EXPLORATION LICENCES

EL 22/2007, EL 23/2007

SORELL PENINSULA REGION, WESTERN TASMANIA

COMBINED ANNUAL REPORT FOR THE YEAR ENDED

21 SEPTEMBER 2011 (EL 22/2007, EL 23/2007)

Prepared by:

Richard Lindsay

Exploration Manager

MHM Metals Limited

Submitted by:

Frank Rogers

Managing Director

MHM Metals Limited

MHM Metals Limited ABN 41 124 212 175 52 Channel Hwy, Kingston, Tasmania, 7050
TELEPHONE: 03 6229 9955 FACSIMILE: 03 6229 8430
EMAIL: info@mhmmetals.com WEBSITE: www.mhmmetals.com

1 EXECUTIVE SUMMARY

EL22/2007 and EL23/2007 are contiguous licences located south of Macquarie Harbour and comprise a large part of MHM Metals Limited's Western Tasmania Project. Prior to November 2010, MHM Metals Ltd., was formerly called Macquarie Harbour Mining Ltd., and has changed its name to more accurately reflect its core business, which is the recovery of aluminium from slag.

The licences cover a relatively unexplored area prospective for economic copper, gold and iron deposits within volcano-sedimentary sequences of Neoproterozoic age, nickel and platinum group metals within ultramafic/mafic rocks, and volcanic hosted massive sulphide (VHMS) deposits as well as intrusive related (porphyry style) copper gold mineralisation within the Cambrian Noddy Creek Volcanics.

Results from an airborne geophysics program flown in April 2010 (VTEM) were priority ranked and some high priority anomalies have been have been field checked and sampled during the reporting period. In addition, drill core from previous exploration companies has been re-logged and in some cases sampled for the first time for base and precious metals.

Soil sampling was completed over the most promising VTEM targets at Noddy Creek and was also conducted around the magnetic aureole at Thomas Creek. Results were not considered significantly anomalous at Noddy Creek but several strong copper anomalies were defined at Thomas Creek.

Two diamond drill holes were drilled at Hill 99 to follow up previous drilling by Pacific Nevada (1996). The most significant mineralisation was intersected in hole H99-04, which returned 10.55% Cu over 0.3m from 177.6m.

Some detailed work on old drill core from previous workers has been conducted to compare the age, lithological affinity and lithogeochemical characteristics of the Noddy Creek Volcanics with those of the Mount Reed Volcanic (MRV) belt to the north. In particular comparisons were made with rock suites that host ore at some of the base metal and gold mines in the MRV belt to the north. Petrographic analyses of selected core samples have been conducted to study rock alteration Hill 99 and Thomas Creek prospects. Short Wavelength Infra-Red (SWIR) spectral technique was conducted for every metre downhole for all the five drillholes at Hill 99. Thirty samples from Hole TCD05 at Thomas Creek, drilled

by Plutonic Operations in 1996 were cut and submitted for assay. Assay results showed that copper mineralisation is more extensive in this drill hole than the original assaying revealed.

U-Pb dates from zircons in cores from Hill 99 prospect returned an age date of 507 ± 13 my and two dates from cores at Thomas Creek returned 508.7 ± 4.8 my (TCD5) and 505.2 ± 5.0 my (TCD-7). These dates compare with a previous age date reported from Timbertops (Black et al., 1997). The age of the Mount Lyell mineralization is considered to be Middle Cambrian (513 ± 2 million years to 499 ± 2 million years; (Corbett, 2001), hence rocks from Hill 99 and Thomas Creek are considered to be approximate stratigraphic equivalents of the mineralised MRV sequence.

Other research oriented work has included REE plots (chondrite normalised), whole rock geochemistry and petrographic analysis of selected samples. Alteration mapping from drill core at Hill 99 is in progress. It is hoped that this will assist in future drill targeting.
Drilling at Thomas Creek to test below the previous drill holes by pacific Nevada and new anomalies defined by soil sampling is planned for the next reporting period.

Contents

2 INTRODUCTION

This is the fourth annual report on EL22/2007 (113 sq km) and EL23/2007 (171 sq km) which are held in the name of Goldstock Mining Pty Ltd, a wholly owned subsidiary of MHM Metals Ltd ("MHM"). These tenements lie west and south west of Macquarie Harbour (Figure 1) with Birches Inlet and the South West National Park forming the eastern boundary and EL23/2007 extending as far south as the Wanderer River. All fall within the South West Conservation Area and any exploration requires continual consultation with the relevant government authorities, particularly Mineral Resources Tasmania and Parks and Wildlife Services.

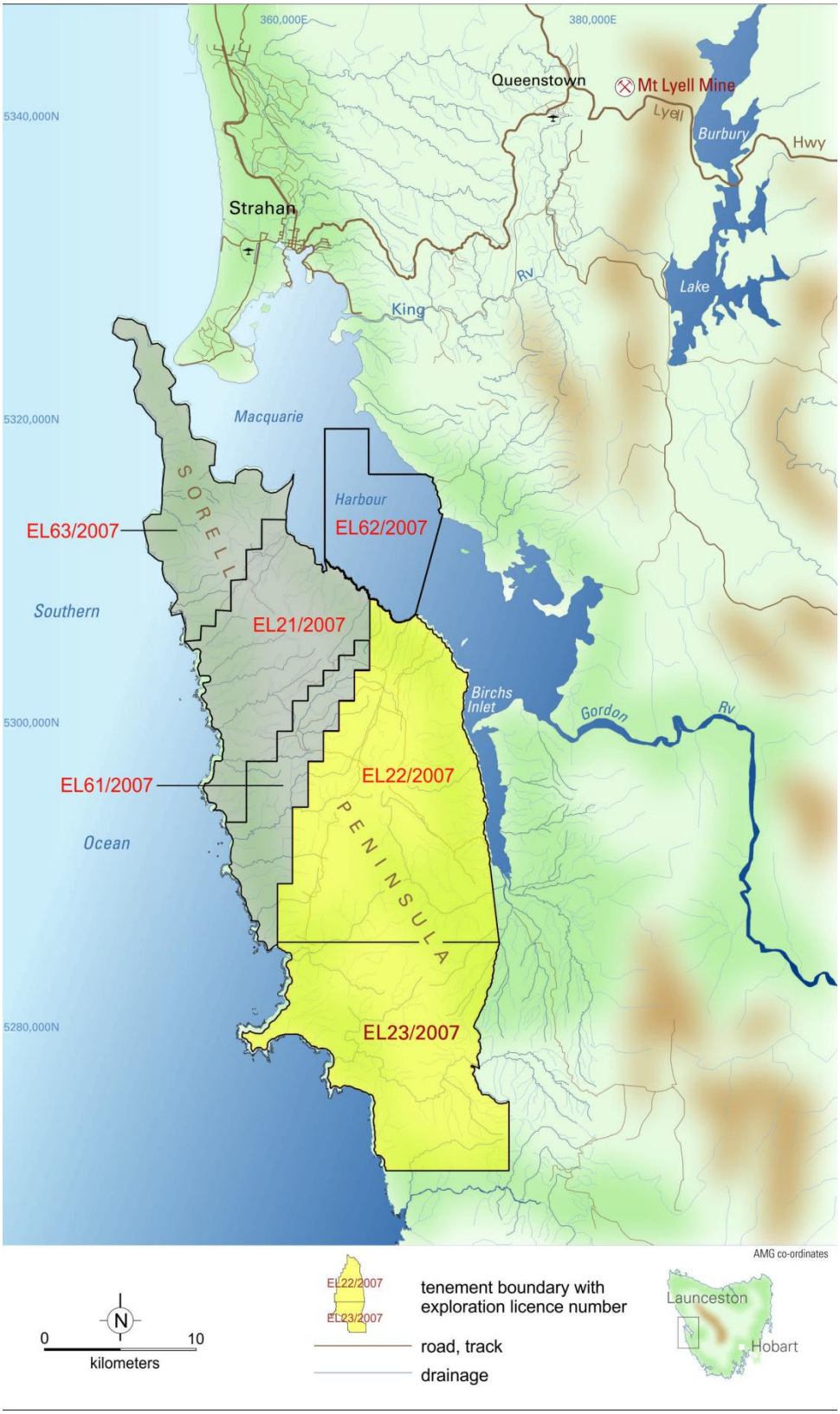


Figure 1 Location of EL22-2007 and EL23-2007.

