

Copper Mines of Tasmania Pty Ltd

RL3/2006

Copper Clays Exploration Report
3rd Nov 2011 – 3rd Nov 2012



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Distribution:

MRT - Hobart
CMT - Queenstown

Date: 24 October 2012
CMT report no: T2012-002

Contents

	Page
1 Introduction ...	1
2 Review of Previous Work in the Modern Era	2
3 Exploration Completed During the Report Period...	3
4 Conclusions	5
5 Environment	5
6 Proposed Works for the 2012-2013 Licence Year	5
7 Expenditure	6
8 References	6

Figures

Figure 1, Retention Licence RL3/2006 Location Map	1
Figure 2, King Lyell 2011 Drilling Program Airphoto	3

Appendices

Appendix A Drill Logs (CD version only)

Appendix B Assays (CD version only)

1. Introduction

RL 3/2006 is a 2km² retention licence held by Copper Mines of Tasmania in the Linda Valley, adjoining the eastern boundary of the Mt Lyell mining lease 1M/95. The area is located within the land district of Montagu, in part covers the townships of Linda and Gormanston and is traversed by the Lyell Highway. (Figure 1).

The retention licence covers three known Cainozoic copper clays style copper deposits; Lyell Consols, Lyell Blocks and King Lyell. These native copper and copper oxide deposits are hosted in highly deformed and intensely weathered limonitic and carbonaceous clays and concretionary iron hydroxides, derived from Gordon Group limestone and shale altered by copper bearing acid waters draining from primary Mt Lyell copper sulphide mineralization up slope (Wills, 1995). The deposits are contained in tight, faulted Devonian synclines, which plunge to the east-southeast and strike parallel to the North Lyell Fault, forming part of the tectonic domain bounding the eastern edge of the Mt Lyell mineral field.

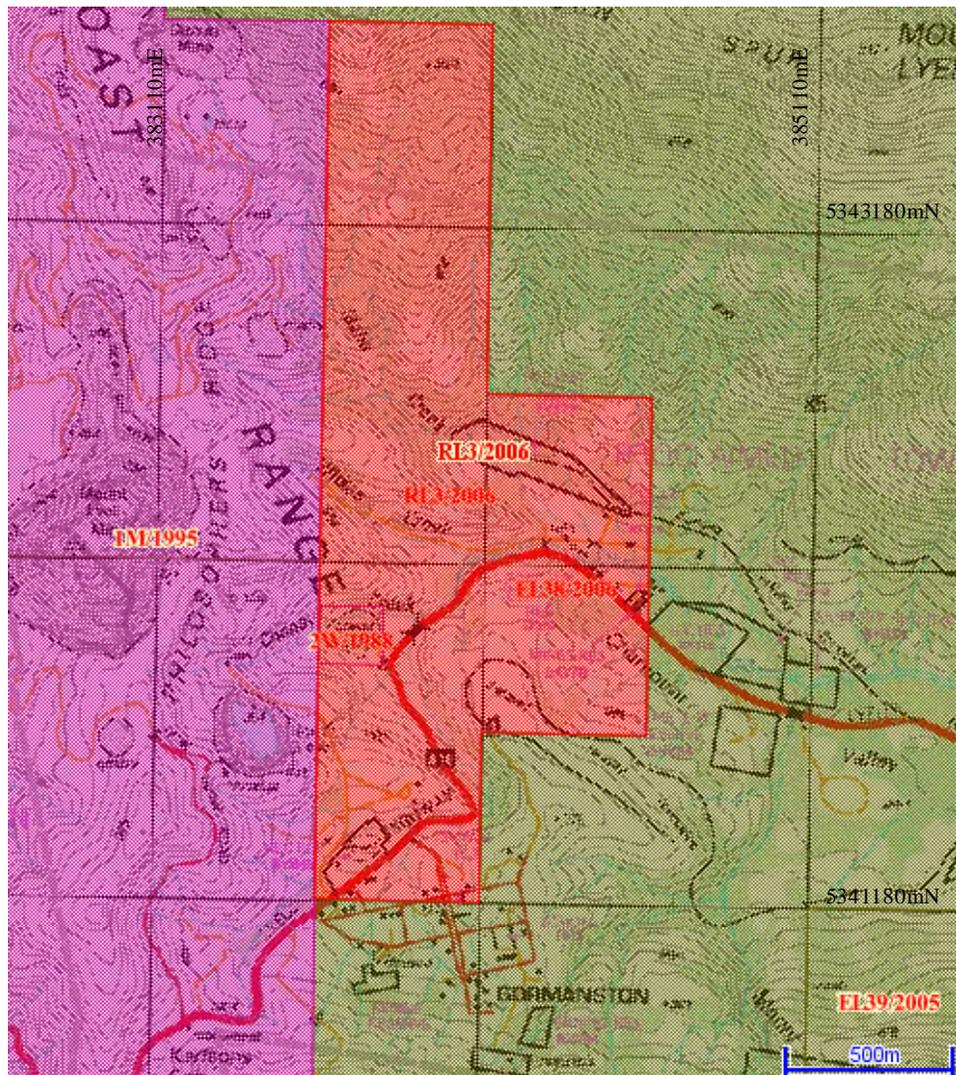


Figure 1 Retention Licence RL3/2006 Location Map.

