



Retention License 5 / 2009

MELBA SIDING

ANNUAL REPORT

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Summary

No resource development work was undertaken on RL 5/2009 Melba Siding over the 12 month reporting period to the end of November 2010. Previously delineated resources at Melba Siding are shallow and potentially amenable to open cut mining techniques. Due to the limited tonnage of currently delineated resources at Melba Siding, a stand alone mining operation is not considered viable. Commercial development of the Melba Siding resources is linked to recommencement of mining activities at the Avebury deposit. MMG are currently assessing reopening options for the Avebury mine.

A geochemical investigation of the magmatic Ni Cu sulphides at Melba Flats was completed by researchers at the University of Tasmania and Monash University.

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1. Introduction

The Melba Siding retention license area RL 5 / 2009 is an approximately 3 sq Km block within Melba Flats EL 43 / 1993 located west of the Murchison Highway and south of the Renison Bell tin mine, between the towns of Rosebery to the north and Zeehan to the south (Figure 1).

The area has had a long exploration history as evidenced by numerous small scale historical workings and adits. Copper and nickel mineralisation was first discovered in the Melba Creek Area as early as 1893. Recent exploration efforts by Allegiance Mining and later OZ Minerals have delineated small scale, high grade nickel resources.

The Melba Flats area is underlain by Cambrian sediments intruded by Cambrian gabbro dykes, genetically associated with the Serpentine Hill and Razorback Ultramafic bodies east of the tenements. The sediments dip to the east and generally strike north-south. Variations in these trends are caused by district folding and common small-scale faulting. The gabbro dykes are intrusive, often with chilled and brecciated margins, and are both concordant and discordant with the enclosing sediments. The dykes, sediments and ultramafics are pervasively altered. Carbonate and carbonate-talc alteration of the gabbro dykes is typically accompanied by late stage carbonate veining. Nickel-copper mineralisation is widespread in the altered gabbros and accumulates in small high grade pods on the footwall of one (?) of these dykes. The mineralisation is accompanied by Au, Pt, Pd and Co mineralisation in broad correlation with the Ni-Cu contents. The late-stage carbonate alteration and veining is also accompanied by significant coarse galena, sphalerite and chalcopyrite. Exploration to date by Allegiance has shown the Ni-Cu mineralisation to be more widespread and persistent to greater depths than previously thought. Drilling by Allegiance, complemented by surface exposure and former mine workings, has identified modest shallow resources at Nickel Reward and North Cuni-Genets. The district is regarded as prospective for extensions of these resources and for more substantial bodies at depth associated with larger gabbro and ultramafic intrusives.

The proposed strategy of Allegiance, and later OZ Minerals at Melba Siding was to commence production from several small pits and to access deeper resources by way of appropriately-sized declines from within these pits. The resources to be extracted from the Melba Flats area were planned to complement and be processed with the ore from Avebury at the Avebury Mine Site.

Recent exploration activities were disrupted and hindered by economic conditions and subsequent corporate activities. Prior to its takeover by Zinifex in 2008 (and the subsequent Zinifex/Oxiana merger to create OZ Minerals, also in 2008) Allegiance Mining had been exploring and evaluating the Melba area since 1997 with expenditure in excess of \$2,500,000. This work culminated in the identification of modest shallow resources within the Melba Flats area at Nickel Reward and North Cuni-Genets. To facilitate development of the identified resources, application was made for a 269 hectare mining lease over the resource areas. A notice of intent to mine these resources was submitted to The Board of Environmental Management and Pollution

Control in October 2007 and a mining lease 2M / 2007 for a 10 year period of operation that was granted by MRT later that year.

Subsequently, OZ Minerals applied for and was granted the conversion of Mining Lease 2M/2007 to a Retention Licence RL 5 / 2009 under the provisions of Section 53(2) of the Mineral Resources Development Act, 1995. Application was made on the grounds that at prevailing Ni prices, any operation would be sub-economic. The same economic conditions resulted in the Avebury nickel mine being placed on care and maintenance.

