Copper Porphyry Potential Strengthened by New Geophysics at Silver Mountain – Drill Planning Underway

Highlights

- Detailed drill planning in progress for both near-surface high-grade breccias and veins and deeper porphyry targets identified from successful new and existing geophysics
- Large high-priority porphyry-style targets supported by new magnetic inversion with similar characteristics to other world-class porphyry deposits
- Multiple additional geophysical targets identified across Silver Mountain
- Existing gravity data further supports porphyry-style targets

Eagle Mountain Mining's CEO, Tim Mason, said:

"We are thrilled to announce that detailed drill planning is currently underway to test the highly prospective targets identified from recent geophysical modelling that has significantly enhanced the potential of our porphyry-style targets at Silver Mountain. These promising areas are characterised by elevated velocity and lowered magnetic response, similar to those found at other world-class porphyry deposits. These geophysical indicators, combined with mapped and sampled surface high-grade copper, silver and gold mineralisation, suggest the possibility of a large-scale porphyry-hydrothermal system at Silver Mountain."

Eagle Mountain Mining Limited (ASX: **EM2**) (**Eagle Mountain**, or the **Company**) is pleased to provide an update on the Company's 100% owned Silver Mountain Project (**Silver Mountain**, or the **Project**) in Arizona, USA.

Silver Mountain is located on the Laramide Arc, a northwest-southeast trending geological feature that hosts world-class porphyry copper mines such as Bagdad and Resolution in Arizona. The Project also lies on the southern extension of a northeast-southwest prospective metallogenic belt that hosts the United Verde and Iron King volcanogenic massive sulphide (**VMS**) historical mines (refer to Figure 1).

