Level 11, 52 Phillip St
Sydney NSW 2000
**T:** +61 2 8316 3997
**F:** +61 2 8316 3999
Info@silvermines.com.au
www.silvermineslt d.com.au

**9th December 2016**

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

# MORE HIGH-GRADE SILVER IN BOWDENS DRILLING

## Highlights

- **Drilling continues to intersect high-grade zones at the Bowdens Silver project.**
- **124 metres @ 85g/t silver, 0.19% zinc and 0.20% lead (95 g/t silver equivalent) from 118 metres including:**
  - **20 metres @ 200g/t silver, 0.26% zinc and 0.39% lead (217g/t silver equivalent);**
  - **17 metres @ 229g/t silver, 0.01% zinc and 0.26% lead (236g/t silver equivalent).**
- **6 metres @ 139g/t silver, 0.23% zinc and 0.31% lead (153g/t silver equivalent) in basement sediments from 291 metres.**
- **Further results pending with nine additional drill holes completed and sampled.**
- **Drilling on-going with two rigs operational.**

## 2016 Drill Program

Silver Mines Limited (ASX:SVL) ("Silver Mines" or "the Company") is pleased to advise that it has received the drill results from the second hole of a 38,000 metre drill program at the Bowdens Silver project located near Mudgee in New South Wales. The second diamond core hole (BD16002) was designed to test and confirm silver-rich mineralisation in the northern portion of the current known resource. The hole recorded several high-grade silver intersections.

These results continue to surpass the Company's expectations in this area of the deposit. The results from the zone intersected support the justification of further delineation of the extent of the high-grade core of silver mineralisation. These high-grade zones have the potential to considerably enhance the project economics currently being assessed in mine planning.

The mineralisation is hosted within felsic welded tuffs of the Permian aged Rylstone Volcanics, generally consisting of close-spaced base-metal sulphide and silver bearing veins and base-metal sulphide breccias.

Furthermore, BD16002 intersected mineralised Ordovician basement sediments in contact with silicified faulting beneath the volcanic rocks at a depth of 291 metres. The zone included 6 metres averaging 139g/t silver, 0.23% zinc and 0.31% lead (153g/t silver equivalent). This

style of mineralisation was also encountered in BD16001 from 314 metres. These deeper intersections indicate the further potential for a high-grade mineralisation in basement rocks beneath the Rylstone Volcanics. Work is on-going to assess the significance of this deeper mineralisation.

Please refer to Tables 1, Figures 1 & 2 and Appendix 1 for further details on BD16002.

*Table 1: Drill hole intersections from BD16002 at the Bowdens Silver Project using a minimum 30g/t silver cut-off over 5 metre width and up to 10 metres internal dilution factor with higher- grade zones using a minimum 60g/t silver cut-off over 5 metre interval and up to 5 metres internal dilution.*

| Hole ID | From (metres) | To (metres) | Interval (metres) | Silver (g/t) | Zinc (%) | Lead (%) | Ag Eq (g/t)[1] |
|---|---|---|---|---|---|---|---|
| BD16002 | 118 | 242 | 124 | 85 | 0.19 | 0.20 | 95 |
| including | **136** | **156** | **20** | **200** | **0.26** | **0.39** | **217** |
| | 167 | 174 | 7 | 114 | 0.55 | 0.18 | 132 |
| | **223** | **240** | **17** | **229** | **0.01** | **0.26** | **236** |
| BD16002 | 291 | 297 | 6 | 139 | 0.23 | 0.31 | 153 |

1. *Bowdens silver equivalent calculated using metal prices of US$20 per ounce* silver*, US$1.00 per* pound zinc and, US*$1.00 per* pound lead *and recoveries of 81% for silver,* 82% for zinc and *81% for lead.*

The current drill program involves infill drilling to convert inferred resources to measured and indicated resource categories as well as testing for potential extensions of the known mineralisation. Drilling is on-going with a further nine holes completed (BD16003-011) with samples pending completion of assays. The total program, consisting of 178 holes for 38,000 metres of drilling will be a combination of diamond core and reverse circulation drilling.

## Other News

The regional high-resolution airborne magnetic and radiometric survey previously announced by the Company has been completed and is being interpreted and analysed to generate new targets in the immediate vicinity of Bowdens Silver as well as regionally throughout Silver Mines' extensive land-package in the district.

