Serabi copper-gold district: 1. Regional exploration model - Tapajós Mineral Province.

Authors: Nick Winer, Rogerio Alves, Chris Spurway, Edgar Hole, Jessica Sousa

Serabi controls an extensive exploration tenement package covering approximately 600 km^2 in the Tapajos Mineral Province. The block hosts Serabi's operating Palito gold mine and the Sao Chico gold mine which is currently in care & maintenance. Both deposits are multiple, stacked, sulphide rich vein systems. However, in 2021, after extending regional soil sampling coverage, Serabi discovered a major copper-gold target at Matilda, which was drill tested in early 2022 with three short diamond drillholes. (Total: 696m). The exploration model invoked for Matilda is an alkalic porphyry system. This new discovery has led to a re-evaluation of the district scale, land holding.

In 2022, following the positive results, Serabi extended aerogeophysical coverage of the tenement package and carried out an extensive program of regional soil sampling and drilling during 2023. In 2023, approximately 13,900 meters of diamond drilling were completed on a number of targets within the Matilda complex and initial drill programs on other targets within the belt.

Drilling demonstrates the presence of both porphyry and epithermal style targets within the district but the published geology does not provide a contextual model for the deposits. Through the use of Serabi's regional aerogeophysical dataset and the regional multi-element soil geochemistry a regional Exploration Model has been developed for the project area.

The detailed structural interpretation carried out of the aerogeophysical data has been complemented by pseudo-mapping of the weathering regime, lithologies and alteration/mineralization generated from the regional multi-element geochemistry. The combination of these datasets is the base for the 2D / 3D Exploration Model, allowing the identification and prioritization of exploration targets, definition of probable mineralization controls (lithology / structure) and planning of effective, follow-up exploration programs including diamond drilling.

Initial results indicate a major northeast orientated, sigmoidal duplex structure with the leading edge mapped by a truncated thrust sheet of gabbroic composition. (ophiolite?) Behind this sits a dilatational zone that hosts several intrusive/hydrothermal centers, including Matilda. A similar, parallel, secondary structural-dilatational zone, the Cinderella structure, lies to the east.

Along the northern flank of the main structure, a series of large epithermal alteration systems are suggested by electromagnetic and geochemistry data. In contrast, the area behind the structure (to the southwest and including Matilda) reflects deeper porphyry style alteration-mineralization systems.

The area of Palito appears to be a separate domain and represents a mesothermal sulfide vein system hosted by the Rio Novo Granite on the flank of a large alteration halo.

The 2D Regional Exploration Model presented, plays a fundamental role in understanding the potential of the region, identifying new high priority exploration corridors, and defining the best exploration strategy to apply in each case, thus resulting in cost efficient, focused exploration with the best chance of success.