# ASX/MEDIA RELEASE



26 August 2019

### COMPELLING TARGETS IDENTIFIED FROM GRAVITY SURVEY AND 3D MODELLING

### Highlights:

- Compelling drill targets identified at West Wyalong a porphyry Cu-Au-Mo project in central NSW
- Clusters of porphyry deposits found in the same geological package north and south validate further exploration at West Wyalong
- Large gravity survey completed over the project and combined with sophisticated modelling of geophysical, geochemical and mineralogical analysis
- Six new targets generated and will be prioritised before next drill program.

Argent Minerals Limited (ASX: ARD, Argent, or the Company) is pleased to provide completed results of the ground gravity geophysical survey and 3D modelling for the majority owned (78%) West Wyalong exploration Porphyry Cu-Au-Mo Project in central NSW. West Wyalong is a porphyry Cu-Au-Mo project strategically located within an actively producing region in central NSW that includes economic deposits such as Newcrest's Cadia-Ridgeway porphyry camp (+36 Moz Au) and the Lake Cowal gold camp (+6 Moz Au) of deposits. The mineral zoning of these alkalic to calc-alkalic porphyries have been extensively documented with a significant amount of predictive geological detail for exploration at West Wyalong.

The gravity survey consisted of 2,200 new stations on a 100 m spaced grid and measured the precision gravity signature over an area of 9.0 km x 2.5 km. The data produced was combined with high resolution airborne magnetic data and IP data to produce high resolution 3D inversion models of each data set.

Previous exploration undertaken by the Company, including the diamond drilling program in 2017, has been integrated with sophisticated lithogeochemical, mineralogical and geophysical analysis to reorientate main target sites within the project area ahead of future drilling. The integrated information allows for Argent to vector more efficiently towards a potassic altered centre of a mineralised system. It has been recognised that previous drilling was proximal to this zone of mineralisation and previously reported higher grades were associated with intrusive monzonite stocks supporting this association.



Figure 1 – Satellite image showing surveyed and modelled area (left) and existing areas of interest, Theia and Narragudgil, with newly identified areas of interest Hyperion and Helios (right).

The gravity survey was completed at West Wyalong this year to refine existing target zones and generate new targets. Gravity low or high features have specific magnetic responses typically associated with them as a result of mineral association. The variable magnetic responses previously identified have now been refined for more efficient targeting. Six new drill areas have been generated and these will be prioritised ahead of future drilling. Targets will be prioritised to focus the drill program on preferred targets within the most compelling areas of interest. The Company is investigating further options to modernise systems and facilitate timely data-capture during real-time exploration.

Following discovery of the mineral system at West Wyalong (3 July 2017 West Wyalong Maiden Drilling Confirms Mineralised Porphyry System) the company has undertaken an exciting phase of target generation. Argent is keenly anticipating the next round of diamond drilling. Further details of the planned diamond drilling program will be communicated in a timely manner.

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Figure 2: Total Bouguer (TB) Gravity image (left) and Total Magnetic Intensity (TMI) image (right) with interpreted fault lines (black) and TMI trend lines (red)

For further information please contact:

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## APPENDIX A – JORC 2012 EDITION TABLE 1

### COMPELLING TARGETS IDENTIFIED FROM GRAVITY SURVEY AND 3D MODELLING

The following information follows the requirements of JORC 2012 Table 1 Sections 1, 2 and as applicable for ASX Report.

#### Section 1 - Sampling Techniques and Data

Criteria	Jorc Code 2012	Commentary
Sampling techniques	<ul> <li>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.</li> </ul>	Gravity readings were acquired using a Scintrex CG-5 autograv meter which took two observations per point at 20-second stacking time
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	
	• Aspects of the determination of mineralisation that are Material to the Public Report.	
	<ul> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g 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.</li> </ul>	
Drilling techniques	<ul> <li>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).</li> </ul>	No drilling was conducted
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	No drilling was conducted
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	
	<ul> <li>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.</li> </ul>	
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.	No drilling was conducted

