

8 September 2014

## MMR INDICATES NEW LEAD ZINC LENSES 4, 5 AND 6 AT KEMPFIELD

### HIGHLIGHTS:

- **Strong current channelling responses to Surface MagnetoMetric Resistivity (MMR) surveys indicate potential for multiple additional lead/zinc VMS lenses in the interpreted lens and feeder zone area**
- **Surface MMR surveys have been completed and on schedule**
- **MMR analysis and target delineation to be finalised during September 2014**
- **Diamond drill program to be designed and scheduled for commencement in October 2014**

### KEMPFIELD, NSW AUSTRALIA

Argent Minerals Limited (ASX: ARD, Argent, Argent Minerals or the Company) is pleased to report additional potential Volcanogenic Massive Sulphides (VMS) lead/zinc mineralisation responses to Surface MagnetoMetric Resistivity (MMR) surveys at the Kempfield Polymetallic Project.

Argent Minerals Managing Director David Busch said, "We are pleased to announce that Argent Minerals has completed a successful series of Surface MMR surveys over the existing Kempfield deposit, and the prospective areas immediately to the west, with very good preliminary results.

"The initial analysis indicates strong current channelling that coincides almost exactly with the predicted location of Lens 4 from Argent's geological modelling. Additionally, only a short distance further to the West, new conductive trends have been detected that overlap with the interpreted positions of Lens 5 and Lens 6. We are particularly impressed that the MMR technique appears to map both the strike extent and fine structure of these trends.

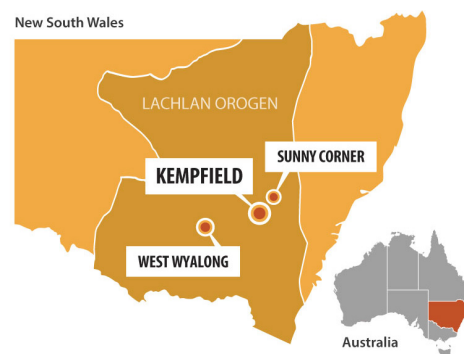
"These are exciting developments for the Kempfield Polymetallic Project as Argent prepares for diamond drill testing of the significant upside potential identified within the project area. The MMR surveys appear to confirm the potential for multiple additional VMS lead/zinc lenses within the project area, and most importantly, the shape and position predicted by geological modelling.

"If these additional lenses contain lead/zinc at increased grades as the West-trending evidence clearly indicates, this could have significant implications for the Kempfield Polymetallic Project economics.

"Argent is focussed on developing Kempfield as a polymetallic project with a strong base metal component together with gold and rich silver, toward our goal of a financially robust mine producing 1.5 million tonnes per annum.

"A key advantage of VMS deposits is their potential to deliver additional mineralised lenses through continued exploration. Based on extensive geological modelling, input from industry experts including Professor Ross Large and Dr. Vladimir David, and these recent MMR surveys, we believe that Kempfield has the potential to provide the basis for a new major polymetallic mine in this largely untested area.

"Our geophysicists have received all the survey data and will continue their analysis over the next two weeks. The main goal of the analysis is to delineate the targets, for which Argent will then design the drilling program for commencement in October 2014".



