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ASX: MGV

Geochemistry Extends Frakes Silver Target

- **Detailed surface geochemistry extends silver anomalism and identifies new high-priority target area west of recent drilling at Frakes**
- **Encouraging drill results at Spare Rib target**
- **Further Menninnie Dam targets highlighted for follow-up**

Musgrave Minerals Ltd ("Musgrave Minerals" or "the Company") (ASX:MGV) is pleased to announce that it has extended the silver anomaly from detailed surface geochemistry at the Frakes target on the Menninnie Dam Project in the southern Gawler Craton region of South Australia (Figure 1). The highest silver numbers in the detailed surface geochemistry are in untested areas offset from the existing drilling (Figures 4).

Musgrave Minerals has entered into a Joint Venture Agreement with Menninnie Metals Pty Ltd, a wholly-owned subsidiary of Terramin Australia Limited (ASX:TZN) to earn a 51% interest in the Menninnie Dam Project in the first stage, and up to a 75% interest thereafter.

Musgrave recently completed a detailed soil sampling grid (50m x 100m) over the Frakes target to better define the silver anomalism. Results have returned highly anomalous silver values including a peak value of 407.3ppb Ag at the western edge of the grid where the anomalism remains open. Follow-up drilling to test this target is required.

The Company recently completed an eight hole diamond drilling program totaling 1,188.3 metres on three separate targets with the drilling completed in April 2014 (Figure 3). The drilling program focused on the Frakes, Spare Rib and Tank Hill targets and intersected epithermal alteration and anomalism in all drill holes. Assay results have been received for seven of the eight drill holes. A full list of drill hole locations and assays can be found in Appendix 1.

Results from the Spare Rib target, located less than 2km east of the Menninnie Central and Viper deposits show evidence of anomalous silver, lead and zinc mineralisation with individual assay values up to 1.1% Pb , 0.7% Zn and 46.4g/t Ag in an altered marble unit similar to that which hosts the mineralisation at the Menninnie Central deposit. This is

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consistent with the carbonate replacement porphyry-epithermal geological model Musgrave is testing at Spare Rib and supports the positive results at this target.

The mineralisation at Frakes is interpreted to be associated with epithermal breccias consistent with the porphyry-epithermal subvolcanic vent breccia model Musgrave has for this target. Diamond drilling in the vicinity of the previous high grade intercept (10m at 990g/t Ag, ASX release 5 February 2014) at Frakes has not demonstrated continuity of this zone, however as the recent geochemistry results extend the anomaly to the west it would appear that drilling has not yet tested the most prospective part of the target.

Commenting on the Menninnie Dam results the Company's Managing Director Rob Waugh said "The high silver grade originally intersected in aircore drilling at Frakes is very positive and with the strongest parts of the surface geochem response sitting untested to the west, south-west and south- east, this target continues to be very encouraging."

"We are also encouraged by the lithologies and alteration seen in diamond core at Spare Rib suggesting we could be close to higher grade lead-zinc-silver mineralisation."

"We continue to get significant encouragement from our work at Menninnie and look forward to continuing to define and drill test high quality targets."

Further detailed infill geochemistry and a detailed gravity survey will be a priority at Frakes, Spare Rib, Sidley, Erebus and Shank to refine targets for further drilling. This infill geochemical sampling will commence in June.

