



COPPER MINES OF TASMANIA PTY LTD

ANNUAL REPORT: EL13/2016 Sedgwick Bluff (including results inside contiguous MLs)

FOR THE YEAR 6 PERIOD ENDING APRIL 3rd, 2023



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Copper Mines of Tasmania Pty Ltd

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A maintained gravel road used to access the Lyell Comstock and Tasman Crown areas within the Comstock Valley on CMT’s mine lease 9M/2013 gives vehicle access to the southern and eastern portions of the EL, with the Lake Margaret road giving access to the northwestern border area. Vehicle access to areas inside the EL is restricted to one unmaintained gravel road to the Itat Creek and Beatrice prospects, which starts within mine lease 9M/2013 and zig zags up the northern slopes of the Comstock Valley toward Mt Sedgwick. This road crosses the East Queen River and is currently impassable to vehicles.

List of related digital files

Exploration Work Type	File name	File format
Annual Report	EL132016_202304_01_AnnualReport.pdf	PDF
File Verification Listing --- (this file)	EL132016_202304_02_FILELISTING.xls	xlsx

Exploration philosophy

The EL contains geology analogous to areas of known mineralisation in the southern Mt Read Volcanic belt. These features are:

- The Great Lyell Fault.
- Cambrian submarine volcanic environment.
- Geological similarities to the Mt Lyell mineral field.
- Target stratigraphy at the top of the Central Volcanic Complex and overlying basal Tyndall Group sediments and andesite.
- Argillic to advanced argillic alteration occurs close to or at the contact at numerous localities within the region.
- Known host to at least two deposit types within Mt Lyell mineral field (high sulphidation Cu-Au and VHMS Zn-Ag-Pb).
- Structural-stratigraphic setting known to host mineralisation at Henty, Basin Lake, Mt Jukes and Mt Darwin.

Primary targets include:

- Exhalative and/or epithermal deposits at or near the Tyndall-CVC contact, and proximal to the Great Lyell Fault hanging wall.
- Intrusive related mineralisation, including porphyry style systems believed to be related to the extensive phyllic and advanced argillic alteration zones which host known Mt Lyell Cu-Au-Ag deposits.

Geology

More than half the EL area is covered with Late Cambrian-Early Ordovician Owen Conglomerate and Quaternary glacial and slope talus sediments, but the Cambrian Mt Read Volcanics geology outcrops in two main areas with corresponding prospects which have attracted almost all of the previous exploration (Figure 1).

West Sedgwick

The West Sedgwick area lies in the west of the EL, extending from just west of Cape Horn on the western end of Mt Lyell, northwards through Agglomerate Hill and Zig Zag Hill at the head of the Comstock Valley, then northwest to the EL boundary, terminated at overlying Pleistocene glacial moraine near the Lake Margaret township. The rock package of interest comprises mainly mixed feldspar+/-hornblende-phyric dacitic volcanics and volcanoclastics of the Mid to Late Cambrian Central Volcanic Complex (CVC).

In the area around Zig Zag Hill rocks identified as Tyndall Group overly the CVC, broadly indicating an east-facing stratigraphy, but with local evidence of folding and overturned bedding close to major faults. The Tyndall Group rocks are contiguous with stratigraphy along strike to the southeast, in the CMT mine lease where the CVC-Tyndall contact geology hosts the Copper Chert deposit and the massive hydrothermal microcrystalline quartz alteration lithology, after which the deposit is named. Aeromagnetic surveys define the Tyndall stratigraphy, responding to andesite lava and detrital magnetite within some volcanoclastic horizons.

The volcanics are structurally juxtaposed against the Owen Conglomerate by the Great Lyell Fault. Several prospective targets have been identified by previous explorers within the West Sedgwick geology. The Zig Zag Hill anomaly is based on early multiple geophysical and geochemical surveys and has been partially tested by drilling with results somewhat inconclusive. The Agglomerate Hill anomaly is a geochemical and alteration anomaly believed to be at or close to the CVC-Tyndall contact and has seen some drilling completed with muscovite-pyrite alteration intersected with no significant mineralisation. Further to the north, in the immediate hangingwall of the west-dipping Great Lyell Fault, the outcropping Northeast Pyrite Zone has also been drilled and is subject to ongoing exploration. The predicted position of more than 2 km strike length of the Great Lyell Fault, from Tasman Crown to the West Sedgwick area, is covered by Quaternary glacial and talus sediment and the western margin of this structural corridor is the target of current CMT exploration.

