

**30<sup>th</sup> May 2018**

Company Announcement Officer  
ASX Limited  
Exchange Centre  
20 Bridge Street  
SYDNEY NSW 2000

## **MAIDEN ORE RESERVE - BOWDENS SILVER PROJECT**

### **Highlights**

- **Maiden Ore Reserve (Proved and Probable) totals 29.9 million tonnes at 69.0 g/t silver, 0.44% zinc and 0.32% lead.**
- **Ore Reserve contains 66.32 million ounces of silver with 130.8 kilotonnes of zinc and 95.3 kilotonnes of lead.**
- **95.7% of Ore Reserve tonnes in Proved category.**
- **Ore Reserve supports the soon to be released Feasibility Study showing Bowdens as suitably robust in an accretive silver market environment.**
- **Bowdens confirmed as the largest, undeveloped silver reserve in Australia.**

### **Summary**

Silver Mines Limited ('Silver Mines' or 'the Company') (ASX:SVL) is pleased to announce a maiden Ore Reserve for its Bowdens Silver deposit, located 26 kilometres east of Mudgee in New South Wales. The maiden Ore Reserve supports Bowdens' 16-year mine life, detailed in the soon to be released Feasibility Study.

The Bowdens Ore Reserve is estimated at 29.9 million tonnes at 69.0 g/t silver, 0.44% zinc and 0.32% lead for 66.32 million ounces of silver, 130.8 kilotonnes of zinc and 95.3 kilotonnes of lead in contained metal.

The Ore Reserve estimate was prepared by renowned mining engineering consultancy firm AMC Consultants Pty Ltd (AMC Consultants) and is based on the September 2017 Mineral Resource Estimate generated for Silver Mines by H & S Consultants Pty Ltd (H & S Consultants) (see ASX *announcement 19 September 2017*).

Measured and Indicated Mineral Resources were converted to Proved and Probable Ore Reserves respectively, subject to mine designs, modifying factors and economic evaluation. The Ore Reserve estimate for the Bowdens Silver Project as at May 2018 is outlined in Table 1 below:

*Table 1: Bowdens Silver Deposit Ore Reserve*

Reserve Category	Tonnes  (Mt)	Reserve Grades			Contained Metal		
		Ag (g/t)	Zn (%)	Pb (%)	Ag Metal Moz	Zn (kt)	Pb (kt)
Proved	28.6	69.75	0.44	0.32	64.05	125.11	91.43
Probable	1.3	53.15	0.43	0.29	2.27	5.74	3.91
Total	29.9	69.01	0.44	0.32	66.32	130.84	95.33

*Calculations have been rounded to the nearest 100,000 t, 0.1 g/t silver and 0.01% zinc and lead grades respectively. The Ore Reserve is reported by economic cut-off grade with appropriate consideration of modifying factors including costs, geotechnical considerations, mining and process recoveries and metal pricing.*

**Anthony McClure, Silver Mines Managing Director, said:**

*“Releasing the maiden Ore Reserve for Bowdens, is a major milestone in progressing this high-quality Project towards future development.*

*We will continue to work on the substantial growth opportunities at Bowdens including the assessment of the high grade extensional zone adjoining the current Ore Reserve area. There also remains the potential for substantial growth through the near mine and northern porphyry precious and base metals targets that we are currently assessing.”*

The Ore Reserve has been calculated in conjunction with a Feasibility Study on the Project that is being completed by GR Engineering Services (GR Engineering) and is underpinned by that study. Silver Mines expects to release the findings of the study shortly. In addition, the Company expects to submit an Environmental Impact Assessment, in support of a Development Application, later in 2018.

The Feasibility Study contemplates a conventional drill and blast, load and haul open pit mining operation to supply ore to a processing plant with an annual throughput capacity of 2 million tonnes per annum. The process plant flowsheet comprises single stage crushing, followed by a SAG and ball mill (SAB) combination for comminution feeding a differential flotation plant that will float a silver rich lead concentrate first. The second stage of flotation will recover a zinc/silver concentrate.

Various studies have been undertaken by highly qualified, independent consultants and industry experts in support of the Feasibility Study.

## **Mineral Resource**

The Bowdens Mineral Resource Estimate of September 2017 was completed by H & S Consultants using Multiple Indicator Kriging and the reporting is compliant with the 2012 JORC Code and Guidelines (see ASX announcement 19 September 2017). Also, please refer to Table

2 and 3 and Appendix 1 (Sections 1, 2 and 3) for further details. The Mineral Resource estimate for the Bowdens Silver Project as at September 2017 is outlined in Table 2 below:

*Table 2: Bowdens Silver Deposit Mineral Resource*

Category	Tonnes (Mt)	Silver Eq. (g/t)	Silver (g/t)	Zinc (%)	Lead (%)	Million Ounces Silver	Million Ounces Silver Eq.
Measured	76	72	45	0.37	0.25	111	175
Indicated	29	59	31	0.38	0.25	29	55
Inferred	23	60	31	0.40	0.28	23	45
<b>Total</b>	<b>128</b>	<b>67</b>	<b>40</b>	<b>0.38</b>	<b>0.26</b>	<b>163</b>	<b>275</b>

Notes:

1. Refer to Appendix 1 for full details.
2. Bowdens' silver equivalent: Ag Eq (g/t) = Ag (g/t) + 33.48\*Pb (%) + 49.61\*Zn (%) calculated from prices of US\$20/oz silver, US\$1.50/lb zinc, US\$1.00/lb lead and metallurgical recoveries of 85% silver, 82% zinc and 83% lead estimated from test work commissioned by Silver Mines Limited.
3. Bowdens Silver Mineral Resource Estimate is reported to a 30g/t Ag Eq cut off and extends from surface and is trimmed to 300 metres RL which is approximately 320 metres below surface representing a potential volume for open-pit optimisation models.
4. In the Company's opinion, the silver, zinc and lead included in the metal equivalent calculations have a reasonable potential to be recovered and sold.
5. Variability of summation may occur due to rounding.