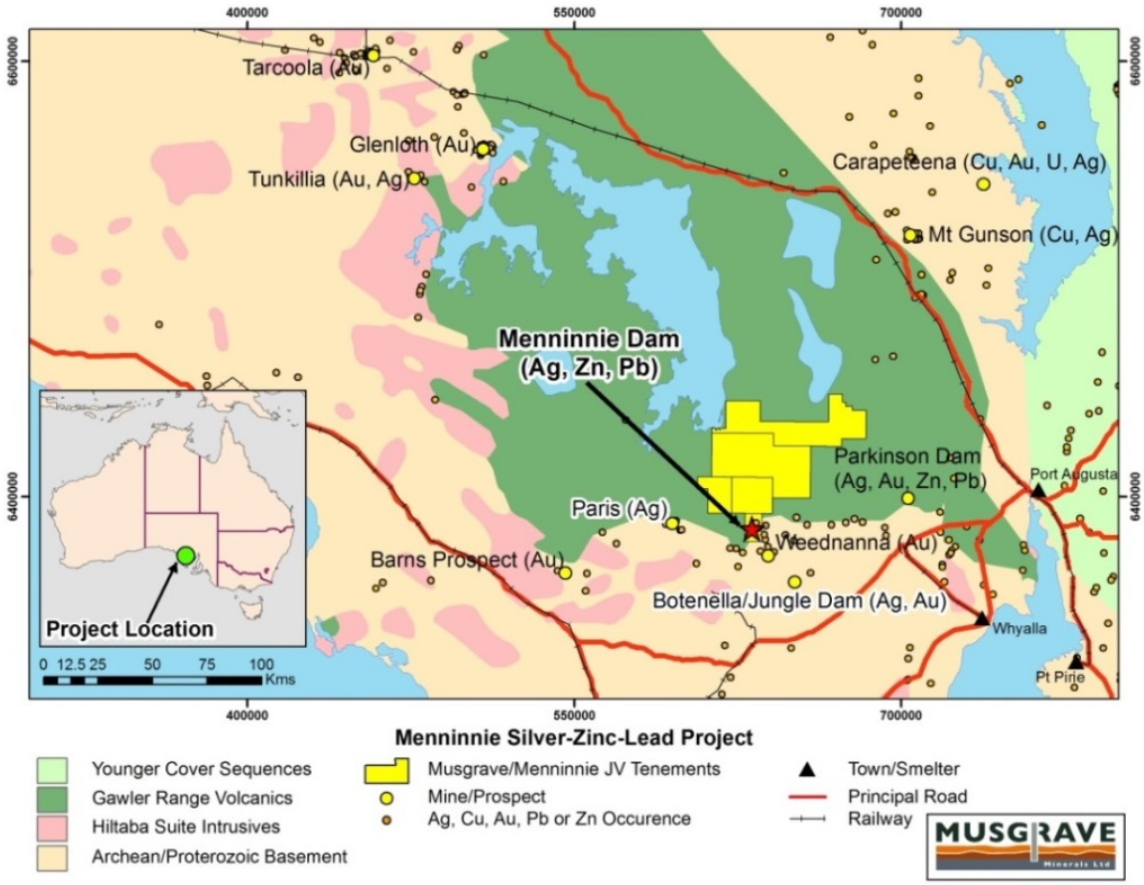

Figure 1: ***Location of the Menninnie Dam Project, South Australia***

About Menninnie Dam

The Menninnie Dam Project comprises five Exploration Licences covering a contiguous area of 2,471km^2 in the highly sought after and prospective Gawler Craton region of South Australia (Figure 1). Menninnie Dam is located approximately 100km west of Port Augusta and is well positioned in regards to infrastructure and proximity to the coast.

The Project hosts the Menninnie Central and Viper deposits with a combined inferred mineral resource of 7.7Mt @ 27g/t Ag, 3.1% Zn, 2.6% Pb (*estimated by Terramin Australia Limited in 2011 in accordance with the 2004 JORC code).

The Menninnie Dam Project is located in a new and very prospective silver province, only 20km east of Investigator Resources' recent Paris silver discovery.

** JORC (2004 Edition)-compliant inferred resource for the Menninnie Central and Viper deposits was reported by Terramin Australia Limited (ASX: TZN) on 1st March 2011*

Deposit	Tonnes x10^3	Zn (%)	Pb (%)	Ag (g/t)	Pb+Zn (%)
Total Menninnie Central	**5,240**	**3.5**	**2.7**	**28**	**6.1**
Total Viper	**2,460**	**2.3**	**2.4**	**24**	**4.8**
Total Menninnie Central and Viper	**7,700**	**3.1**	**2.6**	**27**	**5.7**

Inferred Resource (at 2.5% Pb+Zn cut-off) as at 15 February 2011
MGV is not aware of any new information that would affect the material nature of this resource calculation.

Competent Person's Statement
The information in this report that relates to Mineral Resources or Ore Reserves is based on information 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 2004 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.