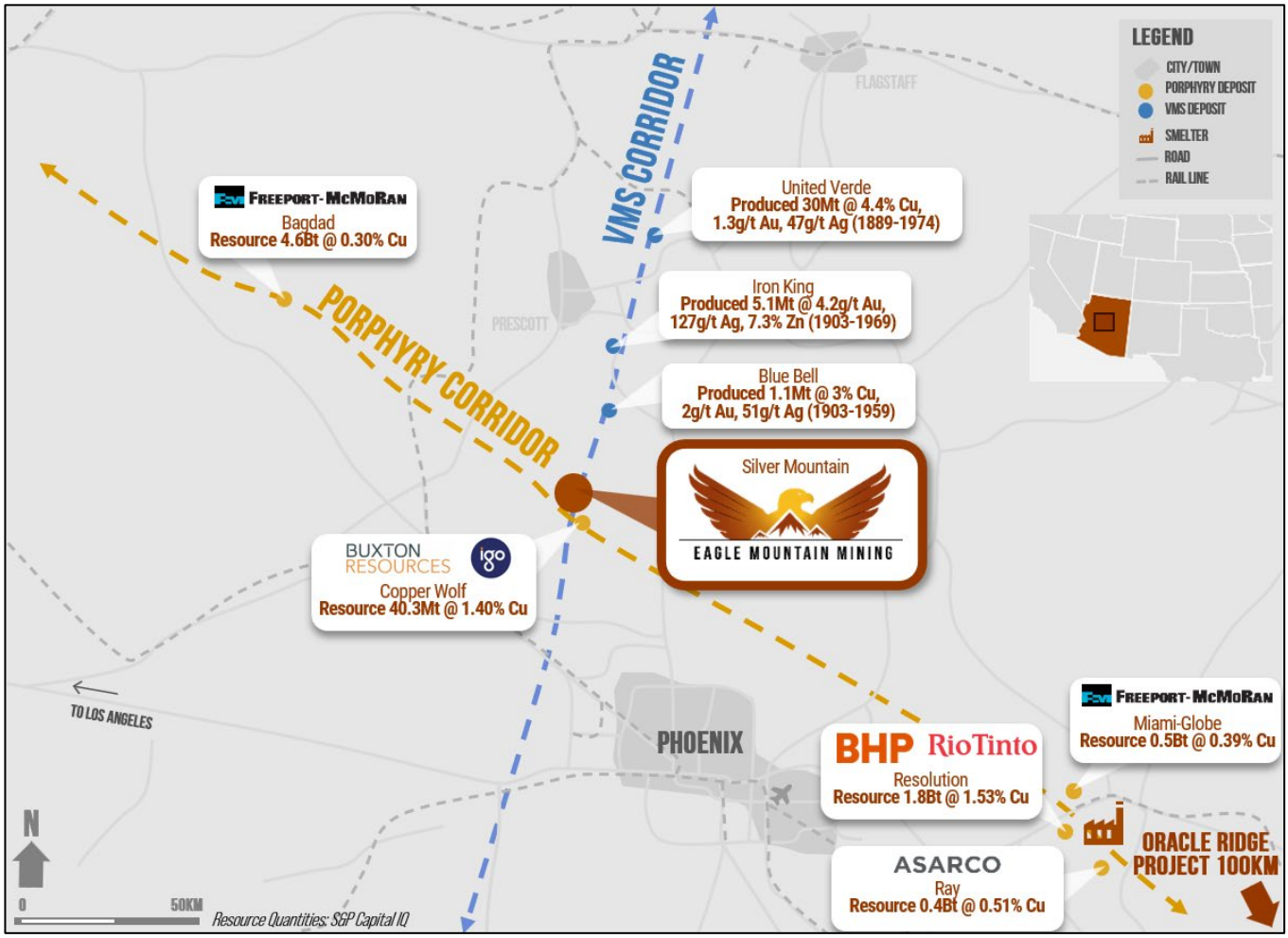

Figure 1 – Location of Silver Mountain and surrounding deposits in Arizona USA, showing regional-scale porphyry and VMS corridors.

Magnetic Data Supports Porphyry System

A magnetic vector inversion (MVI) model was produced to assess against existing targets identified from the velocity model (refer to ASX announcement dated 9 July 2024) and generate additional targets outside of those previously defined (refer to Figures 2 and 3). Existing magnetic data in the Scarlett area was reprocessed using standard geophysical inversion techniques to produce the MVI model.

Zones of lowered magnetic response from the MVI model were spatially associated with the previously defined two high velocity porphyry-style targets. Note that as shown in Figure 3, the velocity and magnetic data were reliably modelled to approximately 1.2km and 1.5km below surface, respectively. Decreased magnetic responses are characteristics that can be associated with mineralised porphyry systems, where localised destruction and remobilisation of magnetite-bearing minerals proximal to a porphyry can occur as part of porphyry-related alteration processes. Importantly, the nearby Resolution mine and world-class Collahuasi, Chile (10.6Bt @ 0.75% Cu Mineral Resource – Glencore Annual Report, 2023) and Cananea, Mexico (1.8Bt @ 0.70% Cu initial Mineral Resource – Bushnell, 1988) deposits are similarly associated with lowered magnetics as shown in Figure 4.

