

20 METRE INTERSECTION CONFIRMS NEW KEMPFIELD SOUTHEAST ZONE

Argent at a glance

ASX-listed mineral resource company focused on the expansion, development, extraction and marketing of its existing base and precious metals discoveries in NSW.

Facts

■ ASX Code:	ARD, ARDO
■ Share price (17 February 2017):	\$0.037
■ Shares on issue:	360.7 M
■ Market capitalisation:	\$13.35 M

Directors and Officers

Stephen Gemell
Non-Executive Chairman

David Busch
Managing Director

Peter Nightingale
Non-Executive Director

Peter Michael
Non-Executive Director

Vinod Manikandan
Company Secretary

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Highlights:

- Significant 20.3 metre intersection returned by hole AKDD195 assays:
20.3 m @ 32 g/t Ag, 1.1 g/t Au from 96.0 m:
incl. 7.0 m @ 47 g/t Ag, 2.4 g/t Au, from 97.0 m;
incl. 3.1 m @ 2.4% Pb, 2.3% Zn, 85 g/t Ag, 2.3 g/t Au from 100.9 m
- The assays confirm the new geological model and C Horizon position in Kempfield southeast zone.
- The stratigraphy of the sampled core indicates a potentially significant steeply dipping lens that is open in all directions.
- The confirmation of the new Kempfield southeast C Horizon area implies the potential for significant additional tonnage.
- Holes AKDD198 and AKDD199 have confirmed the extension of the Kangaloolah volcanics further south than historically assumed, with high temperature evidence opening new potential in the region of the historic Gully Swamp copper mine.

Argent Minerals Limited (ASX: ARD, Argent, or the Company) is pleased to report exploration results for holes AKDD195, AKDD198 and AKDD199 at Kempfield in NSW.

These three holes were part of an eight hole diamond drilling programme.

Results for AKDD192, 193, 194, 196 and 200 are pending

About the AKDD195 20 metre intersection

Drilled to test the southeast potential mineral extension predicted by Argent's evolving Kempfield geological model, diamond hole AKDD195 intersected a broad zone of strong silicification with disseminated and stockwork quartz-pyrite veining in the drill core from 90.4 to 125.3 metres.

Host rocks intersected by the hole were consistent with the geological model constructed from the previous round of drilling, and were defined by a series of volcanoclastic siltstone units interspersed with volcanoclastic conglomerates.

AKDD195 was drilled to a total length of 233.7 metres through the main volcanoclastic conglomerate sequence.

Initial samples of the 90.4 to 125.3 metres intersection were submitted for assay, and returned the following results:

■ 20.3 m @ 32 g/t Ag and 1.1 g/t Au from 96.0 m

including: 7.0 m @ 47 g/t Ag, and 2.4 g/t Au, from 97.0 m;

including: 3.1 m @ 2.4% Pb, 2.3% Zn, 85 g/t Ag, and 2.3 g/t Au from 100.9 m.

Figure 1 illustrates the collar positions and hole trace design for AKDD195 in the context of the lithostratigraphic model announced on 10 October 2016, and the potential extensions and geophysical anomalies that the drilling programme was designed to test.

Figure 1 – Plan view of potential mineralisation extensions and geophysical anomalies being tested by the programme.