3 REGIONAL GEOLOGY

The Exploration Licences cover parts of the southern sections of the Mount Read Volcanics which hosts a number of significant deposits (Figure 2) including Mt Lyell (Cu, Ag, Au), Rosebery (Zn, Pb, Cu, Ag, Au), Hellyer (Zn, Pb, Cu, Ag, Au), Que River (Zn, Pb, Cu, Ag, Au) and Henty (Au, Ag). The recent discovery of the Avebury nickel deposit west of Zeehan has raised awareness of the potential for similar economic mineralisation within the Hibbs Ultramafic Belt.

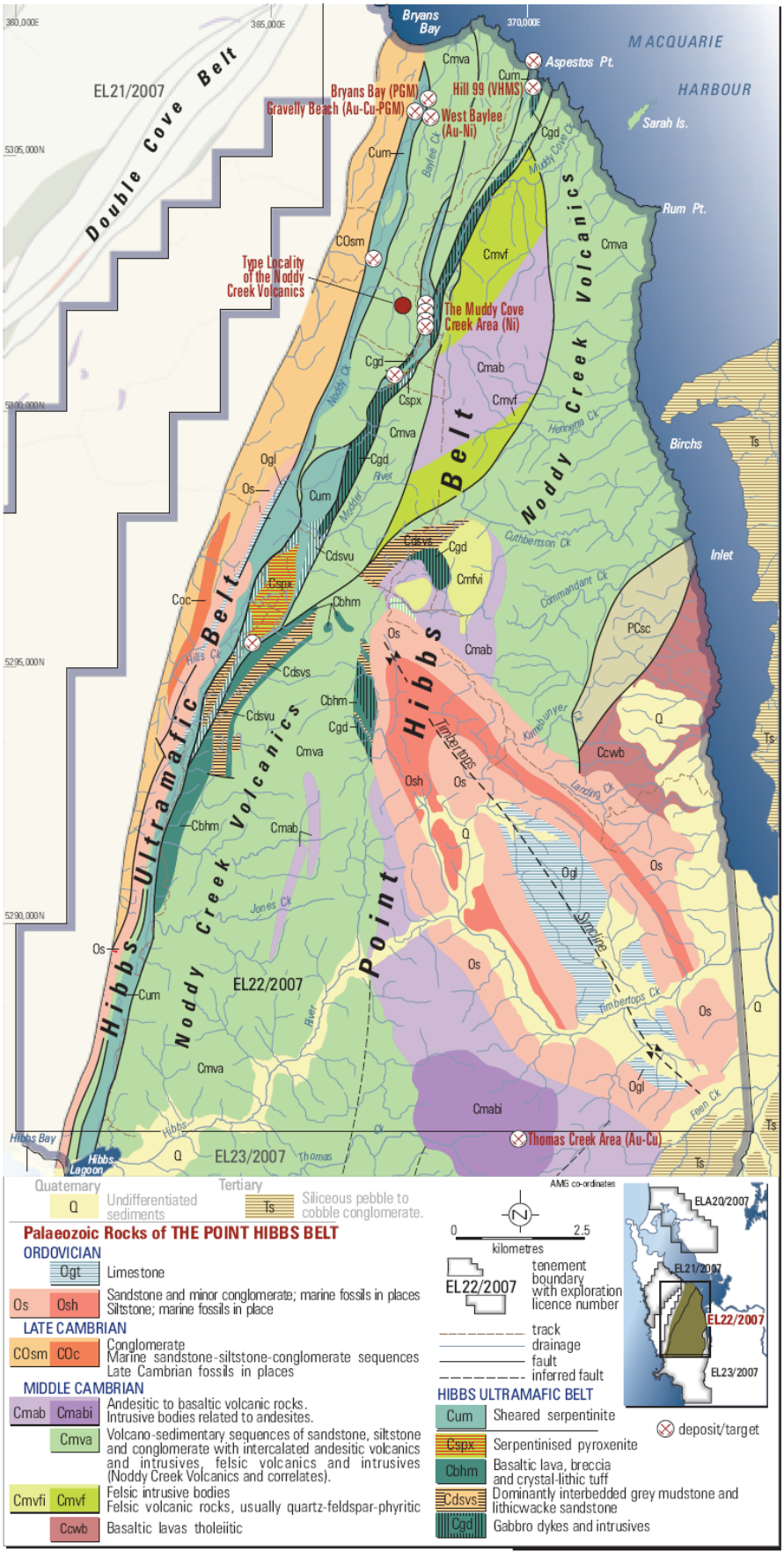


Figure 2 Geology and Mineral Prospects of EL22-2007.

EL22/2007:

Covering Cambrian rocks of the Point Hibbs Belt containing units which are correlates of the Mount Read Volcanics and other prospective geology north of Macquarie Harbour this tenement is regarded as highly prospective for ore deposit types similar to those of economic significance elsewhere on the west coast of Tasmania. The geology of EL's 22-2007 and 23-2007 is shown in Figure 3.

The western contact of the belt is a major fault striking at N 15° E with Proterozoic rocks to the west and faulted strips of Late Cambrian and possibly Ordovician to the east. This contact runs from Bryans Bay in the north to the northern end of Hibbs Bay. Immediately to the east of these contact rocks are fault bounded strips of early Cambrian ultramafic rocks with associated serpentinites and in places gabbroic rocks which are referred to as the Hibbs Ultramafic Belt, known to contain nickel mineralisation.

The body of the licence is largely mapped as Noddy Creek Volcanics comprising volcano-sedimentary sequences of sandstone, siltstone, and conglomerate, with intercalated andesitic volcanics and intrusives, felsic volcanics and intrusives, and minor basalts. In the central to south east of the licence there is a synclinal basin of Ordovician sedimentary rocks with an NW-SE axis which is referred to as the Timbertops Syncline and consists of sandstones and siltstones with a core of limestone. The eastern boundary of the licence closely follows the boundary of the exposed Palaeozoic rocks with the overlying Tertiary cover rocks to the east.

EL23/2007:

Covering extensions of the prospective but unexplored Noddy Creek Volcanics south of EL22/2007 the detailed geology of this tenement is shown in Figure 5. Near the headwaters of Thomas Creek an intermediate sub-volcanic intrusive complex may represent a major volcanic centre prospective for "porphyry style" copper/gold mineralisation and related high level vein mineralisation.

Sections of the Hibbs Ultramafic Belt which are present in the northwest of the licence have been subjected to considerable folding and faulting which has resulted in portions being offset and the strike direction changing. At Hibbs Point the headland is formed of dolerite of

Jurassic age with segments of Carboniferous, Devonian, Silurian, and Ordovician sediments outcropping further east.

4 REVIEW OF PREVIOUS WORK

Modern exploration commenced south of Macquarie Harbour in the mid-1950's and has been carried out intermittently since then, led by a relatively small number of companies which have expended considerable time and effort in an area with no existing infrastructure and a climate which limits concerted field programmes to the warmer months. For the larger companies the area covered by EL21/2007, EL22/2007 and EL23/2007 was only part of more extensive regional projects.

EL22/2007:

In 1957 the LEE JV investigated two prospects on the shores of Macquarie Harbour which were brought to it by a prospector, Gravelly Beach and Birchs Inlet. The company reported that in the creeks draining north into Gravelly Beach grains of chromium were found, together with osmiridium and gold.

