rail line access corridor.

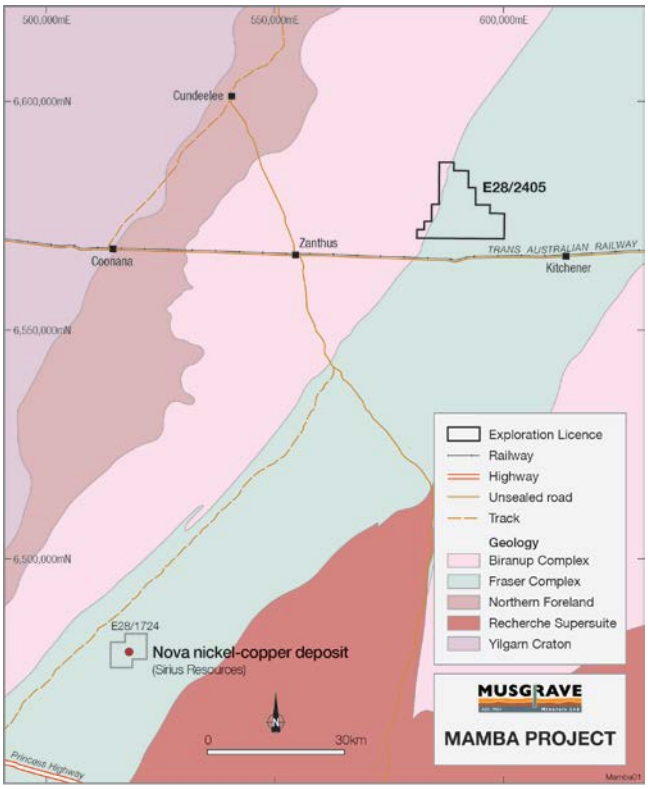

Figure 1: Mamba Project Location

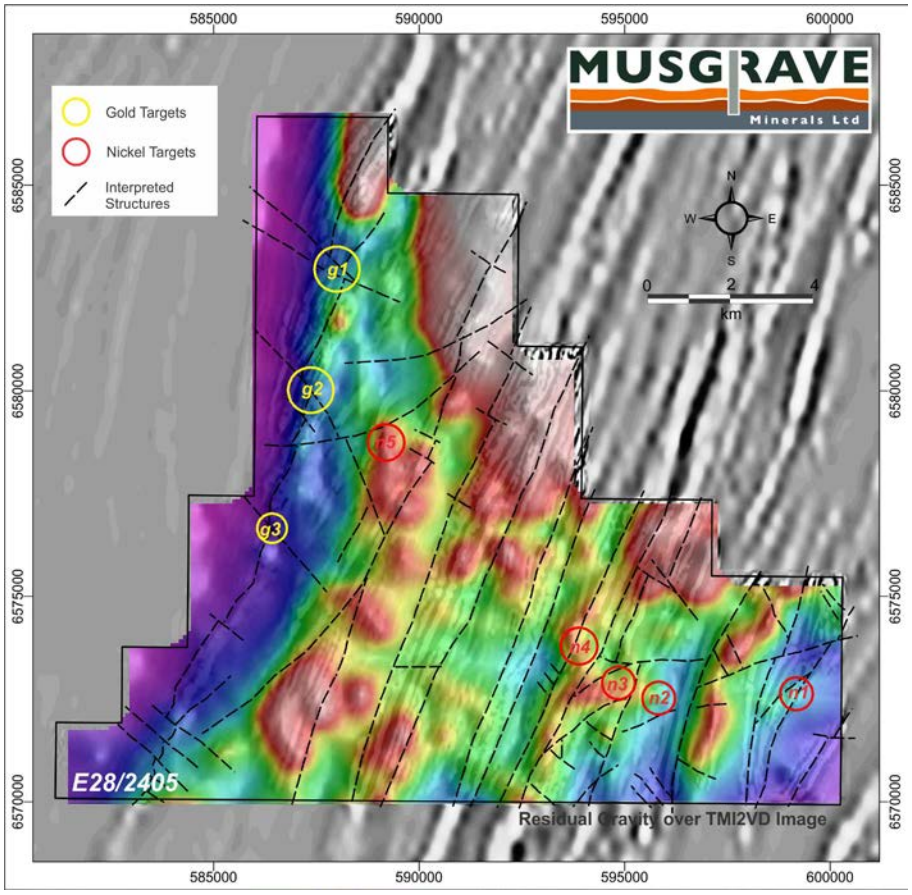

Figure 2: Nickel-copper and gold targets with residual gravity image overlaying TMI 2VD magnetic image

