

15 August 2014

## KEMPFIELD DRILL TARGET UPDATE - SURFACE MMR SUCCESS

### HIGHLIGHTS:

- Surface MagnetoMetric Resistivity (MMR) survey completed over existing VMS lenses
- Strong current channelling observed, correlating with known lead/zinc mineralisation
- Potential new lead/zinc lens responses observed, subject to further analysis
- Surface MMR exceeds expectations, forming a low cost highly specific lead/zinc geophysical tool for Kempfield, to complement recent downhole MMR survey results
- Geophysical contractor remobilising to Kempfield this weekend to proceed immediately with surface MMR surveys over interpreted new VMS lens and feeder zone areas, including the Colossal Reef copper mine
- Diamond drill program to be designed and scheduled for commencement as early as Oct 2014

### KEMPFIELD, NSW AUSTRALIA

Argent Minerals Limited (ASX: ARD, Argent, Argent Minerals or the Company) is pleased to report an additional significant breakthrough in the trialling of MagnetoMetric Resistivity (MMR) geophysical techniques at the Kempfield Polymetallic Project.

Argent Minerals Managing Director David Busch said, "On 31 July Argent Minerals reported the success of the downhole MMR trial at Kempfield, which responded very clearly and specifically to known rich lead/zinc mineralisation in diamond hole AKDD159 - 18 m @ 9.8% Pb/Zn, 113 g/t Ag & 0.26 g/t Au from 85 m (including 5 m @ 17.9% Pb/Zn, 259 g/t Ag & 0.34 g/t Au from 88 m).

"Today we are able to announce a further, significant breakthrough - the successful trial of Surface MMR over the existing deposit revealed strong current channelling that appears to correlate with known lead/zinc mineralisation.

"Additionally, new responses have been observed immediately to the west of the deposit, which support the existence of the interpreted VMS Lenses 3 and 4 (see Figure 1). This exceeds our expectations, as we were not expecting at this point in the program to detect these new responses while the initial surface MMR survey focused on the existing known mineralisation further to the east for benchmarking and calibration purposes.

"We are impressed with what we are seeing from these preliminary observations. The surface MMR technique appears to be working very well as a low cost, highly specific lead/zinc target detection tool for Kempfield, and now forms a powerful complement to the downhole MMR technique that was verified on 31 July.

"The geophysical contractor is remobilising to Kempfield this weekend, to commence the next stage of Surface MMR surveys over the new VMS lens and feeder zone area, and the Colossal Reef copper mine".

The application of the Surface MMR lead/zinc detection technique is expected to accelerate Argent's exploration efforts at Kempfield, as the Company targets the significant upside potential that it has identified at the project.

Surface MMR surveys are planned to continue during August. The detailed analysis currently underway can be expected to continue into early September to allow a comparison of responses in prospective areas and with those from known mineralisation. Argent's goal is a set of clearly delineated lead/zinc/silver targets for drill testing to commence as early as October 2014.

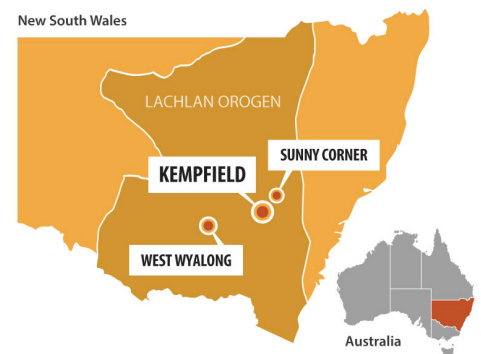
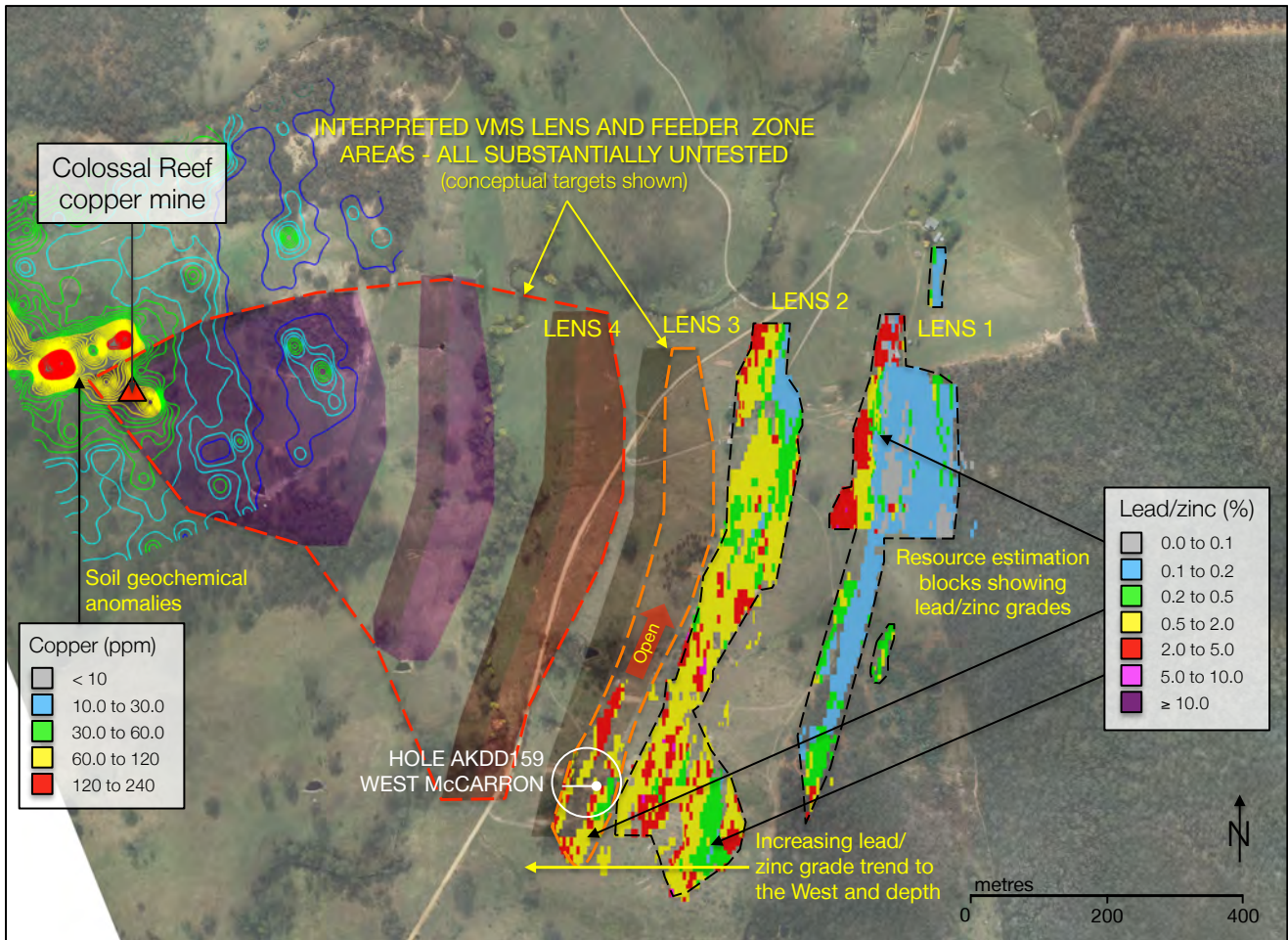