BHP spent considerable resources cutting tracks and costeans along the northern part of the Hibbs Ultramafic Belt, concentrating on the nickel and chrysotile asbestos potential. Exploration in the headwaters of Noddy Creek commenced in the 1967-68 field season with the bulldozing of access tracks across and along the strike, together with geological mapping at 1:25,000. Detailed mapping at 1:5,000 and ground geophysics (magnetics, SP and EM), mainly aimed at evaluating asbestos occurrences led to a single diamond drillhole (DDH 1) targeting the peak of an EM anomaly. The hole penetrated serpentinised pyroxenite and laminated siltstone before being abandoned at 95 m. The cause of the anomaly was explained as 3 m of graphite.

In 1968-69 work concentrated further on the serpentinite. The following occurrences of nickel were found -

(a) A zone of disseminated pentlandite about 12 m wide occurring as small blebs up to 6 mm in slightly sheared olive green serpentinite. Three samples were assayed and contained 1200 ppm, 1000 ppm and 400 ppm nickel.

(b) Specks of pentlandite in shear planes in an asbestos costean about 320 m to the south of (a).

(c) Smears of pentlandite in shear planes in DDH 1 about 130 m south of (b).

All three of these occurrences are aligned along strike near the base of the ultramafic body. BHP recommended that EM traverses be run at 30 m intervals along strike but no further work was done on nickel.

Asbestos was recognized at locations from Asbestos Point in the north to the Spero River in the south. In the 1970-1971 season eight diamond holes were drilled to assess asbestos fibre. Vigorous attention was focussed on the Eastern Ultramafic Belt and four of the holes were drilled in the Noddy Creek – Timbertops area (DHNC6-9) with hole 7 reporting disseminated sulphides in the ultramafic rock at a number of places down the hole. Hole 8 ended in heavily carbonated and carbonate veined ultramafic.

Amoco carried out additional Dighem airborne EM covering selected areas on this tenement. The survey consisted of 659 line km with 150m line spacing at a bird height of 35m. An aeromagnetic survey covering all the tenements was then flown by Austirex International Ltd employing a Nomad aircraft flying at 70m on a line spacing of 150m for 4,204 line kilometres. These data were processed by Pitt Research Pty Ltd and analysed by Mitre Geophysics. EM anomalies identified by this work were then followed up in the field and the new data reviewed and compared with that obtained by BHP. The ground follow up included geology, the collection and assaying of stream and soil samples, and ground magnetometry. Work conducted during 1984-85 was focussed on tin and gold and included fieldwork on Noddy Creek and Thomas Creek. No encouragement was given at Noddy Creek and follow-up at Thomas Creek is described under EL23/2007 (see next section of this report).

In 1992 Plutonic Operations Ltd were granted EL4/1992 and EL7/1992 (High Rocky Point) Rocky Point) which covered most of the ground currently held by MHM. These tenements covered the Noddy Creek Volcanics Belt which is now identified as part of the prospective Mt Read Volcanics. In 1992-93 Plutonic considered that this belt was prospective for volcanogenic massive sulphide deposits and had not received the ground based follow up that it justified. The company firstly undertook detailed checking of previous results reported by earlier explorers. Amoco had conducted airborne EM surveys but in 1993-94 Plutonic decided to carry out its own airborne EM survey using improved Geotem equipment. Delays meant this was not eventually carried out until March 1996. In the meantime Plutonic undertook reprocessing of Amoco data to form the basis for reinterpretation of the geology

and an updated geological map of the tenement area. Plutonic's work on the Thomas Creek Prospect falls into EL23/2007 and will be discussed in the next section of this report.

Pacific-Nevada Mining Pty Ltd acquired ELA9/1997 in June 1997 from Morritt Holdings Pty Ltd which covers a similar area to that of EL22/2007 and the licence (EL9/1998) was granted the following year. This company considered that the ground was prospective for copper and gold mineralization. After reviewing previous work a reconnaissance field assessment programme of regional stream sediment and rock chip sampling was mounted. This work identified the West Baylee and Hill 99 Prospects. Grids were put in over these and ground geophysics (IP and TEM) was carried out. Geochemical results at Hill 99, located just south of Asbestos Point, defined a copper – zinc anomaly, with some associated gold values, along strike to the south of an outcrop of massive pyrite/quartz on the shore. A subtle coincident IP anomaly was also identified. In 1999 a three hole diamond drilling programme was designed to test the geochemical anomaly and a fourth hole to test the IP anomaly. Only three diamond holes were drilled from a single drill pad totalling 668.8m. Two were fanned out to make two intersections under the base metal anomaly (296m and 255.5m) and the third to test the IP anomaly. The third hole had to be abandoned in a shear zone at 117.3m. The holes intersected mafic and felsic volcaniclastic rocks that had undergone intense chlorite/carbonate alteration. No massive sulphide mineralization was intersected but fine veins and disseminated base metal sulphides were identified in the drill core. Within the sequence fuchsite-carbonate-pyrite alteration zones are a distinctive feature. West Baylee is located 400m SW of the Gravelly Beach Prospect. Anomalous gold values were roughly coincident with an IP anomaly. A programme of three diamond holes was completed in early 2000. WB001 tested a nickel soil anomaly showing that it was present over a sub outcropping serpentinite with a nickel content below that of the soil anomaly. WB002 was targeting a coincident IP and geochemical anomaly. The IP anomaly was due to pyritic carbonaceous shales and no mineralization was found to explain the geochemical anomaly. WB003 was drilled to test various rock and soil geochemistry along an ultramafic – Cambrian sediment contact. Poor ground conditions resulted in significant core loss in these three holes and the casing and drill string were not retrieved from the last hole. No significant mineralization was intersected in these holes and no further work was reported on this tenement.

Discovery Nickel Ltd was granted EL22/2004 in July 2004 and then acquired and compiled available data on the area. They then undertook processing of the geochemical results. The nickel and copper anomalies in the area of the Modder River magnetic anomalies were then followed up with a field visit to collect rock chip samples. Geochemical analysis of the rock

chip samples indicated that the ultramafics were not prospective for magmatic nickel-copper deposits but were favourable for the formation of hydrothermal related “Avebury Style” nickel sulphide deposits. In 2006 the board of Discovery Nickel had a change of focus away from Australia to Africa and in June relinquished EL22/2004.

MHM Metals surveyed all of its tenements over Cape Sorell including EL22/2007 in April 2010 using a helicopter borne electromagnetic system known as VTEM by Geotech Airborne Limited. This survey outlined four prospective target zones.

The first of the zones, referred to as Area 5b covers the NW portion of EL22/2007 and is considered to hold good potential for volcanic hosted massive sulphide (VHMS) base metal and gold deposits within the middle Cambrian Noddy Creek Volcanics as well as nickel, gold and platinum group metals in the Hibbs Ultramafic Belt. The second and third of these zones (Area 5a and Area 3) cover the extension of the Hibbs Ultramafic Belt through the SW of EL22/2007 into NW of EL23/2007. The remaining zone (Area 4), which straddles the boundary of the two licences, covers the Thomas Creek area which has drawn attention because of the recognition of porphyry style copper-gold.

Of particular interest is the structural position of the VTEM anomalies with respect to Hill 99 which lies along strike to the north of the eastern anomalies. This prospect was discovered by Pacific Nevada in 1999 as a result of reconnaissance stream sediment sampling close to known massive pyrite –quartz outcrop near Asbestos Point which lies about 700m to the north. Anomalous gold in pan concentrate resulted in the delineation of a south western trending zone of Cu/Zn in soils as well as the recognition of gossanous float boulders with gold values up to 50ppb Au and another float sample described as a “chlorite altered lithicwacke” which returned 92ppb Au. Hill 99 prospect has been the focus of attention during the current reporting period.

EL23/2007:

This licence was covered in the airborne geophysical survey of the LEE joint venture but no significant anomalies were defined that warranted ground follow-up.