*Table 3: Bowdens Silver Deposit Mineral Resource Estimate by Cut Off Grade*

Cut off g/t Ag Eq.	Tonnes (Mt)	Silver Eq. (g/t)	Silver (g/t)	Zinc (%)	Lead (%)	Million Ounces Silver	Million Ounces Silver Eq.
0	397.2	30.7	17.6	0.18	0.12	225	392
10	261.7	43.7	25.2	0.26	0.17	212	368
20	185.2	54.6	31.7	0.32	0.21	189	325
<b>30</b>	<b>127.9</b>	<b>66.8</b>	<b>39.6</b>	<b>0.38</b>	<b>0.26</b>	<b>163</b>	<b>275</b>
40	89.2	79.7	48.6	0.43	0.29	139	229
50	63.6	92.8	58.4	0.47	0.33	119	190
<b>60</b>	<b>46.1</b>	<b>106.3</b>	<b>69.1</b>	<b>0.51</b>	<b>0.36</b>	<b>102</b>	<b>158</b>
70	33.7	120.8	80.9	0.54	0.39	87	131
<b>80</b>	<b>25.1</b>	<b>135.5</b>	<b>93.4</b>	<b>0.57</b>	<b>0.42</b>	<b>75</b>	<b>109</b>
90	19.2	149.9	105.6	0.59	0.45	65	93
<b>100</b>	<b>15.1</b>	<b>163.7</b>	<b>117.5</b>	<b>0.62</b>	<b>0.47</b>	<b>57</b>	<b>80</b>
120	9.6	192.3	141.4	0.67	0.53	44	59

## **Conversion of Mineral Resource**

The Proved Ore Reserve estimate is based on Mineral Resources classified as Measured, after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the project. The Probable Ore Reserve estimate is based on Mineral Resources classified as Indicated, after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the project.

## **Other Material Information Summary**

A summary of other material information pursuant to ASX Listing Rules 5.8 was provided as part of the updated Bowdens Silver Mineral Resource Estimate (see *ASX announcement 19 September 2017*). Sections of this information relating to the Mineral Resources are repeated below. The Ore Reserve is based on the Mineral Resource Estimate. The Assessment and Reporting Criteria in accordance with the 2012 JORC Code and Guidelines are presented in Appendix 1 to this announcement.

## **Geology and Geological Interpretation**

The Bowdens Silver Project is situated on the north-eastern margin of the Lachlan Fold Belt. The deposit is hosted by flat-lying early Permian Rylstone Volcanics and extends into basement Ordovician mafic-derived sediments. The Rylstone Volcanics are partially overlain by a sequence of post mineralisation marine sediments of the Sydney Basin (Shoalhaven Group). The Rylstone Volcanics range from 10 to 200 metres thick and are dominated by silica-rich volcanically derived rocks. The silver mineralisation is associated with sulphides of iron, arsenic, lead and zinc and is hosted within flow banded rhyolite and rhyolite breccia ignimbrites and tuffs of the early Permian Rylstone Volcanics. The mineralisation occurs as flat-lying to moderately dipping zones of disseminations and silicic/carbonate fracture-fill.

## **Sampling and Sub-Sampling Techniques**

Mineral Resources were estimated from reverse circulation (RC) and diamond core sampling by Silver Mines 24%, Kingsgate Consolidated (Kingsgate) 21%, Silver Standard Resources 47%, Golden Shamrock Mines 3% and CRA Exploration (CRAE) 5%. The resource database totals 533 generally vertical to inclined reverse circulation holes for a total of 58,644 metres and 120 inclined to vertical diamond core holes for a total 24,868 metres. Drilling has been completed on a nominal 25 metre (northing) by 25 to 50 metre (easting) spacing.

The majority of RC sampling was collected with either a riffle or cone splitter over 1 metre intervals. The majority of diamond core was either half or quarter cored into minimum sample intervals of 1 metres. The minimum sample interval was 0.2 metres and the maximum sample interval was 5 metres.

## **Drilling Techniques**

The drilling used for the resource estimation includes RC and diamond drilling. All RC drilling used face sampling bits and diamond drill diameters are nominally HQ (63mm) with either PQ (85mm) or NQ (48mm) for a minority of holes. Some of the diamond holes were pre-collared by RC to various depths. Core orientations were completed using both spear and REFLEX ACT tools.

## **Sample Analysis Method**

For pre-Kingsgate drilling, samples were analysed by acid digestion and AA or ICP determination. Since Kingsgate, samples have been analysed by a 4-acid digest with a multi-element ICP-AES determination.

## Estimation Methodology

Silver was estimated by recoverable Multiple Indicator Kriging (MIK), while all other attributes were estimated by Ordinary Kriging (OK). Estimates were generated for Ag, Pb, Zn, As, Sb, Mn, S, Cd, Cu, V and dry bulk density.

