Level 28, 88 Phillip St
Sydney NSW 2000
P: +61 2 8316 3997
F: +61 2 8316 3999
Info@silvermines.com.au
www.silvermines.com.au

15th August 2022

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

Seismic Survey Highlights Significant New Drill Targets

HIGHLIGHTS:

- **12 line kilometres of 2D seismic reflection surveying over the Bowdens Silver Deposit and surrounds.**
- **Bowdens Deposit clearly defined and potential system extensions highlighted down plunge (north-northwest) and down dip (west-southwest).**
- **Seismic data vastly improves the geological interpretation at Bowdens and at depth.**
- **Significant new drill targets generated along Prices Gully situated ~900 metres to the east of the Bowdens Deposit with,**
    - **Reflectance properties of equal size (amplitude) and geometry (extent) to that of the Bowdens Deposit, and close to existing anomalous drill results.**
- **A major caldera ring fault has been identified; potentially the major conduit for hydrothermal fluids to the Bowdens System.**
- **This survey has enabled the generation of precise drill targets in a complex environment.**
- **Drilling program of 3,000 metres to be completed testing priority targets in the immediate vicinity to the Bowdens Silver Deposit.**

Introduction

Silver Mines Limited (ASX:SVL) ("Silver Mines" or "the Company") is pleased to provide an update on exploration activities at the Bowdens Silver Project located near Mudgee in New South Wales.

During the March 2022 quarter, VelSeis Pty Ltd were engaged to complete a program of 2D seismic reflection surveying across the Bowdens Silver Deposit and local geological area. The survey consisted of 12.44 line-kilometres (refer to Figure 1) and was aimed at determining the seismic response of the Bowdens Deposit, identify potential extensions to the system both down plunge and dip at depth, and also highlight possible "analogue" responses within prospect areas such as Prices Gully. The Company has worked in understanding the formation and geological setting of the Rylstone Volcanics and Bowdens Mineral Deposit, and

seismic surveying is well suited to understanding the volcanic rocks and structural framework of what is now clearly defined to be the “Bowdens Caldera”. The seismic survey is a key component of the Company’s research and development program which will integrate all data and accelerate ore discovery through predictive modelling.

