



Melba Siding RL 5/2009

**ANNUAL REPORT
FOR THE PERIOD ENDING 28th OCTOBER 2013**

Author: K.P Denwer

Date: 29th October 2013

Submitted To: Exploration Manager - Australia

Copies To: Tasmanian Regional Exploration Office Library
Mineral Resources Tasmania, Hobart
MMG – Melbourne Group office

Submitted By: **Neil Rankine**

CONTENTS

1. SUMMARY 3

2. INTRODUCTION..... 3

3. LAND TENURE 4

4. ENVIRONMENTAL..... 4

5. EXPENDITURE 4

6. PROPOSED WORK 2014 5

LIST OF FIGURES

Figure No.	Title	Scale
<i>Figure 1</i>	Tenement Location Diagram	1:20,000

1. SUMMARY

No major work was completed on the tenement during the period.

A research project has commenced to compare Avebury and Melba Flats mineralisation.

2. INTRODUCTION

The Melba Siding retention license area RL5/2009 is a ~ 3 km² block within the Melba Flats exploration licence EL43/1993 exploration license located to west of the Murchison Highway immediately to the south of the Renison Bell tin mine, between the towns of Rosebery to the north and Zeehan to the south (Figure 1).

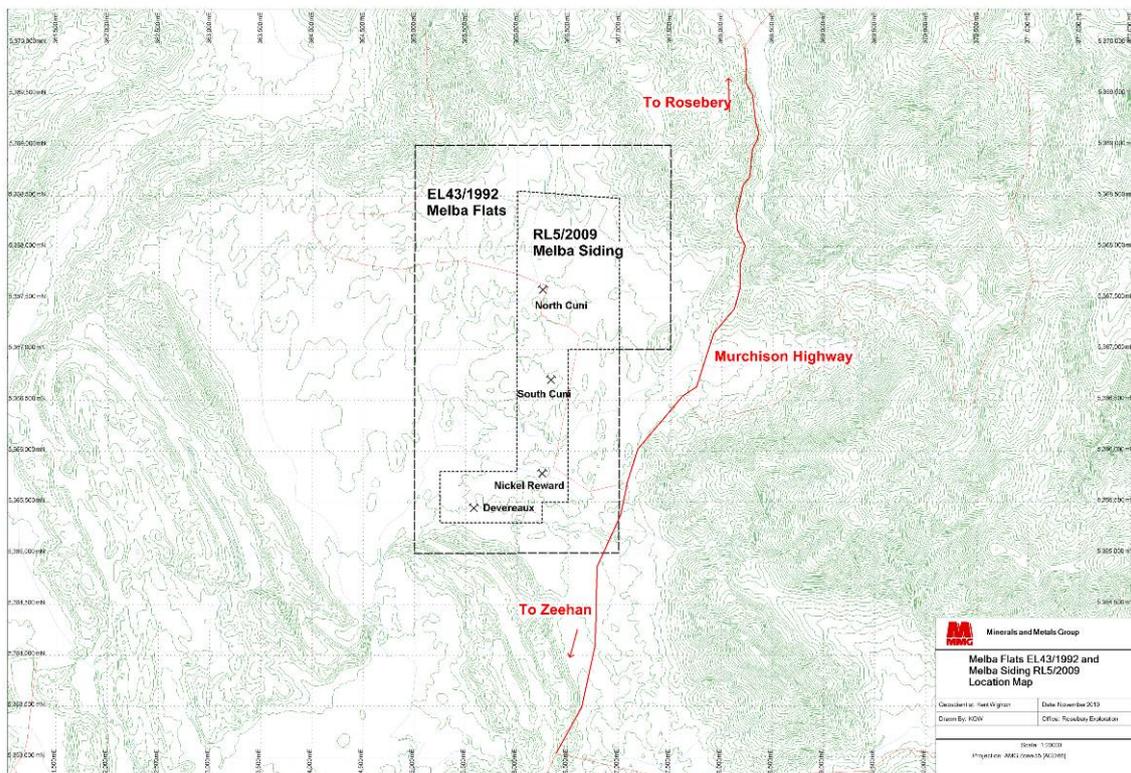


Figure 1: Location RL5/2009 Melba Siding

The Melba Flats area has had a long exploration history as indicated by numerous small scale historical workings and adits. It is thought that copper and nickel mineralization was first discovered in the Melba Creek Area as early as 1893. Recent exploration efforts by Allegiance Mining and later Oz Minerals resulted in the delineation of small scale, high grade nickel resources.

The Melba Flats area is underlain by Cambrian sediments intruded by a number of Cambrian gabbro dikes, 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 dikes are intrusive, often with chilled and brecciated margins, and are both concordant and discordant with the enclosing sediments. The dikes, sediments and ultramafics are pervasively altered. Carbonate and carbonate-talc alteration of the gabbro dikes 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 dikes. The mineralisation is accompanied by Au, Pt, Pd, 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-chalcopryrite. 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 highly prospective for extensions of these resources and for more substantial bodies at depth associated with larger gabbro and ultramafic intrusives.

The overall 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.

Exploration activities were disrupted and hindered by economic conditions and subsequent major corporate activities. Prior to its takeover by Zinifex in 2008 (and the subsequent merger etc to create MMG) 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.

3. LAND TENURE

In October 2007 a 10 year mining lease 2M/2007 was granted. 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. The application was made on the grounds of economic reasons not to mine the small scale resources. The same economic conditions resulted in the Avebury nickel mine being placed on care and maintenance.

RL5/2009 was granted on 30/11/2009 for a four year period to the 1/12/2013.

4. ENVIRONMENTAL

No rehabilitation work was completed during the period.

5. EXPENDITURE

TOTAL COSTS	AUD	14,201.01
PERSONNEL	AUD	831.33
OTHER CONTRACTORS	AUD	220.00
LAND & ENVIRONMENT	AUD	8,149.68
DEPRECIATION, OFFICE & SUNDRY	AUD	5,000.00

6. PROPOSED WORK 2014

The Avebury and Melba Flats deposits have traditionally been considered unrelated, however recent research suggests this may be incorrect. If the two deposits are related then MMG has a significant tenement holding in a potential new nickel terrain.

The Zeehan area in Tasmania has two known nickel deposits – Avebury and Melba Flats. Melba Flats is a gabbro hosted Ni-Cu-PGE deposit and there is still significant debate on the mineralisation style of the Avebury deposit, including internally within MMG. The two deposits are hosted within mafic and ultramafic rocks, which intrude sedimentary packages. In the literature the intrusives and sediments at Melba Flats are interpreted to be younger, and the two deposits are thought to be unrelated. However a recent paper by Keays (2011) and field observations suggest the intrusives and enclosing sediments may be of similar age. If the two deposits are related then MMG holds a significant tenement package in a nickel terrain with potential to discover additional deposits.

There are four key questions that need to be answered to assist with determining the relationship between the two deposits;

1. What are the ages of the host sedimentary rocks at Avebury and Melba Flats and the overall tectonic setting of the two deposits?
2. What are the ages of the Avebury and Melba Flats intrusives?
3. Is Avebury a magmatic or hydrothermal nickel system or a modified magmatic deposit?
4. Does the Melba Flats style mineralisation have depth potential?

It is expected that a minimum of \$25,000 will be expended on the retention licence during the 2013-2014 year.