Lake Rosebery EL 41/2010

ANNUAL REPORT
FOR THE PERIOD ENDING 1st JUNE 2016

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Rosebery Report No:

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1. SUMMARY

Activities during the period focused on data review of regional geochemical results collected in the previous tenement year, infill geochemical sampling design, and design of access and grid tracks for follow up of these anomalies, Track cutting commenced late in the period.

2. INTRODUCTION

Exploration activities undertaken on EL 41/2010 Lake Rosebery during the period May 2015 to April 2016 are detailed herein.

Access to the tenement is via the Rosebery Mine lease 28M/1993 south of Lake Rosebery (Figure 1). A network of 4WD tracks gives access for near mine extension of the Rosebery ore body. The Pieman Road enables access to areas north of Lake Rosebery through a series of unsealed Hydro Electric Commission roads.

MMG's main exploration target within EL 41/2010 is Cambrian hosted Rosebery style Zn–Pb–Cu–Au rich VMS subsurface seafloor replacement style mineralisation and/or Hellyer type seafloor mound-type mineralisation hosted in the Mount Read Volcanic (MRV) belt. The tenement covers a generally N-S striking section of the Central Volcanic Complex (CVC).

MMG recognise the potential of the Lake Rosebery tenement for near mine resource extension of the Rosebery deposit and its potential to provide additional mill feed for the Rosebery Mine through small resources previously identified, including Langdon's Mine and Cutty-Sark prospects. MMG Exploration intends to continue deep exploration diamond drilling, geophysical surveys and geologic mapping to resolve old and new geologic interpretations.

