# ASX/MEDIA RELEASE



24 August 2017

## ARGENT TO INCREASE ZINC INVENTORY AS LME PRICE HITS 10 YEAR HIGH

# Argent at a glance

ASX-listed Company focused on the expansion and development of its significant existing base and precious metal projects and to leverage its expertise to pursue value accretive acquisitions of other significant projects identified by the Company.

# **Facts**

ASX Codes:	ARD, ARDO <sup>1</sup>
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Share price (23 August 2017):

\$0.033 \$0.005

Option price (23 August 2017):

421.4 M

Shares on issue:Market capitalisation

\$13.9 M

### **Directors and Officers**

### Stephen Gemell

Non-Executive Chairman

### **David Busch**

Chief Executive Officer

### Peter Nightingale

Non-Executive Director

### Peter Michael

Non-Executive Director

### Vinod Manikandan

Company Secretary

# Contact details

PRINCIPAL AND REGISTERED OFFICE

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# Highlights

- Existing Kempfield inventory includes 200,000 tonnes of contained zinc ahead of JORC 2012 mineral resource update.
- Significant resource update planned

   based on extensions of up to twice
   the current deposit dimensions
   identified by recent diamond drilling.
- 10 year high reached by LME zinc spot price at US\$3,143/tonne as LME zinc stocks decline to critically low levels, reflecting a material shift in supply/demand.
- USGS 2017 statistics detail the fundamental imbalances in zinc supply/demand.
- Breakthroughs in revolutionary zincair battery technology announced on 15 August 2017 by University of Sydney may place further pressure on zinc demand side as a potential competitor to lithium-ion batteries.

Argent Minerals Limited (ASX: ARD, Argent, or the Company) is pleased to provide the following strategic information in relation to the Kempfield polymetallic project.

In addition to 33 million ounces of silver, and 86,000 ounces of gold, the existing Kempfield JORC 2012 mineral resource includes 200,000 tonnes of contained zinc.

The Company expects its zinc inventory to benefit substantially from the planned update to the Kempfield mineral resource, following recent diamond drilling results.

<sup>&</sup>lt;sup>1</sup> \$0.10 exercise price, 27 June 2019 expiry.

# About the resource update

Extensional diamond drilling at Kempfield has demonstrated lateral and depth extensions equating to approximately twice the current deposit dimensions. Any depth extension to the existing resource will comprise mostly primary material – the base metals host domain.

The existing resource, which includes 200,000 tonnes of contained zinc and 97,000 tonnes of lead (see Appendix A), will be re-estimated based on a 3D model to be constructed from the extensional drilling results and an infill drilling programme.

The anticipated upgrade to the zinc and lead components of the Kempfield project, in addition to the significant silver and the prospect of increased gold resources, means that the project is a significant polymetallic project on the Australian mining landscape.

### LME zinc cash settlement price reaches 10 year high - US\$3,143/tonne

The London Metals Exchange (LME) zinc cash settlement price (spot) pricing has reached a 10 year high as the Company progresses the Kempfield JORC 2012 mineral resource update.

On 21 August 2017 (London time), the LME zinc cash settlement price closed at US\$3,143/tonne, with LME zinc stocks levels in decline.

LME zinc stock levels have been reducing from approximately 1.24 million tonnes in December 2012, to 247,850 tonnes at LME close on 21 August 2017, reflecting a significant shift in supply/demand.

At a global consumption rate of 13.57 million tonnes<sup>1</sup> for 2016, this equates to less than seven days of supply, a critically low level.

The following chart illustrates the reduction in LME zinc stocks and the increase in the LME zinc spot price over the five year period from 21 August 2012, reflecting the continuing market dynamics for this essential metal.



Figure 1 - LME cash settlement price and stocks over 5 years from 21 August 2012 to 21 August 2017

The all time high LME zinc price of \$4,603/tonne was reached in November 2006, during a period of zinc supply demand imbalance.

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https://minerals.usgs.gov/minerals/pubs/commodity/zinc/mcs-2017-zinc.pdf

### About the underlying zinc market supply/demand fundamentals

Zinc continues to be in high demand, with approximately 60% of annual zinc production consumed by galvanising processes for protecting steel against corrosion.

As an essential element required for the growth and function of all living things, a further 17% of zinc production is employed in agriculture to ensure security of food supply.

According to the U.S. Geological Survey, Mineral Commodity Summaries published in January 2017, global zinc mine production in 2016 was 11.9 million tonnes<sup>2</sup>, 7% less than that of 2015.

