Copper Porphyry-Style Targets Confirmed at Silver Mountain

Highlights

- Large high-priority porphyry-style targets defined beneath tertiary cover
  - Modelled porphyry-style target strike length of approximately 2 kilometres
  - Depth to top of targets from approximately 300 metres
  - Recently completed 3D seismic survey with Fleet Space's ExoSphere solution identifies the porphyry-style targets supported by previous aeromagnetic and gravity surveys
  - Structural setting and surface mapping aligns with other major porphyry deposits in Arizona
- Argonaut PCF appointed as advisors to a strategic review of Oracle Ridge project following unsolicited market approaches

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

"The recent 3D seismic survey at our Silver Mountain Project has been a resounding success, significantly enhancing our geological understanding and propelling the project to a top priority for exploration activities.

While historical indicators suggested the potential for large mineralised systems at Silver Mountain, younger rock cover hampered our ability to pinpoint deeper targets. The new seismic data has effectively unlocked this geological potential.

These new findings highlight an unexplored, western target zone, well beyond the past exploration efforts that were focussed on the eastern volcanogenic massive sulphide horizon. Extensive mapping has identified encouraging alteration zones along with structures that may have acted as pathways for mineralised fluids originating from a large, buried, heat source and showing themselves as the extensive copper, gold and silver surface occurrences.

Propyllitic alteration, found on the outer edges of porphyry deposits, was found at the bottom of previously drilled diamond holes in the area. These holes were terminated about 100 metres above one of the porphyry-style targets.

The Silver Mountain property is exceeding expectations and has solidified its place in our exploration strategy moving forward."

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 northwest of Phoenix and is positioned on the Laramide Arc, a northwest-southeast trending geological feature containing world-class porphyry copper mines such as Bagdad, Miami and Resolution in Arizona. It also lies on the southern extension of a northeast-southwest prospective metallogenic belt that hosts the extremely high grade United Verde and Iron King deposits, two historical mines of volcanogenic massive sulphide affinity.