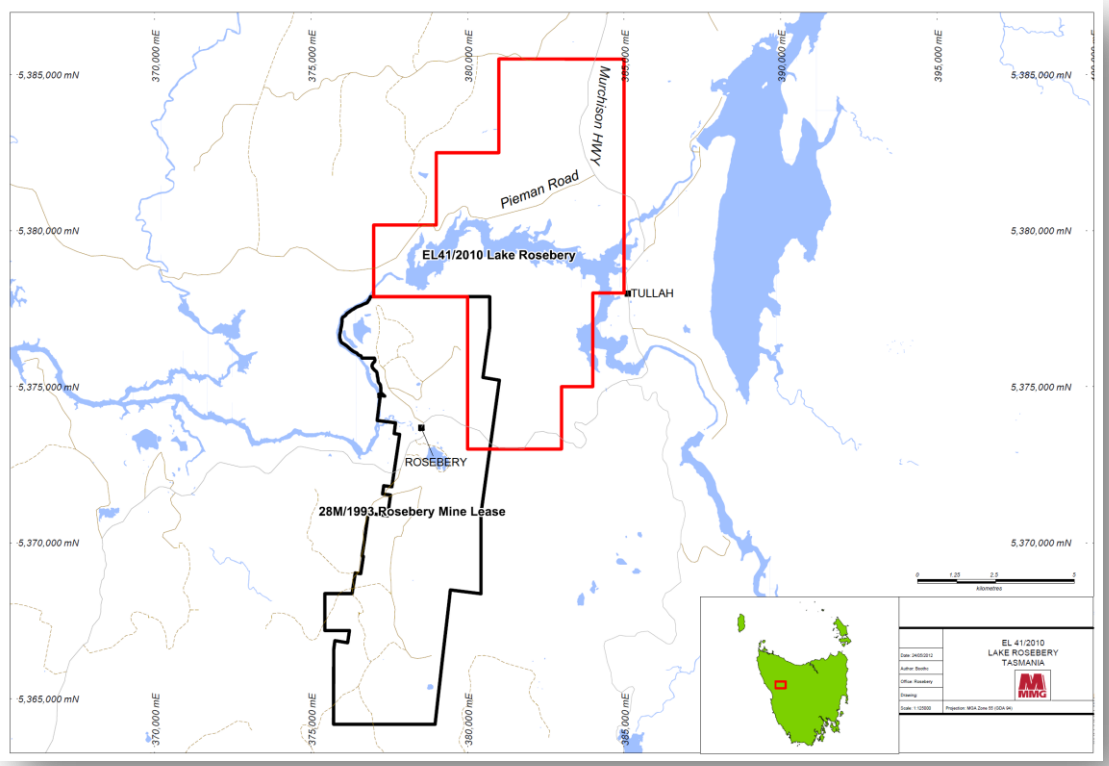

Figure 1. **Location of EL41/2010 Lake Rosebery**

3. LAND TENURE

EL 41/2010 Lake Rosebery (58 sq. km- Figure 2) was granted to MMG Exploration Pty. Ltd. in 2011 for a period of 5 years. EL 41/2010 covers ground relinquished by Bass Metals Ltd (EL 54/2004) previously. EL 41/2010 is contiguous with the northern boundary of the Rosebery Mine Lease 28M/1993

Land covered by EL 41/2010 is crown land designated as State Forest or informal reserves including parts of the Boco Creek and Mackintosh Forest Reserve areas. A small section of the Murchison Regional Reserve lies in the South of the tenement. All of the area contained within the tenement boundary is available for exploration under the Mineral Resources Development Act, 1995.

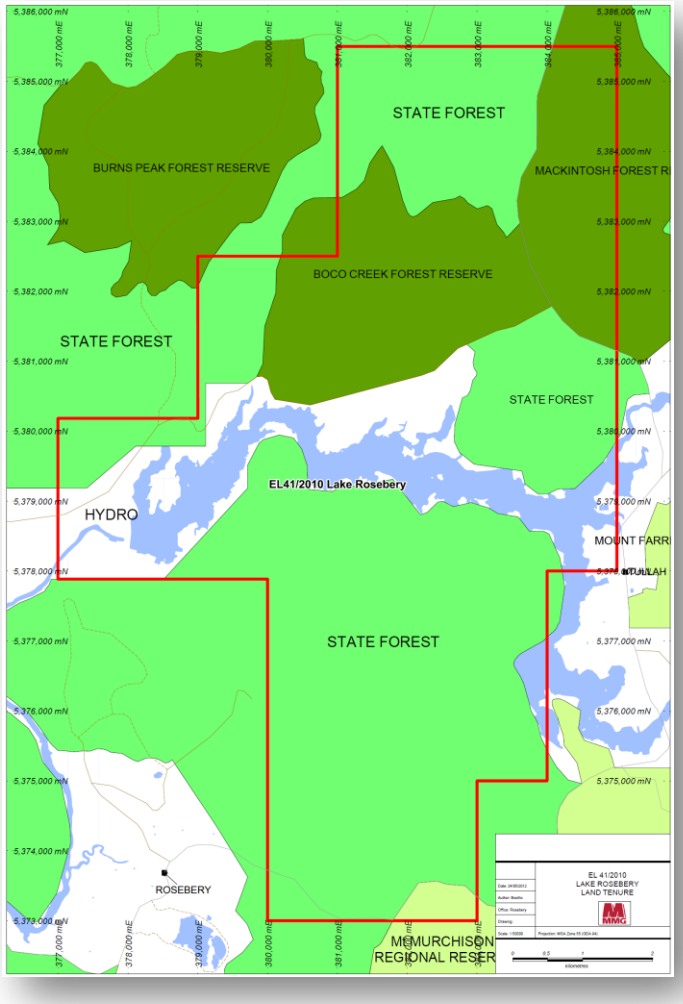

Figure 2. *Land Tenure EL41/2010 Lake Rosebery*

4. GEOLOGY

Regional

The basement lithologies in western Tasmania are Precambrian in age, comprising predominantly greenschist-facies meta-sediments with minor basalt and dolerite. Higher-grade amphibolite and eclogite facies are also present as isolated occurrences within the Precambrian packages.

Cambrian volcanism and sedimentation developed on this Precambrian continental crust, and is subdivided into the Eo-Cambrian tholeiitic Crimson Creek Formation (CCF) and the mid- to late-Cambrian predominantly calc-alkaline, Mt Read Volcanics (MRV).

The CCF was deposited in shallow but rapidly subsiding basins (Brown, 1986). The CCF consists of basaltic lavas and volcaniclastics, turbidites, carbonates, chert and minor evaporites.

Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian (Crawford and Berry 1992). These rocks generate strong magnetic anomalies and outcrop within the Huskisson Syncline.

The MRV form a 200km long by 20km wide broadly north-south trending belt adjacent to and in some areas on-lapping with and intruding Precambrian basement rocks. The volcanics include intermediate to felsic lavas, sub-volcanic porphyries and granites, volcaniclastics and basement-derived sedimentary rocks. The MRV host six economically significant volcanic hosted massive sulphide deposits. Regional structures that subdivide the MRV are the Rosebery and Henty Faults.

The MRV are overlain by a late Cambrian – early Ordovician marine and fluviatile sequence of quartzwacke, polymict sandstones, siltstones, shales and polymict conglomerates (Rosebery Group/Stitt Quartzite to the west of the MRV and Owen Group to the east; Corbett, 2002).

Cambrian volcanism and sedimentation was followed by predominantly basement derived Ordovician to Devonian age sedimentation, which includes sandstone and limestone.

At least two phases of regional compression were associated with the mid-Devonian Tabberabberan Orogeny (Keele, 1991). The development of folding, cleavage and regional thrusts in lower Palaeozoic rocks were associated with this event.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids. The carbonate replacement and skarn Sn mineralisation at Renison Bell Mount Bischoff and Mt Lindsay, the Pb Zn Ag vein deposits of Zeehan and, possibly, the Tullah Fields are associated with the Devonian granites.

In the Quaternary extensive unconsolidated glacial and fluvioglacial deposits up to >100m thick accumulated (Augustinius and Nichol, 1999). These deposits now obscure parts of the Palaeozoic geology.

Local Geology

The Lake Rosebery licence occurs along strike to the north from the Rosebery deposit and is mapped as containing the northern continuation of the Rosebery stratigraphy. The Central Volcanic Complex (CVC) is host to this deposit and is subdivided into four units: the footwall pyroclastics, the host rocks, the hangingwall epiclastics and the upper lava-rich sequence (Mt Black Volcanics). Major N-S trending fault zones including the Rosebery Fault, Mt Black Fault and Henty Fault, cut the MRV in the licence area.

Central Volcanic Complex

The CVC is dominated by proximal volcanic rocks (rhyolite and dacite flows, domes and cryptodomes and massive pumice breccias) and andesite and rare basalt (lavas, hyaloclastites and intrusive rocks) deposited in a shallow marine environment (Seymour et al., 2006).

The Footwall Pyroclastics

The Footwall Pyroclastics consists of a uniform sequence of feldspar porphyritic, vitric crystal lapilli tuffs which lie below the ore horizon at both the Rosebery and Hercules deposits (Smith & Huston, 1992).

The Host Rocks

Units at Rosebery and Hercules consist predominantly of sericitic siltstone with minor crystal tuffs, bedded carbonates and up to 60m of pyritic black shale. The host rocks and black shale represent a period of quiet sedimentation.

The Hangingwall Epiclastics

This unit disconformably overlies base metal mineralisation and the black shale of the host rock unit. It consists of small to large graded mass flow units which contain polymict lithics including black shale, sandstone and basalt clasts

The Mt Black Volcanics

Overlain by the Mt Black thrust fault, the Mt Black Volcanics predominantly consist of massive to brecciated lavas of dacitic to andesitic composition with volcaniclastic units throughout.