In 1971 BHP carried out a short ground survey over the ultramafics at Hibbs Lagoon and Spero River as part of the assessment of the asbestos potential in the Hibbs Ultramafic Belt.

Copper and gold mineralisation was first recognised at the Thomas Creek prospect by Amoco in the mid-1980's during a ground reconnaissance programme, with a sample assaying 2000 ppm Cu, 0.97 ppm Au and 1050 ppm Ba associated with a diorite intrusion. Geochemical sampling on a grid followed and this outlined a zone of anomalous copper (300 m x 400 m) which was >250 ppm Cu.

Following on from Amoco in 1987 Cyprus Minerals undertook a brief field examination of the southern end of the Hibbs Ultramafic Belt near the mouth of the Spero River to assess its potential for platinum group metals (PGM's) and gold using rock chip and stream sediment geochemistry. A total of nine sites were sampled using both pan concentrates and minus 80 mesh sediments. PGM's assayed at higher levels than gold with platinum having the greatest range of values from 0.5 – 420 ppb, the maximum in a panned concentrate draining gabbros, with associated ruthenium, rhodium, iridium and osmium ranging from 18 – 52 ppb. High levels of osmium (250 ppb) occur in a panned concentrate draining serpentinite with an associated platinum value of 150 ppb. Seven rock chip samples did not produce any anomalous gold or PGM values.

Plutonic Operations Ltd. acquired ground covering Thomas Creek in 1992 and conducted a large programme of gridding, soil sampling, ground magnetics and IP. This enlarged the copper anomaly to 600 m x 400 m which was found to lie within a potassic - phyllic alteration zone with coincident IP zones related to extensive pyrite development. The zone straddles an area between a magnetic high and low.

Drilling of 8 diamond holes in 1996 by Plutonic using a light "Gopher" rig tested areas of high Cu soil geochemistry and corresponding IP chargeability over an area measuring approximately 400m by 300m .Core recovered was commonly weathered and broken, with significant core loss, particularly in some clay-rich zones. The drilling revealed widespread copper anomalism, including 58 m @ 0.08% Cu from 40 m in TCD2 and 0.05% Cu from 45 m in TCD3. The low grade disseminated and vein hosted chalcopyrite - pyrite mineralisation is generally associated with magnetite rich silica-chlorite-actinolite-potassic alteration surrounding micro-monzodiorite dykes.

After failing to attract a joint venture partner Plutonic relinquished the area in 1998.

The VTEM airborne survey described under EL22/2007 above also covered the whole of EL23/2007. Lower order anomalies in the vicinity of the Thomas Creek porphyry prospect

were identified and are considered significant because of the geological setting. Thomas Creek was a focus of exploration during the current reporting period.

5 EXPLORATION COMPLETED DURING THE REPORT PERIOD

EL22-2007

Hill 99 Prospect

Drilling

Two drill holes for a total of 369m were drilled at Hill 99 to follow up previous encouragement from Pacific Nevada's drilling, mineralised surface rock samples, anomalous soil samples (Pacific Nevada) and an unexplained IP anomaly on the west side of the prospect also discovered by Pacifica Nevada. Details of the drilling are given in Table 1 Summary of drilling at Hill 99.

HoleID	East GDA94	North GDA94	Collar Elev (m)	Total Depth (m)	Collar Azim TN	Collar Dip	Target Depth (m)	Reason for drilling
H99-04	370366	5306405	55	194.6	90	-60		Check strike persistency of mineralized intercepts from H99-1 and H99-2 Check for IP anomaly interpreted by Pacific Nevada; Check the dip persistency of surface samples
H99-05	370182	5306349	43	173.0	93	-60	100-180	To check the 'bulls-eye' IP anomaly conducted by Pacific Nevada; to check the dip persistency of high Cu values form H99-3 (ref. cross-section

Table 1 Summary of drilling at Hill 99.

Drilling results returned a best intersection of 0.30m @ 10.55% Cu. Assay results are found in Appendix 1. Core logs and survey logs are also found in Appendix 1. A geological plan of the interpreted geology with previous and recent drill holes is presented in Figure 3.

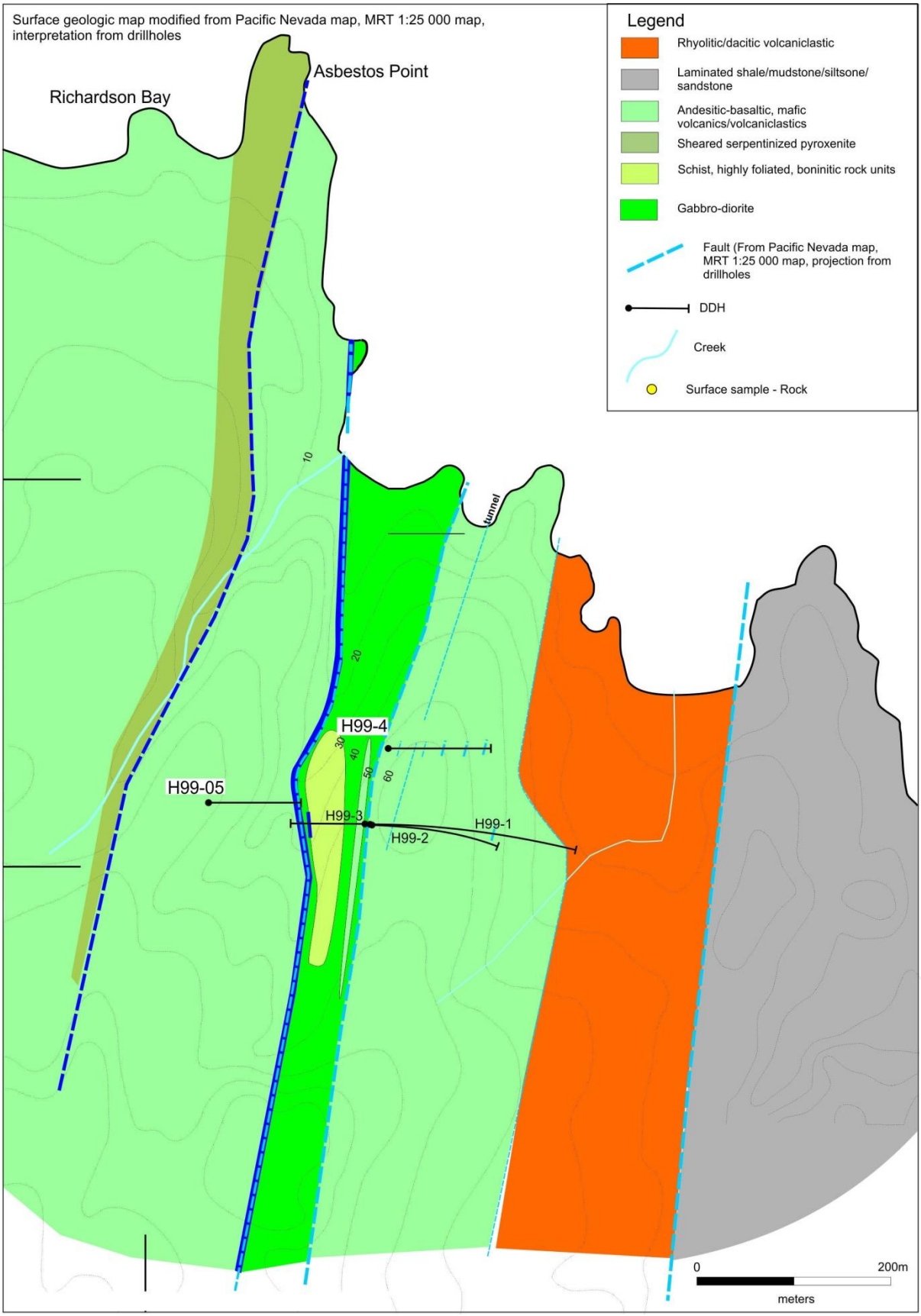


Figure 3 Geological plan with drill holes at Hill 99.

