

24 June 2014

## KEMPFIELD EXPLORATION UPDATE - DRILL TARGET DELINEATION

### HIGHLIGHTS:

- **Downhole MagnetoMetric Resistivity (DHMMR) surveys scheduled to start July 2014 at the Kempfield Polymetallic Project - targeting additional rich lead/zinc mineralisation in project area**
- **Preliminary lead isotope observations confirm deposit zonation indicating potential proximity to a VMS feeder zone**
- **Target areas generated - significant potential VMS lens and feeder zone areas identified**

### KEMPFIELD, NSW AUSTRALIA

Argent Minerals Limited (ASX: ARD, Argent, Argent Minerals or the Company) is pleased to report that it is about to commence Downhole MagnetoMetric Resistivity (DHMMR) surveys at the Kempfield Polymetallic Project in preparation for a drilling program to be conducted in the area immediately to the west of the deposit. This area has been identified as being highly prospective for lead/zinc mineralisation.

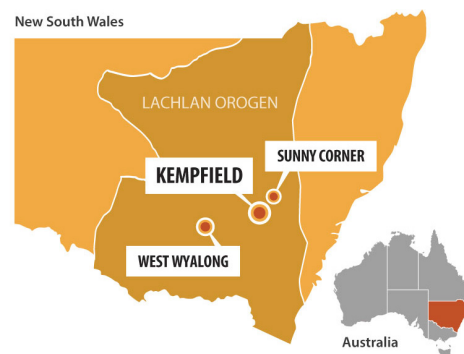
DHMMR is a geophysics technique which has been used successfully to delineate rich lead/zinc targets that have not responded to conventional electromagnetic (EM) survey techniques. Examples include Perilya's North Mine lead/zinc deposit at Broken Hill, NSW, where DHMMR was employed successfully to delineate the Zinc Lodes - rich mineralisation that had not been detected by previous Downhole EM (DHEM) surveys<sup>1</sup>. DHMMR is also considered to have made a significant contribution to the delineation of Perilya's Potosi deposit at Broken Hill.

DHMMR provides advantages over conventional DHEM in that it needs lower absolute conductivity, works well for elongated structures, has a greater area of investigation around the drill hole, gives absolute direction to conductors, and is less susceptible to shielding<sup>1</sup>.

Argent's recent diamond hole AKDD159 intercepted rich mineralisation at the West McCarron Zone - 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). Despite these relatively rich grades mineralisation was not detected by the subsequent 2014 DHEM survey.

A recent geophysical review has identified the DHMMR technique as being more likely than DHEM to detect the target lead/zinc mineralisation adjacent to the existing Kempfield deposit - predominantly sphalerite-rich mineralisation with galena, which forms a relatively poor conductor. The DHMMR technique, if determined to be successful in the detection of the target lead/zinc mineralisation at Kempfield, will form a valuable complement to the geophysics exploration strategy recommended by Professor Ross Large of the Australian Centre of Excellence in Ore Deposits (CODES). Professor Large had recommended the combination of coincident gravity and induced polarisation (IP) anomalies for the generation of massive sulphide targets at Kempfield; the implementation of this strategy has played a key role in the identification of the significant exploration upside potential at Kempfield.

A fundamental element of Argent's strategy to transition to production, is its aggressive exploration for additional lead/zinc mineralisation to complement the significant 82% Measured/Indicated, 22 million tonne, JORC 2012 polymetallic Mineral Resource, containing 52 million ounces silver equivalent of silver, gold, lead and zinc<sup>2</sup>.



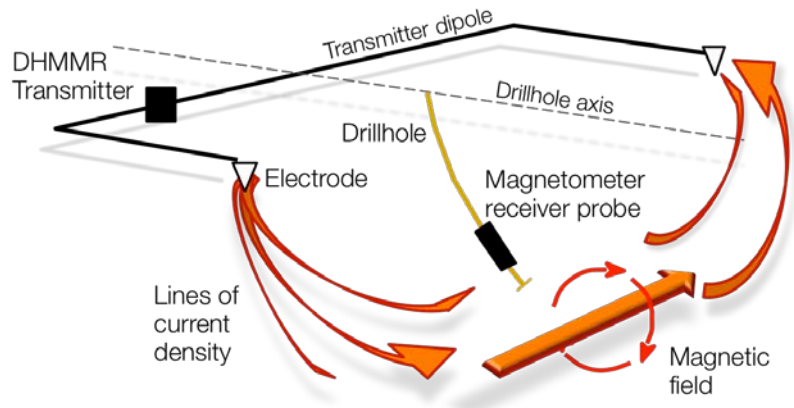
<sup>1</sup> DHMMR: Coming of Age, Godber, K.E., and Bishop, J.R., 2007