Figure 1 shows the known existing VMS lenses (Lens 1, Lens 2, and the southern portion of Lens 3), each coloured according to the resource estimation block contained lead/zinc (%). The interpreted VMS Lenses 3 and 4 are also shown on the diagram.

Subject to the final results of the continuing analysis, the Surface MMR responses appear to correlate with the richer lead/zinc mineralisation in Lens 2, and the western edge of Lens 1. Importantly, no responses were detected from the predominantly silver/barite mineralisation areas of Lens 1.

**Figure 1 - Kempfield plan view showing positions of known and interpreted VMS lenses**



**Next steps**

Two additional Surface MMR surveys will be conducted in the next round. The first will comprise a loop and electrodes positioned to detect lead/zinc mineralisation over the Colossal Reef copper mine area. The Surface MMR technique also has the inherent ability to detect any copper sulphide conductors.

The second Surface MMR survey will be designed to focus on the interpreted Lens 4 and 3 area.

The three sets of Surface MMR response data will then be analysed with the goal of producing a 3D model for incorporation into the existing Micromine model. Argent has upgraded its facilities to Micromine for precise drill target delineation and drill hole planning.

Further details of the SAM technique will be provided in a follow up announcement to the ASX.

Further news flow is expected and will be announced to the ASX as the surveys progress.

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 "Test the effectiveness of Surface MMR in delineating mineralisation at Kempfield"</p> <p>Area: 1000 x 800 m</p> <p>Line spacing: 25 m</p> <p>Current: Maximum possible</p> <p>Components: Total filed MMR and, if practicable, MMIP</p> <p>Dipole direction: Approximately 020 magnetic - located similar to the DHMMR dipole, but slightly longer</p> <p>Dipole location: Approximately 500m west of the drillhole collar</p> <p>Electrode location: Approximately 200m SSE from the drillhole collar.</p> <p>Dipole coordinates AGD66:</p> <p>707950mE, 6257470mN (southern POSITIVE electrode)</p> <p>707340mE, 6257860mN</p> <p>707980mE, 6258990mN</p> <p>708630mE, 6258620mN (northern NEGATIVE electrode)</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> </ul>

	<ul style="list-style-type: none"> <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 meters 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 roughly 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 security	<ul style="list-style-type: none"> <li>No physical samples were taken.</li> </ul>
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" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #800000; color: white;"> <th>Company</th> <th>Period</th> <th>Exploration activities</th> </tr> </thead> <tbody> <tr style="background-color: #e0e0e0;"> <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 style="background-color: #e0e0e0;"> <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 style="background-color: #e0e0e0;"> <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</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
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	historical data is reasonable and suitable for use in Mineral Resource estimates.
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>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>• No new drillhole or assay Exploration Results in this report.</li> </ul>
Further work	<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> :

- 24 June 2014 Kempfield Exploration Update - Drill Target Delineation;
- 25 July 2014 Geophysics Team Mobilises for Kempfield DHMMR Survey; and
- 31 July 2014 Geophysics Breakthrough in Kempfield Lead/Zinc Detection.

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.

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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.

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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.

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