Beatrice.

The Beatrice area (Figure 1) lies between the southern slopes of Mt Sedgwick and the eastern slopes of Sedgwick Bluff. Mt Sedgwick is capped by a remnant of Jurassic Dolerite sill which intruded into Permian tillite and marine sediments. The Permian rocks unconformably overlie folded Owen Group conglomerates and sandstones which form the Tyndall Range.

CVC and Tyndall Group volcanics, volcanoclastics and sediments are exposed on the northern slopes of the Comstock Valley. Lavas, volcanoclastic and black shale, interpreted to be striking north, host a large (partially magnetic) quartz porphyry body that accounts for a large volume of the volcanics within this part of the EL. Minor Tyndall-like rocks have been mapped as slithers between the



exposures of CVC and Owen Group rocks on the upper slopes of the Comstock Valley. The volcanics are overlain by a substantial thickness of glacial cover at the base of the valley.

The main prospective area within this part of the EL is the Lake Beatrice/Mount Sedgwick Anomalous Zone where low levels of Pb-Zn-Ag and Au mineralisation are hosted within black shale and tuff horizons exposed at surface and intersected by drilling in the Itat Creek area, east of the quartz-porphry. Other potentially prospective sites have been identified close to the western boundary of the porphyry but have not been advanced by previous exploration.

