

15<sup>th</sup> May, 2012

To: Company Announcements officer

### **94% RECOVERY OF SILVER IN METALLURGICAL TESTWORK.**

Silver Mines Limited (ASX:SVL) is pleased to announce it has received very positive results from recent flotation testwork from its 100% owned Webbs Silver Project located in NE NSW, Australia. The testwork is being conducted by HRL Testing in collaboration with Core Resources, both Australian companies. The program is being managed by metallurgical consultants Mineralurgy Pty Ltd from Brisbane in association with SVL.

#### **KEY POINTS**

- **Silver recoveries of 94% at 75 micron grind and 92% at 212 micron grind achieved to bulk sulphide concentrate at 12% mass pull;**
- **Silver grades up to 2,814 g/t Ag (90.5 oz/t Ag) in bulk concentrate from head grade of 365 g/t Ag;**
- Recoveries of **copper and zinc up to 91% to bulk concentrate;**
- Lead recoveries up to 69%;
- Potential remains to improve flotation performance and concentrate grades with further optimisation work and suppression of non-sulphide gangue;
- Microscopic examination of sulphide mineralogy indicates that Ag rich tetrahedrite mostly exists as freely occurring relatively coarse grains;
- Production of 10kg of bulk sulphide concentrate now underway;
- Bulk sulphide concentrate will undergo ultrafine grinding and Albion/CIL processing testwork seeking to produce silver doré and base metal concentrates.

Silver Mines Limited CEO Charles Straw said *“these initial flotation results are very positive and represent a great start to the detailed metallurgical evaluation of the Webbs Silver deposit currently underway. Of particular note are the high silver, copper and zinc recoveries at the relatively coarse grind size of 212 microns which is very pleasing. Further optimisation has the potential to improve these results.*

*The relative coarseness of the grind sizes also has favourable implications with regard to power consumption for grinding. This flotation work and the initial results from the microscopy, combined with previous work give the Company added confidence that we are on the right track to unlock the significant value contained in the Webbs Silver deposit.”*

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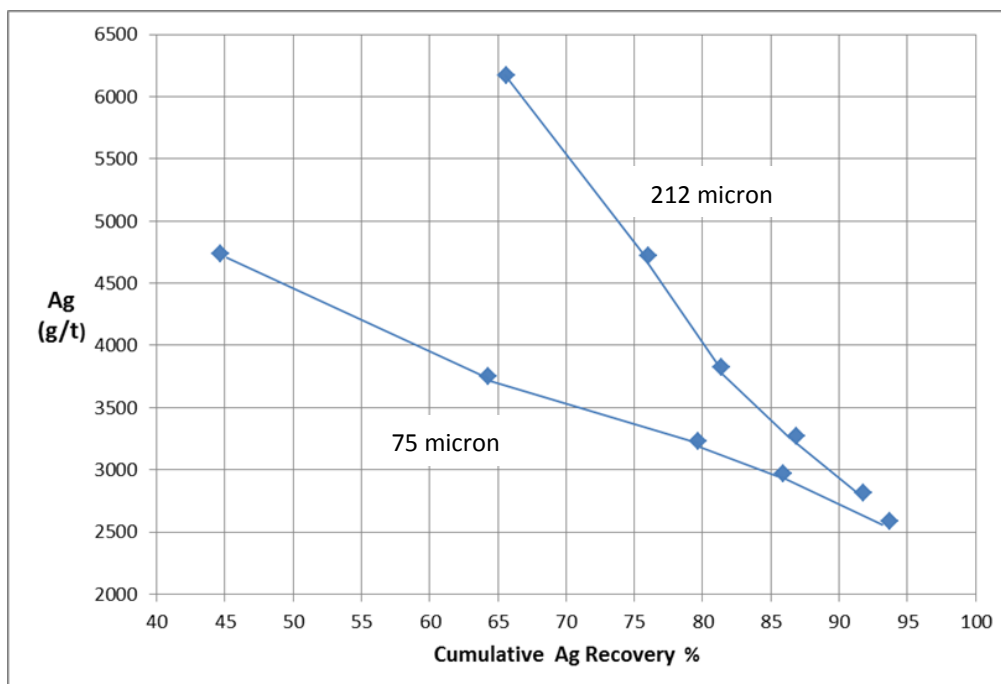
### METALLURGICAL TESTWORK.