The King Lyell deposit has been assessed as the only deposit with tonnage and access potential to be considered for future mining. Recent exploration has achieved sufficient drilling coverage to increase confidence for resource modeling and possible feasibility study. The drilling update was reported in the 2011 Annual Report (Brown, 2011) and logging was in progress at the time of reporting. The current report includes the logs for the 11 holes drilled in the 2011 campaign and discusses their results.

2. Review of Previous Work in the Modern Era

A major CMT desktop study reviewed the geology and mining potential of the copper clays deposits in 1995 (Wills, 1995). In 1996 CMT drilled part of the King Lyell deposit predicted from the Wills 1995 report to contain relatively high grade mineralization. It was also an opportunity to trial modern high air delivery RC percussion drilling on the copper clays, which are renowned as being difficult to effectively drill. The three hole program was moderately successful in terms of sample recovery and rate of penetration but the wet unconsolidated materials resulted in substantial vertical contamination and therefore reported grade intervals may not be very accurate (Morrison, 1996). A 1997 resource estimation of King Lyell, estimated 1.2 million tonnes at 1.37% Cu with a stripping ratio of 2.3:1 (Morrison and Knight, 1997). This estimate utilised wireframes created from cross-sections and a longitudinal section created from un-validated historical drilling and the 1996 CMT drilling results.

Further evaluations of the resource potential were conducted by CMT's senior Mining Engineer Tony Weston with a review of preliminary mine economics in 1997. The economics were not favourable and as the Mt Lyell operation temporarily closed in 1998, and subsequently changed hands, no further copper clays exploration was done until 2005.

Six diamond drill holes were drilled at King Lyell during 2005, aimed at testing the reproducibility of historical drilling results and to help define the outer boundaries of the deposit. Two of the six holes intersected mineralised clay, with the best intersection in 05KLD002 being 14m @ 0.51% Cu (Hill, 2006). These results were used to validate a nearby earlier RC hole (96KLC001) which reported values of 8m @1.27% Cu from a similar depth. McArthur Ore Deposit Assessments Pty Ltd conducted a mineragraphy study on core samples in September 2005, concluding that native copper was the most common copper mineral, but also present were cuprite (mainly rimming native copper, but also commonly liberated), covellite, chalcocite, bornite and chalcopyrite (McArthur, 2005). It is not clear whether the copper sulphide minerals are hosted in detrital rock fragments deposited as karst fill talus in the decomposed limestone.

AMC consultants were engaged by Copper Mines of Tasmania during 2007 to undertake a scoping study of the copper clays deposits. The study evaluated the deposits and determined that the King Lyell deposit was the only deposit that justified further attention. The scoping study was completed in February 2008 and covered a geological review, geotechnical and metallurgical assessments, mining

options and costs, optimization, conceptual designs for open pit, waste dumps and scheduling, financial and risk analysis. The main conclusions of the scoping study underlined that the King Lyell deposit had sufficient potential to provide a significant minable resource for CMT. More drilling was recommended prior to a pre feasibility study (AMC, 2008). Surpac 3D modeling of King Lyell was conducted by CMT following the AMC report (Brown, 2008).

A resource drilling program consisting of 11 HQ vertical diamond drill holes was completed during 2011 (Figure 2). All holes were rotary- mud pre collared and core recovery through the target sediments was better than on any previous copper clays drilling. A full description of the drilling methods and the geology of the sediments is covered in the 2011 Annual Report (Brown, 2011).



Figure 2 King Lyell 2011 Drilling Program Airphoto

3. Exploration Completed During the Report Period

Drill core logging, completion of sample assaying and interpretation of the results from the 2011 drilling program were completed in the year ending November 3, 2012. Log sheets and assays for the 11 holes are attached in Appendices A and B (CD version only). Visual logging indicates that the copper occurs almost entirely as native copper and cuprite (copper oxide). The native copper is metastable under

surface conditions and strong shows of metallic copper logged during drilling often disappear within one to several hours of surface exposure. The zones of copper mineralization are characterized by repeated cycles of yellow-brown iron oxide/hydroxide clays and limonitic concretions, in sharp contact with black-dark grey carbonaceous clay. These host sediments are interstratified with intervals of relatively unaltered limestone and decomposed quartz sandstone. There are also occasional thin intervals of a microcrystalline hard, siliceous flinty lithology. This rock type is probably a derivative from limestone and is likely to be the cause of very hard quartz reported to cause drilling problems, including several bits consumed, during the 2005 diamond drilling program.