Detailed statistical and geostatistical investigations have been completed on the estimation data set. A three-pass search strategy was employed.

The resource model block size is 25x25x5m, which is identical to the hole spacing and is considered appropriate for recoverable MIK and OK estimation. The MIK assumes a selective mining unit (SMU) of 6.25 x 12.5 x 5.0m.

MIK estimates were generated using the GS3M software package, while OK estimates were generated in the Datamine software package.

Each of the major stratigraphic units (Rylstone, Coomber, Shoalhaven) were estimated separately, with each unit sub-divided into domains based on changes in mineralisation orientation.

Samples were composited to nominal 2.0m intervals within each unit for data analysis and resource estimation.

## Classification Criteria

The classification scheme is based on the estimation search pass for Ag. This scheme is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data.

The classification appropriately reflects the Competent Person's view of the deposit.

Specifically:

- Measured Resources are effectively based on a nominal drill hole spacing of 25x25m
- Indicated Resources are based on a spacing of 50x50m
- Inferred Resources are based on a spacing of 100x100m

## Cut-off Grades

The cut-off grade is an equivalent Ag ('Ag Eq') value, based on grades and recoveries for Ag, Zn and Pb as shown below.

Metal	Unit	Price (USD)	Recovery
Silver (Ag)	Ounce (oz)	\$20.00	85%
Zinc (Zn)	Pound (lb)	\$1.50	82%
Lead (Pb)	Pound (lb)	\$1.00	83%

The equivalent silver formula is:  $Ag\ Eq = Ag + Pb \times 33.48 + Zn \times 49.61$ .

The adopted cut-off grade of 30 g/t Ag Eq is considered likely to be economic for the mining method and scale of operation envisaged for Bowdens Silver.

### **Mining and Metallurgical Methods and Parameters and other modifying factors.**

GR Engineering, AMC Consultants and other specialist consultants are engaged as part of the Bowdens Feasibility Study to facilitate potential mine optimisation scenarios and co-ordinate process plant flowsheet and design criteria.

The Bowdens Silver Mineral Resource is reported as a potential open-pit mining scenario. The mineral resource estimate has been reported extending from surface to 300mRL which is approximately 320m below surface representing a potential volume for open-pit optimisation models.

The Bowdens MIK Mineral Resource model was developed by H&S Consultants. The model is a non-linear recoverable-type model incorporating proportional tonnages and grades above cut-off for both silver equivalent grade (Ag Eq) and silver (Ag), while also incorporating linear ordinary kriged panel estimates for lead (Pb), zinc (Zn), total sulphur (S), arsenic (As), antimony (Sb), manganese (Mn), cadmium (Cd), copper (Cu), and vanadium (V). The MIK resource model was created for a range of cut-off grades from 0 g/t to 120 g/t for both Ag and Ag Eq using 5 g/t to 10 g/t increments. The MIK recoverable model is designed to a selective mining unit (SMU) of 6.25 mE by 12.5 mN by 5 mRL and accounts for internal dilution within the mineralisation envelopes.

The MIK recoverable model does not account for issues related to mining such as edge dilution and ore loss. AMC Consultants modified the MIK model to a mining model by creating sub cells for panels with vertical thicknesses defined by the Ag grade bin tonnage proportions and then assigning the corresponding Ag grade to the appropriate proportional tonnage sub cell.

There has been considerable previous metallurgical test work completed for the Bowdens Silver deposit. Silver Mines commissioned additional metallurgical test work which has confirmed the results of previous work. Together this work has been reviewed by both GR Engineering and AMC Consultants to suggest that the recovery of silver, lead and zinc to concentrate via flotation is a viable processing option.

### **Geotechnical Pit Slope Parameters**

The pit slope design parameters used in the Ore Reserve estimation were based upon analysis undertaken by AMC Consultants. The overall slope angles in the final stage of the pit design are based 60° final pit slope with allowances made for pit access ramps.

### **Project Viability**

Detailed financial analysis in May 2018 shows that, forecast revenues and costs incurred to access those revenues produce a viable project using the assumptions presented in this estimate.

### **Current Programs**

In addition to the impending announcement of the results from the Bowdens Silver Project Feasibility Study, planning is advanced and drilling commenced in a significant extensional and regional exploration program at Bowdens. The initial focus will be to drill test high grade resource extensions plunging to the north-west and south-west of the Bowdens Resource.

The Bowdens Silver Project is located in central New South Wales, approximately 26 kilometres east of Mudgee (Figure 1). The recently consolidated project area is located within a tenement package which comprises 1,654 km<sup>2</sup> (408,000 acres) of titles covering approximately 80 kilometres of strike of the highly mineralised Rylstone Volcanics. Multiple target styles and mineral occurrences have potential throughout the district including analogues to Bowdens Silver, high-grade silver-lead-zinc epithermal and volcanogenic massive sulphide (VMS) systems and copper-gold targets.

EL 8160

EL 8405

EL 8405

Gulgong

EL 8180

ELA 5405

EL 8160

EL 8159

EL 8160

EL 8159

EL 8268

EL 8403

EL 8400

EL 7391

EL 8403

EL 8403

EL 8403

EL 5920

EL 8168

EL 5920

Mudgee

Lue

Rylstone

Kandos

**BOWDENS SILVER PROJECT**

0 25km

EL 7391 Joint Venture with Thompson Resources Limited

**BOWDENS SILVER PROJECT**

Sydney

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## **About Silver Mines Limited**

The Silver Mines strategy has been to consolidate quality silver deposits in New South Wales and to form Australia's pre-eminent silver company.