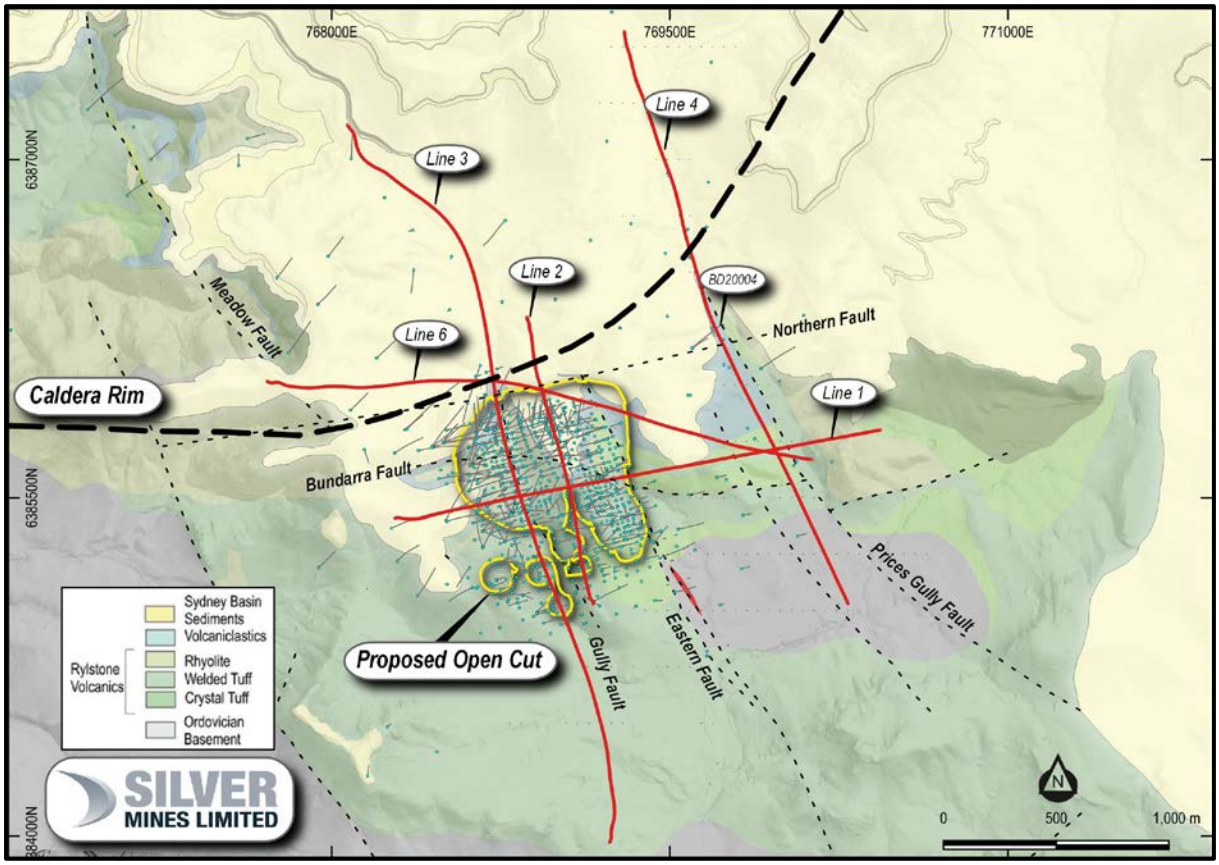

Figure 1. Seismic lines and geology at the Bowdens Silver Project.

Seismic Data

The footprint of the Bowdens System is clearly defined in the seismic survey Lines 3 and 1 (refer to Figure 2 and Figure 4). Mineralisation within the proposed open pit show as anomalously high amplitude and flat lying reflectors (bright yellow and red). Deeper high-grade silver mineralisation, such as the Northwest and Aegean Zones, have lower ‘dull’ amplitudes with chaotic and discontinuous features. This is indicative of highly fractured and altered geology. Mineralised lenses within the Bundarra Zone correspond to broadly shallow west dipping and continuous weak reflectors. The dacite intrusion (pink outline), is also clear in the survey results and matches with current geological models.

In addition to key structural features of the deposit being confirmed such as the Eastern, Gully, Bundarra and Northern Faults, many new additional faults can be interpreted within and around the Deposit. The Prices Gully Fault labelled on Line 1 (refer to Figure 4) is one of many multiple west dipping listric faults which are connected at depth to the mineralised conduits of the Eastern and Gully Faults.

Current geological models match well with seismic responses and key geological boundaries such as the Rylstone Volcanic and Coomber Formation basement contact, the Rylstone Volcanic and Sydney Basin contact, and the main pyroclastic units which host the Bowdens

Deposit mineralisation can be extended at depth significantly. To the north of the Deposit, the existence of additional volcanic sequences deposited after the Bowdens pyroclastics (crystal and welded tuffs) are evident and shown in Figure 3.

Targeting

Three target types have been identified: Bowdens analogues, system extensions and steep "ring fault" hosted targets. Line 1 (refer to Figure 2) has two high priority targets in Prices Gully, less than a kilometre east of the Bowdens Deposit. These show the characteristic high amplitude surface reflectors, cut by listric faults, much like at Bowdens. Line 3 (Figure 3) shows the potential continuation at depth of the Northwest and Aegean Zones while also highlighting a series of faulted, strong reflectors 600 metres to the south of the Bowdens Deposit and at shallow depth.

The largest targets are on Line 3 and Line 4, north of the Bowdens Deposit and north of an intercept in BD20004 of 0.9 metres at 128g/t silver equivalent. These targets are interpreted as an extensive and deep fault formed by caldera collapse (a volcanic structure outlined below) known as a ring fault. This ring fault, connects to the Northern fault at depth, is the location of the greatest displacement in stratigraphy, marking the southern boundary of a large volcanic centre, or caldera. These faults can be the key driver of fluid migration in epithermal deposits such as the Round Mountain Gold Deposit in Nevada[1] and the Banská Hodruša Gold Deposit in Slovakia[2].