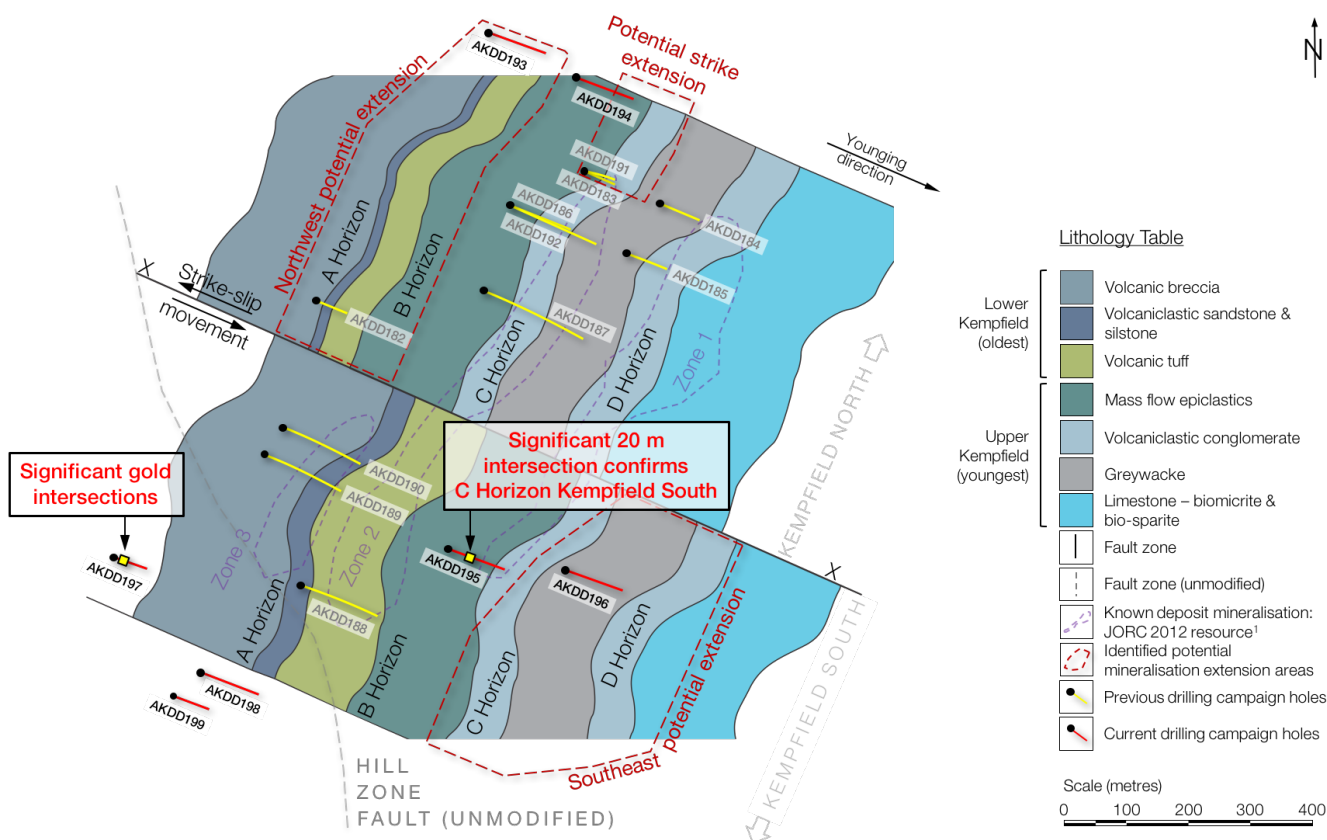
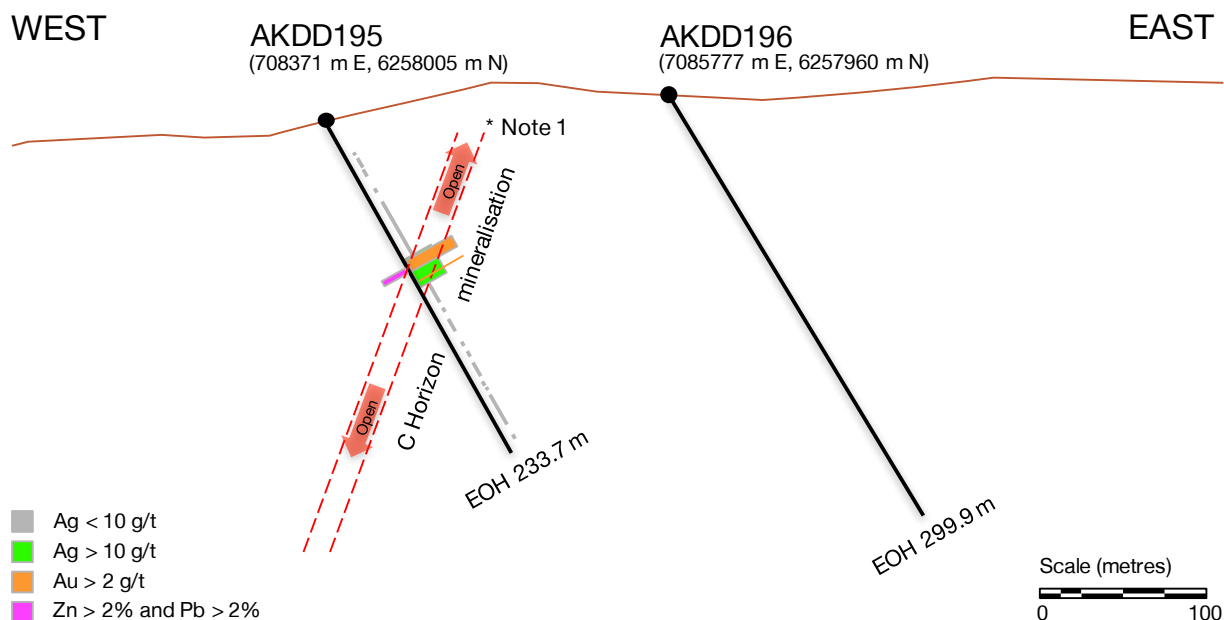