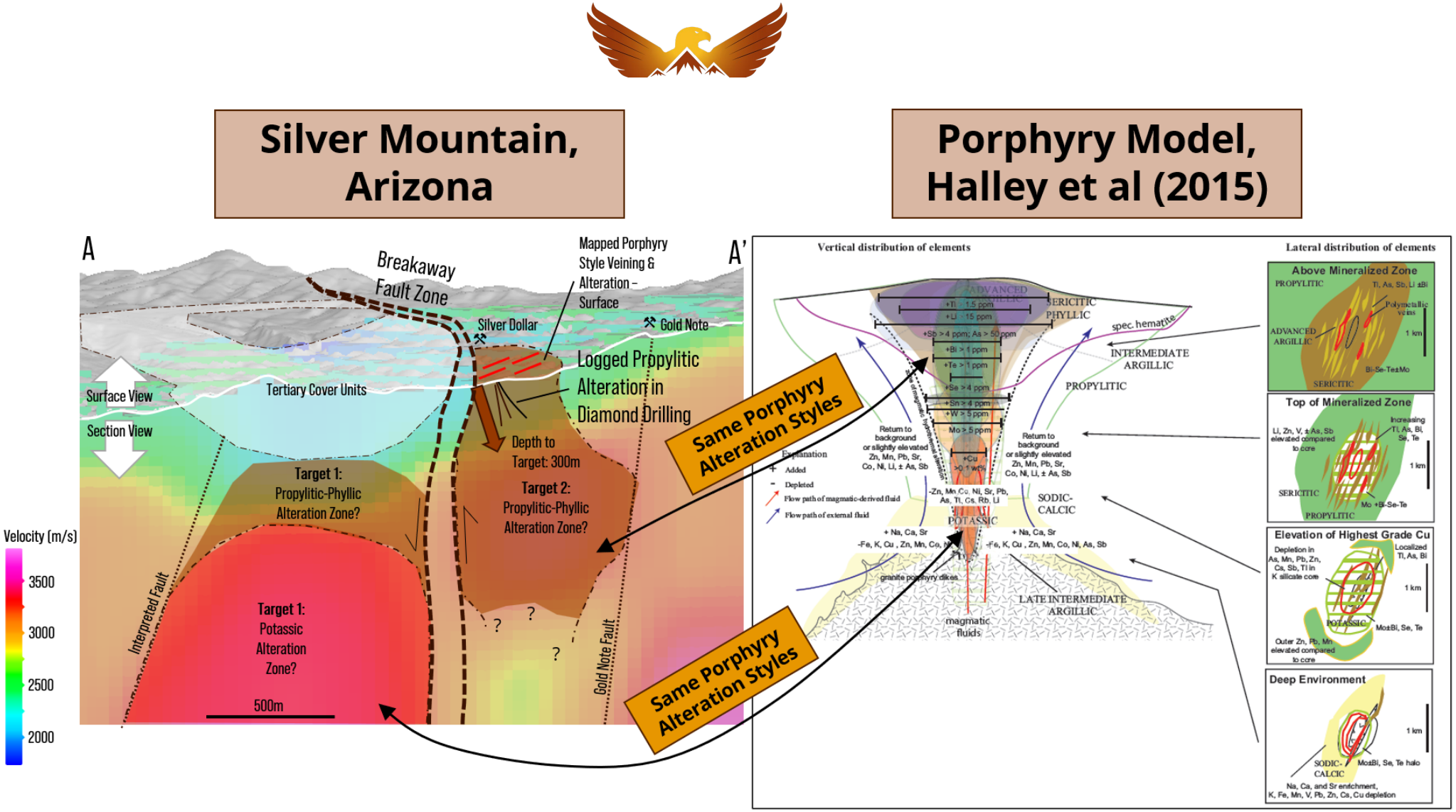

Figure 1 – Section and surface projection supporting an interpreted geological concept at depth (left) with similarities to typical porphyry deposit models (right)

The Big Picture – Hunt for the Porphyry System

The identified porphyry-style alteration zones that are considered to be the drivers of previously mapped and logged surface features such as veining, alteration and pebble dykes have been further confirmed by results from the real-time 3D ambient noise tomography "(ANT") seismic survey. This has assisted in defining possible mineralising fluid and heat sources at depth. Additional near surface targets could exist that may have been obscured from surface due to later stage Tertiary cover sequences such as volcanics and conglomerates, similar to other significant copper porphyry deposits such as Resolution in Arizona. A conceptual geological model showing how these prospective features may be related, and similarities to classic porphyry-style systems, is shown in Figure 1.

Previously developed geophysical datasets, such as magnetics and gravity, further support the presence of these possible porphyry-style targets. An example is shown in Figure 2 for Target 1, where the high velocity zone is aligned to a magnetic and gravity low, with an outer halo of elevated magnetics. These are common characteristics of mineralised porphyry systems, where mineralisation, alteration and structural deformation results in lowered gravity response. The localised destruction and remobilisation of magnetite-bearing minerals proximal to a porphyry, as part of possible ore forming processes, is a potential reason for lowered magnetic response surrounded by a higher magnetic halo. Previously, the overlying cover units were believed to have contributed to the gravity low (refer ASX announcement dated 7 June 2018), however results and findings from the recent seismic survey have warranted further investigation of this interpretation by way of gravity and magnetic 3D inversions to help determine the depth and cause of these anomalies.