[1] Rhys *et al.* 2020. Geology of Round Mountain, Nevada: A giant low-sulphidation epithermal gold deposit. *Society of Economic Geologists, Inc.* 23 (SEG special publications): pages 375-397.

[2] Kodera *et al.* 2005. Epithermal gold veins in a caldera setting: Banská Hodruša, Slovakia. *Mineralium Deposita 39*: pages 921-943.

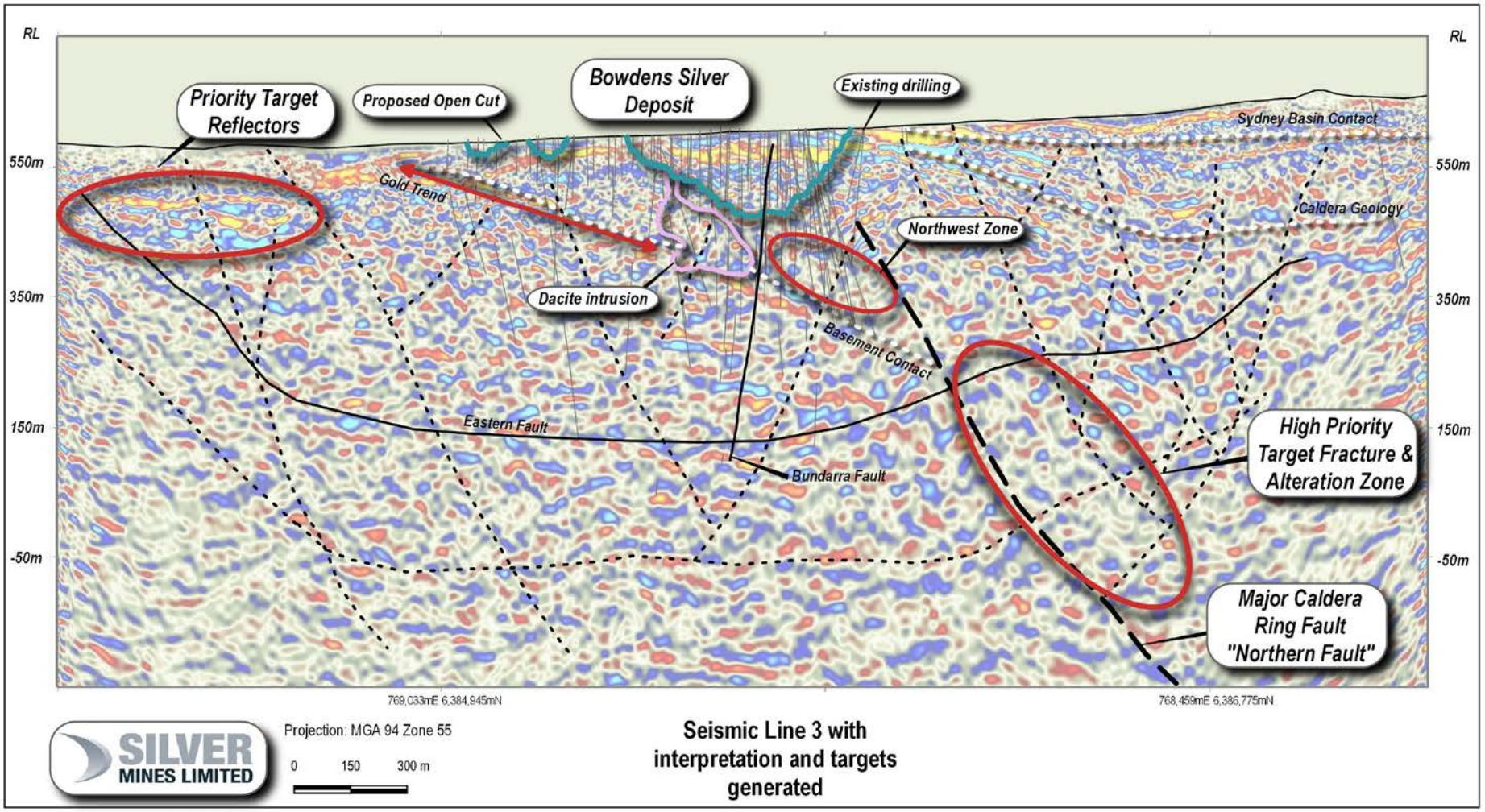

Figure 2. Long section through the Bowdens Deposit along seismic Line 03 (looking west) with interpretation of faults and targets highlighted.