**About the Surface MMR Surveys**

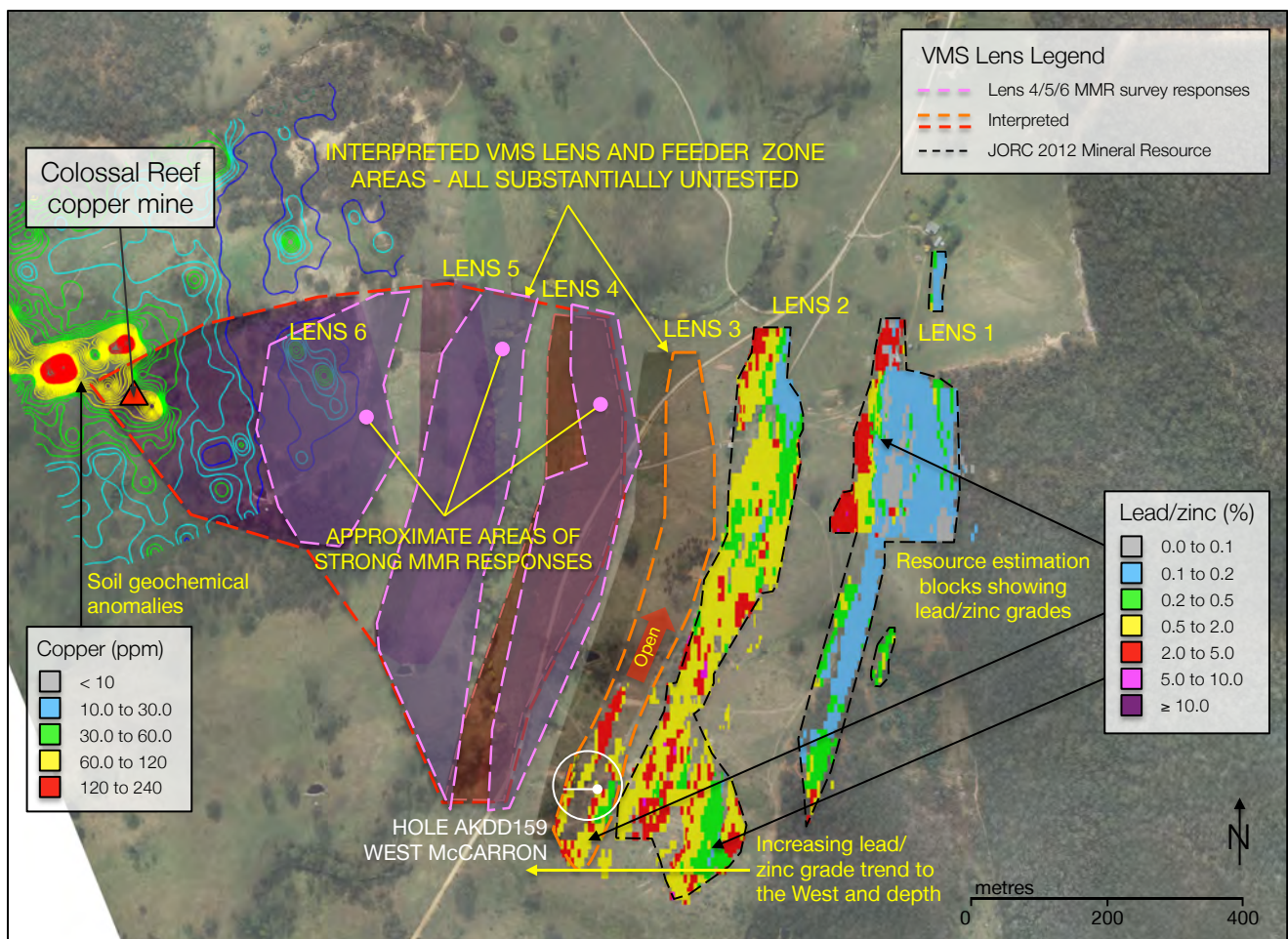
Three Surface MMR surveys have been completed over the area by Gap Geophysics Pty Ltd under the supervision of Mitre Geophysics and resident Argent geologist Dr. Vladimir David.

The surveys were conducted over known mineralisation and the target area immediately to the west of the Kempfield deposit. The three survey coverage areas were designed with a substantial degree of overlap in order to produce a robust dataset that will enable comparisons of responses in the target area with those over known mineralisation. The three surveys were conducted firstly with MMR current electrodes to the north and south of Lenses 1 and 2, followed by electrodes placed to the north and south of interpreted Lenses 3 and 4, and finally over the areas now referred to as Lens 5 and Lens 6. Separate ground loops were positioned according to the geophysicist's design for each of the three surveys.

Survey lines were conducted initially at 50 metre line spacing, followed by 25 metre line spacing for infill over areas where anomalies were detected.

Figure 1 shows the interpreted VMS lenses and the approximate areas of the strong MMR responses in the Lens 4, 5 and 6 survey areas.

**Figure 1 - Kempfield plan view showing approximate areas of Lens 4, 5 & 6 MMR responses in relation to the known and interpreted VMS lenses**



These are preliminary results, and subject to the detailed analysis currently in progress.