Geochemical results from hole H99-4 showed weakly anomalous gold with peak values of 0.105, 0.182 and 0.105ppm Au are associated with fuchsite-quartz-sericite alteration of andesites and basalts from 155 to 172m (Figure 4and 5). Pyrite disseminations and stringers and gray quartz vein with chalcopyrite clot yielded a peak value of 0.124 ppm Au at 166.3 – 117.3m (Figure 6 and 7). Copper from a 30cm massive quartz-chalcopyrite vein intersected at 177.6m returned a grade of 10.55% Cu, and 0.244% Zn (Figure 7 and 8). Anomalous elevated values of Ag (15.05ppm), Bi (0.26ppm), Co (358ppm) are also associated with this interval compared to the rest of the results (Figure 9).

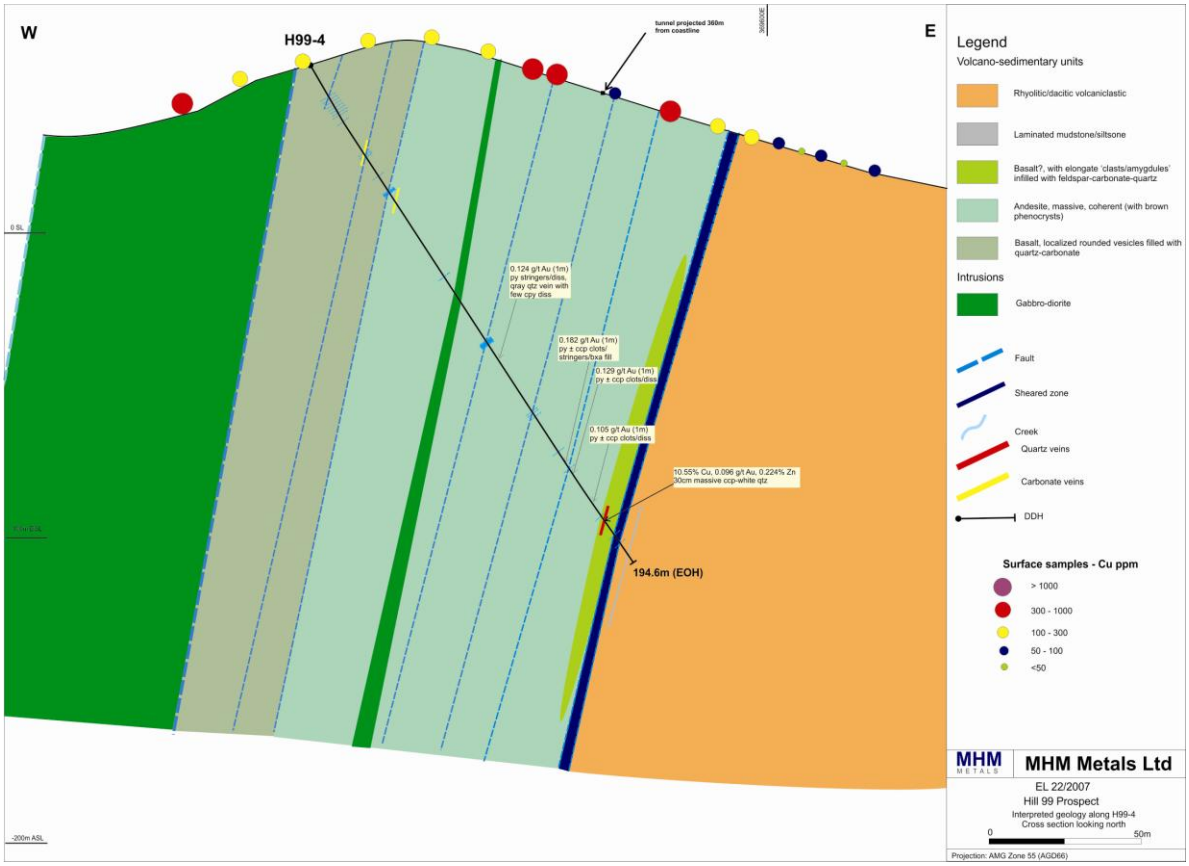


Figure 4 Interpreted geologic cross section along H99-4.

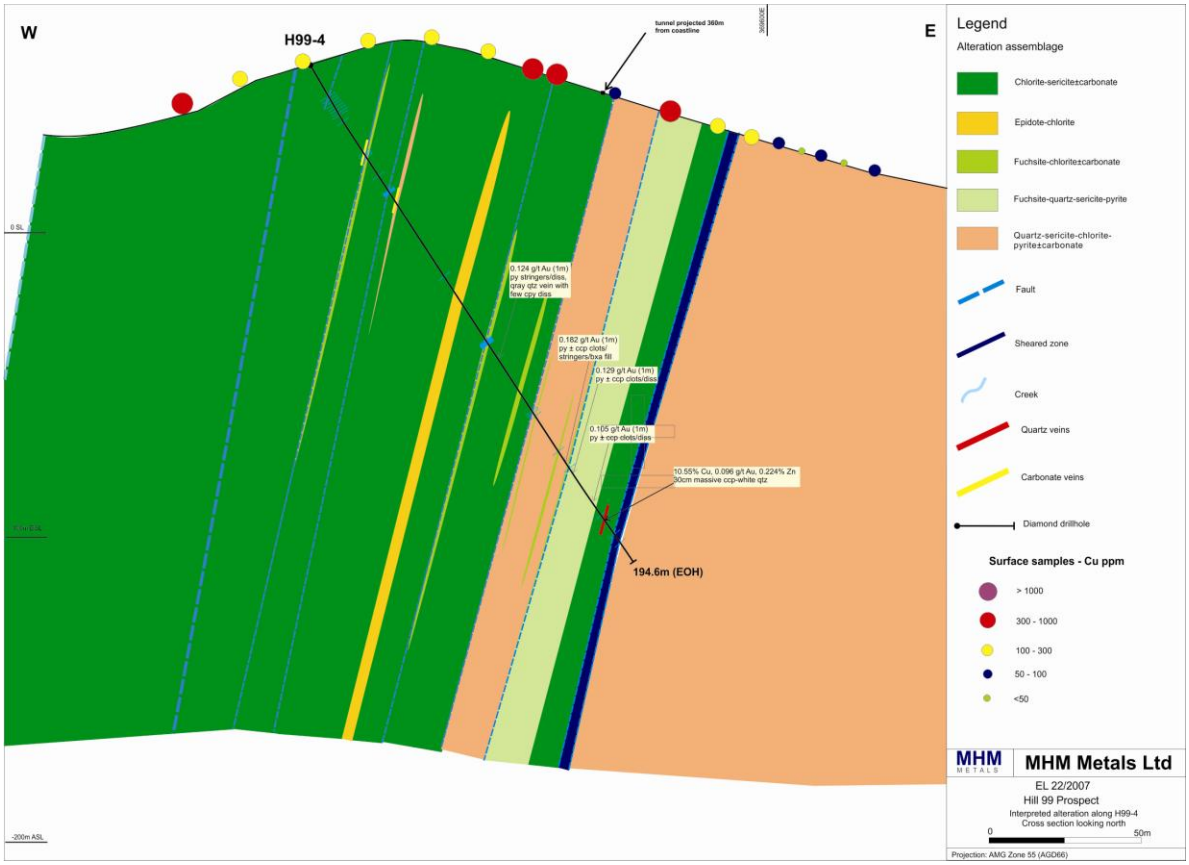


Figure 5 Interpreted alteration along section H99-4, showing gold and copper values.