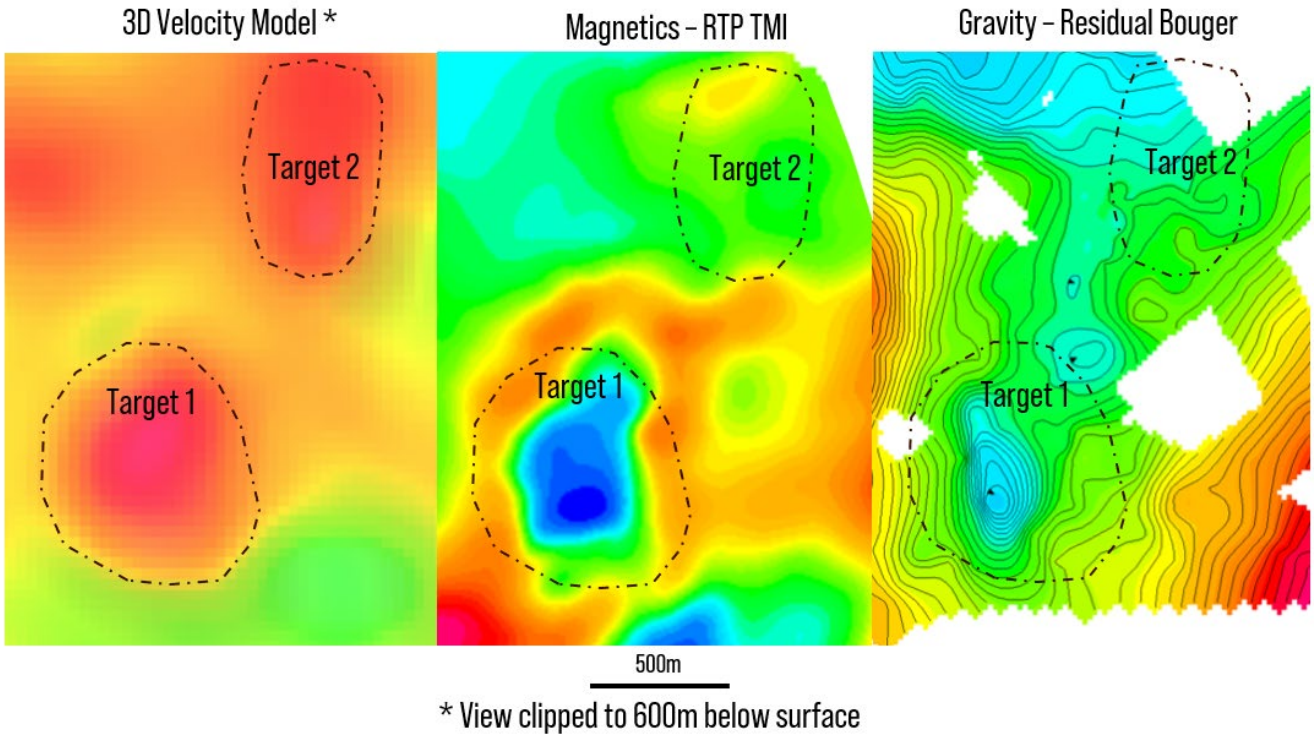

Figure 2 – Left to right: 3D seismic velocity model; magnetics - reduced to pole (RTP) total magnetic intensity (TMI); gravity – residual Bouger (corrected for terrain). Refer to Figure 3 for image location. Note the location of the high velocity body at Target 1 in relation to magnetics and gravity lows, often prospective signs of possible porphyry-style alteration, structural deformation and mineralisation.