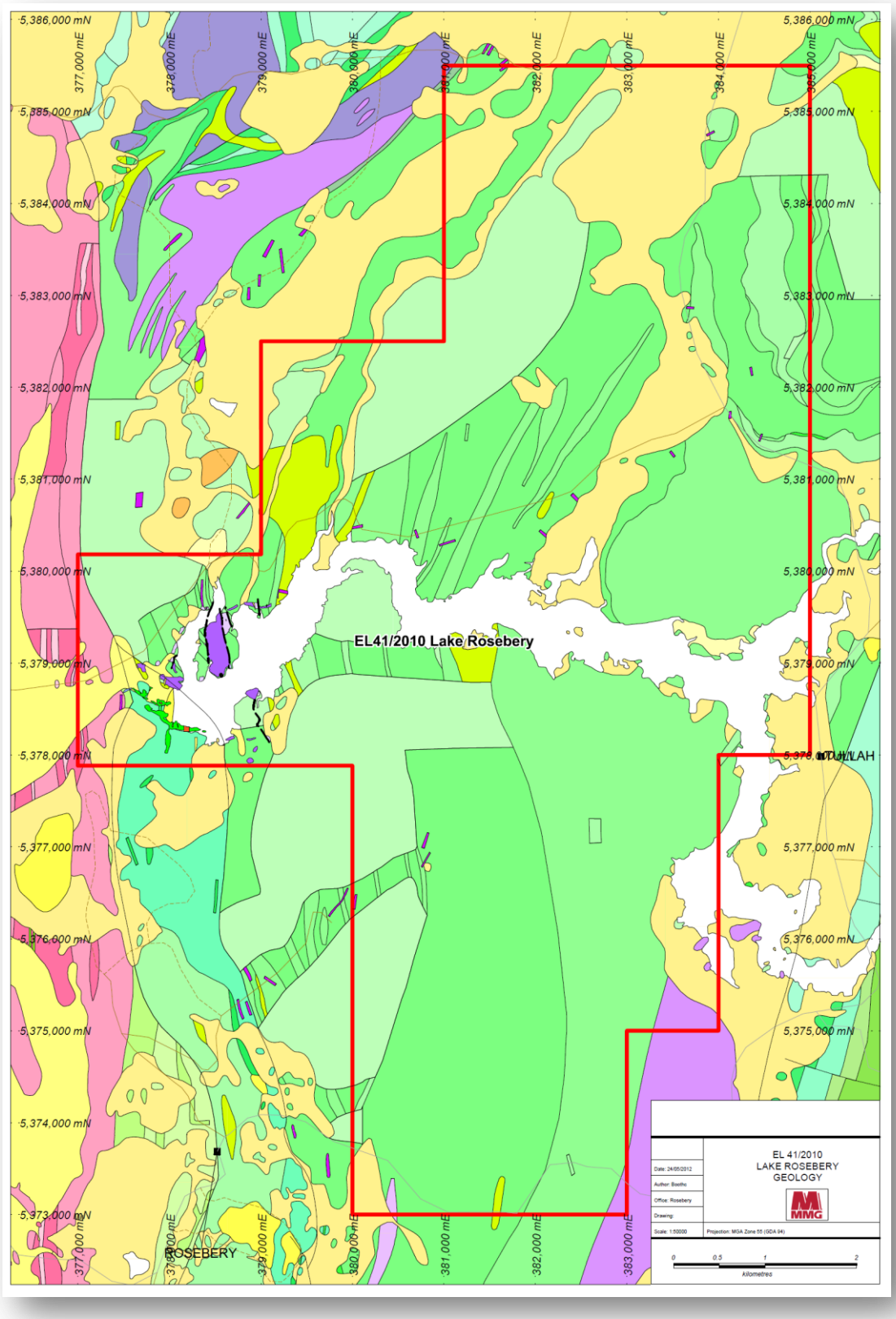

Figure 3. **Geology of EL41/2010 Lake Rosebery**

5. CURRENT EXPLORATION

Work Completed in the 2015-2016 Period

During the period results from a regional soil and rock sampling program were reviewed. 28 soil and 27 rock samples were collected from this tenement. The assay results are appended in Appendix 1. A significant anomaly was identified that straddles the Roseberry Mine Lease EL 41-2010 boundary – termed the Mount Black Anomaly.

The Mount Black Anomaly is located at the northern end of the Rosebery Mine lease and the northern extension of the anomaly is on the Lake Rosebery exploration Licence (EL 41/2010) – **Figure 4a and 4b**.