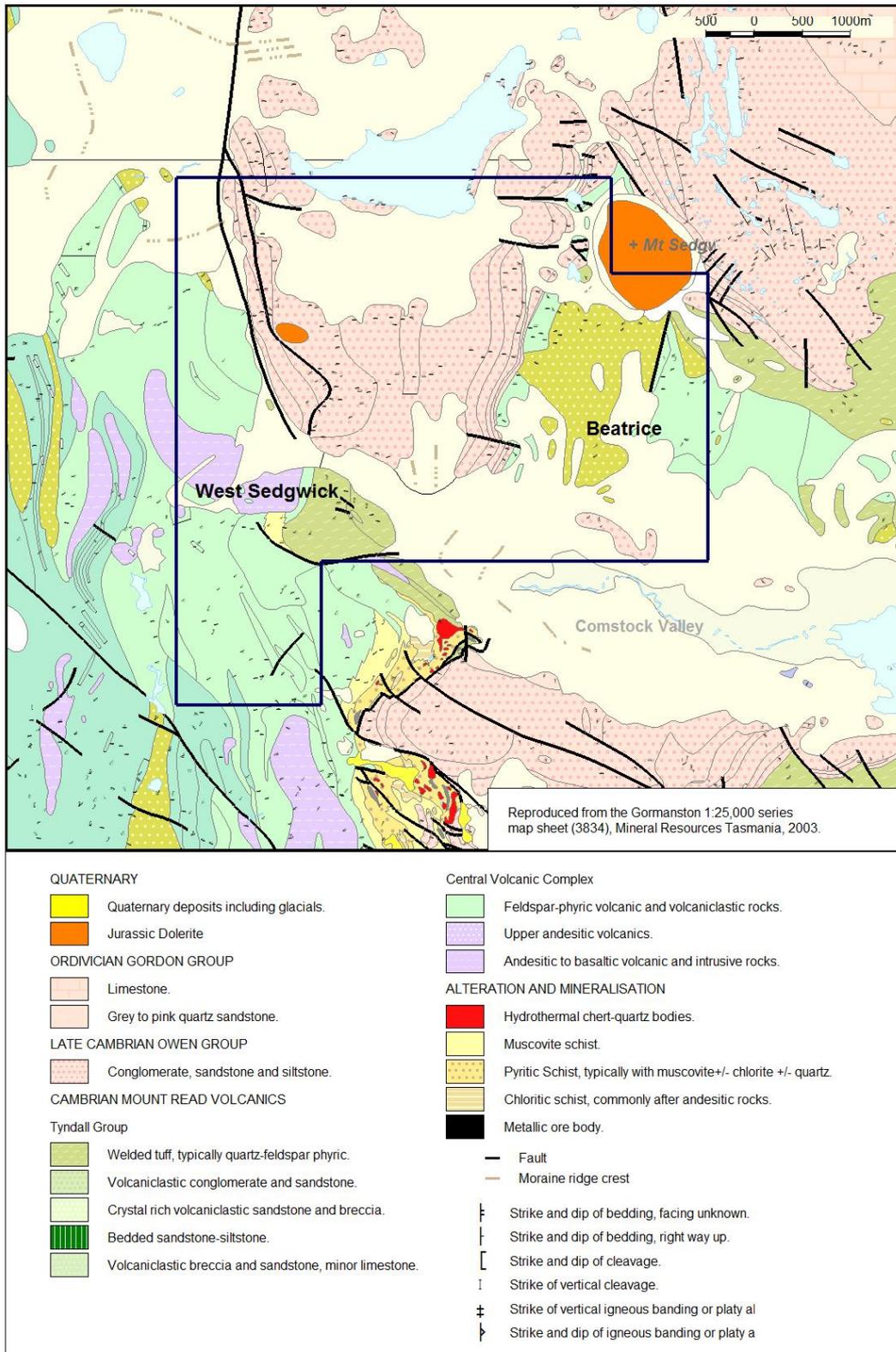


Figure 1. Geology of the EL area map.

Previous work

A large body of work has been completed over the ground covered by EL13/2016, by multiple companies under a variety of tenement configurations.

West Sedgwick area

1958-1961 *Rio Tinto Australia Exploration Ltd (RTAE)*

A ground EM (TURAM) survey was completed detecting a weak 600m long linear WNW trending anomaly in the region 5347000mN, 381700mE referred to as the Zig Zag Hill anomaly. Weak lead in soil (dithizone indicator) was associated with the anomaly. Detailed mapping, stream and soil geochemistry and magnetic/gravity surveys were completed.

1961-1962 *Rio Tinto Australia Exploration Ltd (RTAE)*

An IP survey was completed over the Zig Zag Hill anomaly with little response.

1965-1971 *Pickand Mather and Co International*

Stream sediment geochemistry and reconnaissance geology were conducted, eventually focussing on the conglomerate-volcanic contact. A dipole-dipole survey identified an anomaly close to the Zig-Zag Hill anomaly.

1971-1976 *EL41/71* *Mount Lyell Mining and Railway Company*

A large grid was cut extending from the Owen Conglomerate Mt Read Volcanic contact west into the Yolande River sequence. The Lake Margaret Tramway Pyrite Lens was discovered. An IP survey was completed over the grid identifying 38 anomalies. Infill and extended grids were completed identifying a black shale horizon on the flanks of Crown Hill.

1977-1978 *EL41/71* *Mount Lyell Mining and Railway Company*

Three diamond holes were drilled. WS1 (abandoned) and WS2 tested the Lake Margaret Tramway Pyrite Lens intersecting black shale with very low metal values (Cu, Pb, Zn). WS3 located approximately 1km north-east of WS1/2 tested a combined IP/geochemical anomaly intersecting a black shale horizon yielding 420-760ppm Pb and 185-1100ppm Zn. No significant sulphide or alteration zones were intersected.

1980-1981 *EL41/71* *Mount Lyell Mining and Railway Company*

A large grid was cut within the Comstock Valley and an IP survey completed along with systematic soil and minor rock chip geochemistry. The eastern most lines (approximately north south) overlapped with the Zig Zag Hill anomaly. No significant chargeability anomalies were detected in the area however elevated Pb values were obtained over the TURAM anomaly of RTAE.

1985-1986 *EL9/66* *Goldfields Exploration Pty Ltd*

The Zig Zag Hill anomaly originally identified by RTAE was revisited and SIROTEM was completed across the zone on three lines extended from the Comstock Valley Grid. A weak conductive WNW trending anomaly parallel with original EM anomaly was defined and tested by drill hole WS4 (229.8m) which failed to intersect any significant mineralisation.

1989-1991 EL102/87 BHP Minerals Ltd

A review and compilation of geophysics was completed by Bishop (1987) which provides a good reference to all pre-1987 geophysical surveys of the areas. BHP completed a UTEM survey with no significant anomalies identified.

1991-1993 EL102/87 RGC/BHP Minerals Ltd Joint Venture

The focus returned to the Agglomerate and Zig-Zag Hill areas. Grid mapping, rock chip and soil sampling was completed. 1:1000 mapping refined the geology at Agglomerate Hill. Drill holes WS5 and WS6 (380.8m) were drilled to further test the Zig Zag Hill anomaly previously tested by WS4. WS6 drilled through andesite and intersected several major faults (Sedgwick Fault). Beyond the last fault Lower Tyndall group rocks were intersected. The hole terminated within the Great Lyell fault assumed to be demarcated by Owen Group rocks. No significant assay results were obtained.

