

ASX Announcement | 27 February 2020

# **Magnetic Survey Identifies Potential Mineralisation Extensions**

## **Highlights**

- Airborne magnetic survey completed Multiple areas of potential mineralisation identified.
- Airborne VTEM Plus survey commenced to:
  - Refine drill targets with the aim of expanding known Resources; and
  - Assist locating the source of the existing mineralisation, including potential for a deeper porphyry system.

### Airborne Magnetic Survey

Eagle Mountain Mining Limited (ASX:EM2) ("The Company") is pleased to advise it has recently completed an airborne magnetic survey at Oracle Ridge, undertaken by Pioneer Aerial Surveys Ltd. As many of the mineralised zones are magnetic, this survey was used to identify potential mineralisation extensions.

The preliminary results identified many zones of increased magnetism extending beyond drill-defined mineralised zones. These zones could be due to potential mineralisation extensions as shown in orange, red and purple in Figure 1. A further zone of very low magnetic response was also identified requiring further review, which is shown in blue in Figure 1. It is known that some mineralisation at Oracle Ridge has a subdued magnetic response so this a further prospective area requiring further analysis.

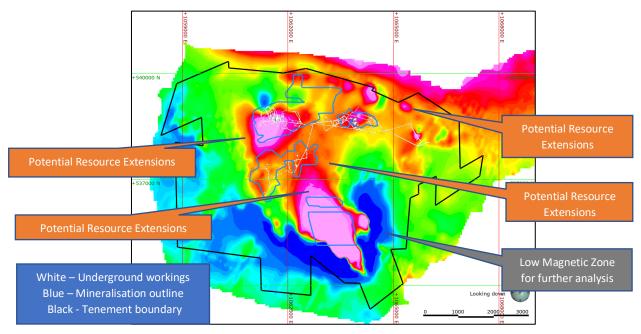


Figure 1 – Oracle Ridge - Magnetic Response – Plan View

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### Airborne VTEM Plus Geophysical Survey

Following the completion of the UAV magnetic survey, the Company engaged Geotech Ltd to undertake a detailed helicopter VTEM™ Plus (Versatile Time Domain Electromagnetic) airborne geophysical survey at Oracle Ridge. The survey was completed on February 24<sup>th</sup>2020. Following detailed interpretation, final results will be available in Q2 2020.

The purpose of this survey is twofold. Firstly, to refine drill targets with the aim of expanding the known mineralisation adjacent to, or within the vicinity of, the mine. Secondly, to improve the understanding of the source of skarn mineralisation such as a concealed porphyry system. Gold mineralisation and historical gold projects located close to Oracle Ridge may suggest a nearby deeper porphyry system.

The 799 line-kilometre VTEM™ Plus survey covered the entire Oracle Ridge tenements and surrounding areas targeting both extensions to the existing Copper-Silver-Gold Resources and potential new zones of mineralisation.

The VTEM™ Plus system is designed to locate discrete conductive anomalies as well as mapping lateral and vertical variations in resistivity. The shallow dipping, conductive nature of mineralisation at Oracle ridge means VTEM™ Plus is an appropriate system for defining prospective anomalies.



Helicopter VTEM™ Plus survey in progress at Oracle Ridge



Helicopter VTEM™ Plus survey in progress at Oracle Ridge

Eagle Mountain's long-time geophysical consultant, Mr Bob Lo, supervised both surveys. Mr Lo will further assess the results of the magnetic survey in conjunction with the VTEM™ Plus survey to develop a greater understanding of mineralisation at Oracle Ridge as we work toward defining priority drill targets at the Project.

For further information please contact:

Tim Mason BEng, MBA Chief Executive Officer tim@eaglemountain.com.au Mark Pitts B.Bus, FCA, GAICD Company Secretary mark@eaglemountain.com.au

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#### EAGLE MOUNTAIN MINING LIMITED

Eagle Mountain is a copper-gold explorer focused on the strategic exploration and development of highly-prospective greenfields and brownfields projects 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.