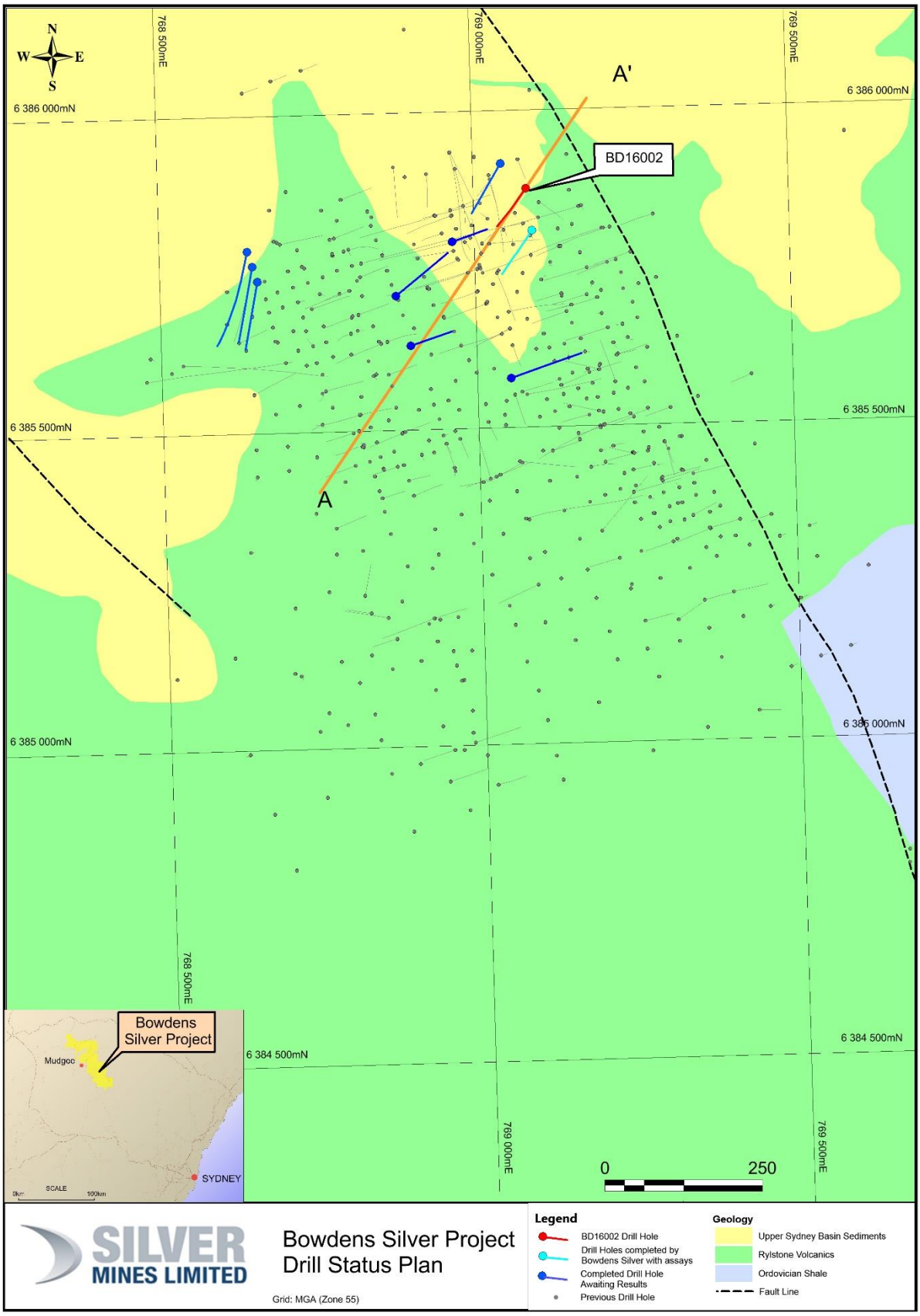


*Figure 1. Bowdens Silver location of drill hole BD16002.*

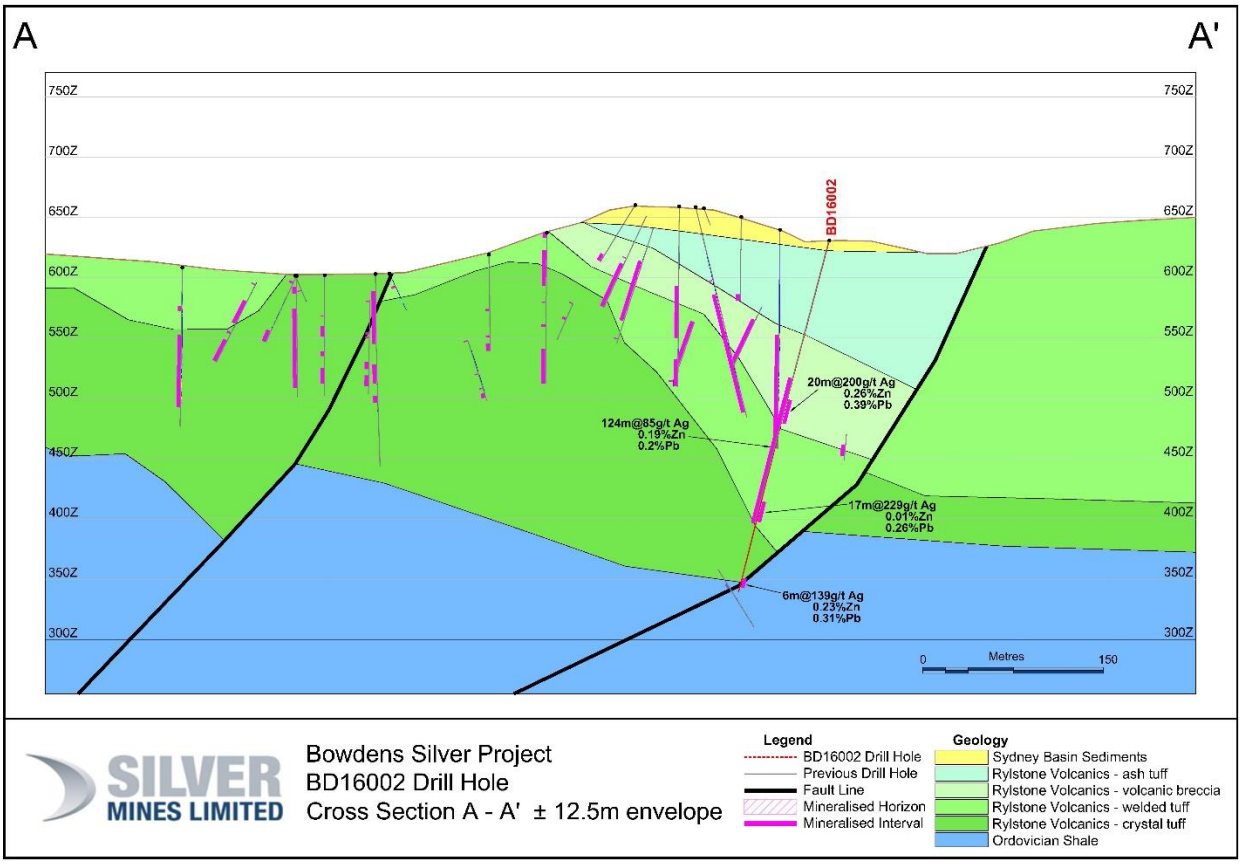


*Figure 2. Bowdens Silver cross section of drill hole BD16002.*

## About the Bowdens Silver Project

The Bowdens Silver Project is located in central New South Wales, approximately 26 kilometres east of Mudgee. The recently consolidated project area comprises 1,654 km$^2$ (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.

Bowdens Silver is the largest undeveloped silver deposit in Australia with substantial resources and a considerable body of high quality technical work already completed. The projects boast outstanding logistics for future mine development.

