



EL50/2007 GREAT NORTHERN CREEK (GODKIN)

**ANNUAL REPORT FOR THE PERIOD
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All figures are in Geodetic Datum AGD66.
Drill collars are GDA 94.

1. SUMMARY

There was no field activity carried out on Exploration Licence EL 50/2007, Great Northern Creek (informally called Godkin) in this, the second year of tenure.

Because EL50/2007 was granted under the Tasmanian Exploration Release Area system, and was in the first two years of tenure, MMG was offered and accepted the offer of the Tasmanian Government to meet the initial two year expenditure commitment on EL50/2007 over three years.

Allegiance Metals completed a four-hole diamond drilling program over the summer of 2008 for a total of 2328m. Three of the holes intersected altered serpentinised ultramafics intruding what are interpreted to be Huskisson Group sediments and volcanoclastic breccias. Minor sulphide and arsenic mineralisation was intersected the drill holes. Although these intersections were of a low tenor, their presence suggested to Allegiance that the area was prospective for Avebury style mineralisation.

2. INTRODUCTION

EL50/2007 is located approximately 3km southeast of the Renison Mine which is itself just south of the Murchison Highway some 6km west of the township of Rosebery in Western Tasmania (Figure 1).

The EL is considered by MMG and its former owners OZ Minerals and Eastren Pty Ltd to be prospective for Avebury style nickel sulphide deposits. This largely arises from an interpretation of aeromagnetic data which shows strong magnetic features associated with Cambrian ultramafic outcrop on an adjoining tenement continuing undercover into EL 50/2007 (Figures 2 and 3).

Exploration to date has consisted of a four-hole diamond drilling program for a total of 2328m. Three of the holes intersected altered serpentinitised ultramafics with minor sulphide and arsenic mineralisation (Figure 3).

The EL is located in very rugged country covered largely by temperate rainforest. Several step historic exploration and forestry roads access the EL. The first four drill holes completed by Allegiance metals used pre-existing roads.

3. LAND TENURE

EL 50/2007, Great Northern Creek (known informally as Godkin) was granted under the ERA system to Eastren Proprietary Limited, a wholly owned subsidiary of Allegiance Mining Pty Ltd, on 24 October 2007 for a period of 5years.

Allegiance Mining Pty Ltd was purchased by Zinifex Australia Limited in early 2008. Subsequently on July 18th 2008 the name of Zinifex Australia Limited was changed to OZ Minerals Australia Ltd as a result of a corporate merger between Zinifex Ltd and Oxiana Ltd. In June 2009 China Minmetals Non-Ferrous Metals Co Ltd acquired from OZ Minerals Ltd a 100% indirect interest (through its subsidiary Album Investment Pty Ltd) in MMG Australia Limited (previously OZ Minerals Australia Ltd) the holder of the tenement.

4. GEOLOGY

The Avebury deposits are hosted in both serpentinised dunite and strongly metasomatised, tremolite-diopside ultramafic skarn. The ultramafic has intruded into Mid Cambrian basaltic volcanoclastic greywackes overlain by sandstone, siltstone and polymictic felsic volcanic breccias.

The ultramafic has a strong magnetic signature due to high concentrations of magnetite released during the serpentinisation process and subsequent Fe metasomatism. High resolution aeromagnetics is a key early exploration tool.

EL 50/2007 overlies Cambrian volcanoclastic sediments hosting two belts of Cambrian mafic-ultramafic rocks (Figure 2 and 3). The Cambrian sequence is intruded at depth by a late Devonian Granite which forms an ENE trending ridge connecting the Granite Tor and Pine Hill Granite outcrops. The granite intrusion has extensively altered and metasomatised both the Cambrian volcanoclastics and ultramafic intrusions.

The ultramafic rocks are strongly serpentinised and locally metasomatised to a diopside-tremolite assemblage. The associated gabbros are frequently extensively talc-carbonate altered. Calcareous sediments are extensively diopside altered with garnet rich skarns.

A variety of mineralisation styles are interpreted as accompanying the granite metasomatic event:

- Cu-Pb-Zn-Ag veins in altered gabbros and Cambrian sediments
- Qtz-cassiterite veins
- Large Cu-As (-WO₄) skarns at Colebrook Hill
- Pervasive (sometimes massive) pyrrhotite mineralisation in altered gabbros and sediments.
- Scheelite mineralisation in skarned sediments.

Considering the geological setting and the obvious intense metasomatic activity in the area, MMG considers the area to be prospective for Avebury style remobilised nickel sulphide deposits in altered ultramafics.

5. WORK COMPLETED ON EL 50/2007

5.1. YEAR 1, 2007-2008

Work completed on EL50/2007 during the first year of tenure included four diamond drill holes for 2328m. All holes were logged by contract geologist Nic Turner. Drill logs and assays are included as Appendix 1 of the first annual report of the tenement (Callaghan, 2008).

DDH ER008 intersected actinolite-chlorite-carbonate altered gabbro with two narrow intervals of quartz-axinite-calcite skarn. No significant mineralisation was intersected.

DDH ER009 intersected serpentinised ultramafic intruding what has been interpreted to be Huskisson Group sandstone, carbonaceous shale and siltstone with thin inter-beds of chert conglomerate and felsic volcanic breccia. The ultramafic contact was interpreted as being intrusive. The ultramafic was locally altered to intensely metasomatised diopside-tremolite skarn with minor sulphide mineralisation.

Minor but significant Nickel arsenides and possible nickel sulphides were present in the hole with best intercepts of:

345.7 – 349.2	3.5m @ 0.2% Ni and 0.5% S.
355.0 – 356.0	1.0m @ 0.4% Ni, 0.5%, As and 0.5% S.

The stratigraphy and structural setting is seen as having many similarities to the Avebury Mine.

DDH ER010 intersected a similar sequence to that previously described in ER009. Again minor nickel sulphides and arsenides were present, particularly towards the end of the hole.

DDH ER011 intersected a similar sequence to that previously described in ER009. No significant nickel sulphides were present. Sulphides were observed in the ultramafic but the nickel values did not increase correspondingly.

The alteration and sulphide mineralisation hosted in the ultramafic intrusions was regarded as encouraging but petrographic studies are required for confirmation of sulphide and arsenide species. A full geological interpretation is yet to be completed from the drilling program

5.2. YEAR 2, 2008 – 2009

There was no field activity carried out on Exploration Licence EL 50/2007, between October 2008 and October 2009.

6. CONCLUSIONS & RECOMMENDATIONS

The geology intersected in holes ER 009, 010 and 011, i.e., serpentinised ultramafic that is locally altered to intensely metasomatised diopside-tremolite skarn with minor sulphide mineralisation is considered interesting from an Avebury-style Ni-sulphide point of view.

Detailed trace element geochemistry of the serpentinite and skarned serpentinite intersected in holes ER 090 to 011 will give the best indication of whether the serpentinites have been hydrothermally altered sufficiently by granitic fluids to result in an Avebury style deposit. This initial geochemical testing will cost in the vicinity of \$10,000.

Other geochemical and petrological work to determine the serpentinite protolith is also considered necessary.

Positive indicators from this geochemical testing would be followed-up by further drilling as required.

7. REFERENCES

Callaghan, T., 2008. EL50/2007 Great Northern Creek, Annual Report to October 2008, *Unpublished OZ Minerals company report*