Textures in the host sediments show intense deformation of an irregular chaotic, slumping style which is interpreted to be due to a combination of Devonian axial faulting in a tight syncline, and Cainozoic dissolution of limestone by acid groundwater, facilitating in-situ slumping and collapse of the stratigraphy. By comparison with the stratigraphic section of Gordon Group rocks further east in Linda Valley, it is likely that the original limestone : shale + sandstone thickness ratio at King Lyell was much larger than suggested by the current proportions of limonitic : carbonaceous clays hosting the mineralization. Sub surface karsting of the limestone by weak sulphuric acid is likely to have dissolved much of the limestone and provided the permeability conduits for low temperature copper charged fluids to transmit and precipitate the copper clays mineralization.

Assuming a 0.5% cut off grade, 9 of the 11 holes intersected intervals of significant mineralization ranging from 2-10 metres thick (see table below). The best intersections, expressed as metres x %Cu occurred in DD11CMT012 (10m @ 0.81% Cu) and DD11CMT014 (7m @ 1.2% Cu).but overall the zone of mineralization is encouragingly consistent in terms of average grade, thickness and RL. The mean thickness of mineralization in the 9 holes is 6m and the mean weighted (to thickness) grade is 0.91% Cu.

Core sample SGs range from 2.77 to 3.38 g/cm³ with a mean value of 3.03 g/cm³ (n=27). Overburden thickness ranges from 41 to 78 m, with a mean of 54m.

Hole ID	AMG Easting	Northing	Collar RL	Overburden	Intersection
DD11CMT007	383619.1	5341806.8	306.8	78m	5m @ 1.18% Cu
DD11CMT008	383615.2	5341776.9	307.0	75m	3m @ 1.60%Cu
DD11CMT009	383598.5	5341813.9	307.0	63m	9m @ 0.70% Cu
DD11CMT010	383588.3	5341799.3	307.2	55m	7m @ 0.60% Cu
DD11CMT011	383592.7	5341784.0	307.1	60m	4m @ 1.46% Cu
DD11CMT012	383573.7	5341812.8	307.5	41m	10m @ 0.81% Cu
DD11CMT013	383563.6	5341793.0	307.8	42m	7m @ 0.69% Cu
DD11CMT014	383567.7	5341775.6	307.6	61m	7m @ 1.20% Cu
DD11CMT015	383538.2	5341796.1	308.3	41m	2m @ 0.50% Cu
DD11CMT016	383534.5	5341771.2	308.1	n/a	nil
DD11CMT017	383518.2	5341778.3	308.4	n/a	nil

The lack of an intersections in DD11CMT017 may be due to the hole passing through old King Lyell underground workings, which are interpreted to be located in that area on the western edge of the

deposit. A nearby RC percussion hole (96KLC0002) drilled by CMT in 1996 intersected 8m @ 3.47% Cu from 29m. The lack of an intersection in DD11CMT016 is consistent with the results in nearby RC hole 96KLC003 and provides a boundary to the potential resource in that area.

The higher grade assays show a fairly nuggety distribution, with intervals assaying >1% Cu normally restricted to only one metre, and typically occurring at on iron oxide-carbonaceous clay contacts, suggesting a Redox control to copper precipitation. Despite the intensely deformed appearance of the host rocks and the plunging tight syncline containing the deposit, the zone of significant mineralization appears to be predominantly stratiform, suggesting that mineralization is controlled by a stratigraphic contact or a lithological horizon.

4. Conclusions

The 11 hole diamond drilling program completed at King Lyell in 2011 was the most successful copper clays drilling campaign yet in terms of core recovery and the delivery of reliable geological and grade information. Interpretation of the results indicates an east plunging folded stratiform zone of predominantly native copper and cuprite mineralization, with a grade averaging about 0.9% copper over vertical thicknesses ranging from 2 -10 metres, if a 0.5% cut off is applied. In detail the best intersections occur at Redox boundaries between limonitic clays and carbonaceous clays, but many equivalent contacts in the stratigraphy are not substantially mineralised. The deposit is covered with unconsolidated and semi consolidated overburden ranging from 41-78 metres vertical thickness in the area drilled.

In combination with the results of previous drilling campaigns, the new data will enable a reliable deposit model to be constructed during the next year, sufficient to estimate a resource and re-evaluate the mining potential at King Lyell.

5. Environment

Routine monitoring of water levels continued in drill holes DD11CMT008 and DD11CMT017, which were completed as water bores at the end of the 2011 drilling campaign. Base line ground water data are being documented for possible use in future mine planning.

No issues arose relating to rehabilitated drill sites at King Lyell.

6. Proposed Works for the 2012-2013 Licence Year

CMT considers that sufficient drilling has now been done on King Lyell to enable a resource model, possibly followed by a feasibility study, to be the next stage in assessing the deposit. During the next licence year drill hole cross sections, isopach maps and a 3D model of the deposit will be constructed and a resource estimate to at least the Inferred level of confidence will be completed. Estimated costs for this work are \$15,000.

7. Expenditure

Total expenditure on RL3/2006 for the reporting period was \$21,052, which was entirely spent on assaying drill core samples at BRL, Burnie.

8. References

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Appendix A - Drill Logs – DD11CMT007-017

Appendix B - Assays – DD11CMT007-017