1993-1995 EL102/87 RGC/BHP Minerals Ltd Joint Venture

A silica-sericite-pyrite zone was identified below Tyndall group sediments at Agglomerate Hill. Drill holes WS7 (499m) and WS8 (652.1m) were drilled to test this zone with WS7 intersecting zones of strong pyrite before intersecting the CVC-Tyndall contact. No base metal sulphides were present. Stable S-O isotope analysis showed that alteration was formed at low temperatures insufficient for transport of base metals. DHEM was completed in WS6 and WS7 with no significant off-hole conductors identified. WS8 failed to intersect sulphides or the CVC-Tyndall contact. No further work was completed and the area was relinquished in 1997.

1998-1999 EL6/98 Pasminco Exploration

Re-logging of previous holes was again completed. A Partial Leach soil geochemistry program was proposed.

1999-2000 EL6/98 Pasminco Exploration

A Partial Leach soil program was completed and did not resolve any anomalies.

Beatrice area

1975-1976 EL10/69 Mount Lyell Mining and Railway Company

Stream sediment sampling (SS43- 1100ppm Pb and 1130ppm Zn, S44- 906ppm Pb and 780ppm Zn) led to follow up mapping and sampling in the Itat Creek area.

1976-1977 EL10/69 Mount Lyell Mining and Railway Company/ Getty Oil Development Company Ltd

An access road was cut and the Beatrice Grid was established (43.5km). Mapping, C-Horizon soils and reconnaissance gradient array IP (38 line km) was completed. The IP survey identified six characteristic zones and 8 anomalies some of which were determined to be related to mapped black shale horizon(s). A porphyritic lava and siliceous tuffs contained pyrite.

1977-1978 EL10/69 Mount Lyell Mining and Railway Company/ Getty Oil Development Company Ltd

The Beatrice Grid was extended. Further C-Horizon soil sampling was completed (-80#) and assayed for Cu, Pb, Zn, Ag and Mn by AAS. A major geochemical anomaly was detected in the Itat Creek valley. Values ranged up to 510ppm Cu, 1.1% Pb and 1900ppm Zn associated with a black shale

horizon within volcanics. A smaller geochemical anomaly was detected toward the SW corner of the grid.

1978-1979 EL9/66 Mount Lyell Mining and Railway Company/ Getty Oil Development Company Ltd

Access tracks were excavated to the Itat Creek valley to what was then referred to as the Mt Sedgwick Anomaly Zone (MSAZ) on the Beatrice Grid. Mineralisation was recognised in the road excavations. An 80m section of the "western track" assayed 0.34% Zn, 0.22% Pb, 65ppm Cu, and 3.7ppm Ag. Rock chip sampling was conducted to refine the anomaly. Soil sampling was extended to the western part of the grid. Three diamond drill holes were completed to test the MSAZ, intersecting Pb, Zn, Ag mineralisation. Scintrex completed a number of geophysical surveys: EIP Gradient array, downhole three array, Schlumberge array, dipole-dipole and pole-dipole surveys.

1979-1980 EL9/66 Mount Lyell Mining and Railway Company/ Getty Oil Development Company Ltd

Two further drill holes were completed. MS4 tested northerly extensions to MS1, largely drilling down bedding. MS5 tested a chargeability anomaly, intersecting black shales. 1065 C-Horizon soil samples were collected (-80#) at 30m centres. Further geophysical surveys were completed.

1983-1987 EL9/66 Goldfields Exploration Ltd (RGC/MLMRC)

In 1983 the MSAZ was reviewed, concluding that mineralisation was similar to Red Hills and that drilling did not satisfactorily test the anomaly. The area was relinquished.

1987-1991 EL103/87 BHP Minerals Ltd

During 1989 BHP re-logged drill core and remapped the area and then completed a four loop UTEM survey. No significant conductors associated with the MSAZ mineralisation were identified. RGC joint ventured with BHP in 1991.