Figure 2 provides a section view illustrating hole AKDD195 and the returned assay results in the context of the preliminary visual observations of the sampled drill core.

Figure 2 – Section view illustrating the interpreted new mineralised lens intersected by AKDD195.



Notes

1. The immediate local geological sequence and foliation is inclined at -80 degrees to the west returning true widths of 15.5 m, 5.4 m and 2.4 m for the reported downhole widths of 20.3 m, 7.0 m and 3.1 m.
2. Assay results have not yet been received for hole AKDD196.

Figures 3 and 4 provide example drill core photos.

Figure 3 – Example photo of AKDD195 drill core including a high grade silver section from 102.1 metres.

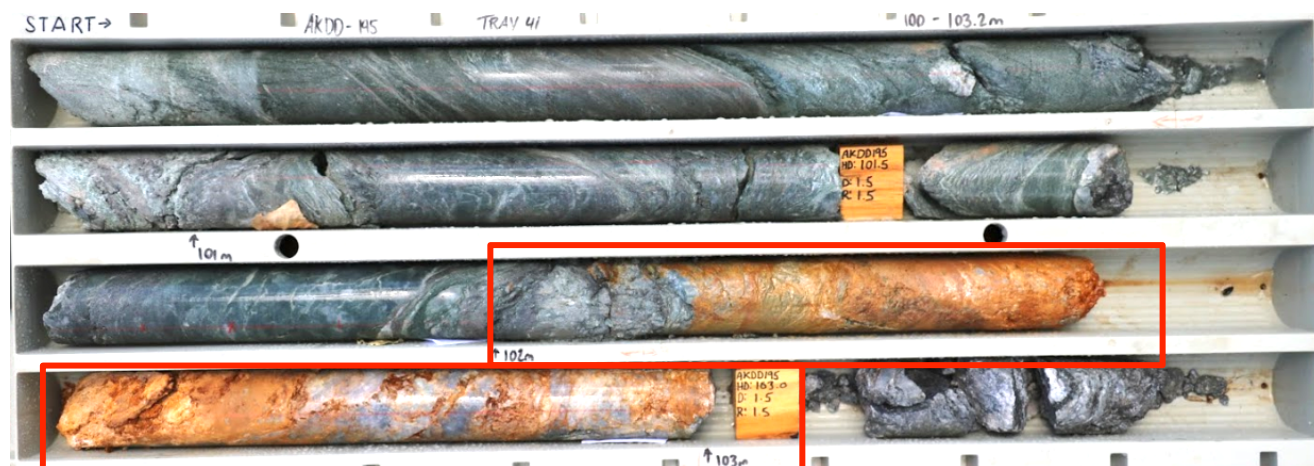


Figure 4 - Example photo of AKDD195 drill core including a high grade gold section from 103.0 m



About the new mineralised zone - C Horizon Kempfield south

This area is a confirmed extension of the C Horizon which was previously logged as Zone 1, and is characterised by volcanoclastic conglomerate units with interspersed volcanoclastic siltstone, consistent with C Horizon host sequence observations in Kempfield North.

This intersection represents a significant advance in the understanding of the Kempfield VHMS Deposit and holds significant potential for further drilling in the area.

A detailed review of the results and investigation into the controls on mineralisation and any associated geophysical signatures is underway.

Potential mineralisation remains open in all directions with significant potential along strike to the north and to the south, and at depth.

About holes AKDD198 and AKDD199 and the original Kempfield copper mine area

Whilst the AKDD198 and AKDD199 assay results did not return any mineralisation, the intersected geology opens up an entire new area further to the south.