## ASX/MEDIA RELEASE

	•	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	
Sub- sampling techniques and sample separation	•	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	No drilling was conducted
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. 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. 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.	Data was processed at the end of each day using Waypoint's (Novatel) GrafNav GNNS post-processing software. An experienced field team was employed to ensure factors affecting accuracy were considered.
Verification of sampling and assaying	•	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Gravity base stations were established with Leica GX1230 differential GNSS and monitored by a Scintrex CG-5 autograv meter. Coordinates of the base station were established using three days of static GNSS data recorded at 5 second intervalsconnected to the Australian based International GPS Service.
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. Specification of the grid system used. Quality and adequacy of topographic	All data used in this report are in:Datum:Geodetic Datum of Australia 94 (GDA94)Projection:Map Grid of Australia (MGA)Zone:Zone 55Reading positions were recorded by ATV mounted Leica GX1230 differential GNSS.

	control.	Topographic control was gained using Leica GX1230 differential GNSS.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Gravity stations were spaced at 100m intervals EW on 100m spaced lines NS.
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 gravity grid was positioned to maximise geophysical responses from generally NS striking geology
	<ul> <li>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.</li> </ul>	
Sample security	• The measures taken to ensure sample security.	Chain of Custody was managed by Argent Minerals staff who oversaw data transfer from DaishSat Geodetics to Montana GIS for processing.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	Montana GIS conducted a post-survey review of the data with no apparent errors recorded.

### Section 2 - Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	• The West Wyalong Project (EL8430, NSW) is a joint venture between Golden Cross Operations Pty Ltd (22% interest) and Argent Minerals Limited (78% interest). Golden Cross Operations Pty Ltd is a wholly owned subsidiary of Golden Cross Resources Limited.
	<ul> <li>In addition to the standard government royalties for the relevant minerals, a net smelter return (NSR) royalty of 2.5% is payable to Royal Gold, Inc.</li> </ul>
	<ul> <li>EL8430 is adjacent to the West Wyalong township and occupy western lease lands which have historically been employed mostly for crops growth and partly for pastoral usage. Heritage items have not been identified on the property.</li> </ul>
	• EL8430 was renewed in July 2019.

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Exploration by other parties	<ul> <li>The West Wyalong project has a long history of exploration with a strong focus on the Wyalong Goldfield. The Wyalong Goldfield was discovered in 1893 and production peaked in 1897 with 45,000 ounces. Mining ceased in 1920 with a reported total production of 445,700 ounces from 340,000 tonnes (average grade 1.31 oz/t or 40 g/t Au). Post 1920, systematic exploration only commenced in 1981 when Mineral Management and Securities Ltd held EL 1658 over the Wyalong Goldfield and surrounding area (including part of EL 8001) until its relinquishment in January 1989.</li> </ul>
	<ul> <li>Previous exploration work by different mineral exploration companies is summarised by historical tenements as follow:</li> </ul>
	• EL 2179 Seltrust/Paragon Gold (1984-1986);
	• EL 2246 Lachlan Resources (1985 – 1988);
	EL 3620 North Ltd/Gold Mines of Australia/Cyprus (1990-1998);
	• EL 4533 CRA (1993-1996);
	EL 6515 Golden Cross Resources (1997-2000); and
	• EL 5915 Golden Cross Operations/Newcrest/MIM Exploration (2000-2006).
	• The extensive exploration activities performed by Golden Cross Operation on EL4615 over the period 1995 to 2000 included:
	The entire licence area was flown with aeromagnetics and Quest EM;
	• 26 x RCP holes were drilled for 2,116.6 metres;
	• 234 x aircore holes were drilled for a total of 10,991 metres;
	• 7 x costeans were excavated for 272m;
	• 10 x mud/percussion holes were drilled for 807 metres;
	• The entire licence area was geologically mapped and interpreted at 1:25,000 scale;
	112 partial leach soils were collected;
	<ul> <li>4309 samples of composited hand &amp; auger soils were submitted for assay;</li> </ul>
	Re-assay of 32 air core pulps for Pt, Pd, Co, Ni and V;
	A gravity survey was taken over the entire licence area; and
	• 778 rock chip samples were collected over all the various prospects.
	<ul> <li>During 2001 and 2002, exploration work carried out by Newcrest Operations under a joint venture agreement with Golden Cross Operation in the Narragudgil (south-eastern portion) area included:</li> </ul>
	• 90 x Air Core drill holes for 7838.4 metres at the Narragudgil prospect ;
	• 10 x RCP holes for 1822.5 metres at Yiddah North prospect; and
	<ul> <li>8 x combined Air Core/Diamond core holes for 1224 metres of air core, and 824.5 metres diamond core.</li> </ul>
	<ul> <li>Initial work carried out by MIMEX in 2002 included a compilation of historic drill results, review of existing core, mapping, reconnaissance ground magnetics, and MIMDAS surveys. A total of 57.5 line km of MIMDAS IP/MT were surveyed on 19 lines and five RC percussion holes for a total of 834m were drilled to test anomalous areas. The MIMDAS geophysical IP/resistivity, magnetotelluric system was used in the pole-dipole configuration with 100 dipoles. MIMEX withdrew its interest in the joint venture in June 2003.</li> </ul>