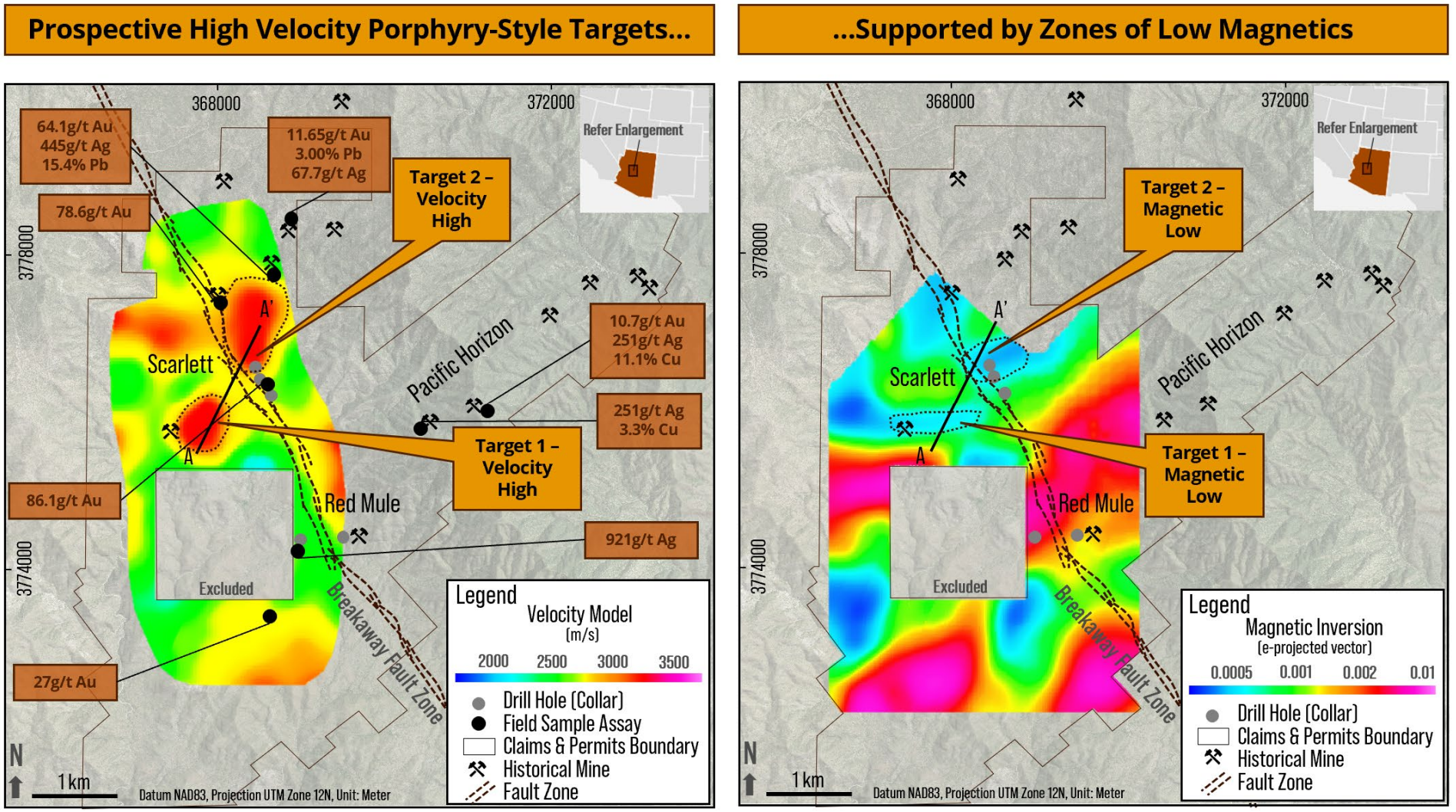

Figure 2 – Silver Mountain seismic velocity model (left) with selected field sample assays and MVI model (right). View clipped to 500m below surface showing porphyry-style high velocity targets associated with regions of lowered magnetic response. Refer ASX Announcements 31 July 2024, 29 April 2024, 13 March 2024 and 29 February 2024.