The intersected geology confirms that the felsic units of the Kangaloolah Volcanics, host to the Kempfield Deposit, extend into the Pennsylvania Forest area, and the geology is evolving from felsic dominated to mafic dominated volcanogenic sediments and coherents.

This is significant because, contrary to historic assumptions that the Kempfield Deposit did not extend any further south from the boundary of the Pennsylvania Forest, this opens up the potential for additional VHMS mineralisation in the direction of historic mines, and further to the south.

The Company's main tenement EL5748 extends approximately 2 kilometres to the south of this area, with the historic Sugarloaf barite workings located 900 m south of AKDD195 in the vicinity of the projected strike position of the C Horizon, and the historic Gully Swamp copper mine approximately 400 metres to the west.

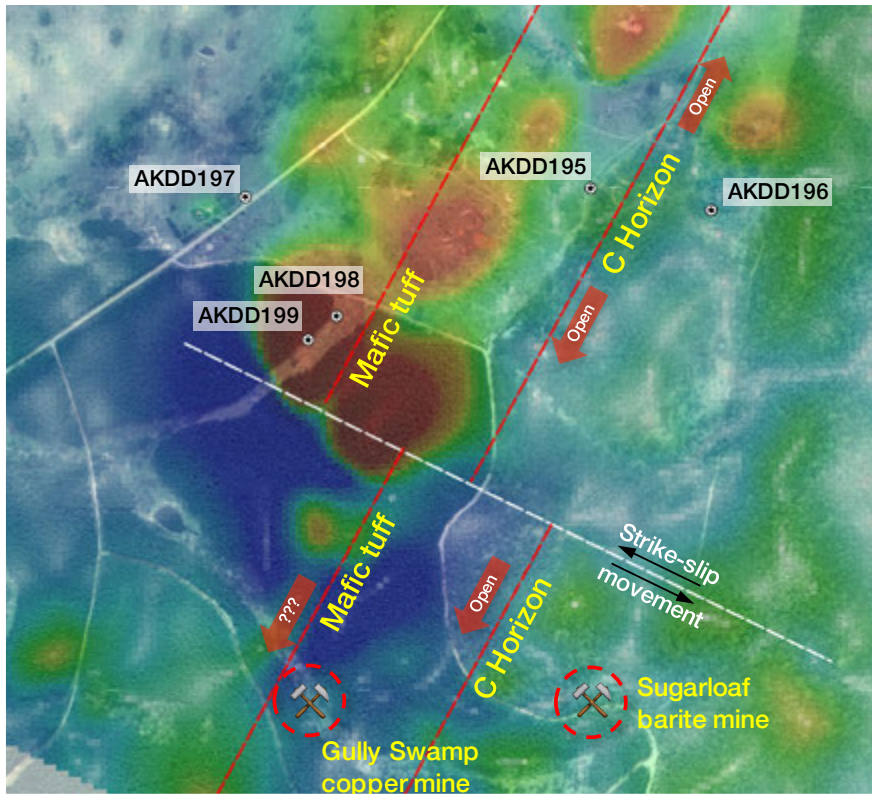
The magnetic signature that was tested by drill holes AKDD198 and AKDD199 is a magnetite bearing mafic tuff unit, which has elevated chrome (~1000 ppm) and nickel (~300 ppm). Whilst this is of no economic importance in itself, the unit is easily identified by the geophysical signature and the magnetics image shows a rapid termination and offset to the southeast, likely to be a fault similar to the main Kempfield transfer fault illustrated in Figure 1.

This southern strike-slip offset may have resulted in:

- the southern portion of the AKDD198/9-intersected mafic tuff extending to the Gully Swamp copper mine; and
- a southern strike extension of the new south C Horizon being re-aligned with the Sugarloaf mine.

Figure 5 illustrates the interpreted potential mafic tuff extension towards the Gully Swamp copper mine, and the C Horizon strike extension towards the Sugarloaf barite mine.

Figure 5 – Interpreted Kempfield South potential extensions illustrated over a magnetic/topographic background image



Conclusions

- The assays results received for AKDD195 returned a significant 20.3 metre intersection, confirming the C Horizon Kempfield South mineralisation predicted by Argent's evolving geological model for the project;
- The new C Horizon Kempfield South mineralisation is open in all directions, implying the potential for significant additional Kempfield VHMS tonnage;
- Holes AKDD198 and AKDD199 confirmed that the felsic units of the Kangaloolah Volcanics, host to the Kempfield Deposit, extend to the south into the Pennsylvania Forest area and potentially further to the south; and
- The combined AKDD195, AKDD198 and AKDD199 results open up a potentially significant area to the south, which is covered by the additional 2 kilometre exploration licence area of EL5748.