#### **COMPETENT PERSON STATEMENT**

The information in this report that relates to Exploration Results is based on information compiled by Mr Kevin Francis, BSc (Geology) of Mineral Resource Management LLC, a Competent Person who is a Society of Mining, Metallurgy & Exploration. Mr Francis is a full-time employee of Mineral Resource Management LLC, a consultancy which has been paid at usual commercial rates for the work completed. Mr Kevin Francis 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 2012 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Francis consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.'

# JORC Code, 2012 Edition – Table 1 Oracle Ridge

# **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
	JORC Code explanation  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 down hole 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.	No Samples taken      The nominal sensor altitude above ground level (AGL) was set to 25 m for this survey. Elevation data for this survey was sourced from Shuttle Radar Topography Mission (SRTM) 1-Arcsecond Global Dataset. In addition, a higher resolution DEM from World DEM™ satellite program was used to maximize the terrain following performance. The nominal production groundspeed is 10 m/s for flat topography with no wind. The
	• Aspects of the determination of	survey speed may vary depending on the terrain and environmental conditions. The ground crews performed daily safety meetings and pre-flight checks prior to the start of drone flight operations. The Pilot in Command (PIC) is responsible for the safety of the crew and equipment during the survey operations. Each survey flight is pre-planned using ground control software, then the flight plans are uploaded to the UAV prior to takeoff. The UAV system flies the pre-defined waypoint-based flight plans while the ground crew maintains visual line of sight with the craft and the flight telemetry information. Flights are terminated and the UAV returns for landing when the battery voltage reaches a certain limit, or when the flight plan is
	mineralisation that are Material to the Public Report.  In cases where 'industry standard' work manually terminal with full manual time. Upon landing are exchanged as	complete. The survey flights can be manually terminated and taken over with full manual pilot control at any time. Upon landing, the flight batteries are exchanged and the sensor is
	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.	are exchanged and the sensor is downloaded for QAQC checks. The average distance covered by each flight is approximately 6-10-line kms of data acquisition.
	Unusual commodities or mineralisation types (eg submarine nodules) may	The principal airborne sensor used

Criteria	JORC Code explanation	Commentary
	warrant disclosure of detailed information.	was a Gem Systems Canada GSMP-35U potassium vapor sensor mounted on a UAV platform. Ancillary equipment included a laser altimeter with a 130m range, Global Positioning Satellite (GPS) system antenna and Inertial Measurement Unit (IMU). A stationary GSM-19 Overhauser magnetometer was used as a base station. Raw aerial magnetometer data was collected at a rate of 10 Hz while base station data was collected at a rate of 0.16 Hz. Total field and GPS UTC time was recorded with each data point, enabling diurnal correction to be applied during final data processing.
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 core is oriented and if so, by what method, etc).	No drilling results reported
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	No drilling results reported
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	No drilling results reported
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	No drilling results reported

Criteria	JORC Code explanation	Commentary
	<ul> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	No drilling results reported
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	No drilling results reported
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	Global Positioning Satellite (GPS) system antenna and Inertial Measurement Unit (IMU).
	Specification of the grid system used	WGS 84 / UTM zone 12N Scale factor 1 :15000 Linear Unit : Metre (1)
	Quality and adequacy of topographic control.	<ul> <li>The nominal sensor altitude above ground level (AGL) was set to 25 m for this survey. Elevation data for this survey was sourced from Shuttle Radar Topography Mission (SRTM) 1-Arcsecond Global Dataset. In addition, a higher resolution DEM from World DEMTM satellite program was used to maximize the terrain following performance.</li> </ul>
Data spacing	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	No exploration results reported

Criteria	JORC Code explanation	Commentary
and distribution	<ul> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	
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.	The 25m lines were oriented N30E in consideration of potential N-S structures crossing the project. Tie lines normal to the primary flight lines were completed on 250m spacing. The line density and orientation are appropriate for this skarn mineralization.
	<ul> <li>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.</li> </ul>	There is no sampling bias recognised.
Sample security	The measures taken to ensure sample security.	<ul> <li>All magnetic data is digitally stored by the contractor and geophysical consultant.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The geophysical consultant was on site checking acquired data each day ensuring QA/QC.