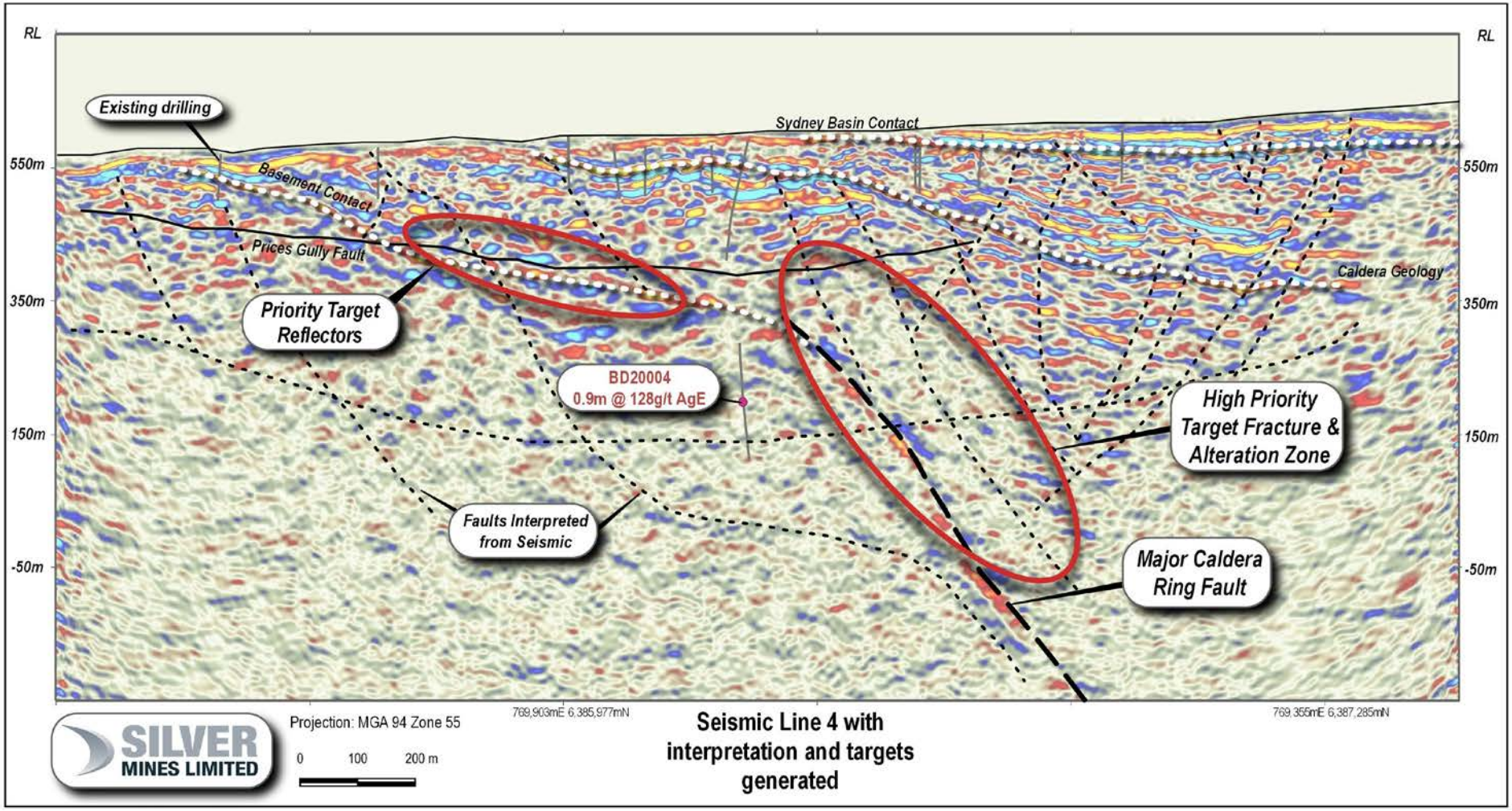

Figure 3. Long section through the Prices Gully Prospect along seismic Line 4 (looking west) with interpretation of faults and targets highlighted.