Analysis and research

Recent drilling, together with core re-logging and whole rock geochemistry of the 3 old diamond drill holes by Pacific Nevada has shown that the stratigraphy comprises a suite of basalt, boninite, andesite, rhyolitic volcanics and gabbro. In an attempt to position Hill 99 in the Mount Reid Volcanics (MRV), 14 core samples were submitted for wholerock geochemistry to compare the rock units with those from the MRV. Of the 14 samples, two came back as a prospective host to mineralization (Ti/Zr versus SiO2; (Figure 10), and fall in the range of suite I of Crawford's stratigraphic proposal (Crawford, 1992). Suite 1 of the MRV hosts several major deposits including Mount Lyell (Cu-Au), Henty gold mine, and Rosebery (Pb-Zn-Ag).

The two rock samples with close affinity to the mineralized suites from the western region are massive, light grey, coherent, and logged as rhyodacite (Figure 11). This rock unit is within the rock package of laminated siltstone, sandstone, and polymictic conglomerate. Aside from the geochemical signatures, probable evidence that suggests that this rhyodacite unit in Hill 99-1 could be in the same lithological horizon that hosts the deposits in the

western region is the presence of boninitic rocks. Detrital, boninite-derived chromites are found beneath the Que-Hellyer Volcanics (Crawford 1992). The boninitic units from H99-1 are found in the upper level, which corroborates with facing evidence from the graded tuffs in the core that package is overturned and youngs downhole (Figure 12).

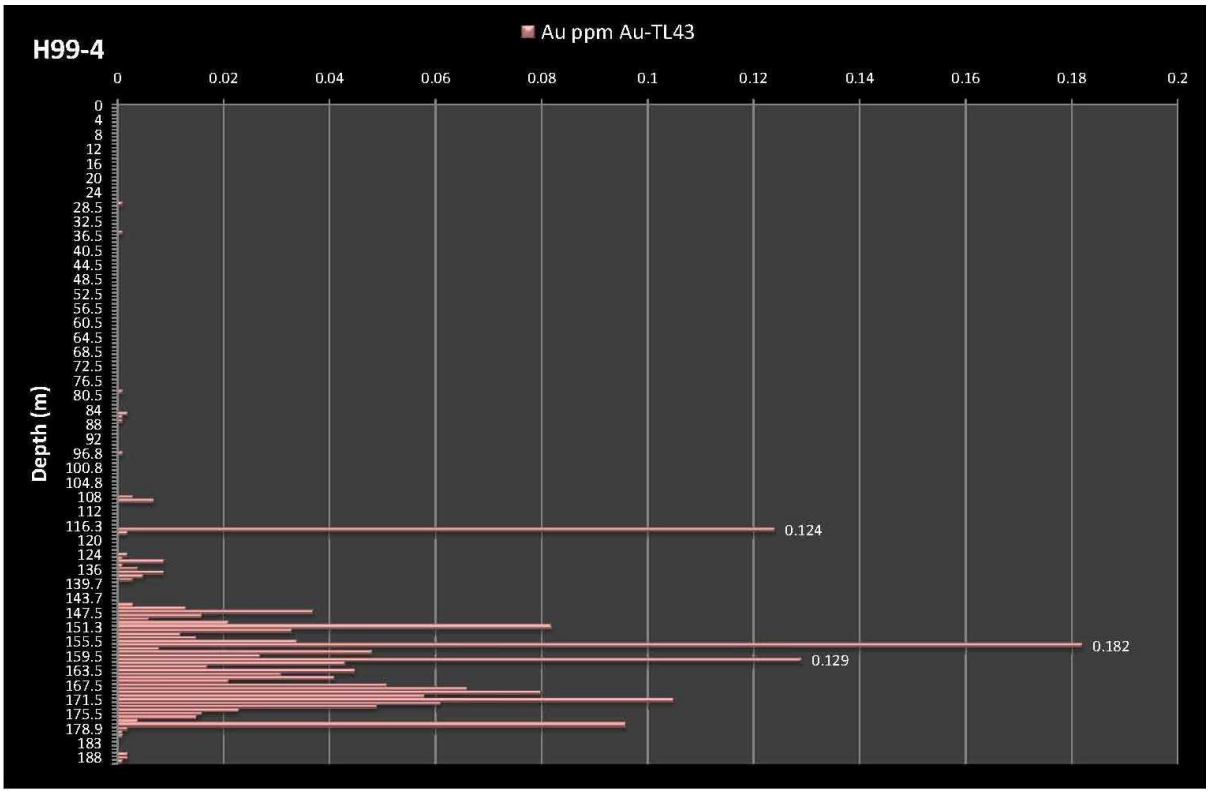


Figure 6 Histogram of gold values downhole from H99-4.

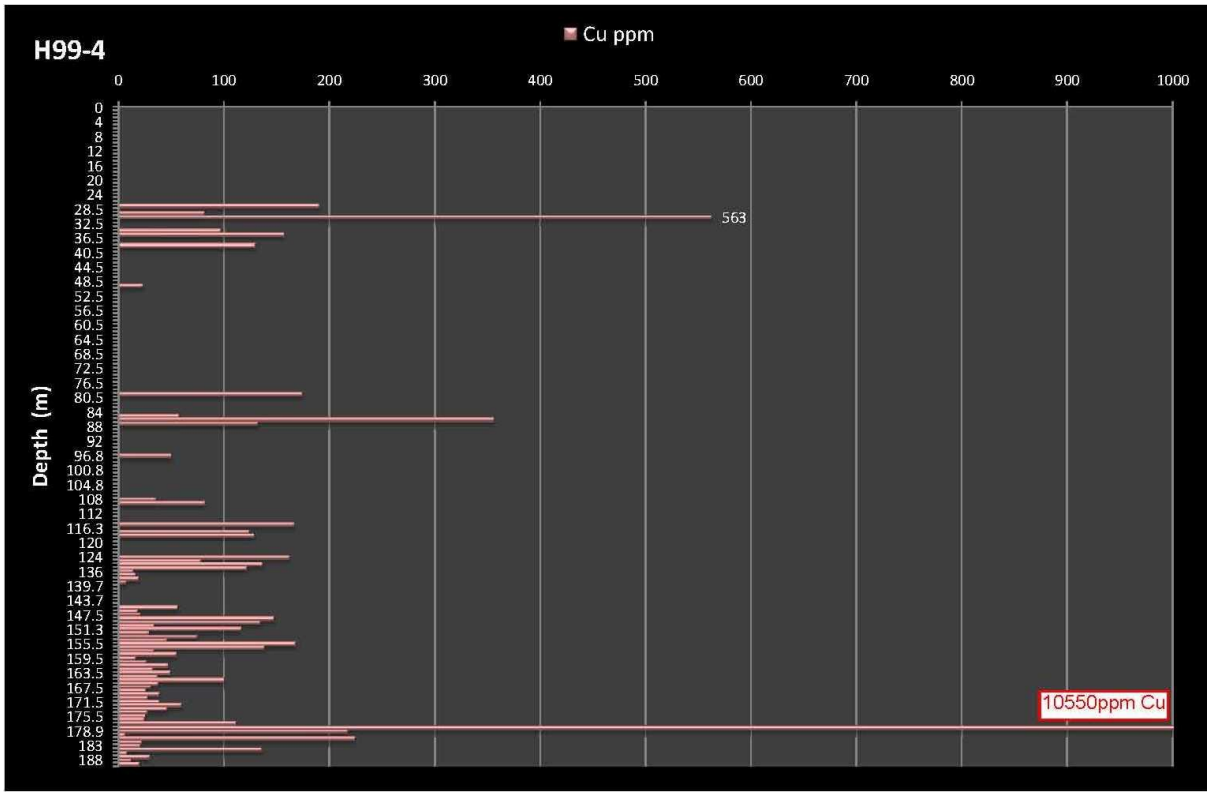


Figure 7 Histogram of copper values downhole from H99-4.