About the remaining assays

All samples from the drilling program have now have been submitted for assay and results are expected in the following three to four weeks. Results from drill holes AKDD193, 194, 196 and 200 are pending.

This ASX Report must be read in conjunction with Appendix A and JORC 2012 Table 1 provided in Appendix B.



For further information please contact:

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APPENDIX A

SUMMARY FOR KEMPFIELD DRILLING EXPLORATION RESULTS

Table A – Drill hole summary

BHID	Easting ² (m)	Northing ² (m)	RL (m)	Depth ¹ (m)	Azimuth (° TN)	Dip (°)	Status
AKDD193	708418	6258841	753.3	224.9	110	-60	Results pending
AKDD194	708555	6258785	766.1	262.9	110	-60	Results pending
AKDD195	708371	6258005	782.9	233.7	110	-60	Reported
AKDD196	708577	6257960	798.1	299.9	110	-60	Results pending
AKDD197	707810	6257998	747.8	152.5	110	-80	Reported
AKDD198	707971	6257785	763.0	206.9	110	-60	Reported
AKDD199	707917	6257751	760.0	215.6	110	-80	Reported
AKDD200	709150	6259500	839.3	236.6	110	-60	Results pending

Notes:

1. 'Depth' in Appendix A means hole length from collar to 'End of Hole' (EOH abbreviation)
2. Easting and Northing coordinates are all referenced to Geodetic Datum of Australia 94 (GDA94), Map Grid of Australia (MGA) projection, Zone 55
3. All holes were commenced with PQ3 drill width to firm material (approximately 20 metres), then continued to end of hole with HQ2 width
4. For hole AKDD195 mineralisation dips at 70° to the west. AKDD197 is inclined at 60° to the east. These parameters define the likely true widths shown in Table B.

Table B – Significant reportable intersections

BHID	From m (m)	To (m)	Interval (m)	Pb (%)	Zn (%)	Cu (%)	Ag (g/t)	Au (g/t)	True Width ⁴ (m)	Hole size ³
AKDD195	96.0	116.3	20.3				32	1.1	15.5	HQ2
incl.	97.0	104.0	7.0				47	2.4	5.4	HQ2
incl.	100.9	104.0	3.1	2.4	2.3		85	2.3	2.4	HQ2
cont.	100.9	102.1	1.2	1.3	3.5		68	0.5	0.9	HQ2
and	102.1	103.0	0.9	5.2	0.8		172	0.6	0.7	HQ2
and	103.0	104.0	1.0	1.1	2.2		28	6.2	0.8	HQ2
AKDD195 was drilled to 233.7m depth										