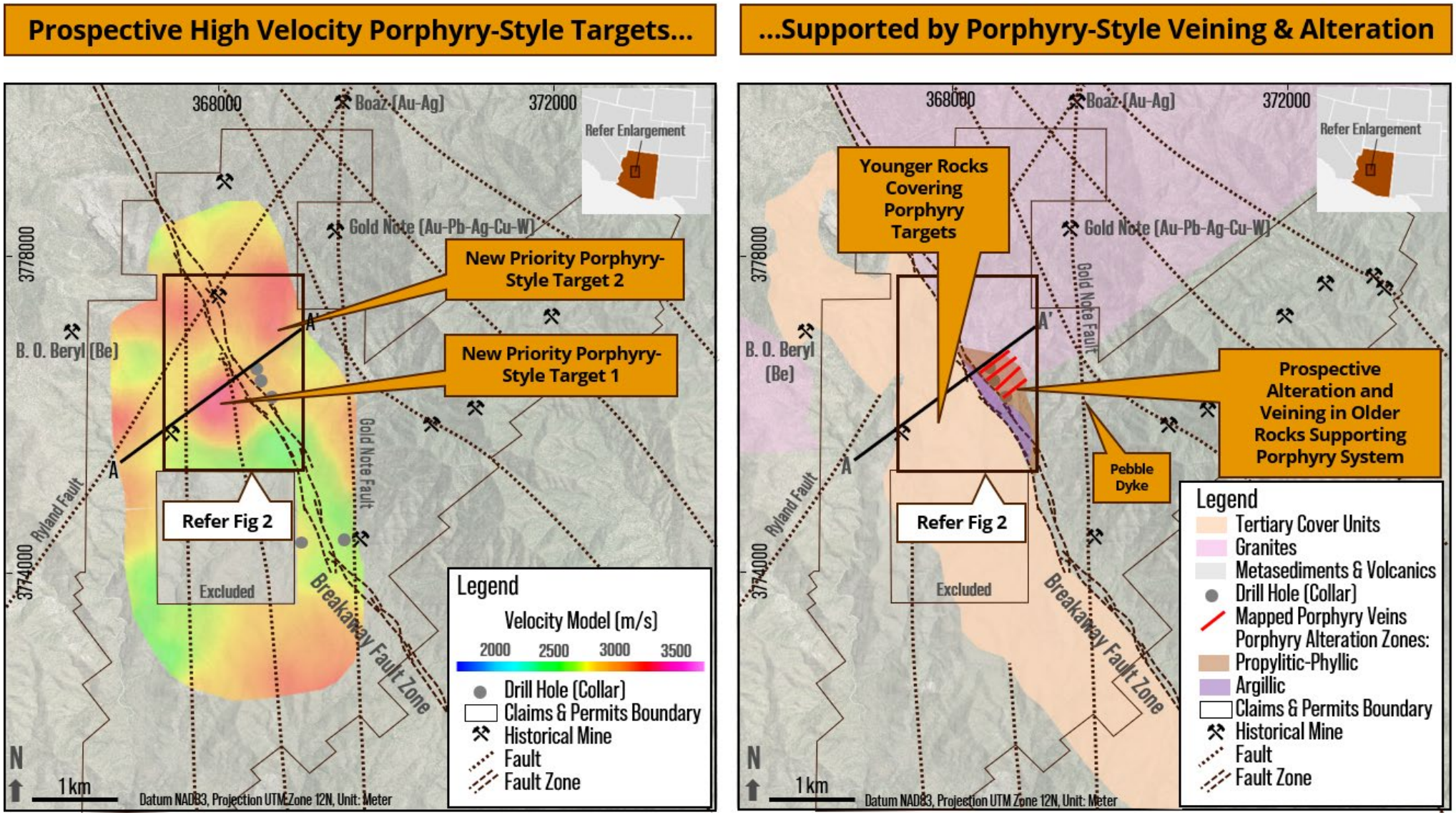

Figure 3 – Left: Seismic velocity model (view clipped to 600m below surface) at Silver Mountain. Right: Geological data including lithology, alteration, veining and structure.

Porphyry-Style Targets Identified with Seismic Survey

3D ANT Seismic Survey

Fleet Space has recently used its mineral exploration solution, ExoSphere, to complete a real-time 3D ANT seismic survey on the western portion of the Silver Mountain Project, as shown in Figure 3. Seismic modelling measures the velocity differences of various rock units and is considered a highly suitable exploration indicator due to the presence of overlying cover and defined rock units with contrasting velocities. The real-time ANT seismic surveys from Fleet Space's ExoSphere technology have been widely and successfully used across the exploration and mining sector to improve geological understanding and generate prospective targets greater than two kilometres deep.

The velocity model has confirmed multiple large-scale targets, including several high velocity volumes interpreted to be porphyry-style alteration zones. A section of the priority areas is shown in Figure 4.