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Competent Person's Statement
The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled and/or thoroughly reviewed by Mr Robert Waugh, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and a Member of the Australian Institute of Geoscientists (AIG). Mr Waugh is Managing Director and a full-time employee of Musgrave Minerals Ltd. Mr Waugh has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration 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 Waugh consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

About Musgrave Minerals
Musgrave Minerals Ltd is an active Australian base metals explorer with a large exploration footprint in the Musgrave Province in South Australia, with tenements covering an area of approximately 40,000km^2. The Company also has a Ni-Cu sulphide project in the highly prospective Fraser Range of Western Australia and an active epithermal Ag-Pb-Zn-Cu project in the prospective silver and base metals province of the southern Gawler Craton of South Australia. Musgrave has a powerful shareholder base with four mining and exploration companies currently participating as cornerstone investors.

Appendix 1: ***Summary of Mamba RC Drill Hole Locations and Assay Results***

Drill Hole ID	Drill Type	Prospect	Easting (m)	Northing (m)	Az	Dip (degrees)	RL (m)	Total Depth (m)	From (m)	Interval (m)	Cu (ppm)	Au (ppb)	Pd (ppb)
MAMRC001	RC	M8	588540	6579340	310	-65	275	385	360	4	705	74	19
							including		363	1	730	214	16
MAMRC002	RC	M8	588552	6579327	290	-67	275	421	377	1	613	66	15

Notes
1. *An accurate dip and strike and the controls on mineralisation are yet to be determined and the true width of the intercepts is not yet known*
2. *NSA (no significant assay) – No assay above 500ppm Cu or 30ppb Au*
3. *No high grade cut was used*
4. *RC (reverse circulation)*
5. *Az (azimuth)*
6. *RL (relative level)*
7. *ppm (parts per million)*
8. *ppb (parts per billion)*
9. *X = below detection limit*

Mamba Project
JORC TABLE 1
Section 1 Sampling Techniques and Data

Criteria	Explanation	Commentary
Sampling techniques	*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.*	Sampling is undertaken using standard industry practices. Reverse Circulation (RC) sample intervals are set at 4m composites and sampled on site, before being transported and prepared in Kalgoorlie and analysed in Perth. Anomalous intervals were re-sampled at 1m intervals. A handheld XRF device is utilized to determine composite sample intervals.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Drill hole co-ordinates are in UTM grid (GDA94 Z51) and have been measured by hand-held GPS with an accuracy of ±4 metres.
	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 1m samples from which 3kg was pulverised to produce a 30g 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.	RC drilling was used to obtain samples which were analysed at intervals of between 1m and 4m. Samples were pulverized and analysed using MS/ICP for base metals and precious metals. Individual samples weigh less than 3kg to ensure total preparation at the laboratory pulverization stage. The sample size is deemed appropriate for the grain size of the material being sampled.
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).*	Standard diameter reverse circulation drilling.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Only visual methods were used to estimate sample recoveries.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	An effort was undertaken to ensure samples stayed dry and were collected using a PVC tube.
	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.	No bias has been observed between sample recovery and grade.
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.*	All geological, structural and alteration related observations are stored in the database.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of lithology, structure, alteration, mineralisation, colour and other features of drill samples are undertaken on a routine basis.
	The total length and percentage of the relevant intersections logged.	All drill holes are logged in full on completion.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	No core sampling has been undertaken.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All intervals are tube sampled and all samples are dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation and base metal and precious metal analysis is undertaken by Intertek Genalysis, in Perth, Western Australia. Sample preparation by dry pulverisation to 90% passing 75 micron.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field QC procedures involve the use of certified reference standards, duplicates and blanks at appropriate intervals.
	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.	Sampling was carried out using MGV protocols and QAQC procedures as per industry best practice. Duplicate samples are routinely checked against originals.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate for the commodities and elements explored and analysed for.

Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Drill sample analysis is undertaken by Intertek Genalysis, in Perth, Western Australia, multi-element analysis by four acid total digest (hydrochloric, nitric, perchloric and hydrofluoric acid) and ICP-OES and ICP-MS to acceptable detection limits. Analysis for a total of 34 elements is recorded.
	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.	No geophysical tools were used to estimate mineral or element percentages.
	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.	In addition to MGV standards, duplicates and blanks, Genalysis incorporate laboratory QAQC including standards, blanks and repeats as a standard procedure. Certified reference materials that are relevant to the type and style of mineralisation targeted are inserted at regular intervals.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	At least two company representatives verify significant intersections including either, the Managing Director, Exploration Manager, Chief Geologist or Senior Geologist.
	The use of twinned holes.	No twin holes have yet been drilled by MGV.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data is collected using a standard set of Excel templates on a Toughbook laptop computer using lookup codes. Geological sample logging was undertaken on one metre intervals for aircore drilling with colour, structure, alteration and lithology recorded for each interval. Data is verified before loading to a CSA Global database. Geological logging of all samples was undertaken.
	Discuss any adjustment to assay data.	No adjustments or calibrations were made to any assay data reported by MGV.
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.*	All maps and locations are in UTM grid (GDA94 Z51) and have been measured by hand-held GPS with an accuracy of ±4 metres. Down hole survey data was collected at regular intervals.
	Specification of the grid system used.	Drill hole co-ordinates are in UTM grid (GDA94 Z51)
	Quality and adequacy of topographic control.	Drill hole RL's are approximate using hand held GPS.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Variable drill hole spacings are used to adequately test targets. Gravity data was collected on a 500m x 500m spaced grid.
	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.	The mineralisation has not yet been demonstrated to have sufficient continuity to support the definition of Mineral Resource and Reserves under the classification applied under the 2012 JORC Code.
	Whether sample compositing has been applied.	Composite samples on 4m intervals were undertaken outside visually mineralised zones to determine background responses.
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.*	The precise dip and strike of the mineralisation is not yet known and it is unclear at this stage whether any sampling has a set bias.
	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.	No orientation based sampling bias is known at this time.
Sample security	*The measures taken to ensure sample security.*	Chain of custody is managed by MGV. Samples are stored on site and transported to Intertek Genalysis in Kalgoorlie via MGV personnel and onto Perth, Western Australia by a licenced reputable transport company. When at Genalysis, samples are stored in a locked yard before being processed and tracked through preparation and analysis using the Lab Track system.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No external audits or reviews of modeling techniques and data have been undertaken.

Section 2 Reporting of Exploration Results

Criteria	Explanation	Commentary
Mineral tenement and land tenure status	*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.*	All RC drilling has been within E28/2405. MGV is the 100% owner of the tenement.
	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.	The tenement is in good standing and no known impediments exist.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Some historical drilling has been undertaken on the northern area of the tenement by third parties but none is directly relevant to the current targets.
Geology	*Deposit type, geological setting and style of mineralisation.*	Musgrave is exploring for magmatic nickel-copper sulphide deposits.
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.*	A summary of drill collars and other drill hole information is presented in appendix 1.
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.*	Cut off grades used for the reported intervals in Appendix 1 are: >30ppb Au or 500ppm Cu
	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.	All intervals recorded in Appendix 1 are >30ppb Au or 500ppm Cu and contain no more than 1m of internal dilution.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are currently used for reporting of exploration results.
Relationship between mineralisation widths and intercept length	*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').*	An accurate dip and strike and the controls on mineralisation are yet to be determined and the true width of the intercepts is not yet known.
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.*	Refer to figures and Appendix 1 in body of this announcement.
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 drill holes are shown in Appendix 1 and all significant results are reported.
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.*	All material results from geochemical and geophysical surveys and drilling related to these prospects have previously been reported.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	A range of exploration techniques are being considered to progress exploration including additional 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.	Refer to figures in the body of this announcement.