The Mount Black anomaly is a 2km x 1km zone strongly and consistently anomalous in Mo, Bi, W, Ag and In. It is very sericitic, and strongly phengitic, this zone is weakly anomalous in Cu and Zn. This alteration system does not have a Rosebery-type signature; with more Mo-Bi rather than Sb-Tl, it looks like a hotter system. Samples have been submitted for gold analysis **(Figure 5).** Gold results are displayed in **figure 6** and this anomaly is not gold anomalous.

This multi element geochemical anomaly straddles the Mount Black Fault and contains several mineral occurrences / small mines including Cutty Sark and the Hawkesbury Mine **(Figure 5a)**. These mines are small Devonian quartz stockwork lodes, Harcourt-Smith (1898) described the Hawkesbury mine as occurring to the south of Cutty Sark and the same belt of pyriteferous rocks have been traced through them with vein stockworks being predominantly pyrite with minor chalcopyrite, galena and silver. The mines were visited again in 1918 by Reid (1918) who observed irregular bunches and disseminations in chloritic schists or as well designed fissure fillings in felsitic rocks. The lodes do not persist unbroken for any considerable distance along the surface but occur as short separate lenses outcropping at several points in more or less straight lines. The veins are typically orientated at 020/65→75E.

Although these mineral deposits all occur within the multi element anomaly it is difficult to imagine that the deposits described are shedding this significant and large anomaly.

Much of this anomaly has been drilled in the collar of holes testing the Rosebery position (Figure 6b), as a first pass the relevant parts of these holes should be logged, sampled and SWIR spectra collected.

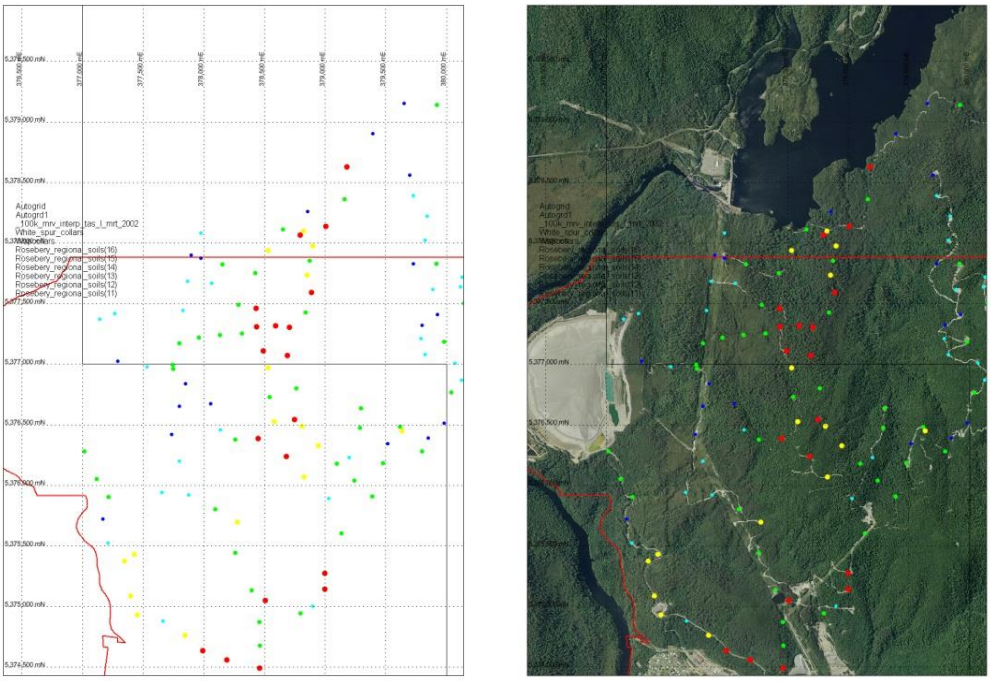

Figure 4a (LHS): *Indium in soil anomaly for Mt Black anomaly showing mine lease boundary in red.* ***Figure 4b (RHS),*** *as in Figure 1a with air photo underlain to demonstrate location wrt infra-structure and Lake Rosebery.*