1991-1997 EL103/87 RGC/BHP Minerals Ltd Joint Venture

During 1994 the area was again remapped and drill core re-logged. It was again determined that the MSAZ mineralisation was overwhelmingly hosted within black shales, indicative of seafloor sulphide deposition at the stratigraphic horizon. In 1996 MS6 was drilled 500m south of existing drilling, with no significant mineralisation indicated. Sulphur isotope values were obtained from sulphides in MS1 showing values within the upper range of values from the Rosebery deposit.

1998-1999 EL20/98 Pasminco Exploration

Detailed 1:1000 mapping, re-logging of MS1-MS6 and a 580 sample Partial Leach program were completed. More geophysical surveys were conducted, including a 4 line, 8.8km pole-dipole IP survey and a 2 line 4km orientation CSAMT survey. Drill holes MS7-MS10 were drilled targeting further mineralisation in the MSAZ with DHEM completed on the four drill holes. A western anomaly was identified in Partial Leach soil geochemistry which also conclusively defined mineralisation within Itat Creek.

1999-2000 EL20/98 Pasminco Exploration

An Honours Thesis completed by M. Hope (2000) on the MSAZ suggested that mineralisation at Beatrice was not conclusively exhalative style VMS, but showed mineralisation to be pre-Devonian

with Sulphur isotopes supporting a reduced sea water source of sulphur. Drill holes MS11 and MS13 were completed targeting the MSAZ. MS 12 was drilled to test the western geochemical (Partial Leach) anomaly. It was concluded that no further exploration was warranted at the MSAZ although the western geochemical anomaly remained largely unexplained.

Combined Comstock Valley-Lake Margaret Area

2001-2002 EL6/98 AurionGold Exploration Pty Ltd

Minimal work was completed. Re-logging of drill holes from Beatrice and West Sedgwick was completed. Insights into correlations of the stratigraphy with other areas of the Mount Read Volcanics are provided including correlations with the Red Hills and Henty stratigraphy. Tyndall Group rocks of the West Sedgwick area were correlated with the Henty area and were deemed to be inadequately explored. The EL was relinquished in 2003.

2004-2005 EL35/2004 Copper Strike Limited

It was determined that the Comstock Valley and several pyritic alteration zones in the north of the EL, close to the Lake Margaret pipe line, were inadequately explored. These zones are the Upper Haulage pyrite zone and the North East Pyrite Zone identified in historic IP and geochemistry surveys. A geophysical review was completed on helicopter electromagnetic (HEM) survey data completed as part of the Western Tasmanian Regional Minerals Program. 42 conductive responses were analysed with most rejected as representing overburden, transported cover from a range of lithologies. One anomaly was identified as being prospective but is located on CMTs mine lease and likely cultural.

2005-2006 EL35/2004 Copper Strike Limited

A modified pole-dipole 3DIP survey over a 1x1km grid for 5 lines (200m spacing) was completed over the area located around the NE pyrite zone. A wide zone of chargeability was identified immediately west of the Great Lyell Fault. LMD01A (242.3m) was drilled through unaltered and altered volcanics, through the Great Lyell Fault and terminated in Owen Group sediments. It was deduced that the chargeability anomaly was likely due to 1-2% pyrite in some units. No significant mineralisation was intersected.

2006-2009 EL35/2004 Copper Strike Limited

Little further work was completed and the EL was relinquished.

2010-2015 EL28/2009 Bass Metals Ltd

The ground was held by Bass Metals however work focussed on the Basin Lake prospect north of EL13/2016. Litho-geochemistry and SWIR alteration studies were completed on WS and MS series drill holes in addition to the Basin Lake drill holes. The most significant outcome for EL13/2016 was the determination that LMD01A had the most anomalous Bi-Te-Se pathfinder geochemistry and alteration intensity signature within the complete combined Basin Lake, West Sedgwick and Lake Beatrice dataset. It was recommended that more drilling be completed around LMD01A.

2017-2018 EL13/2016 Copper Mines of Tasmania

Work completed included the acquisition and processing of a helicopter airborne electromagnetic (AEM) and aeromagnetics survey (see Hooper, 2018 Annual Report). The survey was flown by CGG

Aviation Australia’s HeliTEM-35C system (4ms/25Hz) and flown in conjunction with a survey completed on CMT’s mine lease 9M/2013. A total of 378.9 line kilometres of the survey was flown over EL13/2016. Lines were spaced at 75m and flown at 055 (MGA) orientation. Results of the geophysical surveys have been modelled and interpreted by CMT and external consultants and reported earlier.