Zinc mine production in Australia decreased by almost 50% as a result of the closure of the Century Mine in 2015 owing to reserves depletion and temporary production cutbacks at the George Fisher and Lady Loretta Mines. In a reversal from 2015, when production exceeded consumption, the zinc metal market fell into a sizable deficit during 2016, with consumption exceeding production.

According to the International Lead and Zinc Study Group, as quoted in the USGS publication, global refined zinc production in 2016 decreased by 3% to 13.22 million tonnes, and metal consumption was essentially unchanged at 13.57 million tonnes, resulting in a production-to-consumption deficit of 349,000 tonnes of refined zinc.

## Further potential demand pressure from zinc-air battery technology breakthrough

University of Sydney researchers have found a solution for one of the biggest stumbling blocks preventing zinc-air batteries from overtaking conventional lithium-ion batteries as the power source of choice in electronic devices.

Published in Advanced Materials on 14 August 2017<sup>3</sup>, a paper authored by chemical engineering researchers from the University of Sydney and Nanyang Technological University of Singapore outlines a new three-stage method to overcome this problem. The following information has been extracted from the paper and an article published by Australian Associated Press on 17 August 2017.

To date lithium-ion batteries have been the conventional choice to run high-energy portable devices such as mobile phones, power tools, and electric cars but the rare metal is expensive and the batteries are plagued by safety issues due to overheating.

Zinc-air batteries have long-been thought of as a safer, cheaper and more sustainable replacement to lithium-ion. The heavy metal is one of the world's most abundant and more environmentally friendly to extract than lithium, but since zinc-air batteries were first produced in the 1930s they have only been single use, powering devices such as hearing aids.

The new recharging method increases the capacity of zinc-air batteries to store five times more energy than current models.

This makes the batteries more suited for powering electric cars and other long lasting devices.

Whilst lead researcher Professor Chen expects the technology will take time to perfect, he believes that in five to ten years it will replace lithium-ion as the battery of choice, pointing out that it took approximately 10 to 20 years to refine lithium technology and to enter the marketplace, and that the battery market is now much more competitive.

For further information please contact:

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Chief Executive Officer

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<sup>2</sup> The USGS publication notes that its references to 'tons' are metric tonnes.

<sup>&</sup>lt;sup>3</sup> Amorphous Bimetallic Oxide-Graphene Hybrids as Bifunctional Oxygen Electrocatalysts for Rechargeable Zn-Air Batteries, Advanced Materials ref DOI: 10.1002/adma.201701410

### **APPENDIX A - MINERAL RESOURCE**

### Kempfield resource

The existing Kempfield mineral resource (prior to the planned update) is summarised in the following table:

Table 1 - Kempfield JORC 2012 mineral resource

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

\*90% \*\*79% \*\*\*82%: % of resource tonnes in Measured or Indicated category. 1. Cutoff grades 25g/t Ag for Oxide/Transitional and 50g/t AgEq for Primary. 2. AgEq based on US\$30/oz Ag, US\$1,500/oz Au, US\$2,200/t Pb and Zn, recoverable and payable @ 80% of head grade for Ag and Au and 55% for Pb and Zn. For full details refer to the Mineral Resources and Ore Reserves Statement in the Company's 30 June 2016 Annual Report.

For further detail please refer to the Mineral Resources and Ore Reserves Statement in the Annual Report to Shareholders dated 30 June 2016.

### **COMPETENT PERSON STATEMENTS**

### **Previously Released Information**

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

- 30 June 2016 Annual report to shareholders Mineral Resources and Ore Reserves Statement<sup>1</sup>
- 10 October 2016 Diamond Drilling Results in Major Breakthrough at Kempfield<sup>2</sup>
- 2 February 2017 10 Metre Gold Intersection Returned by 1<sup>st</sup> Kempfield Assays<sup>2</sup>
- 20 February 2017 20 Metre Intersection Confirms New Kempfield Southeast Zone<sup>2</sup>
- 15 March 2017 Significant Ag Pb Zn intersections at Kempfield Henry Zone<sup>2</sup>
- 31 July 2017 June 2017 quarter activities and cash flow report

### Competent Person:

- 1. Arnold van der Heyden (Kempfield resource)
- 2. Clifton Todd McGilvray

The Company confirms it is not aware of any new information or data that materially affects the information included in the original market announcements. 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 announcement.