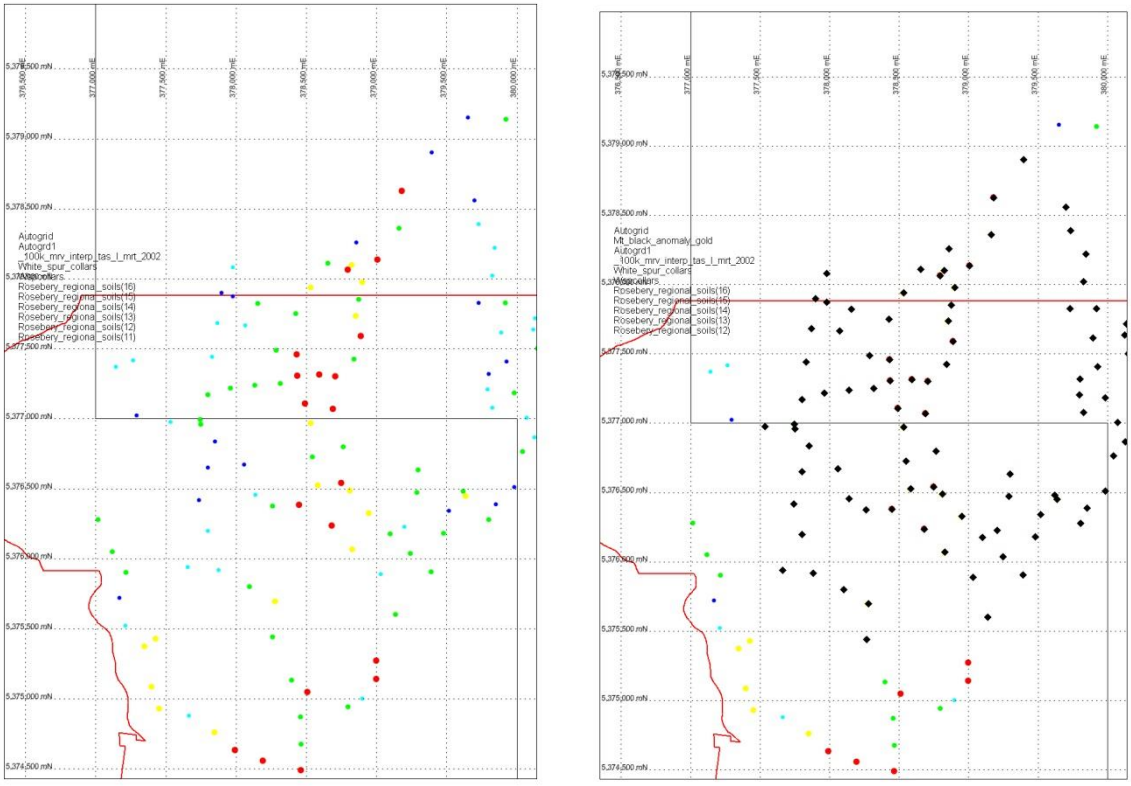

Figure 5a (LHS): *Indium in soil anomaly for Mt Black anomaly showing mine lease boundary in red.* ***Figure 5b (RHS),*** *soil samples assayed for gold.*