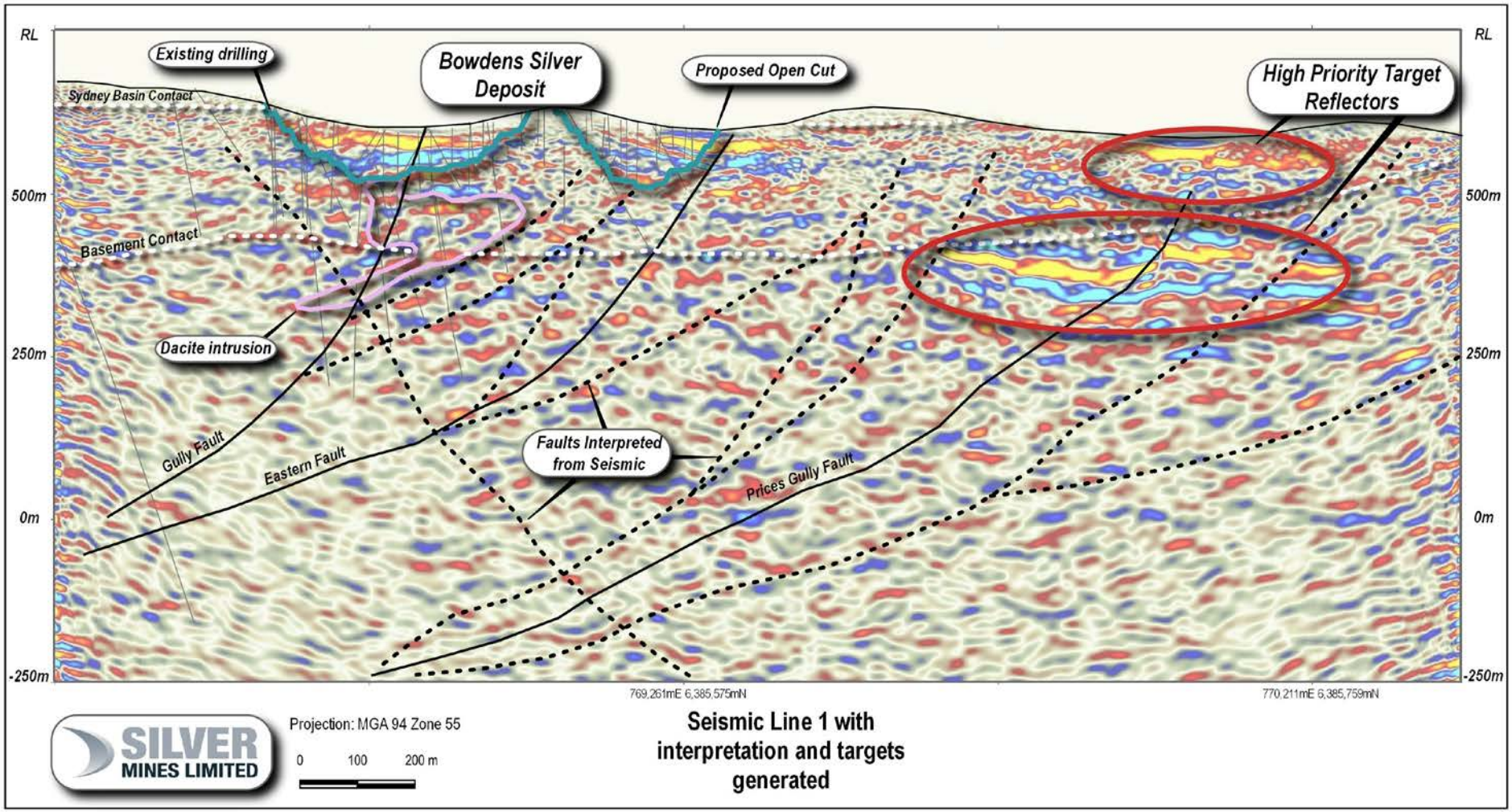

Figure 4. Cross section through the Bowdens Deposit along seismic Line 1 (looking north) with interpretation of faults and targets highlighted.