The Company's goal is to provide exceptional returns to shareholders through the acquisition, exploration and development of quality silver projects and by maximising leverage to an accretive silver price.

## **Competent Persons Statement**

The information in this report that relates to Ore Reserves within the Bowdens Silver Project is based on information compiled or reviewed by Mr Adrian Jones of AMC Consultants Pty Ltd who is a consultant to the Company. Mr Jones is a member of the Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC code). Mr Jones consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Mr Jones visited the Bowdens mine site during April 2017 to review the operations, consider the conditions of the site, and assess the data collection methods and techniques used by site personnel.

This Ore Reserve has been prepared by Mr Adrian Jones, AMC Consultants Pty Ltd, after peer review of the mining section of the Feasibility Study. Other experts relied upon include H & S Consultants Pty Ltd., GR Engineering Services Limited, ATC Williams Pty Limited. and Jacobs Australia Pty Limited, for Mineral Resources, Metallurgy & Process Design and Tailing Storage Facility design. Work on environmental, marketing and logistics and the financial modelling were undertaken by other consultants on behalf of the Company and certified by representatives of Silver Mines.

The information in this report that relates to Mineral Resources is based on work compiled by Mr Arnold van der Heyden who is a Director of H & S Consultants Pty Ltd. Mr van der Heyden is a Member and Chartered Professional (Geology) of the Australian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC code). Mr van der Heyden consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

The information in this report that relates to mineral exploration drill results from Bowdens Silver is based on information compiled or reviewed by Mr Darren Holden who is an advisor to the company. Mr Holden is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC code). Mr Holden consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

## APPENDIX 1: JORC CODE, 2012 EDITION – ANNEXURE 1

This Ore Reserve is based entirely on the September 2017 Mineral Resources Estimates. (see ASX announcement 19 September 2017).  
No new Mineral Resources or exploration results are being released.

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. 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> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Resources were estimated from RC and diamond core sampling by Silver Mines 24%, Kingsgate 21%, Silver Standard 47%, Golden Shamrock Mines 3% and CRAE 5%.</li> <li>Results from exploratory RAB and Aircore drilling were not included in the resource dataset.</li> <li>For pre-Kingsgate drilling, RC holes were generally sub-sampled by riffle splitting, or spear or grab sampling for rare wet samples and diamond core was halved with a diamond saw. Samples were analysed by several accredited commercial laboratories by either 3, 4 or aqua-regia acid digestion and AA or ICP determination. Quality control measures included use of standards, blanks, field duplicates and external laboratory checks by a variety of methods including neutron activation</li> <li>For Kingsgate and Silver Mines drilling, RC holes were sub-sampled by cyclone mounted cone splitters and diamond core was either halved or quartered with a diamond saw to provide representative assay sub-samples. The samples were analysed for a suite of elements including silver, lead and zinc by multi-acid digest with ICPAES determination. Measures taken to ensure the sample representivity included routine monitoring of sample recovery, RC field duplicates, and comparison of assay grades from closely spaced drill holes of different phases and types. Assay quality control measures included field duplicates, coarse blanks and reference standards. The available QAQC data demonstrate that the sampling and assaying are of appropriate quality for use in the current estimate.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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>	<ul style="list-style-type: none"> <li>Diamond core diameters are nominally either HQ or NQ.</li> <li>Selected diamond core prior to Silver Mines was orientated by conventional spear.</li> <li>Silver Mines diamond core was oriented using Reflex ACT orientation tools.</li> <li>RC drilling was completed using face sampling hammers.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of</li> </ul>	<ul style="list-style-type: none"> <li>Core recovery is estimated at greater than 95%.</li> <li>Some zones (less than 10%) were broken core with occasional clay zones where some sample loss may have occurred. However, this is not considered to have materially</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>the samples.</i></p> <ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>affected the results.</li> <li>RC samples are weighed for each metre and assessed for recovery, contamination and effect of water if present.</li> <li>No significant relationship between sample recovery and grade exists.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All diamond holes are logged using lithology, alteration, veining, mineralization and structure including geotechnical structure.</li> <li>RC chip samples are logged using lithology, alteration, veining and mineralization.</li> <li>All core and chip trays are photographed using both wet and dry photography.</li> <li>In all cases the entire hole is logged by a geologist.</li> <li>Additionally, a selection of holes have been analysed using HyLogger™. This is a non-destructive spectroscopic scanning technique to assess the mineralogical distribution in drill core or chip trays.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core were taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Minor selective sub-sampling based on geology to a maximum size of 1.3m and a minimum of 0.3m.</li> <li>Pre-Kingsgate RC holes were sampled over one to two metre intervals with sub-samples generally collected by riffle splitting, or spear or grab sampling for rare wet samples. Un-mineralised samples were composited over intervals of up to five metres for assaying. Diamond core was halved with a diamond saw with samples collected over intervals ranging from 0.2 to 5.0 metres and averaging 1.0 metres.</li> <li>Kingsgate's RC drilling was sampled over one metre intervals and sub-sampled by cyclone mounted cone splitters. The majority of these samples (97%) were dry with wet samples generally coming from deeper drilling testing Inferred portions of the estimated resources. Kingsgate's diamond core was sampled over lengths ranging from 0.3 to 2.2 with around 92% of samples representing one metre lengths. Core was either halved or more commonly quartered with a diamond saw to provide assay sub-samples.</li> <li>Silver Mines RC samples are collected from a cone splitter at a 6% split. The cyclone/splitter system is checked periodically throughout each hole and cleaned when necessary. To assess the representation of material sampled a duplicate 6% split sample is collected from a secondary -sample chute on the opposite side of the rotary cone splitter at the rate of 1/20.</li> <li>Silver Mines core is cut using a Corewise core saw over lengths ranging from 0.5 to 1.5m with the majority of samples representing one metre lengths with core rotated 10 degrees to the orientation line to preserve the orientation for future reference. The half (NQ) or quarter (HQ) of the core without the orientation line is removed, bagged and sent to the laboratory for assay.</li> <li>Sample sizes are considered appropriate for the rock type, style of mineralisation, the thickness and consistency of the intersections and assay ranges expected at Bowdens.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibration factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates,</li> </ul>	<ul style="list-style-type: none"> <li>Samples from all drilling phases were sent to commercial laboratories for preparation and analysis. No geophysical methods or hand-held XRF devices have been used for resource estimation.</li> <li>Samples from pre Kingsgate drilling were analysed by several accredited commercial laboratories by either 3, 4 or aqua-regia acid digestion and AA or ICP determination. Quality control measures included use of standards, blanks, field duplicates and</li> </ul>