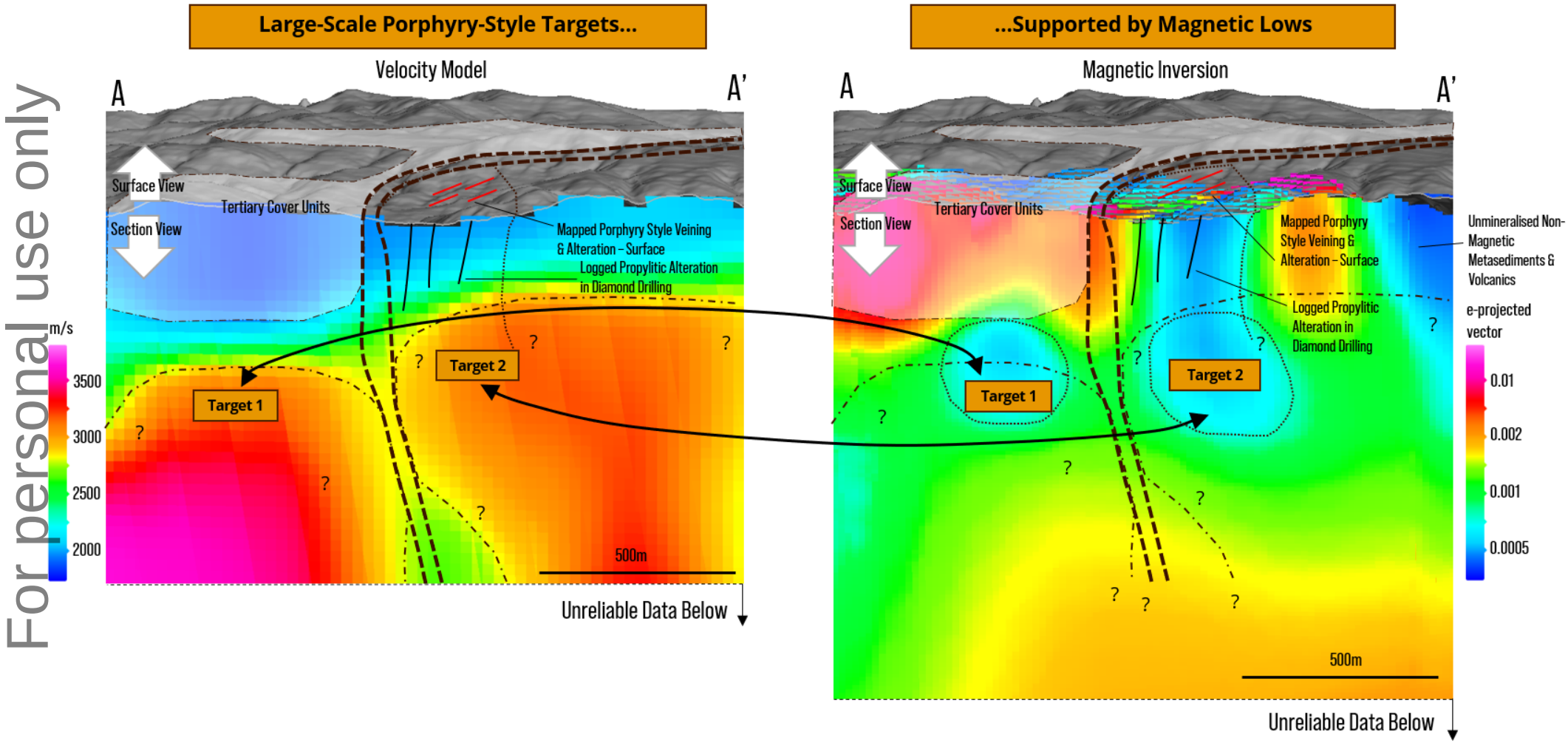

Figure 3 – Conceptual Silver Mountain section and surface projection showing two porphyry-style targets based on velocity (left) and MVI (right) models. The circled areas in the MVI model represent regions where the previously defined high velocity targets coincide with lowered magnetics.

