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Meridian announces technical review of stream sediment data

Pathfinder mineral suite consistent with extensive dynamic hydrothermal / magmatic system

May 18, 2020 - Meridian Mining SE (TSXV: MNO) ("Meridian" or the "Company") today reports on the results of technical reviews on its stream sediment data, in relation to the Company's renewed exploration focus on Cu-Au polymetallic mineralization. The Company has completed a review of both its stream sediment and soil sampling data, and assays from drill programs of the previous manganese operation. The results strengthen the Company's belief that the Espigão is prospective for a zoned Cu-Au system.

With highlights including:

- A suite of recognized pathfinder minerals associated with known IOCG and porphyry style systems is centred within the Espigão tenements;
- The pathfinder minerals show variation in their spatial distribution, consistent with zonation recognized to date in gold and base metals from trenching and drilling results;
- The results support the Company's exploration model, that mineralisation within the extensive surface hydrothermal veins systems located within the Espigão Project may be associated with an underlying blind mineral system.

The Company initiated a pan concentrate heavy mineral sampling program in 2015, with over 500 samples collected locally and regionally. Within the current Espigão tenure, over 300 samples were sent to SGS for mineralogical review, verifying field recognition of detrital gold. The work lead to the definition of initial focus areas for follow-up soil sampling[1]. An initial phase of trenching and drilling confirmed saprolite and shallow bedrock gold mineralization before programs were suspended due to funding restrictions[2].

Historical production of manganese oxide up to December 2019 has built an extensive multi-element database. A characteristic of the manganese concentrates is that they are consistently elevated in copper, at levels of **>0.2% Cu to a maximum of 0.8% Cu.** Base metal anomalies are reflected in drilling and trenching returned peak values of 6.56% Pb, 0.52% Cu, 0.18% Zn, 0.11% Co. The focus of the Company's more recent exploration reviews has been on interpretation of broader trends, which are interpreted to reflect hydrothermal partitioning of base metals[3]. Base-metal enriched manganese veins are a characteristic of hydrothermal systems, and can be developed in the carapace and peripheral settings to porphyry Cu-Au systems, and some iron-oxide copper-gold (IOCG) systems such as the Kitumba deposit in the Mumbwa district of Zambia.

[1] Cancana Resources news release of 19/07/16.
[2] Meridian Mining news releases of 14/06/17, 20/11/17.
[3] Meridian Mining news releases of 8/11/18, 12/06/19.

Background

Various mineral systems are associated with indicator minerals, developed a combination of magmatic fractionation processes and hydrothermal alternation. In IOCG systems, potential indicator minerals include: Oxides (hematite, magnetite, rutile, spinel, uraninite), Silicates (allanite, amphibole, actinolite, chlorite, epidote, garnet, titanite, tourmaline, vesuvianite, zircon, thorite), Phosphates (apatite, monazite, xenotime), and Sulphides (Bi, Cu, Co sulphide phases, pyrite). In porphyry systems, the chemistry of specific mineral phases is undertaken to discriminate fertility (zircon, plagioclase, magnetite, apatite, titanite, rutile, epidote and chlorite).

Meridian Survey Data

The Company has revisited the stream sediment mineralogical database to assess whether there is some spatial distribution in indicator minerals that may support trends in fractionation or hydrothermal alteration. Key observations are that:

- Molybdenite was recognized in concentrates in the close to the peak gold anomalies in the Coice de Cobra and Gazeta areas, with one heavy mineral concentrate containing up to 10% molybdenite.
- Traces of copper minerals cuprite and chalcopyrite were identified in the Coice de Cobra area, and in one sample detached from the gold anomalies in the central part of the project area. Pyrite, or partially oxidized pyrite-limonite grains, are present – generally at trace levels, but up to a peak of 6% at Gazeta. It is noted that sulphide phases are likely to be under-represented due degradation in the tropical weathering environment.
- Most samples contain variable levels of ilmenite, magnetite, or hematite. One sample from the Coice de Cobra area contained specular hematite. Peak magnetite concentrations are observed in the southern to central part of the project area, and locally in the Gazeta and Coice de Cobra area.
- Trace to low percentile levels of indicator minerals Titanite, Thorite, and Spinel occur at Coice de Cobra and Gazeta regions, and locally in adjacent structural extensions
- Rutile has the highest concentration and clustering in the Coice de Cobra area, where it forms up to 34% of the heavy mineral concentrate. In the Gazeta area it peaks at 13%. Subsidiary peaks in the 10-20% range are clustered elsewhere in the project area. Rutile is typically more abundant in sulfide-bearing deposits where it is stabilized rutile at the expense of ilmenite, and is present in both porphyry and IOCG systems.
- Higher epidote concentrations are evident at Gazeta (and more variably in the Coice de Cobra area). The pattern is suggestive of a hydrothermal influence, as opposed to regional metamorphism where a more even distribution might be expected.
- Tourmaline, often an indicator of more fractionated and hydrous melts, occurs with peak values of 1-8% in the Gazeta region. It is present at trace levels elsewhere, including Coice de Cobra. Values to 2% in concentrates near Eduardo Mendes, where satellite gold counts were also evident.
- Zircon is present throughout the project. Proportionally less zircon is present in the Gazeta and Coice de Cobra areas, reflecting the increased abundance of other silicate and oxide phases described above. Additional studies on zircon morphology and chemistry would be required to distinguish those formed by hydrothermal and igneous processes. Studies can provide particular insights into the thermal history of the area.

