MEMORANDUM

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Author: Alwin van Roij

R+D Project: Geophysical Assessment Techniques

R+D Category: Drill testing of Airborne EM results

TITLE: Drill testing of Airborne EM at the Emma prospect, Barrow Creek.

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1. INTRODUCTION

The North Arunta project is located directly north of Alice Springs, with the majority of ABM's tenements accessible from the Stuart Highway or via the Tanami Highway. The Barrow Creek subproject is approximately 300km north of Alice Springs along the Stuart Highway and stretches west for 85km. Access to the project area is via station tracks off the Stuart Highway, with the Emma prospect located about 45km in.

Since exploration on ABM's tenure in North Arunta has historically focussed on gold, no significant amount of EM work has been done as it is usually deemed inappropriate for gold exploration. However, Emmerson has recently employed airborne EM to find weak conductors in areas of very poorly conductive background around Tennant Creek. In addition to mapping geological structures with EM, they found that EM also successfully provided further targets for follow up drilling. The similarities between Tennant Creek and ABM's tenure suggest that EM would also be highly effective to map geology and generate targets in regions difficult to explore with conventional drilling.

2. AIM / OBJECTIVES

The EM survey earlier in the field season identified a 2km long and 50m wide electromagnetic conductor over the eastern Barrow Creek area, along strike of the Kroda 1 prospect, where anomalous copper has been intersected previously. The strength of the conductor indicates a possible accumulation of sulphide minerals and is coincident with a surface copper and zinc anomaly from geochemical sampling. This anomaly has been named the "Emma Prospect" and has been drill-tested later in the season.

Further details on the EM data collection and results are given in a separate memo under the "Geophysical Assessment Techniques" section.

RC drilling has been suggested to follow up on the EM conductors while subsequent mapping of any outcrop in the area is proposed to help put intersected lithologies into regional context.

3. METHODOLOGY

RC drilling of the Emma target took place from a mobile camp established within the tenement and conducted by Top Drill Pty. Ltd., utilising a truck-mounted drill rig, booster truck, support truck, and light vehicle. An ABM field crew utilising a light vehicle, supervises the program, logs and samples the drilled rock chips.
Every sample is split using a rifle splitter into two calico bags. The green bag is used for the leftover sample material and used for logging of chips. Of the two calico bags, one is sent to the ALS laboratory in Alice Springs and Perth for gold and occasional multi-element assaying, and the other retained for future reference. Duplicates are used every 25m and reference material used regularly to quality control the laboratory.
A handheld XRF is employed to get live information on multi-element response in the data. Sections of interest are identified and sent for multi-element assaying at ALS, and help to correlate between lab assay and XRF assay results.

Geological logging uses Logchief and captures straight into digital form. Printed sections on the rig allow for sketches of structural and lithological data and drilling surveys to help drill supervision. Logging included lithology type, colour, hardness, alteration, mineralisation and structural features.
Field mapping and sampling follows similar procedures as above, with the program being executed using a Polaris Ranger, to allow access to vast amounts of ground with limited environmental impact.

4. RESULTS

8 RC holes were drilled, of a total depth of 2234m. Results revealed wide intersections of pyrite (iron sulphide) material with low-level but anomalous gold and copper. Best results include 31m at 48 ppb gold (including 1m at 0.5 g/t gold), and 11m at 120ppm copper, including 1m at 470ppm copper.
Intersected stratigraphy includes a sequence of quartz mica schist with andalusite porphyroblasts and is interpreted to be part of the Bullion Schist (meta-turbidite sequence), alternated with amphibolite lenses, interpreted as meta-dolerite. Two phases of meta-dolerite have been identified, with a different appearance and multi-element response.
In addition to drilling, an extensive mapping campaign has identified the shear zone associated with mineralisation at Kroda 1, and several rock chips have been collected confirming mineralisation with the best result of 3.73 g/t gold. Pitted, weathered sulphides are also spotted in some of the material, with handheld XRF results comparable to results from drilling intervals.

Intersected sulphides are promising, but generally of the wrong composition to suggest massive sulphide base metal mineralisation. In addition, the levels of interested sulphides were lower than anticipated. Instead of a broad zone of sulphides, narrow bands of interconnected pyrite may go some way to explain the quantified conductivity in the area by concentrating conductivity into much thinner, but better connected layers or geophysical 'plates'.

On the contrary, if massive sulphide mineralisation occurs similar to the gold mineralisation further along the 'Kroda-shear' at Kroda 3, it could be that structurally more complex 'sweet spots' have been missed in the recent drilling, and the main conductors are still valid targets warranting follow up drilling. Although drilling intersections are of low grade, they are yet anomalous and the amount of sulphides visible in drilling does not quite satisfactorily explain the modelled conductors.

5. CONCLUSION / RECOMMENDATIONS

The airborne EM survey identified a number of quantifiable conductors suggesting potential massive sulphide mineralisation. Drilling intersected zones of sulphides, but rather as thin beds of interconnected pyrite instead of massive beds of a combination of sulphides. Intersecting sulphides is promising, although the composition and amount is not indicative of base metal mineralisation at this stage.

Since the thinner layers of sulphides do not quite satisfactorily explain the modelled conductors, further work is recommended to follow up on the drilling and mapping results. Infill drilling around the best EM conductors will help answer questions, although a more cost-effective approach may be to do further mapping and sampling around the area, as outcrop has been found in the vicinity.