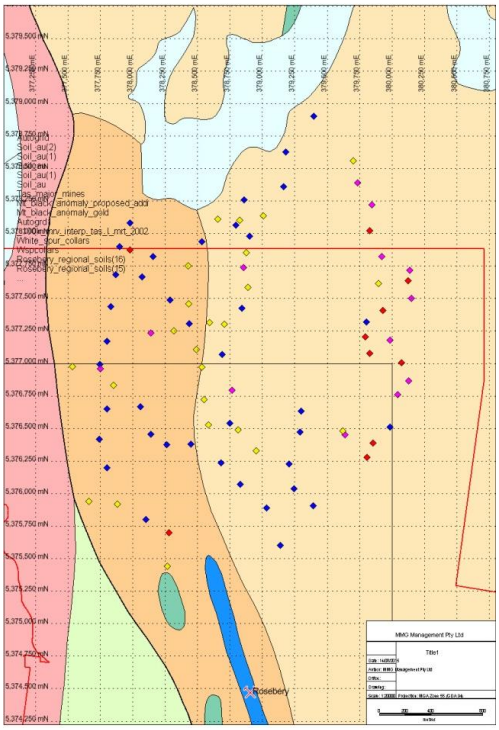

***Figure 6**: Gold assays plotted on geology, blue <0.002, green <0.005, red <0.01. purple <0.014.*

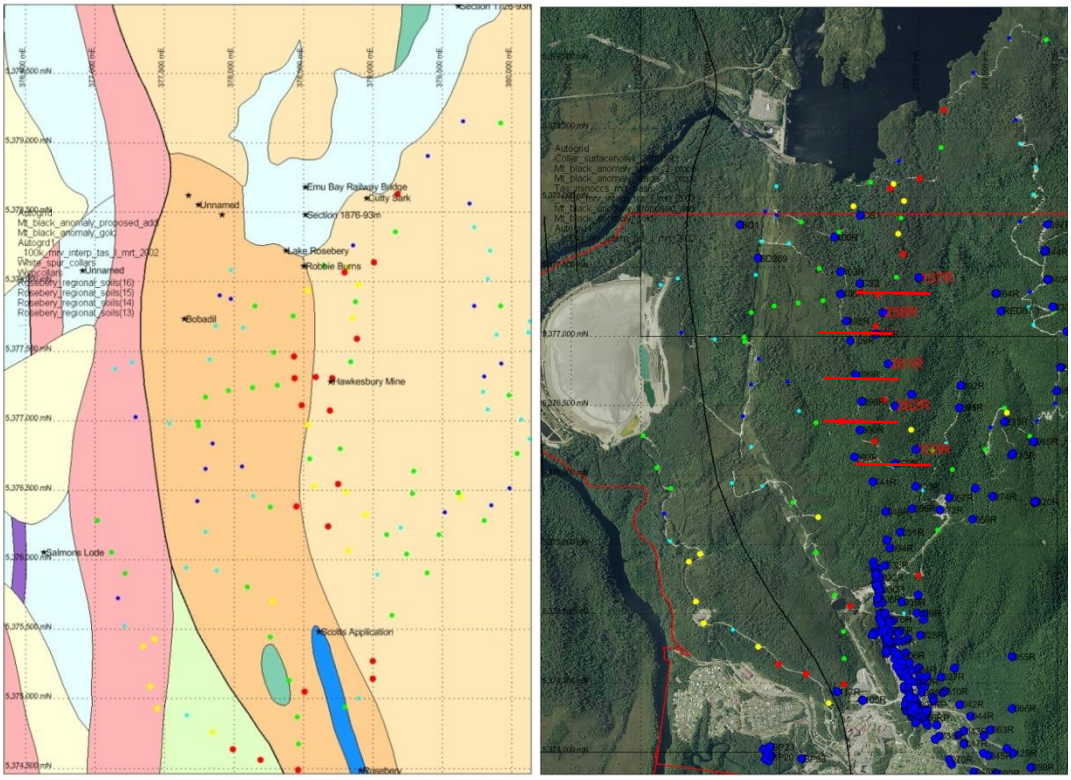

Figure 7a: Indium in soil anomaly for Mt Black anomaly showing geology and mineral occurrences. Note association of mineralisation with the Mt Black Fault and the geochemistry anomaly. **Figure 7b** - Indium in soil anomaly for Mt Black anomaly on air photo and drillholes (Blue circles), proposed holes for logging marker red.

6. PREVIOUS EXPLORATION

Date: 2011-2015
Company: MMG Ltd
Exploration Philosophy: Targeting base metal deposits.
Work Completed: Diamond drill holes testing along strike of the Rosebery deposit, 3D seismic Survey, SWIR on drill holes, Lithe geochem study. LIDAR 2010 and 2014,
Results and Conclusions: 9.8m of massive sulphide intersected below the Rosebery Fault
Report: Booth and McGilvray 2012, Booth and Denwer 2013. Booth and Denwer 2014, Denwer 2015.