- Garnet is highest at Gazeta (peak of 10%). The peak value at Coice de Cobra is 2%, whereas elsewhere it is at trace levels.
- Monazite has a relatively broad distribution. Peak values of 30% in a heavy mineral concentrate occurs on the flank of a radiometric high and likely relates to a fractionated granite phase. Isolated values of 1-15% occur on the eastern side of the project area. The other phosphate minerals are present tend to be more commonly developed on the eastern margin of the project area (Apatite, Monazite, Phosphate, Florencite, Gorceixite, Xenotime). Xenotime is restricted to the Coice de Cobra area.
- Cassiterite is present in some samples, often at trace levels, but locally in higher concentrations associated with radiometrics highs.

Next Steps

Variation in the spatial distribution and abundance of mineral phases suggests that there are localized centres where hydrothermal alteration and/or magmatic processes may influence the distribution of associated metals. The Company has launched a capital raising, and subject to financing , opportunities exist to build on this database by: 1) Extension of the program to more sparely sampled areas, 2) Evaluating more specifically to chemistry of individual phases for fertility indicators, 3) Building the rock chip and lithogeochemical database to direct identification of mineralization, or favourable host rocks. The Coice de Cobra and Gazeta areas are under application for licence renewal, and the initial focus will include:

- Evaluation of Eduardo Mendes area, where vein assemblages show particularly elevated base metal contents and some detrital gold has been recognized in the drainage system.
- Evaluation of Antonio Gomes area, where peak Cu was returned from concentrates.
- A more general prospecting campaign targeting iron oxide breccias which locally envelop and extend from the manganese veins, to identify any associated gold and base metal anomalies.

Mr Clark states, *"The work by Dr McArthur's and his team has been adding to the solid technical base of the copper and gold prospectivity at Espigão. It is very exciting to see that when the stream sediment sampling program was reinterpreted for a possible relationship with IOCG or intrusive systems that the results came out so positive. As we move forward with the capital raise to fund the exploration programs it is important that all information and data collected to date is used to de-risk the future drill program and focus on the discovery that we think Espigão can deliver and that Meridian's current and future shareholders hope for."*

A presentation on the stream sampling results can be downloaded from the Company's web site.

On behalf of the Board of Directors of Meridian Mining SE

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NOTES

Positive visual identifications of gold in field pan-concentrates are cross-checked by mineralogical reports at SGS Geosol Laboratórios Ltda (Method Code ANACL_MIN). For drainage sampling, this represents a 20 litre bucket of alluvium from the lower level of a stream channel. The technique is an indicator of minerals of exploration interest in the source area and are not referenced to grade. Gold in drill core and trenching has been analysed by at SGS in Belo Horizonte by methods FAA323 and FAA505 (fire assay of 30g / 50g charge), with samples containing visible gold analysed by screen fire assay (SGS method FAASCR). Gold in soil samples have been analysed by at SGS in Belo Horizonte by method FAA505, with a selection of samples also analysed for multielement package by method ICP40B. Manganese and multi-element results have been in drilling and trenching along with some production samples have been analysed at SGS in Belo Horizonte by XRF techniques (XRF79C) for major oxides in mineralized zones, supplemented by multi-acid digest and ICP-OES analysis (ICP40B) in areas of trace mineralization or wall-rock alteration. Production samples have also been analysed at ALS Laboratories (Vancouver, Canada; Lima, Peru; method ME-XRF26), and Bureau Veritas (Perth, Australia; method XF203). Until dispatch, samples are stored in the company's supervised stockpile yard or exploration office.

ABOUT MERIDIAN

Meridian Mining SE is focused on the acquisition, exploration, development and mining activities in Brazil. The Company is currently focused on exploring and developing the Espigao polymetallic project, the Mirante da Serra manganese project and maintaining the Ariquemes tin exploration portfolio in the state of Rondônia, Brazil.

Further information can be found at www.meridianmining.co.

FORWARD-LOOKING STATEMENTS

Some statements in this presentation contain forward-looking information or forward-looking statements for the purposes of applicable securities laws. These statements include, among others, statements with respect to the Company's plans for exploration, development and exploitation of its properties and potential mineralisation. These statements address future events and conditions and, as such, involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the statements. Such risk factors include, among others, failure to obtain regulatory approvals, failure to complete anticipated transactions, the timing and success of future exploration and development activities, exploration and development risks, title matters, inability to obtain any required third party consents, operating risks and hazards, metal prices, political and economic factors, competitive factors, general economic conditions, relationships with strategic partners, governmental regulation and supervision, seasonality, technological change, industry practices and one-time events. In making the forward-looking statements, the Company has applied several material assumptions including, but not limited to, the assumptions that: (1) the proposed exploration, development and exploitation of mineral projects will proceed as planned; (2) market fundamentals will result in sustained metals and minerals prices and (3) any additional financing needed will be available on reasonable terms. The Company expressly disclaims any intention or obligation to update or revise any

forward-looking statements whether as a result of new information, future events or otherwise except as otherwise required by applicable securities legislation.

The Company cautions that it has not completed any feasibility studies on any of its mineral properties, and no mineral reserve estimate or mineral resource estimate has been established. In particular, because the Company's production decision relating to Meridian Mineracao Jaburi S.A, manganese project is not based upon a feasibility study of mineral reserves, the economic and technical viability of the Espigão manganese project has not been established

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