2019-2020 EL13/2016 Copper Mines of Tasmania

In licence Year 3 a program of grid cutting, mapping and soil geochemistry was completed along the projected Great Lyell Fault trend extending from the northern limit of the mine lease, in a northwesterly direction up the valley between Sedgwick Bluff and Zig Zag Hill (see Morrison and Muir, 2020 Annual Report). A zone of elevated lead and copper in soil, plus minor sericite-pyrite altered outcrop, was defined in the northwest corner of the grid, on a lower Tyndall Group association of andesite, siltstone and felsic volcanics

2020-2021 EL13/2016 Copper Mines of Tasmania

The Year 4 program comprised the CSAMT survey which had been delayed from the previous year. The results, in combination with previous mapping and sampling, generated three probable new drill targets within the ML but nothing requiring follow up within the EL (see Morrison and Muir, 2021 Annual Report). More than half the EL remains to be gridded and explored (Figure 2).

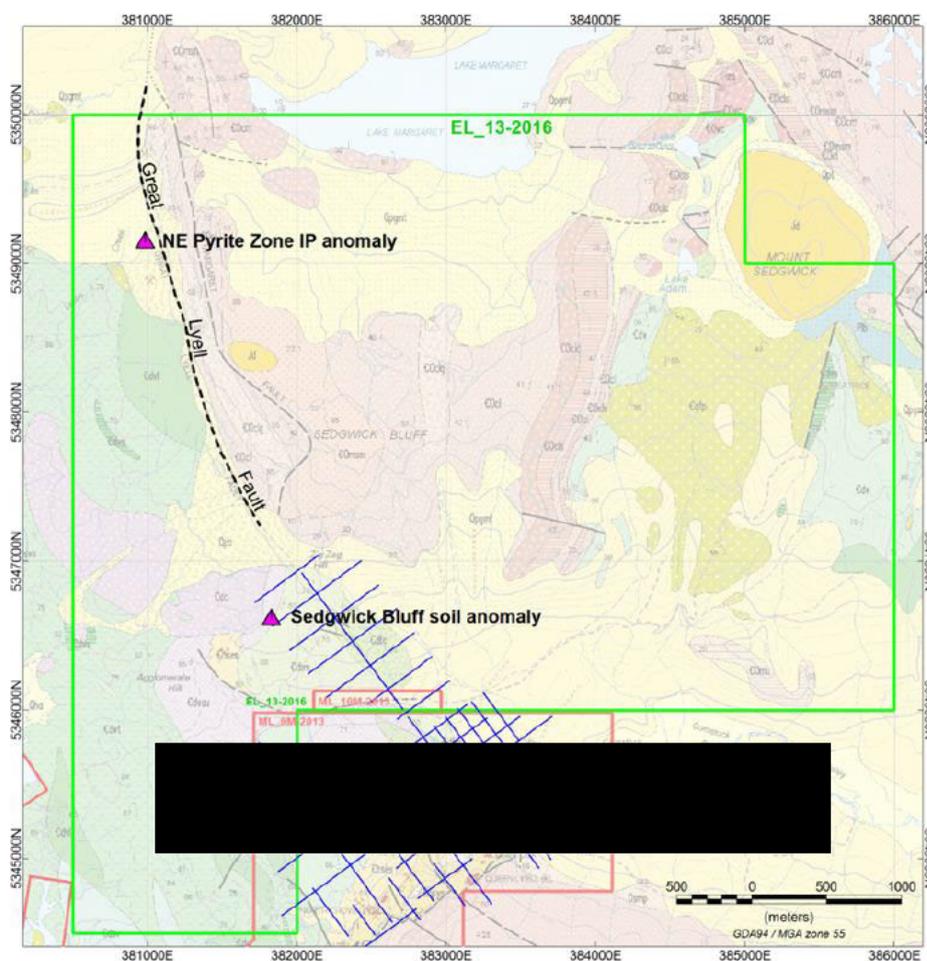


Figure 2. Sedgwick Bluff grid progress and simplified geology map.

2021-2022 EL13/2016 Copper Mines of Tasmania

The Year 5 program included remodelling of earlier geophysical surveys, with emphasis on two high priority drill targets in the ML [REDACTED], and a target for further gridding, IP, mapping and sampling at the NE Pyrite Zone within the EL (Figure 3). Work programs were prepared and approved by MRT though resources were not available for the work due to total focus on mine restart projects.