Date: 2005- 2010
Company: Bass Metals Ltd
Exploration Philosophy: Targeting base metal deposits.
Work Completed: Review of ASTER data, 3d modelling, Rock chip sampling, Soil Sampling, MMI, Drill hole planning
Results and Conclusions: ASTER data failed to identify anomalous areas. Rock Chip and soil samplings identified some anomalies but were not followed up conclusively. Planned drill hole never drilled.
Report: Bates 2010, 2009, 2007. Turnbull and Bates 2006.Jones 2005.

Date: 1987- 2000
Company: Pasminco Exploration
Exploration Philosophy: Targeting base metal deposits.
Work Completed: Auger soil sampling, geological mapping, downhole geophysics, surface geophysics & diamond drilling.
Results and Conclusions: Low grade Zn intersected at Chester and alteration zone interpreted to extend SW from Chester Mine. Results from Pinnacles, Burns Peak and Farrell included. Lots of data presented and numerous anomalies defined.
Report: Lorrigan, 1990. Kirsner, 1992.Fitzgerald, 1993.Parfrey& McNeill, 2000.

Date: 1988- 1989
Company: Climax Mining Ltd
Exploration Philosophy: Targeting base metal deposits.
Work Completed: Auger soil sampling, minor ground magnetics & four diamond drill holes (MBD1-MBD4) to test Billiton UTEM anomalies.
Results and Conclusions: No significant mineralisation intersected but continued exploration around Cutty Sark recommended.
Report: Hine & Scott, 1989.

Date: 1988
Company: Aberfoyle Resources Ltd
Exploration Philosophy: Targeting VHMS deposits
Work Completed: Diamond drilling of home M02 to test a deep CSAMT and UTEM conductor.

Results and Conclusions: No significant results.
Report: McNeill & Wallace, 1988.

Date: 1986
Company: Billiton Australia
Exploration Philosophy: Targeting base metal deposits.
Work Completed: Geological mapping, ground geophysics, rock chip samping& auger soil geochemistry. Work at Langdons and Cutty Sark and Mt Black.
Results and Conclusions: Auger Pb-Zn anomalies defined at Langdons.
Report: Randell, J.P., Purvis, J.G. & Hungerford, N., 1986.

Date: 1972-1975
Company: Electrolytic Zinc Company of Australasia Ltd
Exploration Philosophy: Targeting VHMS deposits and exploring Rosebery & Hercules mine trends.
Work Completed: Licence along strike both north and south from the Rosebery mine. Geochemistry, geophysics, geological mapping & diamond drilling.
Results and Conclusions: Concluded that the mine stratigraphy continues several kilometres north and south of Rosebery.
Report: Reinhardt, 1972. Williams, 1975.

7. ENVIRONMENTAL

There was no environmental or rehabilitation activities conducted on EL 41/2010 during this reporting period.

8. CONCLUSIONS AND RECOMMENDATIONS

Work proposed for 2016-17 is to follow up the Mt Black anomaly. It is proposed to follow up the area between 5375500mN and Lake Rosebery from 377,500 - 380,000E and this area to be mapped at an appropriate scale utilising all existing grids and access. Concurrent to this a soil sampling programme is proposed with soil samples to be collected on a nominal 400 metre x 100 metre grid.

This work has already commenced with a grid being cut to enable the soil sampling to occur.

Estimated expenditure for 2016-17 is $70,000.

9. EXPENDITURE

Expenditure cost for 2015-16 was 58,742.22 as outlined in the table below.

	Project Definition	XP/00148
		Lake Rosebery
	WBS Element	XP/00148/01
		EL41/2010
TOTAL COSTS	AUD	**$58,742.22**
PERSONNEL	AUD	$42,856.00
CONTRACT FIELD SUPPORT		
GEOSCIENCE CONSULTANTS		
TRACK CUTTING & GRIDDING		
GEOCHEMICAL & ASSAYING		$14,751.22
DRILLING		
GEOPHYSICS		
OTHER CONTRACTORS	AUD	
STORES & SUPPLIES	AUD	
VEHICLES, PLANT & MAINTENANCE		
LAND & ENVIRONMENT	AUD	
EQUIPMENT HIRE		
DEPRECIATION, OFFICE & SUNDRY	AUD	$1,135.00

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