Exploration Implications

Calderas are important structures in volcanic environments and define the centres of geothermal and hydrothermal activity. The size and shape of calderas varies but they are typically circular, or cauldron shaped and range from less than one kilometre to tens of kilometres in diameter.

From an exploration perspective, the hydrothermal fluids responsible for sulphide and metal deposition, exploit major structures formed as volcanoes erupt violently and then collapse. Thus, the most prospective areas are along the caldera edge where major ring faults have formed and fluids have been able to flow and cool, depositing mineralisation (Figure 5).

Regionally, most of the Rylstone Volcanics (associated with the Bowdens or other calderas) are covered by later Sydney Basin Sediments or later un-mineralised capping volcanics. Critically the proving of seismic as an exploration targeting tool will enhance the Company's ability to quickly target other mineralised systems near to Bowdens and regionally across its tenure package.

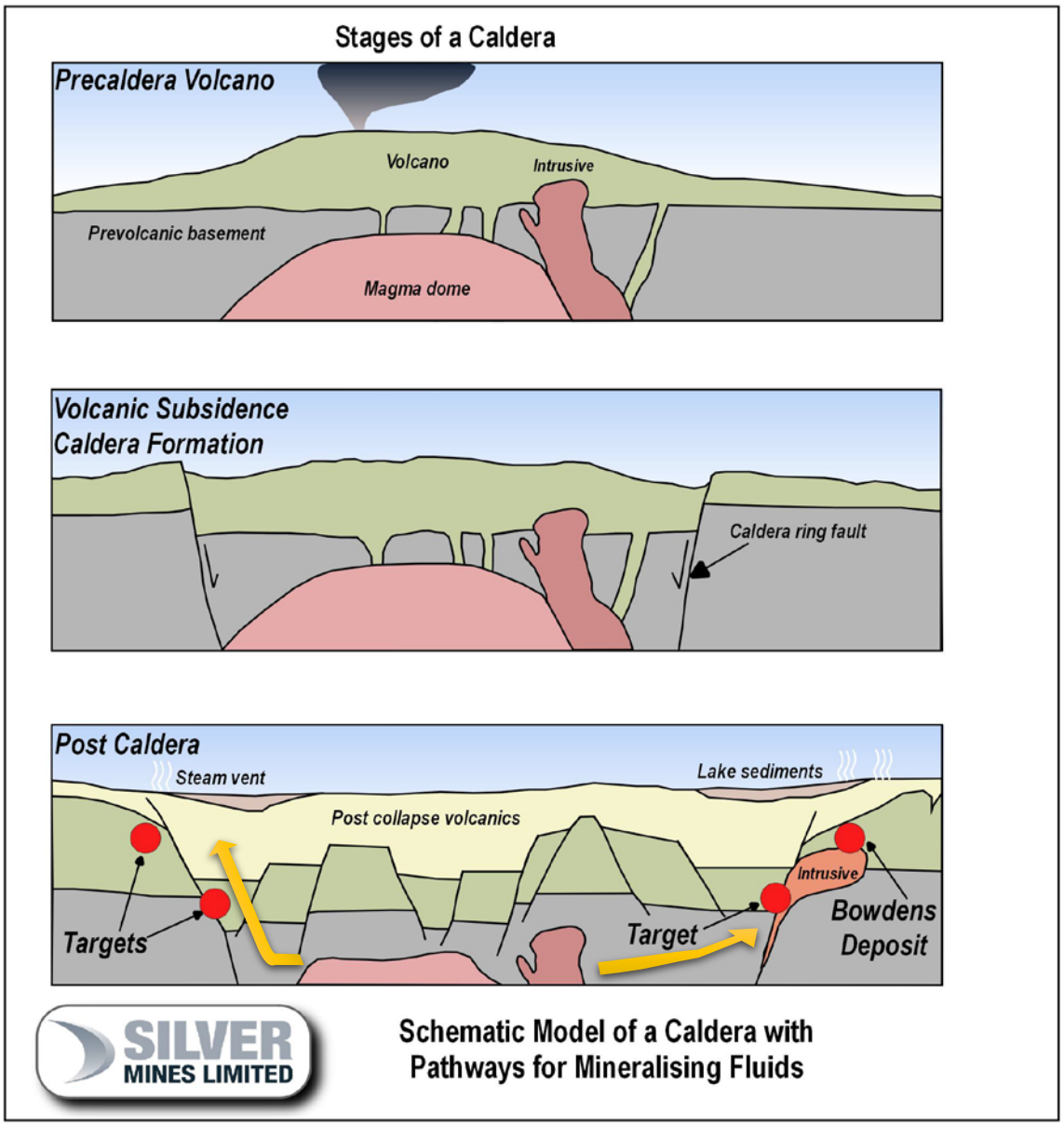

Figure 5. Schematic structure for a caldera showing the mineralising fluid pathways.

About the Bowdens Silver Project