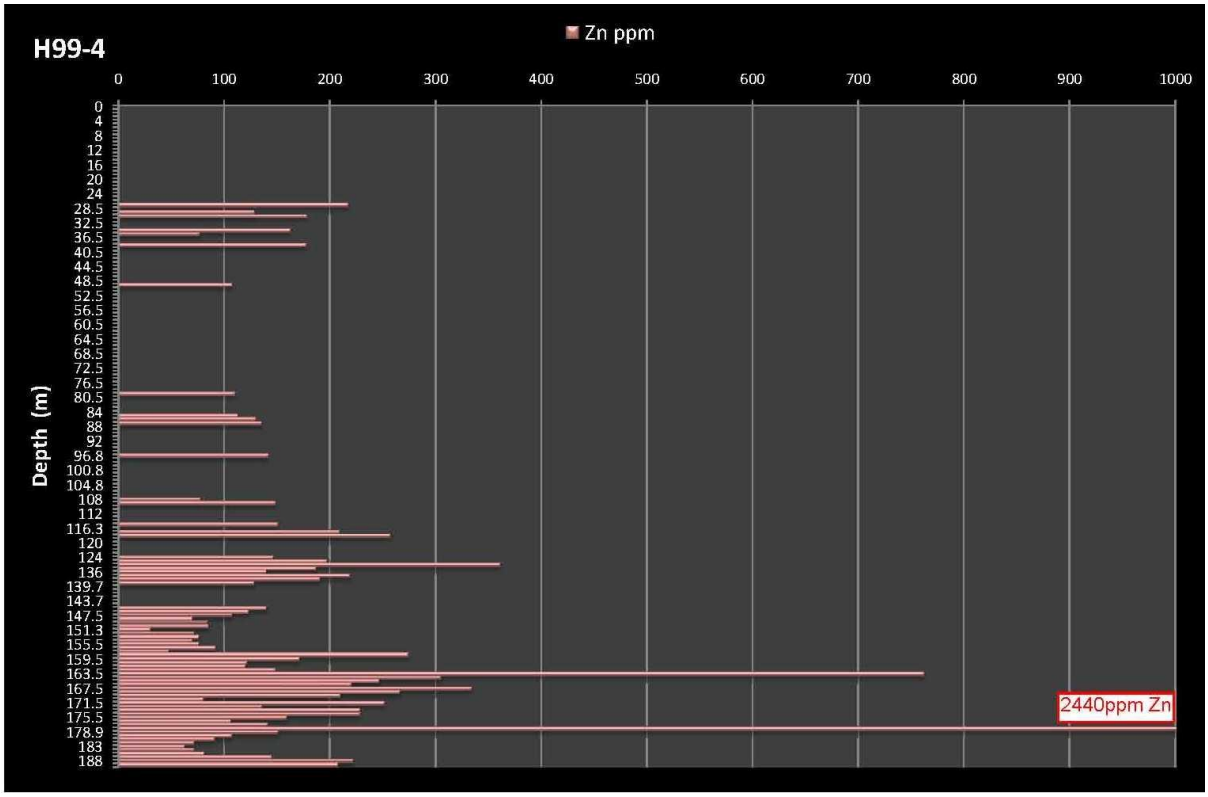


Figure 8 Histogram of Zn values downhole from H99-4.

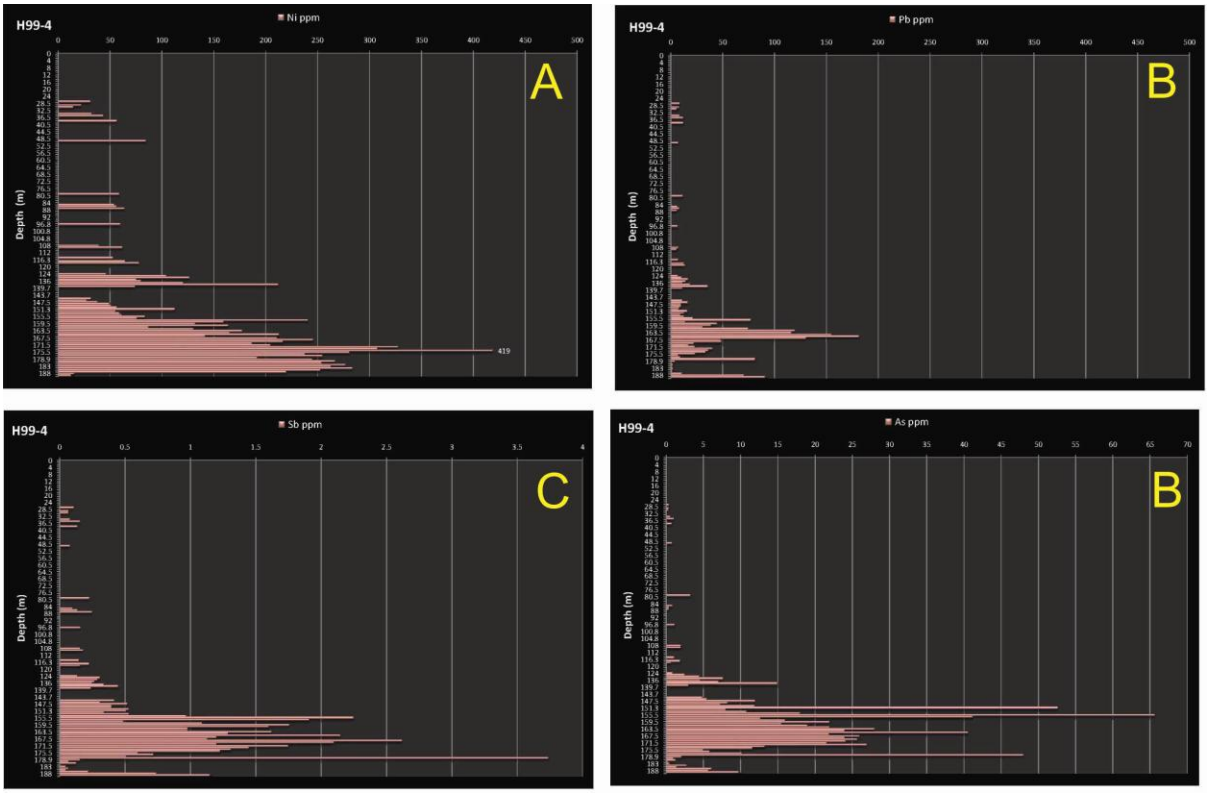


Figure 9 Histogram plots of geochemical results from H99-4. A) Nickel in ppm. B) Pb in ppm. C) Antimony in ppm, D) Arsenic in ppm.

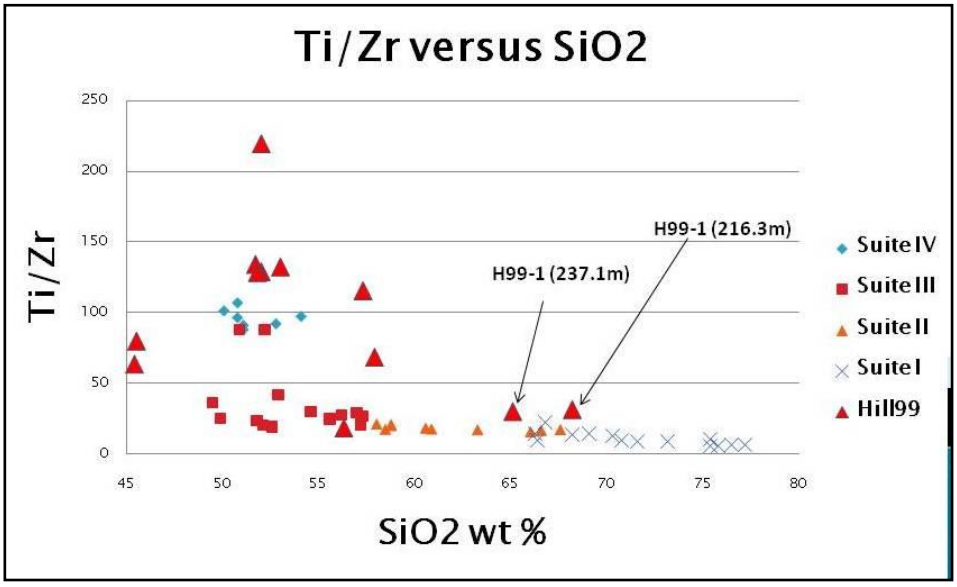


Figure 10 SiO2 versus Ti/Zr plot of MRV rocks and Hill-99. Data from MRV (Suites I to IV) were taken from Crawford, 1992. Note the two samples from Hill 99 are plotted in the same region as Suite I and Suite II.