Figure 2: ***Photo of diamond drilling at Frakes prospect, Menninnie Dam.***

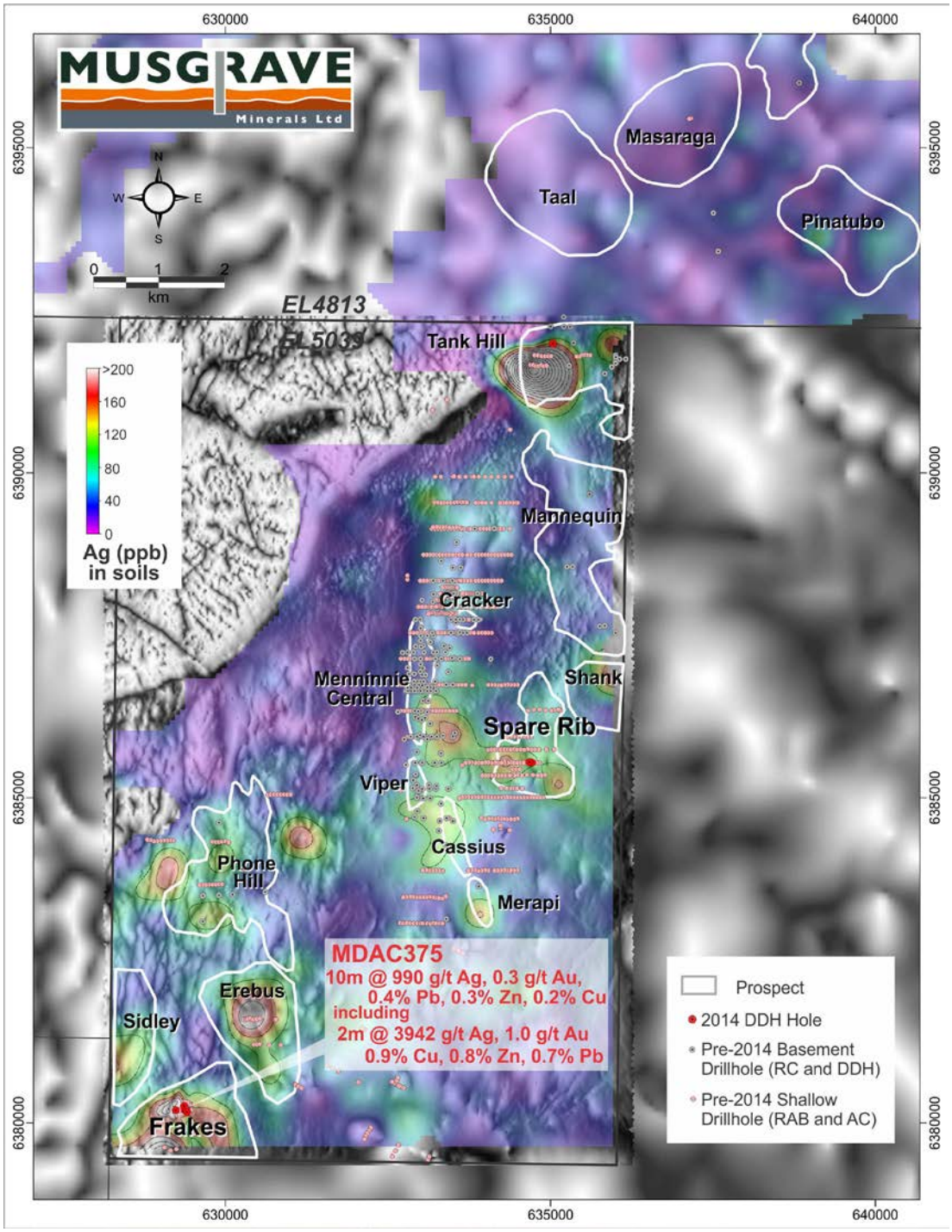

Figure 3: ***Location of Menninnie Dam prospects with diamond drill hole collars and significant previous aircore drilling assay results at Frakes on silver geochemistry draped over aeromagnetics.***