The Bowdens Silver Project is located in central New South Wales, approximately 26 kilometres east of Mudgee (Figure 6). The consolidated project area comprises 2,007 km^2 (496,000 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.

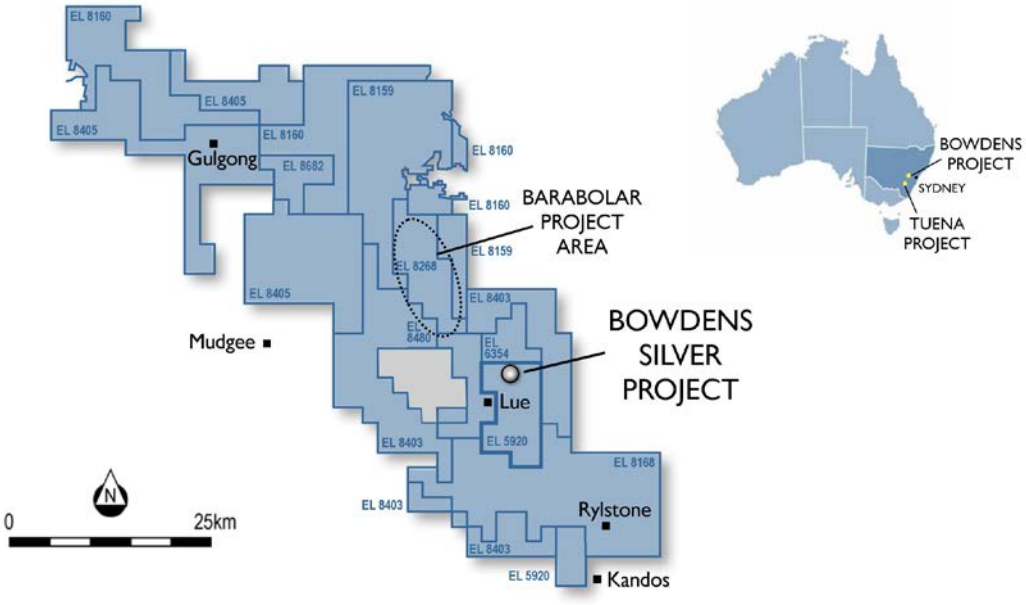

Figure 6. Silver Mines Limited tenement holdings in the Mudgee district.

This document has been authorised for release to the ASX by the Company's Managing Director, Mr Anthony McClure.

Further information:

Anthony McClure
Managing Director
Silver Mines Limited
+61 2 8316 3997

Christina Gardner
Account Director
M+C Partners
+61 438 117 286

Competent Persons Statement

The information in this report that relates to mineral exploration from the Bowdens Silver Project is based on information compiled by the Bowdens Silver team and reviewed by Darren Holden who is an advisor to the Company. Dr Holden is a Fellow 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). Dr Holden consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Seismic Processing Details

Seismic survey data was processed through a standard 2D processing sequence which included refraction static calculation, velocity analysis, noise attenuation, deconvolution and Pre-Stack Time Migration. The time migrated data was converted to depth using velocities picked on pre-stack time gathers. Additionally, the pre-stack data was migrated in the depth domain to produce a better migrated image.