APPENDIX B - JORC 2012 EDITION TABLE 1

KEMPFIELD DRILLING EXPLORATION RESULTS

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

Section 1 - Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Drill holes are sampled based on observed mineralisation or intensity of alteration. Eight holes were drilled. PQ ¼ core, and HQ ½ core was used for sample submittal. Samples are generally constrained to >0.6 m or <1.4 m interval lengths with an average sample length of 1 m. A minimal amount of samples are taken with interval lengths <0.6 m due to rock condition or stratigraphic constraints.
Drilling techniques	Diamond drilling utilised PQ collars and HQ drilling to depth. The drill string was configured with a triple tube 3 m barrel and wireline/overshot setup.
Drill sample recovery	Recovery was recorded by the geologist or field geotechnician. Triple tube was permanently employed to maintain core integrity
Logging	Geological logging is conducted to a high standard via graphic and digital logging noting lithology, mineralisation, alteration and structure with associated degrees of intensity. Logging is undertaken using both qualitative and quantitative methods accompanied with wet and dry core photography, and sampling for type section lithogeochemistry. Core was oriented when recovered and will be logged in full.
Sub-sampling techniques and sample separation	Drill holes are sampled on observed mineralisation or intensity of alteration. PQ ¼ core, and HQ ½ core was used for sample submittal. Samples were constrained to >0.6 m or <1.4 m interval lengths with an average sample length of 1 m. A minimal amount of samples are taken with interval lengths <0.6 m due to rock condition or stratigraphic constraints. Assay and preparation are carried out by ALS Global Orange and ALS Global Brisbane. 2-3 kg samples were crushed using a jaw crusher, riffle split, and pulverized to produce a 250 g sample for various analytical methods.
Quality of assay data and laboratory tests	Samples were digested with a 4-acid total digest (hydrochloric, perchloric, nitric and hydrofluoric acids) to counteract the ubiquitous presence of barite. Samples were assayed using ICP-AES for: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, Zn, Zr. Samples over detection limit were re-assayed using 4-acid digest with ICP-AES finish. Au was quantified using a 30g charge with fire assay and AAS finish. Any over-limit samples were assayed via dilution.
Verification of sampling and assaying	Argent and ALS Global employ independent QAQC assay checks. Argent uses coarse crush, fine crush and pulp duplicates, blanks and 2 types of CRM's inserted at a ratio of 1:10. All drill hole information is stored graphically and digitally in excel format. Assay results span low-level, high-level and ore-grade amounts which have been reported in a homogenised format.
Location of data points	All data used in this report are in: Datum: Geodetic Datum of Australia 94 (GDA94) Projection: Map Grid of Australia (MGA) Zone: Zone 55 Collar positions were recorded by handheld GPS. Topographic control was gained using government DTM data with handheld GPS check.
Data spacing	AKDD195 is a single hole located I Kempfield South beyond the eastern limit of drilling at the Kempfield Ag –

and distribution	Pb-Zn deposit, some historic drilling is located 40m to the west of the AKDD195 collar and shallow historic drilling (<30m depth) occurs to the east and south.
Orientation of data in relation to geological structure	Samples were taken with consideration of stratigraphy and alteration, samples do not straddle geological boundaries. The immediate local geological sequence and foliation is inclined at 70 degrees to the west returning true widths of 15.5 m, 5.4 m, 2.4 m, 0.7 m & 0.8 m for the reported downhole widths of 20.3 m, 7.0 m, 3.1 m, 0.9 m & 1.0 m. Drill holes were targeted to intersect geology on mildly oblique sections to increase intercept potential.
Sample security	Chain of custody involved graphic and digital sign off sheets onsite, sample transfer protocols onsite, delivery to ALS Global Orange by Argent staff, and receipt by ALS Global Orange.
Audits or reviews	A walk through inspection of ALS Global Orange facilities was conducted by the Exploration Manager of Argent and deemed to be satisfactory. A review of assay method was conducted by the Exploration Manager of Argent and was altered from a partial digest (3-acid), to a total digest (4-acid). Significant amounts of barite cause Ag to precipitate out of solution which is difficult to quantify in a partial digest solution.

Section 2 - Reporting of Exploration Results

Criteria	Commentary																		
Mineral tenement and land tenure status	<ul style="list-style-type: none">Exploration Licence Kempfield EL5748, Trunkey Creek, NSW held by Argent (Kempfield) Pty. Ltd. (100%), a wholly owned subsidiary of Argent Minerals Limited. There are no overriding royalties other than the standard government royalties for the relevant minerals.Argent has freehold title to the land which has historically been utilised for pastoral activities. Heritage items have been identified on the property. A native title claim (Gundungurra Application #6) was lodged on the 29th April 1997 covering a large area inclusive of Kempfield. A single counterpart only, the Gundungurra Tribal Council Aboriginal Corporation, responded to Argent advertisements as part of the standard 'right to negotiate' process, and is the sole registrant.The Company's Exploration Licence renewal application for the full licence area for a five (5) year term has been approved to July 2020.																		
Exploration by other parties	<p>Argent Minerals Limited through its wholly owned subsidiary Argent (Kempfield) Pty Ltd is the sole operator of the project. Argent introduced best industry practice work.</p> <p>Kempfield has been explored for more than forty years by several exploration companies as set out in Table 1.2.1.</p> <p>Table 1.2.1 – Exploration history</p> <table><tr><th>Company</th><th>Period</th><th>Exploration activities</th></tr><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></table> <p>Earlier exploration was performed by to the industry standard of the time; available QAQC indicates that the historical data is reasonable and suitable for use in Mineral Resource estimates.</p>	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	<p>The deposit type is a volcanic hosted massive sulphide (VHMS) deposit.</p> <p>The geological setting is in the Siluro-Devonian Kangaloolah Volcanics within the intra-arc Hill End Trough within the Lachlan Orogen, Eastern Australia.</p> <p>The style of mineralisation is strata bound barite-rich horizons hosting silver, lead, zinc ± copper ± gold.</p>																		