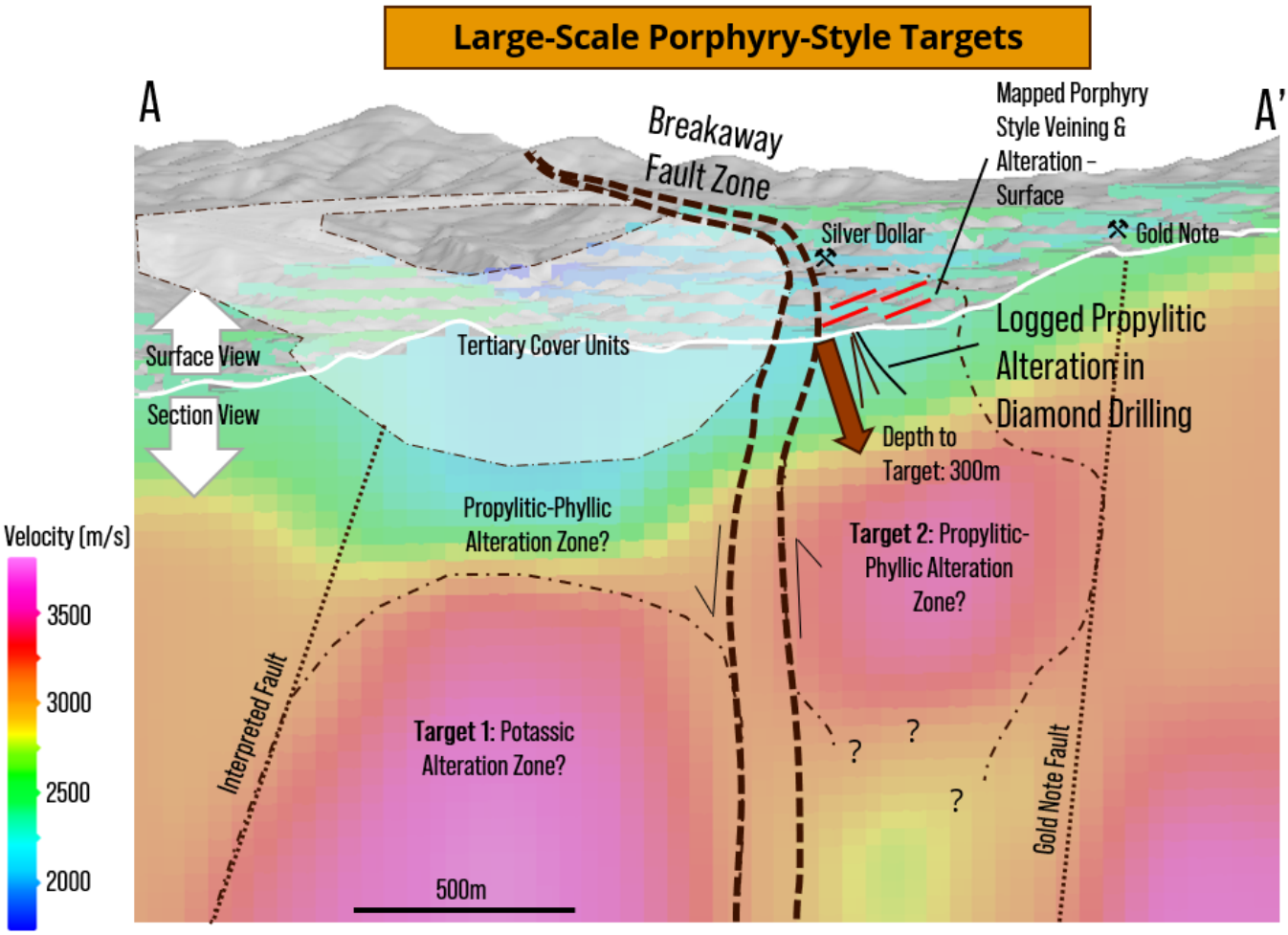

Figure 4 – Section view looking NW of seismic velocity model from Silver Mountain with interpreted geological features such as alteration and structures.

These prospective targets are yet to be tested, as all previous drilling has only progressed through the lowest velocity regions (of approximately < 2800 m/s). The previous drilling was not targeting deep anomalies but only the down dip extension of some surface veining.

Additional high velocity zones have been identified from the survey, with follow-up work including review and re-processing of existing geophysics to aid interpretation.

Prospective Features Supporting Porphyry-Style Targets

Phyllic-style veining and propylitic alteration found in drill core proximal to the Breakaway fault zone in the Scarlett area support the concept of a related, nearby porphyry intrusion (refer ASX announcements dated 28 August 2018 and 8 April 2019).