	<ul> <li>Reviews by Argent Minerals of past exploration including drilling, surface geochemistry and geophysical surveys highlighted two prospects: Narragudgil and Yiddah North Prospects, both directed towards porphyry style base metals (Cu-Au) in the Narragudgil Volcanics. These prospects are located in the south-eastern portion of the EL 5915 tenement area. A wide zone (400m) of principally propylitic alteration was identified during the drilling, extending in a north westerly direction for around 3km through the licence area.</li> </ul>
Geology	• The Argent Minerals exploration strategy at West Wyalong primarily focuses on the targeting of porphyry style Cu-Au-Mo systems hosted in Ordovician arc rocks, as well as orogenic / structurally controlled quartz vein hosted gold deposits. The occurrences of major epithermal (Cowal), porphyry (Marsden, Yiddah North and Gidginbung) and intrusion related (Hobbs, Adelong) deposits provide encouragement that large intrusion/volcanic-related hydrothermal systems may exist in this part of the Lachlan Orogen. This, in addition to the discoveries at Cadia, near Orange, and Northparkes, near Parkes, shows that Ordovician age magmatic arc complexes in New South Wales are highly prospective for Cu-Au porphyries and associated epithermal deposits
Drill hole Information	Drillhole Information has been previously reported
Data aggregation methods	<ul> <li>Interpretation of airborne magnetic and radiometric images with 10m x 10m cell size produced with by-cubic spline gridding method with bilinear interpolation.</li> <li>No weighting average techniques, or cut-off grades employed at this stage.</li> <li>No metal equivalent values employed in this report.</li> </ul>
Relationship between mineralisation widths and intercept lengths	• The geology dips to the east at 60°.
Diagrams	All relevant diagrams are included in the body of the text
Balanced reporting	All anomalous intersections are illustrated in this report.
Other substantive exploration data	• All available exploration data relevant to this report has been illustrated and described within this and report and previous announcements.
Further work	Geophysical targets will be prioritized and assessed for drilling.

#### 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 <u>http://www.argentminerals.com.au</u> :

- 1 June 2016 Argent Strategic Update West Wyalong
- 29 September 2016 IP survey confirms large copper gold target at West Wyalong<sup>1</sup>
- 14 February 2017 Approved West Wyalong copper-gold target drill-test plan<sup>1</sup>
- 3 July 2017 West Wyalong drilling confirms mineralised porphyry system<sup>1</sup>
- 17 July 2017 2<sup>nd</sup> Set of Assays Increased gold in West Wyalong<sup>1</sup>
- 27 July 2017 Copper and gold in West Wyalong Porphyry Final Assays<sup>1</sup>

#### Competent Person:

1. 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 and, in the case of estimates of Mineral Resources or Ore Reserves, Exploration Targets, and historical Pre-JORC Code mineralisation estimates ('Historical Estimates'), 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 announcement.

#### **Exploration Results**

The information in this report that relates to Exploration Results is based on information compiled by Mr. Clifton Todd McGilvray who is a member of the Australasian Institute of Geoscientists, an employee of Argent, 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). Mr. McGilvray consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.