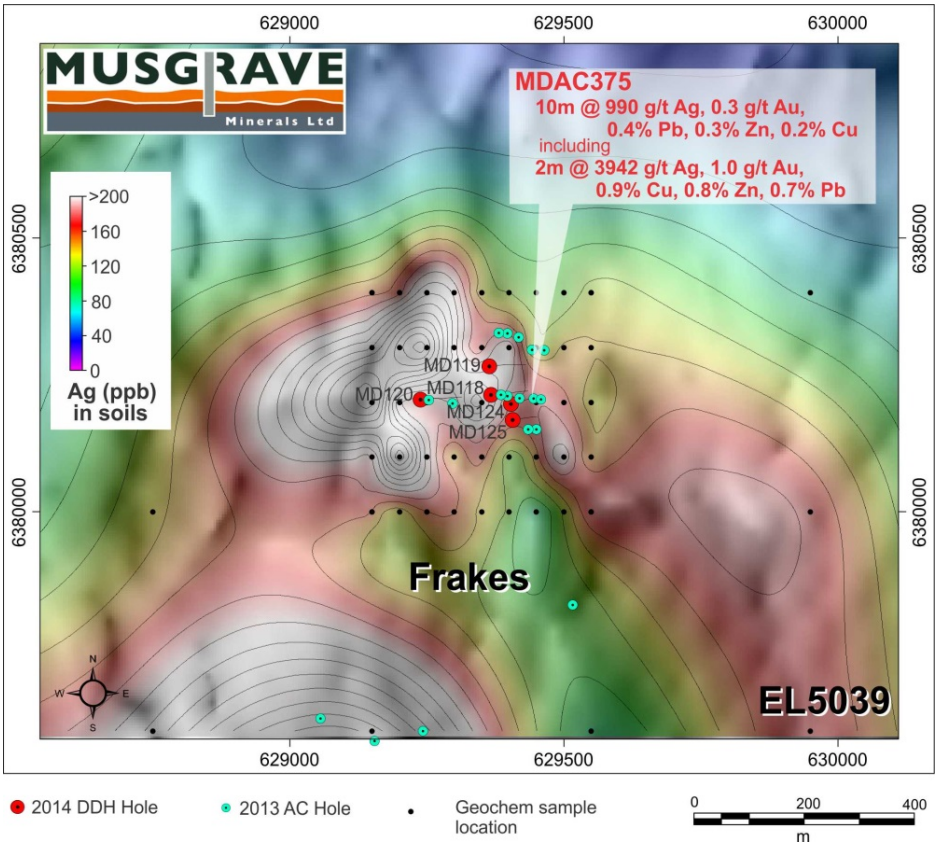

Figure 4: ***Location of drill hole collars at Frakes prospect with infill surface geochemistry showing significant surface silver geochemical anomalism west and south east of current drilling.***

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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 50,000km^2. The Company also has an active advanced stage exploration project, Menninnie Dam in the prospective silver and base metals province of the southern Gawler Craton of South Australia. Musgrave has a powerful shareholder base with six mining and exploration companies participating as cornerstone investors.

Appendix 1: ***Summary of Menninnie Dam Diamond Drill Hole Locations and Significant Results***

Drill Hole ID	Drill Type	Prospect	Easting (m)	Northing (m)	Az	Dip (degrees)	RL	Total Depth (m)	From (m)	Interval (m)	Pb (%)	Zn (%)	Cu (%)	Ag (ppm)
MD118	*Diam*	Frakes	629367	6380214	90.0	-60.0	268	143.0	55	1	0.02	0.54	0	1
MD119	*Diam*	Frakes	629364	6380266	90.0	-60.0	269	131.5	39.5	0.5	0.41	0.02	0.01	0.9
									53.2	0.8	0.16	0.47	0	1.8
MD120	*Diam*	Frakes	629238	6380205	90.0	-60.0	267	152.8	142	3	0.01	0.02	0	12.4
MD121	*Diam*	Spare Rib	634713	6385551	80.0	-60.0	296	149.9	37	2.3	0.7	0.22	0.08	X
									75	1	0.15	0.01	0.1	46.4
									86	1.1	0.51	0.11	0.01	1.2
									88.9	0.6	0.22	0.06	0.05	13.7
									115	3	0.21	0.12	0	18.9
									118	1	0.45	0.19	0.01	8
MD122	*Diam*	Spare Rib	634675	6385556	90.0	-60.0	296	222.3	35	2	0.92	0.09	0.08	3.1
									36	1	1.06	0.08	0.07	1.9
									39	0.4	0.49	0.1	0.04	X
									50	1.3	0.45	0.06	0.02	1.7
									149.8	0.7	0.54	0.72	0.03	13.8
									175.2	0.55	0.79	0.05	0	2.2
									215.9	1.09	1	0.34	0.02	13.1
MD123	*Diam*	Tank Hill	635039	6391993	90.0	-60.0	274	218.8	Assays Awaited					
MD124	*Diam*	Frakes	629403	6380197	85.0	-60.0	267	80.0	NSA					
MD125	*Diam*	Frakes	629406	6380168	90.0	-60.0	266	90.0	NSA					

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. *All intervals recorded in Appendix 1 above are >10ppm Ag or 0.4% Pb, or 0.4% Zn, or 0.4% Cu or 100ppm Mo and contain no more than 1m of internal dilution*
3. *All higher grade intervals are also separately reported in Appendix 1 with assays above 1.0% Pb, or 1.0% Zn and contain no more than 1m of internal dilution*
4. *NSA (no significant assay) – No assay above 10ppm Ag or 0.4% Pb or 0.4% Zn or 0.4% Cu or 100ppm Mo*
5. *All holes are diamond drilled*
6. *g/t (grams per tonne)*
7. *ppm (parts per million)*
8. *ppb (parts per billion)*
9. *X = below detection limit*