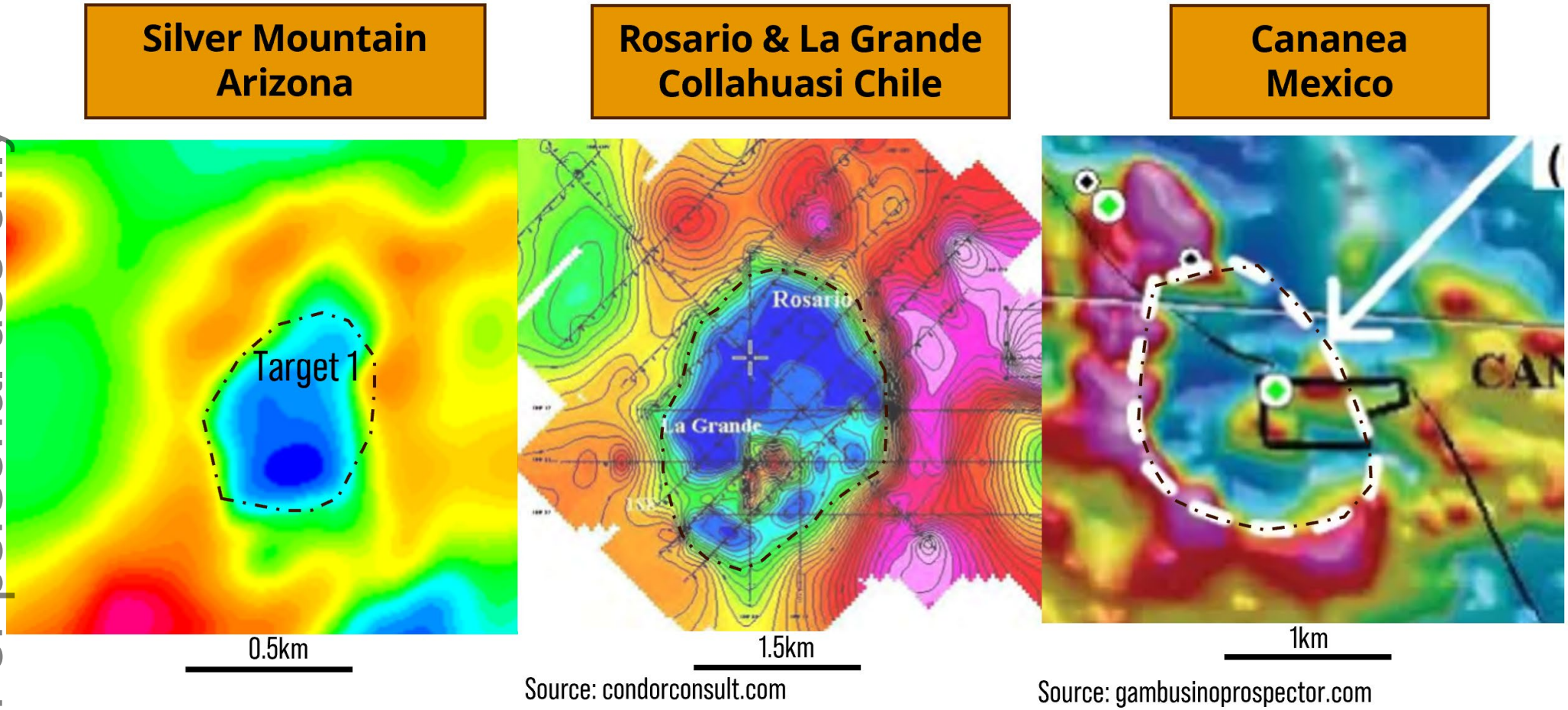

Figure 4 – Comparison of aerial magnetics between Silver Mountain, Arizona (left), Collahuasi, Chile (middle) and Cananea, Mexico (right) all showing discrete circular zones of lowered magnetic response.

Mineralisation, alteration and structural deformation associated with porphyry activity can also result in a lowered gravity response. An example is shown in Figure 5 where a distinct circular gravity low is evident at Silver Mountain and similar to the Highland Valley copper porphyry mine in Canada (1.3Bt @ 0.27% Cu Mineral Resource – Teck Annual Information Form, February 2023).