<sup>2</sup> See Appendix A for summary including cutoff grades and silver equivalent calculations, and 6 May 2014 ASX announcement

**About the DHMMR survey technique**

DHMMR surveys require only a conductivity contrast between the host rock and the target, whether or not the target itself is a good conductor. Previous research suggests that low conductivity mineralisation such as that at the Kempfield West McCarron Zone, could produce a sufficient DHMMR signal if the conductivity contrast between the target area and the surrounding material is greater than 3:1<sup>1</sup>.

The DHMMR technique involves the detection of this contrast by injecting a current directly into the ground via electrodes. The electrical current favours the path of least resistance; this is called 'current channelling', and the accompanying concentration in the magnetic (B) field generated by the current may be measured with the aid of a magnetometer receiver probe.



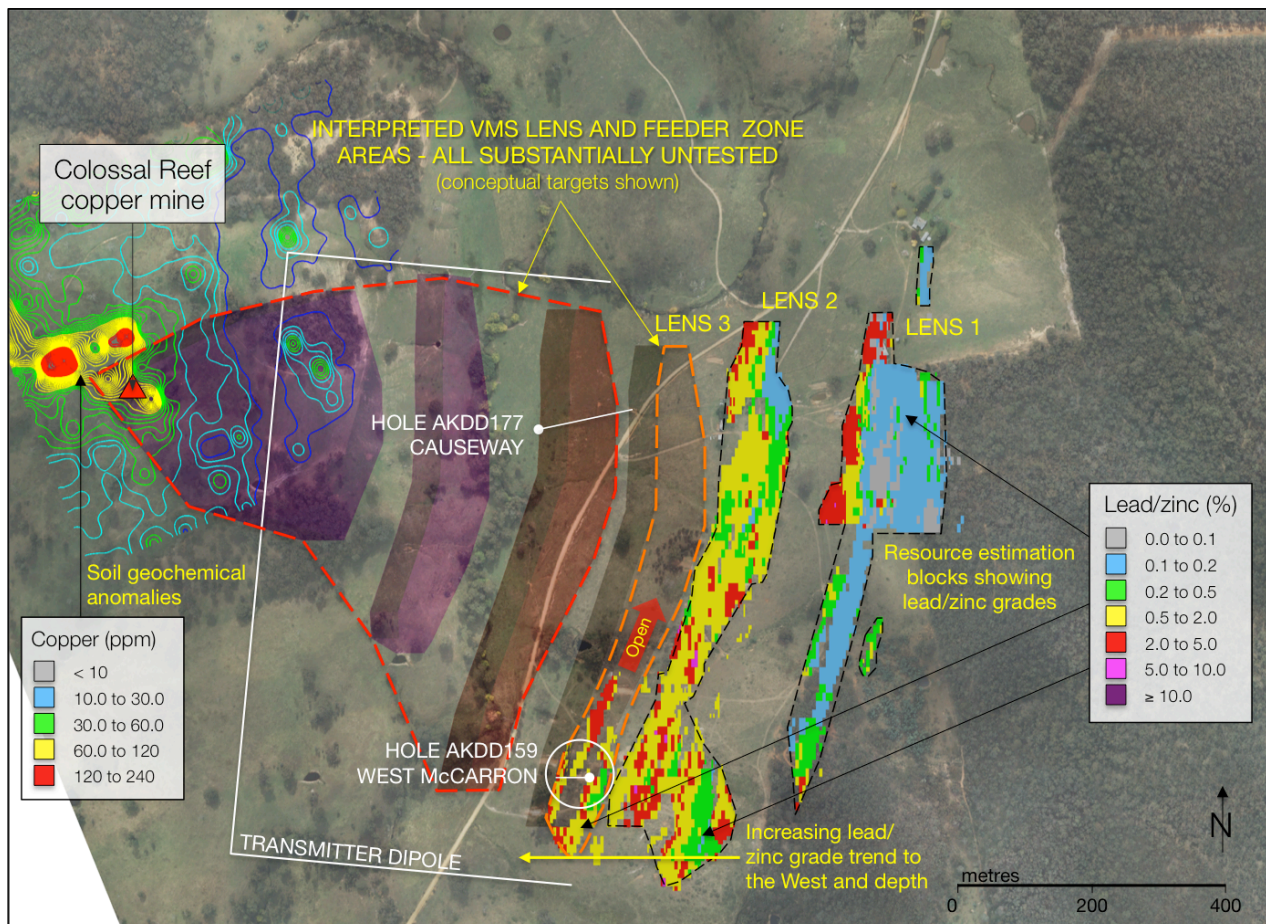
Source: Kate Hine/Mitre Geophysics

**About the Kempfield surveys**

At Kempfield, the downhole sensor will take measurements at progressive depths in each of holes AKDD159 and AKDD177.

Mitre Geophysics has designed a DHMMR transmitter dipole layout to provide coverage of the known mineralisation intercepted by AKDD159 and to maximise the reach of the survey to 'illuminate' the interpreted VMS lens and feeder zone areas (see Figure 1).

**Figure 1 - DHMMR survey plan for Kempfield target VMS lens and feeder zone areas**



The underlying strategy is to firstly determine the extent to which the known lead/zinc mineralisation intercepted by AKDD159 responds to the DHMMR technique, and adopt that as a benchmark against which the remainder of the measurements may be compared.

The radius of investigation may be up to 150 metres in each direction from each hole.

#### **About the DHMMR Equipment and the DHMMR survey procedure**

Argent Minerals has contracted Gap Geophysics Pty Ltd to perform the DHMMR surveys under the supervision of Mitre Geophysics Pty Ltd. The equipment to be employed is considered to be high-end in sensitivity and quality, featuring:

- **DHMMR Transmitter - Gap GeoPak HPTX-70 High Powered Transmitter.** According to Gap Geophysics, the HPTX-70 is the highest powered DHMMR transmitter in Australia, with the capability of producing up to 350 Amps, and up to 1200 Volts available to maximise current delivery. This is a vast improvement on previous technology. To put this in perspective, the equipment employed by Mitre Geophysics at the Broken Hill deposit only delivered current of approximately 10 Amps, yet that survey was very successful. The higher the injected current, the stronger will be the magnetic (B) field produced by any current channelling, and the greater the ability to distinguish received signals from background noise. An additional feature of the equipment is that the transmitter waveform edges are synchronised precisely to GPS time, enabling the transmitter and receiver to be precisely synchronised to each other for superior accuracy in the analysis.
- **DHMMR Receiver - EMIT "DigiAtlantis" fluxgate DHMMR probe and instrumentation system.** The DigiAtlantis is a new generation borehole EM system comprising a 3 axis magnetometer probe and a digital processing system that provides 24-bit, rapid, simultaneous sampling of the magnetometer's three components, and greatly improved noise rejection capabilities. The DigiAtlantis system provides significantly improved data quality and efficiency in comparison to previous generation systems. Orthogonal accuracy is 0.1 degrees, and signal calibration accuracy, 0.1%.

The survey procedure will have 10 m station spacing generally to end of hole, to be reduced to 5 m spacing around the known mineralisation in AKDD159 (18 m from 88 m), and 2.5 m spacing around areas wherever increased responses occur. Signal frequencies of 4 Hz and 1 Hz will be reviewed in the field to determine the optimum rate.

Gap Geophysics will mobilise for Kempfield on completion of another survey currently in process. This is envisaged to be prior to the end of June 2014, and Argent will advise the ASX on mobilisation when that occurs for the Kempfield survey.

This is the first time that DHMMR surveys will have been employed at Kempfield, and based on publicly available information, possibly in the Hill End Trough region of the Lachlan Orogen terrane. The combination of this relatively new survey technique, and the new generation equipment being employed, represents a significant advance in exploration for sphalerite-rich lead/zinc VMS style mineralisation at Kempfield, and regionally within the Hill End Trough basin margin - potentially rich mineralisation that has not yet been identified by other geophysics methods due to inherently low conductivity, or simply overlooked.