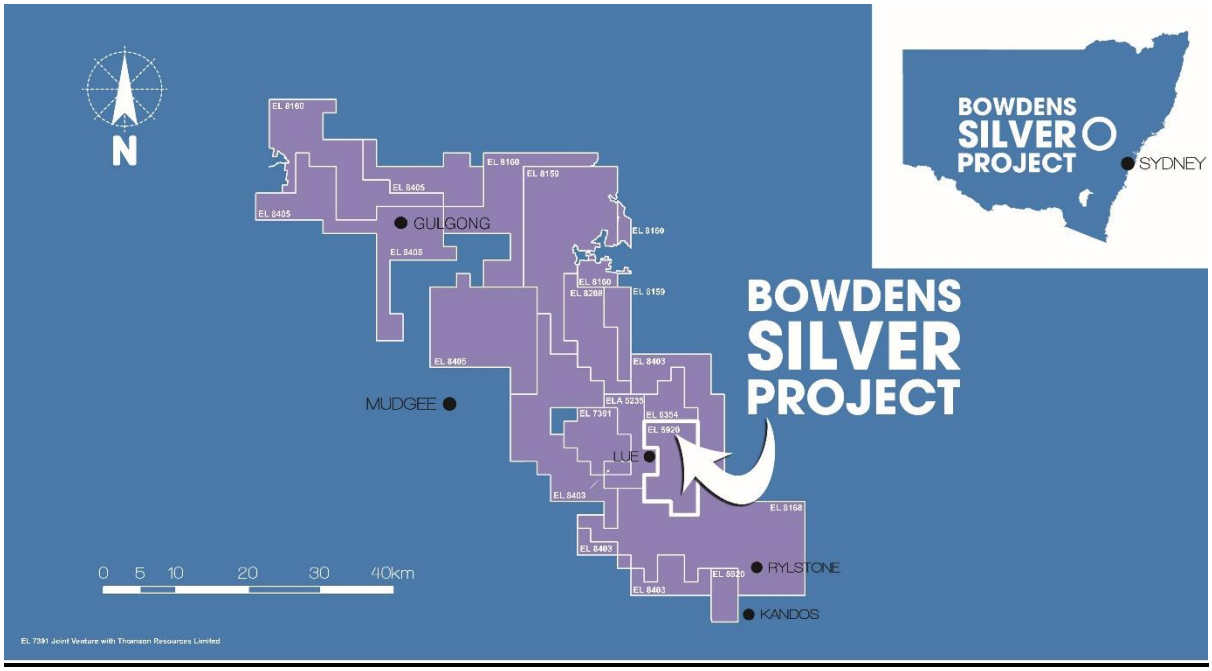


*Figure 3. Bowdens Silver tenement holdings in the Mudgee district.*

Yours faithfully

Silver Mines Limited

Trent Franklin

Company Secretary

**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 mineral exploration results is based on information compiled or reviewed by Mr Scott Munro who is a full-time employee of the company. Mr Munro is a member of the Australian Institute of Geoscientists (AIG) 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 Munro consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Level 11, 52 Phillip St
Sydney NSW 2000
**T:** +61 2 8316 3997
**F:** +61 2 8316 3999
Info@silvermines.com.au
www.silvermineslt d.com.au

## Appendix 1 Drill Hole Details

| Hole ID | East | North | RL | Dip | Azimuth (mag) | EOH (m) | Comment |
|---|---|---|---|---|---|---|---|
| BD16001 | 769092 | 6385810 | 640 | -75 | 200 | 342.9 | assays received |
| BD16002 | 769084 | 6385876 | 631 | -75 | 200 | 300.9 | assays received |
| BD16003 | 768640 | 6385787 | 629 | -70 | 180 | 456.7 | assays pending |
| BD16004 | 768647 | 6385763 | 626 | -70 | 180 | 348.9 | assays pending |
| BD16005 | 769045 | 6385916 | 643 | -75 | 200 | 351 | assays pending |
| BD16006 | 768655 | 6385740 | 621 | -70 | 180 | 315 | assays pending |
| BD16007 | 768965 | 6385795 | 660 | -80 | 60.5 | 342.8 | assays pending |
| BD16008 | 768874 | 6385712 | 621 | -65 | 40.5 | 252.6 | assays pending |
| BD16009 | 768895 | 6385633 | 614 | -65 | 45.5 | 162.7 | assays pending |
| BD16010 | 769053 | 6385578 | 637 | -65 | 60.5 | 279.6 | assays pending |
| BD16011 | 768838 | 6385837 | 620 | -53 | 53.5 | 354.7 | assays pending |