Surface MMR pictures follow in Figures 2 and 3.

Figure 2 - MMR base station and ground loop



Figure 3 - Surface MMR survey in progress



**Next steps**

Detailed analysis and interpretation is currently being undertaken by the geophysicist and is expect to be completed within approximately two weeks. The goal of the analysis is to delineate the VMS lens targets using all available data including the MMR data, drill intercepts for the known mineralisation, fault structures, and geological modelling of the area.

The results of the analysis and interpretation will be released to the ASX on completion.

The drill program will then be designed and released to the ASX.

Commencement of the drilling is scheduled for October 2014.

For further information please contact:

David Busch

Managing Director

**Argent Minerals Limited**

M: 0415 613 800

E: [david.busch@argentminerals.com.au](mailto:david.busch@argentminerals.com.au)

## APPENDIX A - JORC 2012 EDITION TABLE 1

### KEMPFIELD GROUND MAGNETOMETRIC SURVEY

The following information follows the requirements of JORC 2012 Table 1 Sections 1, 2 and as applicable for ASX release related to conceptual model interpretation.

#### Section 1 - Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	This report relates to the Surface MagnetoMetric survey ( <b>Surface MMR</b> ), sometimes referred to as Sub Audio Magnetics ( <b>SAM</b> ) survey, at Kempfield conducted by GAP Geophysics Pty Ltd and supervised by Mitre Geophysics Pty Ltd and Argent Minerals personnel.
Drilling techniques	The ASX Release does not report any exploration drilling.
Drill sample recovery	The ASX Release does not report any exploration drilling.
Logging	The ASX Release does not report any exploration drilling or drill core logging.
Sub-sampling techniques and sample separation	<p>Survey specification</p> <p>Target: Lens 4</p> <p>Location: Specified by maps and files in MGA54. (See Figure 1 for visual location on aerial photograph)</p> <p>Area: Approximately 1200 x 1100 m</p> <p>Line spacing: 50 m with 25 m infill as required and specified by the geophysicist</p> <p>Current: Maximum possible</p> <p>Components: Total field MMR and, if practicable, MMIP</p> <p>Dipole direction: Approximately 020 magnetic</p> <p>Dipole location: Approximately 300 m east of survey boundary</p> <p>Dipole and electrode coordinates (AGD66):</p> <p>706995mE, 6257752mN (southern POSITIVE electrode)</p> <p>707752mE, 6257212mN</p> <p>708889mE, 6259039mN</p> <p>708069mE, 6259512mN (northern NEGATIVE electrode)</p> <p>Boundary of survey area (AGD66):</p> <p>707413mE, 6259314mN</p> <p>708388mE, 6258695mN</p> <p>707817mE, 6257753mN</p> <p>706830mE, 6258370mN</p>

	<p>Target: Colossal Reef mineralisation</p> <p>Location: Specified by maps and files in MGA54. (See Figure 1 for visual location on aerial photograph)</p> <p>Area: 1030 x 830 m</p> <p>Line spacing: 25 m</p> <p>Current: Maximum possible</p> <p>Components: Total field MMR and, if practicable, MMIP</p> <p>Dipole direction: Approximately 020 magnetic</p> <p>Dipole location: Approximately 300 m east of survey boundary</p> <p>Dipole and electrode coordinates (AGD66):</p> <p style="padding-left: 40px;">707315mE, 6258242mN (southern POSITIVE electrode)</p> <p style="padding-left: 40px;">708000mE, 6257865mN</p> <p style="padding-left: 40px;">708604mE, 6259476mN</p> <p style="padding-left: 40px;">707782mE, 6259499mN (northern NEGATIVE electrode)</p> <p>Boundary of survey area (AGD66):</p> <p style="padding-left: 40px;">707409mE, 6259458mN</p> <p style="padding-left: 40px;">708166mE, 6259126mN</p> <p style="padding-left: 40px;">707763mE, 6258200mN</p> <p style="padding-left: 40px;">707006mE, 6258528mN</p>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>Acquired data are of high quality - QAQC conducted by Kate Hine – Mire Geophysics.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>Initial verification of results conducted by Kate Hine – Mitre Geophysics.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Data point were determined using handheld Garmin GPS GDA 94 (Zone 55) and then converted to AMG 66 (Zone 55) grid (also for consistency);</li> <li>The elevations for the Argent drill holes collars were surveyed by an independent registered surveyor and DTM which was derived from Light Detecting and Ranging (LIDAR) survey (with an accuracy of +/- 5 cm) conducted by Geospectrum for the Kempfield Polymetallic Project during 2010.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data were collected on 25 metres apart lines continuously giving a distance of 1.2 - 1.4 m.</li> <li>Collected data were gridded using Inverse Distance Weighting Method and 5 m grid cells.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Dipole direction approximately 020° magnetics sub-parallel with mineralisation and stratigraphy trend.</li> <li>Magnetic resistivity readings were collected across mineralisation, stratigraphy and major structures.</li> </ul>
Sample	<ul style="list-style-type: none"> <li>No physical samples were taken.</li> </ul>