#### **Preliminary lead isotope observations confirm potential proximity to VMS feeder zone**

Preliminary information has been received from Melbourne University via Geosciences Australia in relation to lead isotope studies being conducted for the Kempfield deposit. Whilst exploration results are pending completion of the data analysis, the following preliminary observations have been made:

- The data indicates a tight cluster of Silurian-Devonian Volcanogenic Massive Sulphides (VMS) style of mineralisation, providing strong support for Argent's deposit genesis hypothesis; and
- the isotopic data supports Argent Minerals' relatively recent interpretation of West McCarron Zone being part of a 'Lens 3' which is different to the remainder of the deposit, with this lens, in addition to its higher base metals and gold grades, being slightly younger than the remainder of the deposit, and therefore potentially closer to a feeder zone.

This observation adds to the growing list of exploration vectors that point to a potential VMS feeder zone immediately to the west of the known mineralisation at Kempfield, an area of substantial size which is yet to be drill-tested.

It is hoped that the completed analysis will provide further clues in relation to the original formation of the Kempfield deposit, and the potential location and number of feeder zones, to assist in target generation for rich base and precious metals mineralisation.

### About the target VMS lens and feeder zone areas

Figure 1 is a plan view of the existing mineralisation (excluding Quarries Zone to the north), together with conceptual VMS lenses and a feeder zone which have been generated based on all of the available data.

These areas are summarised as follows:

- **Lens 1 and 2.** The known mineralisation at Kempfield has been estimated and documented as a JORC 2012 Mineral Resource (see 6 May 2014 announcement). As reported in previous announcements, the mineralisation occurs in the form of two main north trending lenses, labelled 'Lens 1' and 'Lens 2' in Figure 1. A distinct trend of increasing grades, especially lead/zinc, is evident, with the increase occurring towards the west and at depth<sup>3</sup>.
- **Lens 3.** As noted in the lead isotope discussion above, the West McCarron Zone of existing mineralisation, also forming part of the JORC 2012 Mineral Resource estimate, is interpreted as being the southern section of a longer Lens 3 which lies to the west and parallel with Lens 2<sup>3</sup>. As indicated by the red 'Open' arrow in Figure 1, the mineralisation in Lens 3 remains open to the north. Information supporting this interpretation includes IP chargeability data, soil geochemical anomalies, rock outcrops, and gravity survey data. Based on a plan to test an IP chargeability anomaly, hole AKDD177 successfully intercepted the target pyrites which are interpreted to be a VMS alteration 'halo' associated with nearby mineralisation. However, hole AKDD177, which was stopped at 408 m, did not test the adjacent section of Lens 3 at depth.

The rich lead/zinc intercepts reported in the 10 March 2014 announcement are on the western edge of the West McCarron Zone and importantly, in addition to being open to the north, mineralisation also remains open to the west and at depth.

- **Western VMS lens and feeder zone (including Colossal Reef copper mine).** A substantially untested area lies immediately to the west of Lens 2 and Lens 3, and includes the area denoted by the dashed red polygon in Figure 1. Several Argent Minerals announcements have referred to the increasing database of exploration vectors pointing to the potential for a feeder zone and associated rich mineralisation - the potential for rich lead/zinc grades +/- gold and copper.

Example conceptual VMS lenses and a feeder zone have been generated within the polygon, based on a hypothesis of an overturned VMS mound with a symmetrical repetition of Lens 1, 2 and 3. Under this hypothesis, Lens 1 is the most distal to the feeder source, and therefore the lowest temperature, which in the VMS deposit spectrum, can be expected to be predominantly silver/barite mineralisation. This is the case for Lens 1.

Under this model, Lens 2 can be expected to yield generally increasing grades, with lead/zinc beginning to feature more, and Lens 3 yielding the highest base metal grades of Lenses 1 to 3. All of this is supported by the available evidence at this point.