Musgrave 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. Diamond drill hole samples are selected on geological criteria and sampled on site, before being transported and analysed in Adelaide. Soil Sampling -80# mesh soil samples (~100g) at a nominal 10cm depth on 100m x 50m grid.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Drill hole and soil sample co-ordinates are in UTM grid (GDA94 Z53) 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.	Diamond drilling was used to obtain samples which were analysed at geological intervals between 0.1m and 1.5m on either 1/4 or ½ core which was pulverized and analysed using MS/ICP for a base metals and precious metals. Individual drill 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).*	Ron Potts Drilling was contracted to undertake diamond drilling. Diamond core is a combination of NQ2 and HQ. Drill core is orientated using a down hole spear and structural measurements recorded in "Geo-calculator" or "Geosoft Target" software program. All holes were cored from surface.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Diamond core recoveries are logged and recorded in the database. Some possible core loss issues were identified.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond core is reconstructed into continuous intervals on angle iron racks for orientation and reconciliation against core block markers. Rod and metre counts are routinely carried out by the driller.
	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 core or RC chips is undertaken on a routine basis. Both wet and dry photography of diamond core is undertaken on a tray by tray 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.*	Diamond core is cut and sampled on geological intervals. A diamond core saw was used to cut the core and selected half core intervals were submitted for analysis.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Soil samples are collected dry and sieved using a -80# (180 micron). ~100g is collected for analysis.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Drill sample preparation and base metal and precious metal analysis is undertaken by Intertek Genalysis, in Wingfield, South 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	Sampling was carried out using MGV protocols and

	of the in situ material collected, including for instance results for field duplicate/second-half sampling.	QAQC procedures as per industry best practice. Duplicate ¼ core samples were inserted and are routinely checked against originals. Standards were inserted at 1 in 50 samples. Soil samples duplicates are inserted at 1 in 25 samples.
	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 Wingfield, South 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 and Au, Pt & Pd by FA25/MS. Analysis for a total of 34 elements is recorded. Soil sample analysis is undertaken by Intertek Genalysis Perth. Internal certified laboratory QAQC is undertaken including check samples, blanks and internal standards. Samples area analysed using Intertek's proprietary Terra Leach (TL1) partial leach method (ICP-MS & ICP-OES) for Ag, Au, As, Bi, Cd, Co, Cu, La, Mo, Ni, Pb, Pd, Pt, Sb, Sn, Th, U, W and Zn.
	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, Principal 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 Z53) and have been measured by hand-held GPS with an accuracy of ±4 metres. Down hole surveys were taken at nominal 30m intervals using a digital down hole camera.
	Specification of the grid system used.	Drill hole co-ordinates are in UTM grid (GDA94 Z53)
	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.
	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.	No sample compositing has been undertaken on diamond core or soil samples.
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. Drill samples

		are stored on site and transported to Intertek Genalysis in Wingfield, South 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. Soil Samples are collected in individually numbered paper packets and packed into card board boxes for transport. MGV staff deliver samples to Intertek Adelaide for dispatch to Intertek laboratory in Perth.
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 diamond drilling and soil sampling has been within joint venture tenement EL5039 and EL4813 within the Menninnie Dam Project area. MGV is earning an initial 51% interest in the project with TZN. The current targets being drilled on EL5039 and soil samples are within the Nonning Pastoral Lease. A Part B Agreement has been signed with the Gawler Ranges Native Title Group and current exploration areas cleared for exploration activities.
	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 tenements are 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 in different areas on the tenements by MGV and third parties but none is directly relevant to the current targets. Some previous broader based (400m x 400m) soil sampling has been done by MGV at the Frakes Target.
Geology	*Deposit type, geological setting and style of mineralisation.*	Geology comprises Proterozoic metasediments that have been intruded by Hiltaba-suite granitoids and overlain by lower sequences of the Gawler Range Volcanics. Musgrave is exploring for multi commodity style deposits consistent with an interpreted porphyry-epithermal type model.
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 drilling intervals in Appendix 1 are: >10ppm Ag or 0.4% Pb or 0.4% Zn or 0.4% Cu or 0.2ppm Au. No cut off was used for soil samples.
	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 drill hole intervals recorded in Appendix 1 are >10ppm Ag or 0.4% Pb or 0.4% Zn or 0.4% Cu or 0.2ppm Au 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 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').*	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. A total of 48 soil samples including duplicates were analysed. A peak value of 407.3ppb silver was received.
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.