Criteria	JORC Code explanation	Commentary
	external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	<p>external laboratory checks by a variety of methods including neutron activation assaying.</p> <ul style="list-style-type: none"> <li>Kingsgate's samples were analysed by ALS in Orange, NSW. After oven drying, and jaw crushing for core samples, the samples were pulverised to nominally 85% passing 75 microns and 25 gram sub-samples digested by multi-acid digest and analysed by ICPAES for a suite of elements including silver, lead and zinc. Quality control measures included field duplicates, coarse blanks and reference standards.</li> <li>Silver Mines samples were dispatched to ALS Global laboratories in Orange and SGS laboratories in West Wyalong, NSW. At both ALS and SGS the samples were pulverised to nominally 85% passing 75 microns with subsequent 4 acid digest and 33 multi-element analysis completed at ALS Brisbane using method ME-ICP61 and 4 acid digest and 38 multi-element analysis at SGS Townsville using method DIG41Q.</li> <li>Site Standards are inserted every 20 samples to check quality control and laboratory standards and blanks every 25 samples to further check results.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Significant intersections calculated by site-geologists and verified by an independent geological consultant.</li> <li>Several independent authors reviewed pre-Silver Mines sampling data during preparation of previous resource estimates.</li> <li>Both Silver Mines and Kingsgate's sampling, logging and survey data were electronically merged into a central database directly from original source files using Logchief field software and imported into an SQL database in accordance with database protocols and manuals. Data was viewed and interpreted using Micromine software.</li> <li>No adjustments were made or required to be made to the assay data for resource estimation.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Accredited surveyors using high accuracy DGPS surveys accurately surveyed all resource drill hole collars.</li> <li>Pre-Kingsgate holes were down-hole surveyed by single shot cameras. Kingsgate's drilling was surveyed by either Reflex EZ-shot or Eastman camera. Silver Mines drilling was surveyed by a Reflex EZ-shot electronic camera at 30m intervals down hole.</li> <li>The terrain includes steep hills and ridges and with a LIDAR topographical model of 0.034 metre accuracy.</li> <li>All collars recorded in MGA94 zone 55 and also re-projected to a locally defined mine-grid system.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>This drilling is designed as both infill and extensional to the overall mineral resource envelope. The nominal drill hole spacing is 25m (northing) by 50m (easting).</li> <li>Hole spacing varies from around 25 by 25 m and locally closer in central portions of the deposit to more than 50 by 50 m in peripheral areas.</li> <li>The majority of holes were either orientated vertically or orientated local grid east. A small number of holes were orientated local grid west and local grid south.</li> <li>The data spacing and distribution establishes geological and grade continuity adequately for the current resource estimates.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <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>	<ul style="list-style-type: none"> <li>Drill orientation was designed to intersect the projection of breccia zones and zones of veins within an overall mineralized envelope.</li> <li>An interpretation of the mineralization has indicated that no sampling bias has been introduced.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>All samples bagged on site under the supervision of two senior geologists with sample bags tied with cable ties before being driven by site personnel to the independent laboratory or sample pickup by the independent laboratory.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Pre-Kingsgate sampling techniques and data have been reviewed previously by renowned external geological consultants and most recently by Silver Mines geoscience staff.</li> <li>Kingsgate sampling techniques and data have been reviewed by several external geological consultants including MPR and AMC.</li> <li>Silver Mines sampling techniques and data have been independently reviewed by a number of external geological consultants including AMC, GeoSpy and H&amp;S.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Bowdens Resource is located wholly within Exploration Licence No EL5920, held wholly by Silver Mines Limited and is located approximately 26km east of Mudgee, New South Wales.</li> <li>The tenement is in good standing.</li> <li>The project has a 2.0% Net Smelter Royalty which reduces to 1.0% after the payment of US\$5 million over 100% of the EL5920.</li> <li>The project has a 1.85% Gross Royalty over 100% of EL5920.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The Bowdens project was previously managed by Kingsgate, Silver Standard Ltd, Golden Shamrock Mines and CRAE.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Bowdens Deposit is a low sulphidation epithermal base-metal and silver system hosted in Permian Volcanic rocks.</li> <li>Mineralisation includes veins, shear veins and breccia zones within tuff and ignimbrite rocks.</li> <li>Mineralisation is overall shallowly dipping (~15 degrees to the north) with high-grade zones preferentially following a volcanic dome. There are several vein orientations within the broader mineralized zones including some areas of stock-work veins.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as there are no exploration results reported as part of this statement.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>including a tabulation of the following information for all Material drill holes:</p> <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar;</li> <li>○ elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar;</li> <li>○ dip and azimuth of the hole;</li> <li>○ down hole length and interception depth; and</li> <li>○ hole length.</li> </ul> <ul style="list-style-type: none"> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• This release is in relation to a Mineral Resource estimate and Ore Reserve, with no exploration results being reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation is both stratabound and vein hosted. The stratigraphy dips shallow to moderately to the north while the majority of mineralised veins dip west.</li> <li>• The majority of holes have been drilled either vertically or angled -60° to -80° to the east.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to, a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• Maps and cross-sections provided in the body of this report.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as there are no exploration results reported as part of this statement.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>• Other exploration data, if meaningful and material, should be reported including but not limited to: geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics and potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>• The Bowdens diamond holes were also utilised for bulk density measurements. Geotechnical logging has determined suitable ground conditions for open pit mining.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Further drilling along strike and at depth will continue in 2017.</li> </ul>



### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in the preceding sections also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<p>All geological data is stored electronically with limited automatic validation prior to upload into the secure DataShed database, managed in the on-site office by the GIS and Database Geologist. The master drill hole database is located on an SQL server, which is backed up on a daily basis.</p> <p>Basic checks were performed prior to this resource estimate to ensure data consistency, including checks for FROM_TO interval errors, missing or duplicate collar surveys, excessive down hole deviation, and extreme or unusual assay values.</p> <p>All data errors/issues were reported to the GIS and Database Geologist to be corrected or flagged in the primary DataShed database.</p>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<p>The Competent Person visited the Bowdens project site over a 2 week period in late July and early August, 2017. During this visit, core samples and outcrops were examined and discussion were held with SML personnel about the geology and mineralisation of the deposit. The Competent Person also performed database validation and a review of the geological interpretation while on site. The Competent Person concluded that data collection and management were being performed in a professional manner.</p>
Geological interpretation	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<p>There is a reasonable level of confidence in the geological interpretation of the Bowdens deposit.</p> <p>SML has developed a geological interpretation of the Bowdens deposit based on logged stratigraphy, aided by vanadium assays. The Rylstone Volcanics, which hosts the bulk of the mineralisation, are informally divided into 4 units – crystal tuff, welded tuff, rhyolite breccia and upper ash tuff. There is also mineralisation in places within the underlying Coomber Formation, while the overlying Shoalhaven Group is barren.</p> <p>Within the Rylstone Volcanics, the mineralisation tends to occur preferentially around the crystal tuff – welded tuff boundary, although there is not a strong stratigraphic control.</p> <p>Surfaces for base of complete oxidation and top of fresh rock were also interpreted, based on geological logging. Only a small proportion of mineralisation occurs within the relatively thin oxide zone, and there is no obvious evidence of depletion or enrichment of silver due to oxidation.</p> <p>There is limited scope for alternative geological interpretations of the deposits, principally in the location and influence of faulting, which appears unlikely to have a significant effect on Mineral Resource estimation.</p> <p>Geology guides and controls Mineral Resource estimation through constraining the mineralisation to the major stratigraphic units – Rylstone Volcanics and Coomber Formation, while the eastern edge of mineralisation is controlled but not constrained by the Eastern fault.</p>

Criteria	JORC Code explanation	Commentary
		The continuity of geology at Bowdens is controlled by stratigraphy and faulting. Continuity of grade has a weak stratigraphic control and is primarily controlled by local fracturing; faulting also appears to act as a broad but weak control on localising mineralisation.
Dimensions	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<p>The Mineral Resource at Bowdens has an approximate extent of:</p> <ul style="list-style-type: none"> <li>1,100m north-south</li> <li>800m east-west</li> <li>From surface to a depth of approximately 360m below surface</li> <li>Mineralisation is somewhat patchy and discontinuous.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters, maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>Silver was estimated by recoverable Multiple Indicator Kriging (MIK), while all other attributes were estimated by Ordinary Kriging (OK). Estimates were generated for Ag, Pb, Zn, As, Sb, Mn, S, Cd, Cu, V and dry bulk density. OK is considered appropriate because the coefficients of variation (CV=SD/mean) are generally low to moderate and the grades are reasonably well structured spatially. Recoverable MIK was chosen for Ag primarily because it allows better mining selectivity than OK.</p> <p>MIK estimates were generated using GS3M software, while OK estimates were produced in Datamine software.</p> <p>Each of the major stratigraphic units (Rylstone, Coomber, Shoalhaven) were estimated separately, with each unit sub-divided into domains based on changes in mineralisation orientation.</p> <p>Samples were composited to nominal 2.0m intervals within each unit for data analysis and resource estimation.</p> <p>A three pass search strategy was used for the OK estimates:</p> <ol style="list-style-type: none"> <li>35x35x12.5m search, 16-32 samples, minimum of 4 octants informed</li> <li>52.5x52.5x12.5m search, 16-32 samples, minimum of 4 octants informed</li> <li>105x105x25m search, 8-32 samples, minimum of 4 octants informed</li> </ol> <p>The MIK estimates used 16-48 samples; search radii and octant constraints were identical to the OK estimates.</p> <p>The oxide zone was estimated using a dynamic search parallel to topography.</p> <p>The maximum extrapolation distance will be somewhat less than the maximum search radius due to the octants constraints requiring at least 2 drill holes. Maximum extrapolation distance is around 90m.</p> <p>It is assumed that a Ag-Pb-Zn sulphide concentrate will be produced. All elements have been estimated independently for each domain.</p> <p>A few potentially deleterious elements have been estimated, being As, Sb and S.</p> <p>Dry bulk density was estimated directly into the model from the drill hole samples, using a similar methodology to the other elements.</p>