A feeder zone (such as that marked conceptually by the purple polygon closest to the historic Colossal Reef copper mine), could be expected to yield the richest grades related to the higher temperatures involved in the original deposition sequence. The presence of the copper mine, with adjacent copper soil anomalies, as well as outcropping blue azurite and green malachite, are supportive of this conceptual model.

Alternative genesis models have been considered for the area, and remain valid until geophysics, and

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<sup>3</sup> See ASX announcement 10 March 2014

ultimately, drill-testing, reveals further information.

### **About the exploration program and timing**

The DHMMR surveys are scheduled to commence July 2014. Analysis of the DHMMR surveys will commence immediately following the DHMMR survey.

### **About the drill-testing plan**

Argent Minerals is planning to follow up this work with drill-testing of the areas of interest. The drill plan designs will be finalised and announced following the completion of the DHMMR surveys.

The drilling plan will focus initially on the interpreted VMS lens and feeder zone immediately to the west of the Kempfield deposit, including Colossal Reef.

Argent Minerals Managing Director David Busch said, "The VMS lens and feeder zone areas immediately to the west of the Kempfield deposit are highly prospective for additional lead and zinc mineralisation, yet they remain substantially untested.

"The intercepts reported on 10 March this year, together with the growing database of exploration vectors, indicate compelling upside that demands drill-testing of these areas regardless of whether or not the DHMMR surveys are able to detect mineralisation. These areas offer the potential to accelerate our progress toward our goal of becoming a significant Australian polymetallic producer".

### **JORC Table 1**

In accordance with section 5.8.2 of the ASX listing rules, Section 1 (Sampling Techniques and Data), and Section 2 (Reporting of Exploration Results) of Table 1 of Appendix 5A (JORC Code) is attached as Appendix B to this announcement.

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## APPENDIX A - KEMPFIELD JORC 2012 RESOURCE STATEMENT SUMMARY

Table 1.0 is a summary of the Kempfield mineral resource announced on 6 May, 2014. Table 2.0 shows the resource tonnes and grades by Measured, Indicated and Inferred categories, whilst Table 3.0 provides details of tonnes and contained metal in the Measured and Indicated categories.

At cutoff grades 25 g/t Ag (Oxide/Transitional) and for 50 g/t Ag equivalent<sup>1</sup> (Primary):

Table 1.0 - Kempfield Resource Summary

	Resource Tonnes (Mt)	Silver (Ag)		Gold (Au)		Lead (Pb)		Zinc (Zn)		In-situ Contained Ag Equivalent <sup>2</sup>	
		Grade (g/t)	Contained Metal (Moz)	Grade (g/t)	Contained Metal (000 oz)	Grade (%)	Contained Metal (000 t)	Grade (%)	Contained Metal (000 t)	Grade (Ag Eq g/t)	Contained Ag Eq (Moz)
<b>Oxide/Transitional*</b>	6.0	55	10.7	0.11	21	N/A	N/A	N/A	N/A	-	11.7
<b>Primary**</b>	15.8	44	22.3	0.13	66	0.62	97	1.3	200	-	40.5
<b>Total***</b>	<b>21.8</b>	<b>47</b>	<b>33.0</b>	<b>0.12</b>	<b>86</b>	<b>N/A</b>	<b>97</b>	<b>N/A</b>	<b>200</b>	<b>75</b>	<b>52</b>

\* 90% \*\* 79% \*\*\* 82% : % of resource tonnes in Measured or Indicated Category. See Table 3.0 for calculation details.

Table 2.0 - Resource by Category

Category	Resource Tonnes (Mt)	Grade (g/t)		Grade (%)		In-situ Grade (Contained Ag Eq g/t)
		Silver (Ag)	Gold (Au)	Lead (Pb)	Zinc (Zn)	Silver Equivalent (Ag Eq)
<b>Oxide/Transitional</b>						
Measured	2.7	68	0.11	-	-	73
Indicated	2.7	47	0.11	-	-	52
Inferred	0.6	39	0.08	-	-	43
<b>Total Oxide/Transitional</b>	<b>6.0</b>	<b>55</b>	<b>0.11</b>	<b>-</b>	<b>-</b>	<b>60</b>
<b>Primary</b>						
Measured	4.1	57	0.12	0.66%	1.2%	93
Indicated	8.4	41	0.13	0.58%	1.2%	76
Inferred	3.2	35	0.13	0.66%	1.4%	74
<b>Total Primary</b>	<b>15.8</b>	<b>44</b>	<b>0.13</b>	<b>0.62%</b>	<b>1.3%</b>	<b>80</b>
<b>Total Resource</b>	<b>21.8</b>	<b>47</b>	<b>0.12</b>	<b>N/A</b>	<b>N/A</b>	<b>75</b>