Drill hole Information	<table><tr><th>BHID</th><th>Easting² (m)</th><th>Northing² (m)</th><th>RL (m)</th><th>Depth¹ (m)</th><th>Azimuth (° TN)</th><th>Dip (°)</th><th>Status</th></tr><tr><td>AKDD193</td><td>708418</td><td>6258841</td><td>753.3</td><td>224.9</td><td>110</td><td>-60</td><td>Results pending</td></tr><tr><td>AKDD194</td><td>708555</td><td>6258785</td><td>766.1</td><td>262.9</td><td>110</td><td>-60</td><td>Results pending</td></tr><tr><td>AKDD195</td><td>708371</td><td>6258005</td><td>782.9</td><td>233.7</td><td>110</td><td>-60</td><td>Reported</td></tr><tr><td>AKDD196</td><td>708577</td><td>6257960</td><td>798.1</td><td>299.9</td><td>110</td><td>-60</td><td>Results pending</td></tr><tr><td>AKDD197</td><td>707810</td><td>6257998</td><td>747.8</td><td>152.5</td><td>110</td><td>-80</td><td>Reported</td></tr><tr><td>AKDD198</td><td>707971</td><td>6257785</td><td>763.0</td><td>206.9</td><td>110</td><td>-60</td><td>Reported</td></tr><tr><td>AKDD199</td><td>707917</td><td>6257751</td><td>760.0</td><td>215.6</td><td>110</td><td>-80</td><td>Reported</td></tr><tr><td>AKDD200</td><td>709150</td><td>6259500</td><td>839.3</td><td>236.6</td><td>110</td><td>-60</td><td>Results pending</td></tr></table>	BHID	Easting ² (m)	Northing ² (m)	RL (m)	Depth ¹ (m)	Azimuth (° TN)	Dip (°)	Status	AKDD193	708418	6258841	753.3	224.9	110	-60	Results pending	AKDD194	708555	6258785	766.1	262.9	110	-60	Results pending	AKDD195	708371	6258005	782.9	233.7	110	-60	Reported	AKDD196	708577	6257960	798.1	299.9	110	-60	Results pending	AKDD197	707810	6257998	747.8	152.5	110	-80	Reported	AKDD198	707971	6257785	763.0	206.9	110	-60	Reported	AKDD199	707917	6257751	760.0	215.6	110	-80	Reported	AKDD200	709150	6259500	839.3	236.6	110	-60	Results pending
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Data aggregation methods	This report contains significant intersections. Significant intersections are continuous intervals of sampling where each individual sample is of an individual grade greater than 0.5% Zn, 0.5% Pb, 0.1% Cu, 10 g/t Ag & 0.2 g/t Au.																																																																								
Relationship between mineralisation widths and intercept lengths	The immediate local geological sequence and foliation is inclined at 70 degrees to the west returning true widths of 15.5 m, 5.4 m, 2.4 m, 0.7 m & 0.8m for the reported downhole widths of 20.3 m, 7.0 m, 3.1 m, 0.9 m & 1.0 m.																																																																								
Diagrams	Diagram descriptions are included in the Figure descriptions. A plan view and a section view only are provided in this announcement, which has been created based on the Kempfield Micromine model for lithostratigraphic projections to surface, with MapInfo-generated hole collar positions and traces overlaid, all of which has been finished in Microsoft PowerPoint.																																																																								
Balanced reporting	This report contains significant intersections. Significant intersections are continuous intervals of sampling where each individual sample is of an individual grade greater than 0.5% Zn, 0.5% Pb, 0.1% Cu, 10 g/t Ag & 0.2 g/t Au. Surrounding drilling has been reported in earlier Argent releases.																																																																								
Other substantive exploration data	All available exploration data relevant to this report has been provided.																																																																								
Further work	Lithogeochemical and geophysical assessments will be conducted to adequately define mineralisation and alteration type. Further drilling is planned to continue in due course.																																																																								



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

- 10 October 2016 - Diamond drilling results in major breakthrough at Kempfield¹
- 2 February 2017 - 10 metre gold intersection returned by 1st Kempfield assays

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. 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 Mining and Metallurgy, 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.