# **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.	<ul> <li>The Oracle Ridge mine is located on Oracle Ridge and Marble Peak approximately 24 kilometers by air northeast of Tucson, Arizona, U.S.A. and is located in Sections 17, 18, 19 and 20 of Township 11 South, Range 16 East, Gila and Salt River Base and Meridian. The geographical coordinates are approximately Latitude 32°28' North, Longitude 110°41' West.</li> <li>The Oracle Ridge mine is 100% owned by Wedgetail Operations LLC, an Arizona limited liability corporation</li> <li>The project consists of 57 patented mining claims covering approximately 364 hectares, 143 hectares of private land and 405 hectares of unpatented claims.</li> <li>In 2009, the surface rights for the area necessary for potential mining</li> </ul>

Criteria	JORC Code explanation	Commentary
	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 security of the tenure held at the time of time of time of the time of time	access, processing facilities and offices have been secured by an industrial property lease. Under the Lease, Wedgetail Operations LLC leased from Marble Mountain the surface rights to the project for the purpose of carrying out its exploration, and potential development and mining. The lease has an initial term of three years and is renewable for nine additional extensions of three years each.  100% of the mineral rights are owned by Wedgetail Operations LLC  The land tenure is secure at the time of reporting and there are no known impediments to obtaining permits to operate in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Drilling has been completed by previous owners of the property. All drilling was by diamond core method. Reports suggest reasonable recovery and use of down hole survey methods. Assays were completed at commercial labs.</li> <li>Aerial magnetic and EM surveys were completed by DIGHEM for Oracle Ridge Mining Partners in 1995.</li> <li>Detailed surface and underground mapping was completed by Oracle Ridge Mining at a scale of 2.54cm = 15.2m (1"=50")</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The deposit is classified as copper dominated skarn. Minerals representative of both prograde and retrograde skarn development are present, the former being represented by diopside and garnets, the later by epidote, magnetite and chlorite.</li> <li>Copper dominated mineralisation generally contain chalcopyrite and bornite. The deposits are most commonly associated with Andeantype plutons intruded in older continental-margin carbonate sequences. The associated intrusive rocks are commonly porphyritic stocks, dikes and breccia pipes of quartz diorite, granodiorite, monzo-granite and tonalite composition, intruding carbonate rocks, calcareousvolcanic or tuffaceous rocks. The deposits shapes vary from stratiform and tabular to vertical</li> </ul>

Criteria	JORC Code explanation	Commentary
		pipes, narrow lenses, and irregular zones that are controlled by intrusive contacts.  The copper rich skarn deposits at Oracle Ridge are found in conformable lens along the contact with the Leatherwood Granodiorite or associated with faults and shear zones which intersect the Leatherwood. These have acted as feeders into the reactive carbonate horizons. The later can form a "Christmas Tree" type shape
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul> <li>No drilling results reported</li> <li>No drilling results reported</li> </ul>
Data aggregation methods	<ul> <li>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</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No drilling results reported
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down</li> </ul>	No drilling results reported

Criteria	JORC Code explanation	Commentary
	hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Appropriate diagrams are included in the main body of this news release.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>Reporting of the magnetic results and inferences to minealisation expansion are considered balanced.</li> </ul>
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.	No additional meaningful and material exploration data has been excluded from this report
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	The project has seen various periods of exploration, development and mining activity and compilation of the various works is necessary to guide the next phase of exploration activity. The expectation is the compilation will generate exploration targets for subsequent
	<ul> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	drilling and Mineral Resource estimation update. An airborne EM survey has been completed and the acquisition data is under review.  Diagrams included in main body of news release