Table 3.0 - Kempfield Resource tonnes and contained metal in Measured and Indicated categories

	Contained Metal					
	Resource Tonnes (Mt)	Moz Silver (Ag)	000 oz Gold (Au)	000 t Lead (Pb)	000 t Zinc (Zn)	In-situ Moz Silver Equivalent (Ag Eq)
<b>Oxide/Transitional</b>						
Measured	2.7	5.8	9.3	-	-	6.3
Indicated	2.7	4.1	9.9	-	-	4.6
<b>Measured + Indicated</b>	<b>5.4</b>	<b>10</b>	<b>19</b>	<b>-</b>	<b>-</b>	<b>11</b>
<b>As % of Total Oxide/Transitional</b>	<b>90%</b>	<b>93%</b>	<b>93%</b>	<b>-</b>	<b>-</b>	<b>93%</b>
<b>Primary</b>						
Measured	4.1	7.5	16	27	51	12
Indicated	8.4	11	36	49	103	21
<b>Measured + Indicated</b>	<b>13</b>	<b>19</b>	<b>51</b>	<b>76</b>	<b>154</b>	<b>33</b>
<b>As % of Total Primary</b>	<b>79%</b>	<b>83%</b>	<b>79%</b>	<b>78%</b>	<b>77%</b>	<b>81%</b>
<b>Oxide/Transitional + Primary</b>						
<b>Measured</b>	6.8	13	25	27	51	19
<b>Indicated</b>	11	15	46	49	103	25
<b>Total Measured + Indicated</b>	<b>18</b>	<b>28</b>	<b>71</b>	<b>76</b>	<b>154</b>	<b>44</b>
<b>As % of Total Resource</b>	<b>82%</b>	<b>86%</b>	<b>82%</b>	<b>78%</b>	<b>77%</b>	<b>84%</b>

**Note 1 - 50 g/t Silver Equivalent Cutoff Grade**

This Resource is only reported in Resource tonnes and contained metal (ounces of silver and gold, and tonnes for lead and zinc). The Resource estimation for the Primary material was based on a silver equivalent cutoff grade of 50 g/t.

A silver equivalent was not employed for the oxide/transitional material estimation and was based on a 25 g/t silver only cutoff grade.

The contained metal equivalence formula is based on the following assumptions made by Argent Minerals:

Silver price:	\$US 30/oz (\$US 0.9645/g)
Gold price:	\$US 1,500/oz
Lead & zinc price:	\$US 2,200/tonne
Silver and gold recoverable and payable:	80% of head grade
Lead & zinc recoverable & payable:	55% of head grade

Based on metallurgical testing to date, Argent Minerals is of the opinion that recoverable and payable silver and gold of 80% is achievable, and recoverable and payable lead and zinc at 55% of the head grade. Argent Minerals

is also of the opinion that this is consistent with current industry practice. These metallurgical recoveries were included in the calculation of silver equivalent cutoff grades used for reporting of Mineral Resources. Please note that Ag Eq is reported as in-situ contained ounces and grade ie. not recoverable & payable ounces and grade, and in accordance with the JORC Code 2012 Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves.

### Note 2 - Contained Silver Equivalent ('Ag Eq') Calculation Details

(i) A revenue figure was calculated for each metal by category and material class (r) as follows:

$r = \text{tonnes} * \text{head grade} * \text{recoverable and payable \%}$ .

Eg. For Measured Oxide/Transitional silver:  $r = 2.7\text{Mt} * 68 \text{ g/t} * 80\% / 31.1 \text{ g/oz} * \$\text{US } 30/\text{oz} = \$\text{US } 142\text{M}$ .

Eg. For Measured Primary Zinc:  $r = 4.1\text{Mt} * 1.2\% * 55\% * \$\text{US } 2,200/\text{t} = \$\text{US } 59.5\text{M}$ .