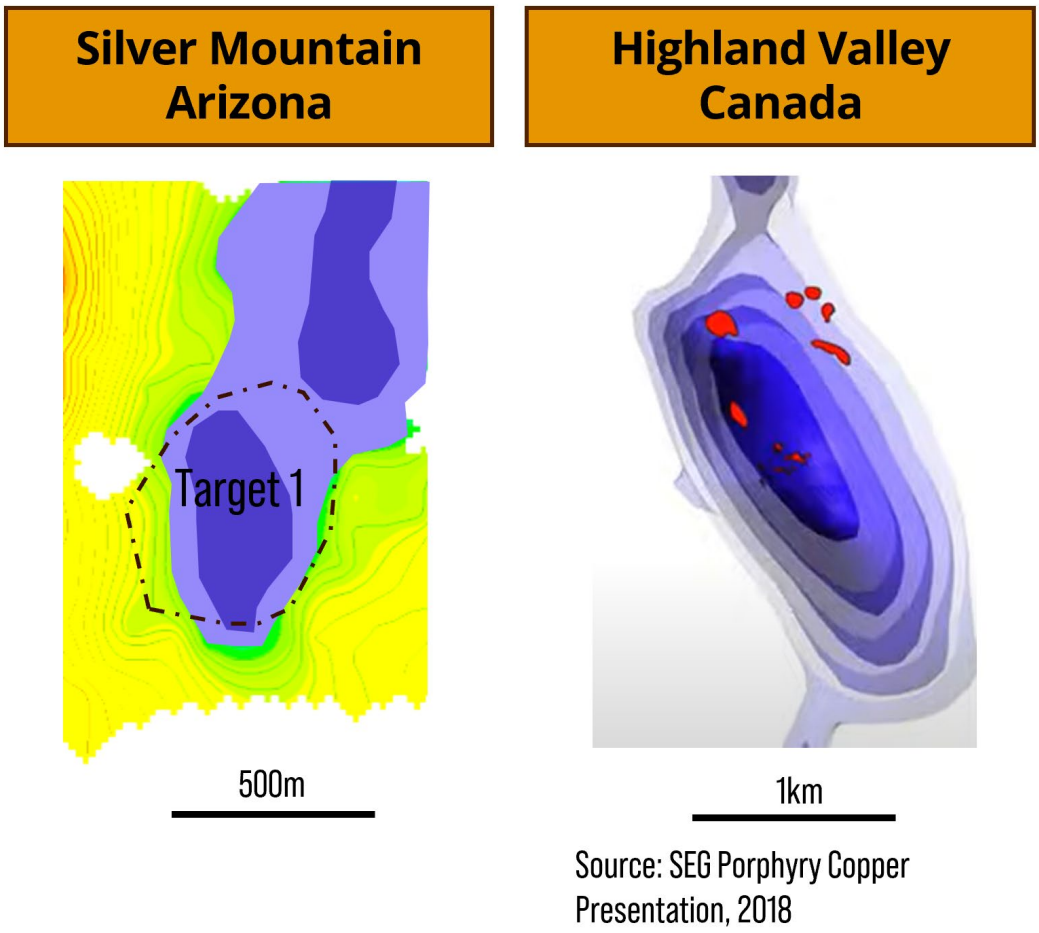

Figure 5 – Gravity (residual Bouguer) comparison between Silver Mountain, Arizona (left), and Highland Valley, Canada (right) showing similar circular gravity low anomalies.

Similarities with existing gravity and new magnetic data at Silver Mountain compared to porphyry deposits across the globe provide further support for what could be a large-scale mineralised porphyry system in the Scarlett area.

Additional Targets & Next Steps

The Company's ongoing exploration efforts, as shown in Photo 1, aim to confirm the potential of these targets and identify additional zones that could provide near-surface high-grade copper mineralisation. Several of these near-surface targets are planned for drilling, as well as the deeper porphyry-style targets. The success of these geophysical methods, including magnetic and velocity modelling, is already yielding tangible exploration results and the team remains confident that Silver Mountain could soon be on the path to becoming the next major copper discovery in the Laramide Arc. Importantly, this technical confidence has culminated in various planning activities to support future drilling, including drill permit applications and contractor tendering, are underway.

Photo 1 – Left: recent field reconnaissance at the historical Silver Dollar mine adit, where proximal field sample assays included 78.6g/t Au (refer to ASX Announcement dated 29 February 2024). Right: field mapping and sampling in the Scarlett region showing lack of extensive outcrop (typical of the project area).

This ASX announcement was authorised for release by the Board of Eagle Mountain Mining Limited.

For further information please contact:

Tim Mason
Chief Executive Officer
tim@eaglemountain.com.au

Mark Pitts
Company Secretary
mark@eaglemountain.com.au

Jane Morgan
Investor and Media Relations
jm@janemorganmanagement.com.au

COMPETENT PERSON STATEMENT

The information in this document that relates to Exploration Activities is based on, and fairly represents, information and supporting documentation that was compiled by Mr Brian Paull, who is a member of The Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience relevant to the activity which he is undertaking 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 2012). Mr Paull is a full time employee and the Director of Exploration at Eagle Mountain Mining Limited's wholly-owned subsidiary, Silver Mountain Mining Inc, and consents to the inclusion in this document of the information in the form and context in which it appears. Mr Paull holds shares and options in Eagle Mountain Mining Limited.

ABOUT EAGLE MOUNTAIN MINING

Eagle Mountain is a copper-gold explorer focused on the strategic exploration and development of the Oracle Ridge Copper Mine and the highly prospective greenfields Silver Mountain Project, both located in Arizona, USA.

Arizona is at the heart of America's mining industry and home to some of the world's largest copper discoveries such as Bagdad, Miami and Resolution, one of the largest undeveloped copper deposits in the world.