Criteria	JORC Code explanation	Commentary																
		<p>The resource model block size is 25x25x5m, while drill hole spacing is nominally 25x25m in the better drilled areas of the deposit. So, the block size is identical to the hole spacing, which is considered appropriate for recoverable MIK and OK estimation. The MIK assumes an SMU (selective mining unit) of 6.25 x 12.5 x 5.0m.</p> <p>The current resource model uses a local grid, rotated 18° clockwise from GDA (Geocentric Datum of Australia).</p> <p>No assumptions were made regarding the correlation of variables during estimation as each element is estimated independently. Some elements do show moderate to strong correlation in the drill hole samples, and the similarity in variogram models effectively guarantees that this correlation is preserved in the estimates.</p> <p>The geological interpretation controls the Mineral Resource estimates through the use of stratigraphic boundaries, which were used as hard boundaries during estimation. The Eastern fault also controls the Mineral Resource estimates locally, with mineralisation parallel to this structure.</p> <p>The new model was validated in a number of ways – visual comparison of block and drill hole grades, statistical analysis, examination of grade-tonnage data, and comparison with the previous model. All the validation checks indicate that the grade estimates are reasonable when compared to the composite grades, allowing for data clustering.</p> <p>No grade cutting was applied to any of the grade estimates because none of the grade distributions are strongly skewed. Sensitivity analysis on Ag estimates indicated that grade cutting has minimal impact on the grade estimates.</p> <p>The new Mineral Resource estimate is comparable to the previous (November 2012) version. The new model has higher tonnage and metal content, but similar grades at the same cut-off grade as the old model. Differences are mostly attributed the substantial quantity of new drilling: ~20% more holes and ~30% more assays. This indicates that the new Mineral Resource estimate takes appropriate account this previous estimate.</p>																
Moisture	<ul style="list-style-type: none"><li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li></ul>	Tonnages are estimated on a dry weight basis. Moisture content has been determined for some of the density samples, by comparing sample weights before and after oven drying.																
Cut-off parameters	<ul style="list-style-type: none"><li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li></ul>	<p>The cut-off grade is an equivalent Ag (Ag Eq) value, based on grades and recoveries for Ag, Pb and Zn as shown below.</p> <table><tr><th>Metal</th><th>Unit</th><th>Price (USD)</th><th>Recovery</th></tr><tr><td>Ag</td><td>g/t</td><td>\$20.00</td><td>85%</td></tr><tr><td>Pb</td><td>lb</td><td>\$1.00</td><td>83%</td></tr><tr><td>Zn</td><td>lb</td><td>\$1.50</td><td>82%</td></tr></table> <p>The equivalent silver formula is: <math>Ag\ Eq = Ag + Pb \times 33.48 + Zn \times 49.61</math></p> <p>The adopted cut-off grade of 30 g/t Eq Ag is considered likely to be economic for the mining method and scale of operation envisioned for Bowdens.</p>	Metal	Unit	Price (USD)	Recovery	Ag	g/t	\$20.00	85%	Pb	lb	\$1.00	83%	Zn	lb	\$1.50	82%
Metal	Unit	Price (USD)	Recovery															
Ag	g/t	\$20.00	85%															
Pb	lb	\$1.00	83%															
Zn	lb	\$1.50	82%															

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.</li> </ul>	<p>Surface mining by open pit method is currently planned for Bowdens.</p> <p>The recoverable MIK method implicitly incorporates internal mining dilution at the scale of the assumed SMU. No specific assumptions were made about external mining dilution in the Mineral Resource estimates.</p>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no assumptions have been made, this should be reported.</li> </ul>	<p>The recoveries for each metal are based on available metallurgical test work. It is assumed that fresh (sulphide) ore will be treated by conventional froth flotation to produce a bulk Ag-Pb-Zn concentrate.</p>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<p>It is currently assumed that all process residue and waste rock disposal will take place on site in purpose built and licensed facilities.</p> <p>All waste rock and process residue disposal will be done in a responsible manner and in accordance with any mining license conditions.</p>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> </ul>	<p>Dry bulk density is measured on-site using an immersion in water method (Archimedes principle) on selected core intervals for nominal 10cm samples. The Bowdens database contains 1,889 of these measurements in 83 drill holes. There are also a number of density measurements derived from weighing trays of core – this information confirms the immersion method results.</p> <p>Samples are weighed before and after oven drying overnight at 110°C to determine dry weight and moisture content.</p>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<p>The classification scheme is based on the estimation search pass for Ag; in the Rylstone Volcanics, Pass 1 = Measured, Pass 2 = Indicated and Pass 3 = Inferred. For the Coomber Formation, Passes 1&amp;2 are classified as Indicated and Pass 3 = Inferred.</p> <p>This scheme is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data.</p> <p>The classification appropriately reflects the Competent Person's view of the deposit.</p>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<p>This Mineral Resource estimate has been reviewed by SML personnel and no material issues were identified.</p>