(ii) Total revenue R was calculated for each resource category and material class as the sum of all the individual (r) revenues for that category and class.

(iii) Contained silver metal equivalent ounces was then calculated as follows:

$\text{Ag Eq (oz)} = R / \text{Ag recoverable and payable \%} / \text{Ag price} = R / 80\% / \$\text{US } 30$ .

(iv) Contained silver metal grade was calculated as follows:

$\text{Grade (Contained Ag Eq g/t)} = \text{Ag Eq (oz)} * 31.1 / \text{tonnes}$ .

### Note 3 – Rounding and Significant Figures

Figures in the tables in this report may not sum precisely due to rounding; the number of significant figures does not imply an added level of precision.



## APPENDIX B - JORC 2012 EDITION TABLE 1

### KEMPFIELD CONCEPTUAL MODEL

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 conceptual model based on interpretation and does not report any drilling or assay sampling exploration. It reports interpretation of lead isotopic signature to assist in ore genesis model. Samples (10 g size) for lead isotopic analysis were randomly selected from well-preserved galena mineralisation including drill core, cock chips and outcropping mineralisation.
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><b>The Fundamentals of the Lead Isotope Method</b></p> <p>A detailed review of Pb isotope geochemistry is available in the literature (1977a). Three isotopes, <sup>208</sup>Pb, <sup>207</sup>Pb, and <sup>206</sup>Pb are partly the radiogenic daughter products from the radioactive decay of one isotope of thorium (<sup>232</sup>Th → <sup>208</sup>Pb) and two isotopes of uranium (<sup>238</sup>U → <sup>206</sup>Pb and <sup>235</sup>U → <sup>207</sup>Pb). The fourth isotope of Pb (<sup>204</sup>Pb) is stable and has no long-lived parent isotope nor does it decay to another isotope.</p> <p>In a closed system, lead isotopic variations can be thought of in terms of the following simple relationship:</p> <p style="text-align: center;">present day lead = initial or common lead + radiogenic lead</p> <p style="text-align: center;">(at time of formation)                      (added by radioactive decay)</p> <p>The above simplified relationship can be expressed more rigorously as follows:</p> $\left(\frac{{}^{206}\text{Pb}}{{}^{204}\text{Pb}}\right)_t = \left(\frac{{}^{206}\text{Pb}}{{}^{204}\text{Pb}}\right)_{t_i} + \left(\frac{{}^{238}\text{U}}{{}^{204}\text{Pb}}\right)_n \times (e^{\lambda t_i} - e^{\lambda t}) \tag{1}$ <p>Where</p> <ul style="list-style-type: none"> <li>t<sub>i</sub> is the geological time at which evolution of <sup>206</sup>Pb started</li> <li>t is the time elapsed since t<sub>i</sub> and is the geological time at which evolution of <sup>206</sup>Pb ceased, or the time of formation when lead was effectively removed from the uranium and thorium source material</li> <li>n now or present-day U/Pb ratio, and</li> <li>λ is the decay constant</li> </ul> <p>Similar equations can also be written for the variation of <sup>207</sup>Pb/<sup>204</sup>Pb and <sup>208</sup>Pb/<sup>204</sup>Pb with time.</p> <p>Lead isotope data are typically presented on covariation diagrams such as the 'uranogenic diagram' which plots <sup>207</sup>Pb/<sup>204</sup>Pb versus <sup>206</sup>Pb/<sup>204</sup>Pb, or the least abundant isotope of U versus the most abundant.</p>