During this term an option agreement was arranged for New Century Resources to complete pre and full feasibility studies for the restart of Mount Lyell mining and processing. All available resources have been focused on restart. The importance of the exploration programs is appreciated.

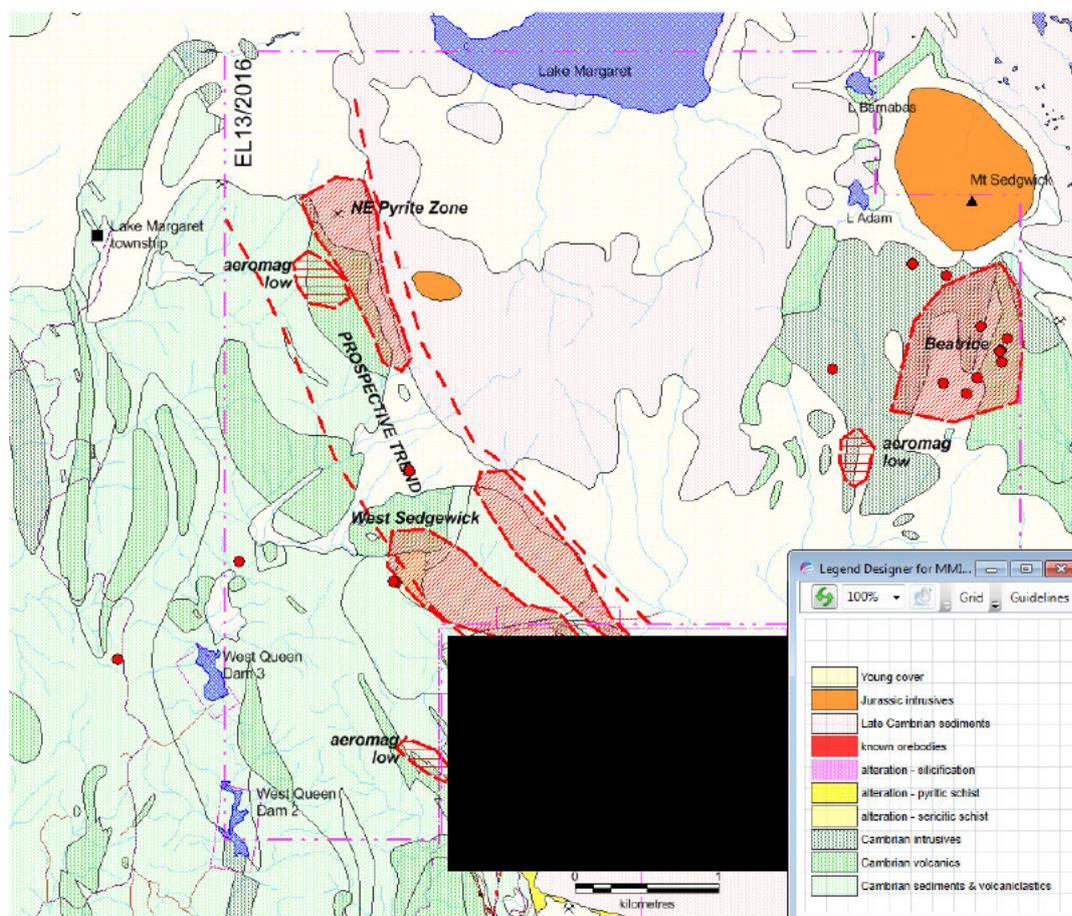


Figure 3. Exploration target areas on simplified geology map.

Work Completed in the Current Reporting Period

There has been no work on the Exploration Licence during the reporting period. All resources have been focused on restart of the Mount Lyell mine.

A two year extension of term for the Licence was granted, with the revised expiration date being 2 April 2024.

Environmental Issues

No environmental issues have developed in the current year.

Expenditure

Activity	Expenditure
Geology	\$0
Administration-management time, tenement, office and vehicle costs	\$0
TOTAL EXPENDITURE	\$0

Future Exploration Plans & Expenditure

The program outlined in the previous exploration report, focusing on drill testing of the [REDACTED] [REDACTED] targets on the Mining Lease and gridding, mapping, sampling and IP survey at the NE Pyrite Zone is planned when resources allow.