Bekisopa geological field trip - Executive Summary

Several days were spent on site at the Bekisopa Iron project in south central Madagascar following an extensive review of previous exploration results in Antananarivo.

Very good geological work was undertaken by the BRGM during the 1950s and 1960s, consisting mainly of geological mapping, trenching, pitting and limited, generally very shallow, diamond drilling. This work identified high grade iron mineralisation at surface and a preliminary estimate of 10Mt @ 60% Fe was made for near surface mineralisation. It was interpreted that the high grades were due to surficial enrichment and it was estimated that beneath this enriched zone there is potential for about 62Mt @ 30-60% Fe.

The UNDP undertook additional work during the 1970s which culminated in a resource estimate of 99Mt, including 13Mt @ 50-65% Fe to an average depth of less than 10m.

A review of this work suggests the surficial estimate is in the right order of magnitude and that an **exploration target of around 10Mt @ 60% Fe to a depth of 5m is reasonable and potentially 20Mt@60% Fe if near surface mineralisation extends to 10m.** Clearly this near surface ore should be readily upgradable by simple coarse crushing, screening and magnetic separation and saleable as a ~65%Fe direct ship iron ore.

Outcrop of Magnetite with some Hematite Alteration, near Trench 42

However, it appears from field observation that the mineralisation is not due to a surface enrichment of disseminated magnetite-hematite mineralisation. This is because observations along the 7.5-kilometre strike length show:

1. The layers of magnetite-hematite are traceable over the entire extent of the tenure and appear to be folded and faulted, suggesting an early origin
2. The ground magnetics suggests these layers continue at depth (an extensive ground magnetic survey was being undertaken while the geological investigation was being performed)
3. Outcrops show a structural-hydrothermal overprint which appears to have introduced iron or at least been responsible for alteration of some of the magnetite to hematite, this is definitely earlier than the weathering event
4. Disseminated magnetite-hematite mineralisation within host rock occurs at surface in deposits adjacent to and/or between the massive magnetite-hematite layers
5. Some original bedding is apparent within the massive magnetite-hematite outcrops
6. Layers, lenses and boudins (pods) of massive magnetite-hematite occur within the main mineralised layers with host rock wrapping around them or as interbeds within them, suggesting an early, structural origin

While some limited upgrading due to surficial weathering processes may have occurred, such as removing the weathered country rock bands and selvedges (rims), it is very difficult to envisage a method of upgrading disseminated magnetite-hematite within country rock to the massive magnetite-hematite outcrops and subcrops seen on site.

Hence, it is considered highly likely that the **mineralised layers will continue at depth, as massive magnetite-hematite layers, lenses and boudins** within country rock. Iron grades should be the same as or possibly slightly lower than those seen at surface (due to dilution by country rock beds and selvedges), and these should be readily upgradable by simple coarse crushing, screening and magnetic separation. This should produce a high-grade premium lump product due to the massive nature of the magnetite-hematite mineralisation.

Based on this assessment, **potential for around 100Mt @ 60% Fe (easily upgradable to plus 65% Fe) can be seen to a depth of 50m**, and a similar tonnage and grade for every subsequent 50m depth. Therefore, some **200Mt@60% Fe (readily upgradable to 65% Fe) at a depth of 100m.**

Potential for much larger tonnages of disseminated magnetite-hematite mineralisation within the country rock, refer adjacent photo, containing ~1 to 2mm particles of magnetite, can be seen in between and adjacent to the massive magnetite-hematite layers. No estimation has been made, however, a factor of 2-10 times the tonnage of the massive mineralisation is possible. **Grades will be lower at between 30 and 50% Fe, therefore potential for additional iron resource of 0.5 to 2 billion tonnes**. Drilling programs and mineral processing assessments required to better understand this iron ore extent and potential to be upgradable to saleable high-grade iron ore products.

Additional potential for around 30Mt of lateritic soil can be seen. This contains liberated magnetite, see adjacent photo, which can be separated by running a hand magnet through the soil and hence should be relatively simple and cheap to extract to produce a high-grade iron ore concentrate.

A drilling programme designed to confirm the mineralisation continues at depth and to enable a preliminary resource estimation will be planned once all results of the magnetic survey are received.

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