2. Review of recent work

Alliance Mining used surface geochemistry, surface exposure and the location of historical mine workings to target drilling which identified modest shallow resources within the area at Nickel Reward and North Cuni-Genets. The South Cuni and Devereaux prospects, while mineralised, did not have resources identified. Delineated resources were first documented by McKeown, (2004).

- North Cuni-Genets

Indicated: 83,000 t at 0.7% Ni, 0.6% Cu, 0.02% Co

Inferred: 12,000 t at 1.2% Ni, 3.3% Cu, 0.04% Co

- Nickel Reward

Inferred Resource of 30,000t @ 3% Ni

Note. These resources were not estimated according to the JORC Code.

Nickel-copper mineralisation is hosted by altered gabbros and occurs as small high grade pods on the footwall of one (or more?) of the dykes. The Ni-Cu mineralisation is often accompanied by anomalous levels of Au, Pt, Pd and Co in broad correlation with the Ni-Cu contents. Exploration by Alliance has shown the Ni-Cu mineralisation to be more widespread and persistent to greater depths than previously interpreted with the district prospective for extensions of these resources and for more substantial bodies at depth associated with larger gabbro and ultramafic intrusives.

3. Exploration completed during the reporting period

MMG did not complete any resource development work in the reporting period. MMG are currently assessing re-opening options for the Avebury nickel mine and future activities and development of the small scale resources within the Melba Siding Retention Licence is dependant on results of this assessment.

A geochemical investigation of the magmatic Ni Cu sulphides in mafic sills at Melba Flats was conducted by researchers at University of Tasmania and Monash University. A summary of their findings is given below and the report is attached as Appendix 1.

Summary

Major, minor and trace elements (including the PGE) were determined in 22 gabbros and one greywacke sample intersected in drill core at Melba Flats

- The gabbroic sills at Melba Flats were emplaced in a developing passive margin rift from high MgO magmas with 12-13% MgO
- The gabbros were metamorphosed to lower greenschist grade metamorphism
- Gabbros adjacent to sulphides are pervasively hydrothermally altered
- With the exception of Sill 4, there are no differences in the key immobile elements between mineralised and unmineralised sills
- The Sill 4 magma was significantly more LREE depleted than that which formed the other sills, indicating that it formed later than the other sills.
- All sills formed from magmas that undergone a significant amount of crustal contamination that had been acquired at depth and not from the immediate host rocks
- This crustal contaminant was well homogenized with the magma indicating that the magma was high energy and dynamic The PGE tenors of the Melba Flats sulphides are most similar to those of the Sudbury ores, which had been formed from magma with lower PGE contents than that which formed, for example, the Kambalda ores
- The PGE confirm that the Melba Flats sills were formed by high MgO magmas in a developing passive margin rift
- The Melba Flats sulphides were formed at depth by a high-energy magma that became S-saturated and segregated magmatic Ni-Cu- (PGE) sulphides due to interaction of the magma with deeper crustal rocks
- Some of the sulphides so formed were transported to their current sites by the magmas that formed the sills
- The remaining sulphides either remained at depth or were emplaced into other yet unknown sills in Melba Flats area
- It is possible that the sulphides initially had low metal tenors and acquired their PGE, Au, Cu and Ni during transport as the sulphide droplets interacted with the magma

4. Conclusions

MMG consider the Melba Siding Retention License and its resources as potential feed for the Avebury operation. Future exploration on the Melba Siding RL is dependant on reopening Avebury and would focus on expanding the shallow open cut resources and conceptual drilling for deeper, larger magmatic nickel deposits.

5. Environment

No environmental rehabilitation was undertaken during the reporting period as no direct on ground exploration activities were completed. Where ever possible, future exploration activities will limit environmental impact by utilising numerous pre-existing tracks.

6. References

- Crawford, A. Keays, R. 2010. Magmatic Ni – cu Sulphides in Mafic Sills at Melba Flats, Western Tasmania – A geochemical investigation. MMG internal report.
- McKeown, M. V. 2004. Melba Flats Nickel Project, Mineral Resource Report, October 2004. Allegiance Metals Pty Ltd, internal report.