security	
Audits or reviews	<ul style="list-style-type: none"> <li>Survey was conducted by GAP Geophysics Pty Ltd and supervised by Mitre Geophysics and Argent Minerals personnel.</li> </ul>

**Section 2 - Reporting of Exploration Results**

Criteria	Commentary																		
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Exploration Licence, Kempfield / EL5748, Trunkey Creek, NSW, held by Argent (Kempfield) Pty Ltd (100% interest), a wholly owned subsidiary of Argent Minerals Limited. There are no overriding royalties other than the standard government royalties for the relevant minerals.</li> <li>Argent Minerals has freehold title to the land which has historically been employed for pastoral usage. Heritage items have been identified on the property. On 29 April 1997 a native title claim (Gundungurra Application #6) was lodged over a very large area that includes Kempfield. A single counterparty only, the Gundungurra Tribal Council Aboriginal Corporation, has responded to Argent Minerals advertisements as part of the standard “right to negotiate” process, and is the sole registrant.</li> <li>The Company's Exploration Licence renewal application for the full licence area for a three (3) year term has been approved to July 2015.</li> </ul>																		
Exploration by other parties	<ul style="list-style-type: none"> <li>Argent Minerals Limited through its wholly owned subsidiary Argent (Kempfield) Pty Ltd is the sole operator of the project. Argent Minerals introduced best industry practice work.</li> <li>Kempfield has been explored for more than forty years by several exploration companies as set out in Table 1.2.1.</li> </ul> <p><b>Table 1.2.1 – Exploration history</b></p> <table border="1"> <thead> <tr> <th>Company</th> <th>Period</th> <th>Exploration activities</th> </tr> </thead> <tbody> <tr> <td>Argent Minerals</td> <td>2007-current</td> <td>Drilling, VTEM survey, pole-dipole IP survey, gravity survey, ground EM and down-hole EM survey</td> </tr> <tr> <td>Golden Cross</td> <td>1996-2007</td> <td>Drilling and high resolution airborne magnetic survey</td> </tr> <tr> <td>Jones Mining</td> <td>1982-1995</td> <td>Drilling</td> </tr> <tr> <td>Shell</td> <td>1979-1982</td> <td>Drilling, ground EM survey, dipole-dipole IP survey, and soil sampling</td> </tr> <tr> <td>Inco</td> <td>1972-1974</td> <td>Drilling</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Earlier exploration was performed to the industry standard of the time; available QAQC indicates that the historical data is reasonable and suitable for use in Mineral Resource estimates.</li> </ul>	Company	Period	Exploration activities	Argent Minerals	2007-current	Drilling, VTEM survey, pole-dipole IP survey, gravity survey, ground EM and down-hole EM survey	Golden Cross	1996-2007	Drilling and high resolution airborne magnetic survey	Jones Mining	1982-1995	Drilling	Shell	1979-1982	Drilling, ground EM survey, dipole-dipole IP survey, and soil sampling	Inco	1972-1974	Drilling
Company	Period	Exploration activities																	
Argent Minerals	2007-current	Drilling, VTEM survey, pole-dipole IP survey, gravity survey, ground EM and down-hole EM survey																	
Golden Cross	1996-2007	Drilling and high resolution airborne magnetic survey																	
Jones Mining	1982-1995	Drilling																	
Shell	1979-1982	Drilling, ground EM survey, dipole-dipole IP survey, and soil sampling																	
Inco	1972-1974	Drilling																	
Geology	<ul style="list-style-type: none"> <li>The deposit type is Volcanogenic Massive Sulphide (VMS);</li> <li>The geological setting is Silurian felsic to intermediate volcanics within the intra-arc Hill End Trough in the Lachlan Orogen, Eastern Australia; and</li> <li>The style of mineralisation comprises stratiform barite-rich horizons hosting silver, lead, zinc, +/- gold.</li> </ul>																		
Drill hole Information	<ul style="list-style-type: none"> <li>No new drillhole Exploration Results in this report.</li> </ul>																		
Data aggregation methods	<ul style="list-style-type: none"> <li>No new drillhole or assay Exploration Results in this report.</li> </ul>																		