Follow the Company's developments through our website and social media channels:

LinkedIn **Twitter** **EM2 Website**

Attachment 1

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g 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 (eg submarine nodules) may warrant disclosure of detailed information.*	• No new surface sampling or drilling results announced. • New results comprise a 3D magnetic velocity inversion (MVI) model created from reprocessing existing magnetic data at Silver Mountain. This was carried out by Eagle Mountain Mining's geophysicist consultant. • The MVI model comprises e-projected vector values. The e-projected vector values are normalised by the international geomagnetic reference field (IGRF) vector, and are therefore dimensionless.

Criteria	JORC Code explanation	Commentary
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether the core is oriented and if so, by what method, etc).*	• There was no new drill data presented in the report.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• There was no new drill data presented in the report.
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• There was no new drill data presented in the report.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or*	• There was no new drill data presented in the report.

Criteria	JORC Code explanation	Commentary
	dry. • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
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.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• There was no new drill data presented in the report.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• The MVI model has been validated by Eagle Mountain Mining's geophysical consultant.

Criteria	JORC Code explanation	Commentary
	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustments to assay data.*	
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• NAD83 UTM Zone 12N (meters). • National Elevation Dataset. Horizontal resolution of approximately 10m and vertical resolution of 1m.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• There was no new drill data presented in the report.
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.* • *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.*	• There was no new drill data presented in the report.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• There was no sampling undertaken.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Eagle Mountain Mining's geophysical consultant validated the MVI model. No issues were identified.

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.* • *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 Silver Mountain Project (Project) is located approximately 100 kilometres by air north-west of Phoenix, Arizona, U.S.A. The geographical coordinates are approximately Latitude 34º8' North, Longitude 112º23' West. • The Project is 100% owned by Eagle Mountain Mining Limited through its subsidiary company Silver Mountain Mining LLC. • Silver Mountain comprises 26 Patented Mining Claims, 353 Unpatented Mining Claims and 4 State Exploration Permits. • 100% of the surface rights for the 26 Patented Mining Claims are owned by Silver Mountain Mining LLC (private property).
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• It is believed that the first mining claims at the Pacific Horizon prospect were staked in 1898. • Between 1906 and 1912 the Pacific Copper Mining Company sunk a 150m (500ft) shaft into the gossan at the Pacific Mine. • Drilling was carried out in 1966, however it is unclear who completed the program (possibly Heinrichs GeoExploration). • In 1968 Heinrichs GeoExploration conducted some dual frequency IP, resistivity and magnetic geophysical surveys. This was followed by further geophysical surveys in 1978 using Very Low Frequency (VLF) Electro Magnetics (EM). • KOOZ contracted Applied Geophysics in 1978 to run EM surveys (VLF, MaxMin II and Crone Horizontal Shootback) over selected areas.

Criteria	JORC Code explanation	Commentary
		• Detailed geological mapping was carried out by Kennecott in 1991 and 1992, focussing on the eastern and central areas of the Pacific Horizon prospect. Kennecott's mapping was based on previous work done by Winegar et al, (1978). • Ferguson & Johnson (2013, Arizona Geological Survey) completed a mapping program which covered the Pacific Horizon area.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Several types of deposit styles have been identified for the various prospects at Silver Mountain: • Proterozoic volcanogenic massive sulphides (VMS) in Precambrian greenstone (Pacific Horizon prospect). • Quartz-carbonate breccia with associated copper-gold-silver mineralisation (Pacific Horizon prospect). • Younger (Laramide arc) copper-gold porphyry and associated gold veins (Scarlett prospect). • Pegmatite dykes elevated in uranium and thorium (Scarlett prospect). • Overprinting and remobilisation of fluids by Cenozoic trans-tension resulting in detachment style mineralisation (Red Mule prospect).

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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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*
		• There was no new drill data presented in the report.

Criteria	JORC Code explanation	Commentary
	explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• There was no new drill data presented in the report.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• There was no new drill data presented in the report.
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.*	• Refer to images presented in the body of the announcement.

Criteria	JORC Code explanation	Commentary
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.*	• The MVI model and associated data is reported for Silver Mountain.
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; potential deleterious or contaminating substances.*	• All exploration results obtained so far have been reported.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work as outlined in Next Steps within the body of the report.