The metallurgical testwork reported was conducted on 2 x 2kg samples with each sample representing a different grind size, one 80% passing 212 microns and the other 80% passing 75 microns. Each sample underwent sequential flotation involving three rougher stages and two scavenger stages under typical floatation conditions and reagent schemes. Results indicate silver recoveries of 94% at a grind size of 75 microns and 92% at a 212 micron grind into a bulk sulphide concentrate. The mass pull to concentrate is about 12% in both tests. The recovery of other potentially payable metals especially Cu and Zn is also high, as shown in Table 1.

**Table 1.** Bulk sulphide concentrate recoveries and grade.

	75 micron		212 micron		Head Assay
	Rec %	Grade	Rec %	Grade	
<b>Ag (g/t)</b>	94	2582	92	2814	365
<b>Cu (%)</b>	91	3.1	86	2.6	0.4
<b>Pb (%)</b>	69	7.5	64	6.7	1.3
<b>Zn (%)</b>	91	10.6	84	9.3	1.5

The comparison between the 212 micron and 75 micron testwork indicate the 212 micron grind size is more selective for silver than the 75 micron grind as shown in Figure 1 below.



**Figure 1.** Ag flotation recovery curves

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## **PREPARATION OF SUBMITTED SAMPLES.**

Testwork is being conducted on sub-samples from a 250kg composite sample created from 160 individual 1m samples from previous reverse circulation (RC) drilling at the Webbs Main zone. All 160 samples were riffle split from large 35-45kg RC bulk samples that have been securely stored and protected from the weather. Individual sample weights range from 1.5-1.9kg for each split. Samples were selected so as to represent a relatively even distribution of drill intersections through the Main Zone with a natural bias towards nearer surface, thicker intersections. To represent potentially mineable material from an open cut the selected intersections were based on a 50g/t Ag lower cut-off and allowed for some lower grade internal dilution where appropriate. The composite sample was delivered by road courier in a 200 litre drum to HRL Testing (HRL) located in Brisbane. HRL homogenised the composite sample prior to sample selection for this testwork.

## **SULPHIDE MICROSCOPY.**

McArthur Ore Deposit Assessments (MODA) was commissioned by SVL to conduct a preliminary assessment of the sulphide mineral occurrences at Webbs. The information gained provides valuable input data for the metallurgical evaluation being undertaken. MODA have been provided with 25 samples of drill core which contain typical sulphide vein assemblages occurring at Webbs, as identified by SVL geologists. Preliminary results from nine samples analysed to date indicate the silver bearing mineral tetrahedrite dominantly appears as freely occurring grains using a 53 micron mask. The amount of free tetrahedrite at the 53 micron mask ranges from 56 to 87%, which indicates the potential for favourable liberation of silver bearing tetrahedrite after ultra-fine grinding.

## **NEXT STEPS.**

HRL have commenced larger scale flotation in order to produce up to 10kg of bulk sulphide concentrate for Albion/cyanide leach testwork. A 212 micron grind has been selected and flotation conditions used in these initial float tests will generally be maintained.

The concentrate produced will then be subjected to ultra-fine grinding (UFG) to produce three different sized samples. These samples will undergo (i) direct cyanide leach as well as (ii) Albion leach followed by cyanide leach. This will determine Ag recovery at different grind sizes and leach conditions in order to establish optimal conditions for cyanide solubility of Ag and potential doré production. Indicative power requirements for UFG can also be established from this process.

Flotation testwork will also be conducted to determine if base metal concentrates could be produced from the Albion leach residue. Simultaneously, flotation optimisation testwork will be carried out, including concentrate cleaning, to reject more non-sulphide gangue and potentially increase metal recoveries and grade of the target metals into the bulk sulphide concentrate.

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Silver Mines looks forward to providing the results of the metallurgical testwork program as they become available.

Please direct any queries regarding the content of this report to Charles Straw (CEO) on +61 2 9253 0900 or [cstraw@silverminesltd.com.au](mailto:cstraw@silverminesltd.com.au).

**Competent Person Statement.**

*The information in this Document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr David Hobby, consulting geologist to SVL, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hobby has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Hobby consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**Forward Looking Statement.**

*Certain statements made during or in connection with this release, including, without limitation those concerning exploration targets, upcoming testwork and the results of additional flotation testwork contain or comprise certain forward-looking statements regarding Silver Mines Limited's exploration operations and results. Although Silver Mines Limited believes that the expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, testing results, success of business and operating initiatives, changes in the regulatory environment and other government actions and operational risk management. Investors are cautioned that forward looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Silver Mines Limited undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of anticipated events.*

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