These features, such as the Breakaway fault and porphyry veins, are oriented along the regionally significant NW-SE Laramide Arc structural trend and the localised NE-SW trend respectively, similar to other major porphyry systems such as Bagdad and Miami (refer to ASX announcement dated 29 April 2024). The Breakaway (and NE-SW oriented Ryland fault) may have been an important control to mineralisation by acting as a structural conduit for metal-bearing fluids originating from a large-scale heat and fluid source at depth.

Increasing propylitic-phyllic and argillic porphyry-style alteration from mapping and existing drill holes (see Photo 1) towards the central section of the Breakaway fault support the concept of a larger mineralisation system being located at depth along these structures. The presence of features such as pebble dykes are further evidence of a high pressure and temperature hydrothermal system (refer to ASX announcement dated 29 April 2024).

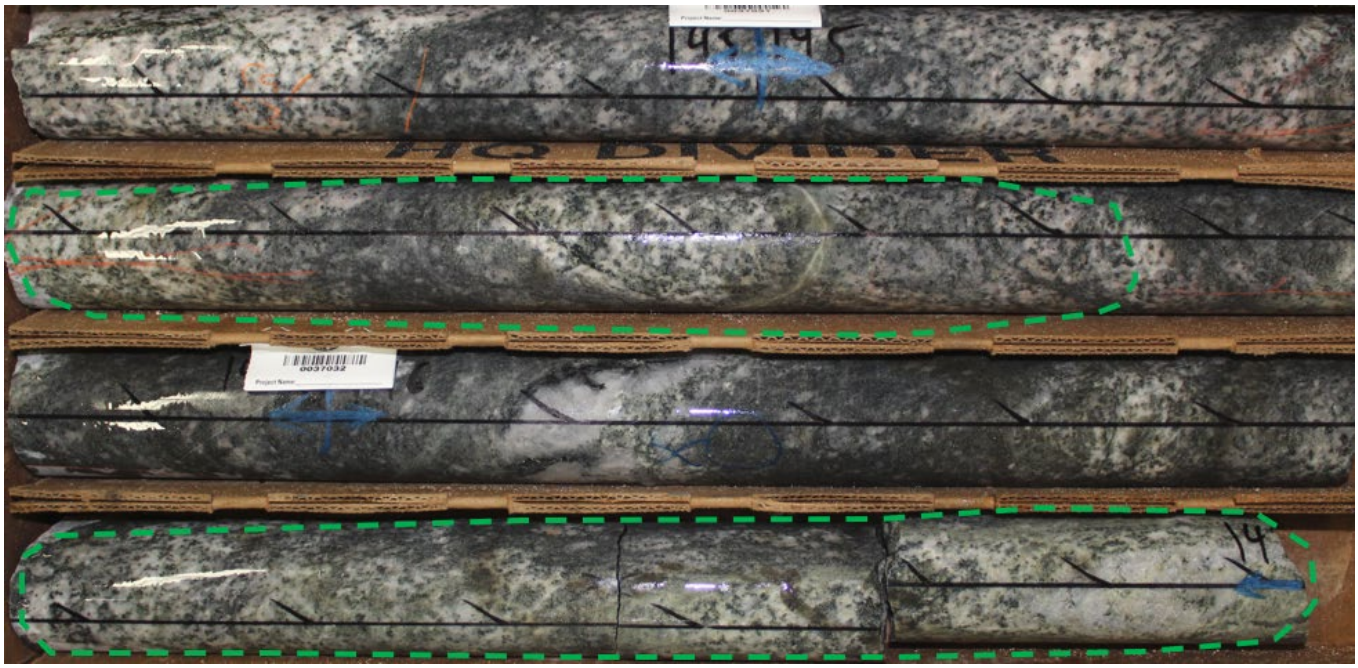

Photo 1 – Drill hole 19SMDD015 showing granite altered with green chlorite and epidote (example zones highlighted) due to propylitic-style alteration. Interval shown from 144.5 to 147m (refer to ASX announcement dated 4 June 2019).