<p>Relationship between mineralisation widths and intercept lengths</p>	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
<p>Diagrams</p>	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
<p>Balanced reporting</p>	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
<p>Other substantive exploration data</p>	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
<p>Further work</p>	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report. Further geophysics work has been outlined under the heading, 'Next steps':             <ul style="list-style-type: none"> <li>○ Two additional Surface MagnetoMetric Resistivity surveys to be conducted over the interpreted Lens 3 and 4 area, and the Colossal Reef copper mine area respectively.</li> </ul> </li> </ul>



## COMPETENT PERSON STATEMENTS

### Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Dr. Vladimir David who is a member of the Australian Institute of Geoscientists, an employee of Argent Minerals, and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Dr. David consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

### Previously Released Information

This ASX announcement contains information extracted from the following reports which are available for viewing on the Company's website <http://www.argentminerals.com.au> :

- 6 May 2014 Kempfield Resource Statement Upgraded to JORC 2012 Standard
- 24 June 2014 Kempfield Exploration Update - Drill Target Delineation;
- 25 July 2014 Geophysics Team Mobilises for Kempfield DHMMR Survey;
- 31 July 2014 Geophysics Breakthrough in Kempfield Lead/Zinc Detection; and
- 15 August 2014 Kempfield Drill Target Update - Surface MMR Success.

The Company confirms it is not aware of any new information or data that materially affects the information included in the original market announcements, and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## DISCLAIMER

This ASX announcement (**Announcement**) has been prepared by Argent Minerals Limited (ABN: 89 124 780 276) (**Argent Minerals, Argent** or the **Company**). It should not be considered as an offer or invitation to subscribe for or purchase any securities in the Company or as an inducement to make an offer or invitation with respect to those securities. No agreement to subscribe for securities in the Company will be entered into on the basis of this Announcement.

This Announcement contains summary information about Argent Minerals, its subsidiaries and their activities which is current as at the date of this Announcement. The information in this Announcement is of a general nature and does not purport to be complete nor does it contain all the information which a prospective investor may require in evaluating a possible investment in Argent Minerals.

By its very nature exploration for minerals is a high risk business and is not suitable for certain investors. Argent Minerals securities are speculative. Potential investors should consult their stockbroker or financial advisor. There are a number of risks, both specific to Argent Minerals and of a general nature which may affect the future operating and financial performance of Argent Minerals and the value of an investment in Argent Minerals including but not limited to economic conditions, stock market fluctuations, silver, lead, zinc, copper and gold price movements, regional infrastructure constraints, securing drilling rigs, timing of approvals from relevant authorities, regulatory risks, operational risks and reliance on key personnel and foreign currency fluctuations.

Certain statements contained in this Announcement, including information as to the future financial or operating performance of Argent Minerals and its projects, are forward-looking statements that:

- may include, among other things, statements regarding targets, estimates and assumptions in respect of mineral resources and mineral reserves and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;

- are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Argent Minerals, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and,
- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

Argent Minerals disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward-looking statements.

All forward-looking statements made in this announcement are qualified by the foregoing cautionary statements. In particular, the corporate mission and strategy of the Company set forth in this Announcement represents aspirational long-term goals based on current expectations. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

No verification: Although all reasonable care has been undertaken to ensure that the facts and opinions given in this Announcement are accurate, the information provided in this Announcement has not been independently verified.

All production related images in this Announcement are not Argent Minerals Limited assets, including the images in the header.