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<p>The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated 2012 JORC Mineral Resource categories. This has been determined on a qualitative, rather than quantitative, basis, and is based on the estimator's experience with a number of similar deposits elsewhere. The main factor that affects the relative accuracy and confidence of the Mineral Resource estimate is drill hole spacing, because there are no strong geological controls on the primary mineralisation.</p> <p>The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis are those classified as Measured and Indicated Mineral Resources.</p> <p>No production data is available because this deposit has not been previously mined.</p>

## Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in Section 1, and where relevant in Sections 2 and 3, also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>The most recent Mineral Resource estimate was used for reporting Ore Reserves. This was updated in September 2017 (H&amp;S Consultants Pty Ltd)</li> <li>Mineral Resources are reported inclusive of Ore Reserves.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person visited the Bowdens mine site in April 2017.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li>This Ore Reserve statement is based upon the May 2018 Bowdens Silver Project Feasibility Study (GR Engineering Services).</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>An economic cut-off of 30 g/t Ag (equivalent) cut-off was applied to the Resource modelling from which the Ore Reserve has been estimated.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Mining factor assumptions	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul style="list-style-type: none"> <li>The MIK modelling process accounts for any internal dilution within the orebody. No provision for edge dilution has been applied to the MIK modelling, and 100% mining recovery is applied.</li> <li>The mined tonnage and diluted grade is based on the block model size, with excavator based open pit mining, and equipment size appropriate minimum mining widths applied.</li> <li>Metallurgical parameters were applied to the resource model in order to model product grades and yields.</li> <li>Pit optimisations utilising the Lerchs-Grossmann algorithm with industry standard software were undertaken. This optimisation utilised the Mineral Resource model together with cost, revenue, and geotechnical inputs.</li> <li>The resultant pit shells were used to develop detailed pit designs with due consideration of geotechnical, geometric, and access constraints. These pit designs were used as the basis for production scheduling and economic evaluation.</li> <li>Conventional mining methods (truck and excavator), were selected.</li> <li>The geotechnical parameters have been applied based on geotechnical studies.</li> <li>During the above process, Inferred Mineral Resources were excluded from mine schedules and economic valuations utilised to validate the economic viability of the Ore Reserves.</li> </ul>
Metallurgical and mineral processing factors	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul style="list-style-type: none"> <li>Conventional Flotation processing is proposed as the basis of both the weathered and fresh ore. All these processes have been successfully tested at laboratory scale on the Bowdens mineralisation and are currently being used at plant scale in the silver industry.</li> <li>Representative samples of mineralisation types suited to the proposed processing approach have been obtained by metallurgical diamond drilling and tested in metallurgical laboratories.</li> <li>All weathered material was processed initially followed by fresh material, with fresh low grade being stockpiled for processing at the end of the mine life.</li> <li>A steady plant throughput of 2 Mtpa is maintained from Yr2 of the project throughout the life of mine.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul style="list-style-type: none"> <li>All primary environmental, heritage and tenure approvals required under State and Commonwealth legislation are being progressed.</li> <li>The mine is to be developed under the Mines Act 1978.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities),</li> </ul>	<ul style="list-style-type: none"> <li>Bowdens Silver mine is accessible by road and workforce will drive to site.</li> </ul>

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	labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	<ul style="list-style-type: none"> <li>Power and water supply studies have identified appropriate solutions for mining operations.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>Capital estimates have been based on lump sum quoted budget prices.</li> <li>Operating cost estimates were developed by Silver Mines from first principles, based on an owner operated mining model, and bench marked against similar current mine operating costs.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Revenue assumptions are based on long-term metal pricings of: <ul style="list-style-type: none"> <li>Silver = US\$22.00/oz</li> <li>Lead = US\$1.00/lb</li> <li>Zinc = US\$1.25/lb</li> </ul> </li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>There is a transparent quoted market for the sale of silver. A formal market forecast of the silver price has not been undertaken.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>An overarching financial model of the Bowdens project, prepared by Silver Mines, using mining inputs prepared by AMC Consultants, and other inputs consistent with the Ore Reserve estimate, indicates the project is economically viable with a positive NPV.</li> <li>Sensitivity of the Bowdens Project to changes in the key drivers of silver price, mining cost, processing cost and geotechnical pit slope were carried out, and showed the project NPV to be most sensitive to significant changes in sales price.</li> </ul>
Social	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>Silver Mines continues to negotiate a range of commitments with private landowners through the Land Access Agreement process.</li> </ul>
Other	<ul style="list-style-type: none"> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: <ul style="list-style-type: none"> <li>Any identified material naturally occurring risks.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>It is expected all necessary approvals and licenses will be forthcoming when applied for progressively over the next phase of the project.</li> </ul>

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	<ul style="list-style-type: none"> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul>	
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>The Ore Reserves consist of Proved and Probable Reserves.</li> <li>The Competent Person is satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>The Ore Reserve has been internally reviewed but not externally audited.</li> </ul>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</li> <li>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>The confidence in the Ore Reserve is reflected by the classifications shown above. The estimate is supported by a <math>\pm 20\%</math> level of accuracy technical study.</li> </ul>