Next Steps

Further investigations are underway to refine existing porphyry-style targets for drilling and identify additional potential mineralisation within the project area.

- Geophysical Data Enhancement: Existing magnetic and gravity data is being reprocessed using inversion techniques to estimate the depth and likely cause of anomalies. This will help define areas with depleted magnetic and gravity signatures, potentially indicating zones where porphyry cores have altered surrounding rocks.
- Geochemical Analysis: Assays are pending for a suite of prospective samples, including those from precious/base metal veins, pegmatites, breccias, and gossans. These results will help identify areas with anomalous metal concentrations that could be associated with various mineralisation styles.

- Age Dating: Age dating of key geological units is planned to establish a chronological framework for the project area. This information could be crucial for understanding the timing of potential mineralisation events, particularly those of the Laramide age.
- Petrographic Analysis: Thin sections have been prepared and are being analysed to identify key minerals and confirm the presence of porphyritic textures. This information will aid in vectoring towards the source of the interpreted porphyry alteration system.
- Geological Mapping: Detailed mapping and sampling of porphyry-style alteration, high grade veining and uranium bearing pegmatites is ongoing. Interpretation of the mapping data is in progress and will be evaluated to assess any potential connection between the pegmatites and the porphyry heat source. This will include analysis of elevated rare earth elements within pegmatites from existing Scarlett drill holes (refer to ASX announcement dated 4 June 2019).

Strategic Review Process

Following recent interest in Eagle Mountain's Oracle Ridge Project, the Company has initiated a strategic review of the Oracle Ridge Project which aims to maximise shareholder value. Argonaut PCF has been appointed to lead the review and will explore all options. All communication and queries should be addressed in confidence to Mr Liam Twigger, Deputy Chairman and Executive Director (ltwigger@argonaut.com) and Mr Harrison Shepherd, Analyst – Corporate Finance (hshepherd@argonaut.com).

The Scoping Study will continue to progress concurrently with the strategic review, which is due for completion in Q4 2024, reflecting adjustments from the previously communicated Q3 2024 timeline. The Scoping Study leverages the project's updated mineral resource and will consider throughputs ranging from 2.5 to 4.0 mtpa.

There have been recent media reports that Grupo Mexico is planning to restart their Hayden copper smelter, located about 100 kilometres north of Oracle Ridge. This smelter previously treated Oracle Ridge concentrates and presents a strategic opportunity for future processing of concentrate from the Project.

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

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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:

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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 velocity model created from an ambient noise tomography (ANT) survey carried out by Eagle Mountain Mining staff with assistance from Fleet Space Technologies.
		• The ANT survey was completed in May, with results delivered in June, utilising 100 Geodes as part of Fleet Space's mineral exploration solution, ExoSphere.
		• Specifications of the Geodes used were:
		  ○ 1-component (vertical) 2Hz geophones.
		  ○ 20Hz sampling rate.
		  ○ 260 v/m/s sensitivity.
		  ○ Continuous recording mode.
		  ○ 32 preamplifier gain (linear).

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.
		• Specifications of the 100 Fleet Space's Geodes used were:
		  ○ 1-component (vertical) 2Hz geophones.
		  ○ 20Hz sampling rate.
		  ○ 260 v/m/s sensitivity.
		  ○ Continuous recording mode.
		  ○ 32 preamplifier gain (linear).

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• The ANT model has been validated by Fleet Space's staff and is currently in the process of being validated by Eagle Mountain Mining's geophysical consultant and staff.

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. • Geodes were located with a hand-held GPS or equivalent with an estimated horizontal accuracy of ±5m.
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.*	• The Geode spacing was approximately 250 to 500m. This was deemed appropriate for the area of interest and expected geological targets.
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.*	• The ANT survey was aligned approximately parallel to the Breakaway fault and other features of interest across the broad survey area.

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 and staff are currently validating the ANT velocity model.

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 subsidiaries Silver Mountain Mining LLC. • Silver Mountain comprises 26 Patented Mining Claims, 351 Unpatented Mining Claims and 3 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 ANT survey 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.