	<p>Discussion of Pb isotope data on covariation diagrams is made with reference to a model Pb isotope growth curve. Early global models assumed constant U/Pb and Th/U in the source reservoir (i.e. single-stage models); however, later models incorporate continuous evolution (Cumming G. L. and Richards J. R. 1975) or two stages (Stacey J. S. and Kramers J. D. 1975). In this interpretation model III of (Cumming G. L. and Richards J. R. 1975) has been elected as the model of choice as it computes model ages closest to independently determined geologic ages for Phanerozoic rocks of the Lachlan orogen.</p> <p>Lead isotope composition (<math>^{206}\text{Pb}/^{204}\text{Pb}</math>, <math>^{207}\text{Pb}/^{204}\text{Pb}</math> and <math>^{208}\text{Pb}/^{204}\text{Pb}</math>) was determined for 13 fresh galena samples from different mineralised zones. University of Melbourne via Geoscience Australia carried out the sample preparation and analysis. Galena grains were extracted from the drill core and rock samples using a diamond-tipped drill. The samples were dissolved and lead extracted using techniques described by Gulson and Mizon (1979). The samples were analysed on a fully automated VG Isomass 54E mass spectrometer (Gulson et al., 1984). The results have been normalised to the National Bureau of Standards (SRM981 metal).</p>
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li>Argent Minerals samples were submitted to University of Melbourne via Geoscience Australia to be analysed with fully automated VG Isomass 54E mass spectrometer using double spikes. In addition for double analysis were conducted.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li>Initial verification of lead isotope results was done by Dr David Huston and Dr Vladimir David.</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>Collar surveys of the sampled drill hole collars were conducted by a registered surveyor in GDA 94 (Zone 55) and then converted to AMG 66 (Zone 55) grid (also for consistency); all sampled drill hole collars are surveyed by a registered surveyor.</li> <li>Down-hole surveys of dip and azimuth were conducted using either a single shot Eastman Camera and electronic camera every 50 or 30 metres to detect hole direction.</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 project during 2010.</li> </ul>
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>Data spacing is based on geology and mineralised intervals. Distribution is sufficient to establish a lead isotopic signature for the deposit.</li> <li>There was no sample compositing.</li> </ul>
<p><b>Orientation of data in relation to geological structure</b></p>	<ul style="list-style-type: none"> <li>Sampled holes were drilled towards local grid east (azimuth 111° in GDA94) at angles of 55° to 60° to intersect the stratigraphy and mineralisation as close as possible to perpendicular in order to provide the most representative samples through deposit.</li> </ul>
<p><b>Sample security</b></p>	<ul style="list-style-type: none"> <li>Each sample contained within a small polyweave sack and in turn locked up within a sturdy sealable waterproof container.</li> <li>Sulphide mineralisation (galena) is identified macroscopically and prepared for sampling.</li> </ul>
<p><b>Audits or reviews</b></p>	<ul style="list-style-type: none"> <li>Sampling techniques and procedures were supervised by Dr. Vladimir David (Argent Minerals) and Dr. David Huston (Geoscience Australia).</li> <li>Periodically Laboratory conducted assays QAQC analysis with duplicate samples and double spikes.</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: #8B4513; color: white;"> <th>Company</th> <th>Period</th> <th>Exploration activities</th> </tr> </thead> <tbody> <tr style="background-color: #E6D8C8;"> <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 style="background-color: #E6D8C8;"> <td>Golden Cross</td> <td>1996-2007</td> <td>Drilling and high resolution airborne magnetic survey</td> </tr> <tr style="background-color: #E6D8C8;"> <td>Jones Mining</td> <td>1982-1995</td> <td>Drilling</td> </tr> <tr style="background-color: #E6D8C8;"> <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: #E6D8C8;"> <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
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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 Exploration Results in this report. This report relates to conceptual model and interpretation.</li> </ul>																		
Data aggregation methods	<ul style="list-style-type: none"> <li>• No new Exploration Results in this report. This report relates to conceptual model and interpretation.</li> </ul>																		
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Diagrams	<ul style="list-style-type: none"> <li>• No new Exploration Results in this report. This report relates to conceptual model and interpretation.</li> </ul>																		

Balanced reporting	<ul style="list-style-type: none"><li>No new Exploration Results in this report. This report relates to conceptual model and interpretation.</li></ul>
Other substantive exploration data	<ul style="list-style-type: none"><li>No new Exploration Results in this report. This report relates to conceptual model and interpretation.</li></ul>
Further work	<ul style="list-style-type: none"><li>No new Exploration Results in this report. This report relates to conceptual model and interpretation.</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> :

- 10 March 2014 Assays Confirm Third VMS Lens Group at Kempfield - Revised
- 6 May 2014 Kempfield Resource Statement Upgraded to JORC 2012 Standard

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.

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