# JORC Code, 2012 Edition – ANNEXURE 1

## Section 1 Sampling Techniques and Data

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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.* | • All samples taken as nominal 1 metre intervals from half-cut core and from the same side of the core.<br>• Each sample represents approximately 2 kilograms of material<br>• Each sample was sent for multi-element assay using ICP techniques with the entire sample pulverized and homogenized with a 50g extract taken for assay.<br>• Assays are considered representative of the sample collected. |
| *Drilling techniques* | • *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).* | • Drilling undertaken using NQ diamond core rig with standard tube.<br>• All core, where unbroken ground allows, is oriented by drilling team and an orientation line along the base of the hole. |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • Core recovery is estimated at greater than 95%.<br>• 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 affected the results. |
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate* | • All holes are logged using lithology, alteration, veining, mineralization and structure including geotechnical structure. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • All core is photographed using both wet and dry photography.<br>• The entire hole is logged. |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core were taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • Minor selective sub-sampling based on geology to a maximum size of 1.3m and a minimum of 0.3m.<br>• All core is cut using a corewise core saw with core rotated 10 degrees to the orientation line to preserve the orientation for future reference.<br>• The half of the core without the orientation line is removed, bagged and sent to the laboratory for assay.<br>• 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. |
| *Quality of assay data and laboratory tests* | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *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.*<br>• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.* | • Samples despatched to ALS Global laboratories in Orange NSW for sample preparation and gold analysis Au-AA25. 33 multi-element analysis completed at ALS Brisbane using method ME-ICP61.<br>• Site Standards are inserted every 50 samples to check quality control and laboratory standards and blanks every 25 samples to further check results. |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Significant intersections calculated by site-geologists and verified by an independent geological consultant.<br>• All geological logging is entered manually onto a log sheet before inputting into a Maxwell Geoservices database schema.<br>• All assays matched with the logging sheets and loaded directly from the output provided by the laboratory with no manual entry of assays undertaken. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Location of data points* | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • The collar position is surveyed using hand-held GPS with accuracy of +- 5 metres<br>• Down hole surveys collected every 30 metres using an electronic downhole reflex survey camera.<br>• The terrain includes steep hills and ridges and with a topographical model on 2 metre accuracy.<br>• All collars recorded in MGA94 zone 55 and also re-projected to a locally defined mine-grid system. |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • 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) in the core of the deposit.<br>• The current drill program includes extensional and infill drilling and will enable the mineral resource estimate to be updated including conversion of inferred resources to indicated resources and new zones to be included in inferred resource. |
| *Orientation of data in relation to geological structure* | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *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.* | • Drill orientation was designed to intersect the projection of breccia zones and zones of veins within an overall mineralized envelope and based on previous works.<br>• Some narrow veins (0.1 to 4cm) were logged running sub-parallel to the core axes producing an overall skewed result to the assay. However, whilst this is the orientation of individual veins, the orientation of the zones is yet to be fully established with further drill holes pending completion in order to assess the full 3D orientation of the mineralized zones. |
| *Sample security* | • *The measures taken to ensure sample security.* | • 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 laboratory in Orange, NSW (~200km from the site) |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | • The drilling campaign and drill work includes on-going internal auditing with advice taken on process from external advisors - OmniGeox Ltd, GeoSpy Pty Ltd and AMC Consultants. |

## Section 2 Reporting of Exploration Results

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral tenement and land tenure status* | • *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.*<br>• *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.* | • 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.<br>• The tenement is in good standing.<br>• 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.<br>• The project has a 1.85% Gross Royalty over 100% of EL5920. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | • The Bowdens project was previously managed by Kingsgate Consolidated and Silver Standard Ltd, however the new drilling reported under this table is based on work conducted solely by Silver Mines/Bowdens Silver. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | • The Bowdens Deposit is a low sulphidation epithermal base-metal and silver system hosted in Permian Volcanic rocks.<br>• Mineralisation includes veins, shear veins and breccia zones within tuff and ignimbrite rocks.<br>• 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. |
| *Drill hole Information* | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>  ○ *easting and northing of the drill hole collar;*<br>  ○ *elevation or RL (Reduced Leve elevation above sea level in metres) of the drill hole colla;r*<br>  ○ *dip and azimuth of the hole;*<br>  ○ *down hole length and interception depth; and*<br>  ○ *hole length.*<br>• *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.* | • All information is included in Appendix 1 of this report. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Data aggregation methods* | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • Intersection calculations based on previous cut-offs used in mineral resource estimation and include at minimum of 30 g/t silver with maximum 10 metres internal dilution for low-grade results with a minimum 60 g/t silver with maximum 5 metres internal dilution for high-grade results. |
| *Relationship between mineralisation widths and intercept lengths* | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *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').* | • Mineralisation is both stratabound and vein hosted. The stratigraphy dips moderately to the north while the majority of mineralised veins dip west. Some individual veins intersected were sub-parallel (~10 degrees to core axes). The drilling width is estimated to be 120% of true-width for stratabound mineralisation. |
| *Diagrams* | • *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.* | • Maps and cross-sections provided in the body of this report. |
| *Balanced reporting* | • *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.* | • All results received and compiled to date are reported in this release. Drilling is ongoing with further results expected to provide a more detailed assessment of the mineralised zones. |
| *Other substantive exploration data* | • *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.* | • This report relates to drill data reported from this program. |
| *Further work* | • *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • This report relates to a drill program that totals 38,000 metres of drilling with drilling on-going and further results pending. |