Figure 11 Photograph of the Suite I rhyodacite unit from Hill 99 prospect (H99-1, 216.8m).

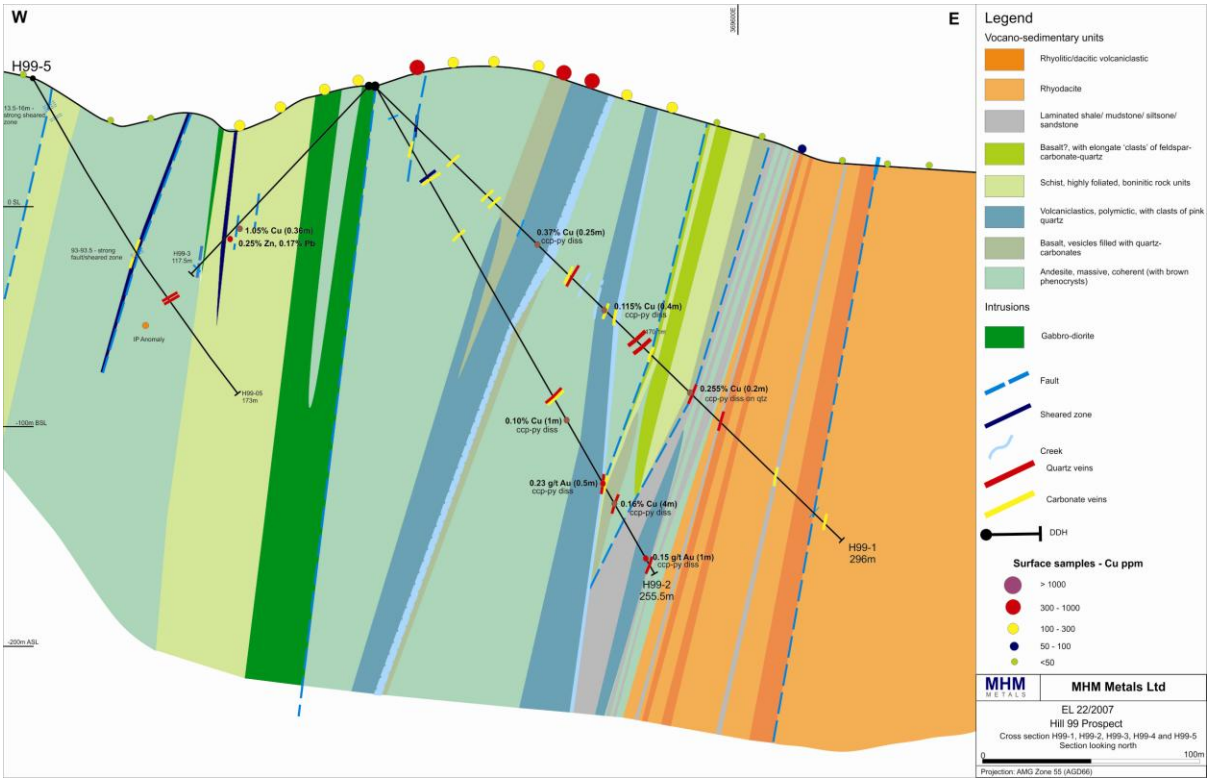


Figure 12 Geological section of Hill 99 with mineral intercepts. Rocks are overturned and young to the east.

The rocks at Hill 99 are strongly altered by silica and quartz-carbonate veining, chlorite, sericite and chlorite. Sulphides are present as pyrite, chalcopyrite, sphalerite and galena. Core from all of the 5 holes drilled at Hill 99 have been logged by the hy-logger based at MRT's facility in Mornington and results are found in Appendix 2.

Detailed logging of H99-4 recognized five preliminary alteration assemblages as follows and as shown in Figure 5

- Chlorite – sericite ± carbonate: Pervasive chlorite-sericite±carbonate alteration occurs throughout the mafic and volcanics/volcaniclastics rock package,
- Epidote - chlorite: Selectively pervasive epidote-chlorite alteration restricted to the coherent rock unit (gabbro-diorite) intruding the volcanic package. Localized overprinting of epidote-chlorite alteration is confined proximal to the contact,
- Quartz – sericite – chlorite – pyrite ± carbonate: Pervasive quartz-sericite± carbonate alteration occur in localized zones within the volcanic package and throughout the rhyolitic-dacitic unit,
- Fuchsite-quartz-sericite-pyrite: Pervasive fuchsite, quartz and sericite alteration occur in mixed zones of massive volcanic,
- Fuchsite - chlorite ± carbonate: Pervasive, structurally controlled fuchsite-chlorite alteration is localized to sheared zones.

Late-stage alteration assemblages include the selective, pervasive carbonate (calcite) alteration.
Due to compositional differences, the two main categories of host rocks at Hill 99 (mafic volcanics and felsic rhyolitic-dacitic volcanics) appear to react differently to the hydrothermal fluids, influencing the distribution of specific alteration minerals, for example white mica. All the indications are that a strongly hydrothermally altered and mineralised system occurs at Hill 99.

Lead Isotope ratios

A lead isotope study was carried out in galena and pyrite from drillcore samples in order to determine the lead isotope signatures of the Hill 99 mineralization and compare them with other deposits in the region. Lead isotope signatures for the Cambrian volcanogenic deposits, at. Mount Lyell, Roseberry, Hercules, Que River and Hellyer, differ by more than 1 percent from those characterizing the post-Cambrian mineralization (Gulson et al, 1987).

A sample from a sphalerite-galena stringer hosted by a highly schistosed unit has an isotopic ratio of 206Pb/204Pb = 18.176. The ratio of the Pb-Zn mineralization at Hill 99 is distinctly less radiogenic than those of samples from other Cambrian massive sulfide deposits in Western Tasmania, but can be compared within the same radiogenic group from the

Voyager 19 massive sulfide Pb-Zn lenses and volcaniclastics containing sulfide clasts at Elliot Bay (Gulson et al., 1987).

The ratios of massive sulfide mineralization at Elliot Bay are distinctly less radiogenic than for massive sulfide mineralization at Rosebery and Que River (Gulson et al., 1987). These authors observed that there is a gradual change in the average 206Pb/204Pb ratio in the stratiform massive sulfide mineralization northward from the Voyager 19 lens (18.10) to Rosebery (18.28) to Que River (18.34), and suggested that the MRV and Precambrian basement source rocks show increasing U/Pb ratios to the north. The Hill 99 206Pb/204Pb ratio of 18.176 falls between the Voyager 19 lens and Rosebery, and could also support this conclusion. Another explanation by these authors for the observed difference in the 206Pb/204Pb ratio is that the deposits at Elliot Bay formed at different times in the development of the Cambrian volcanic belt with the Voyager 19 lenses being the oldest and the Hellyer the youngest. The theoretical maximum age difference between Voyager 19 and Rosebery is about 80My. (Gulson et al.1987). This suggests that the Hill 99 Pb-Zn mineralization is younger than the Voyager 19 massive sulfide lenses but older than the Hellyer deposit. There is insufficient data to resolve these possibilities at the present time.

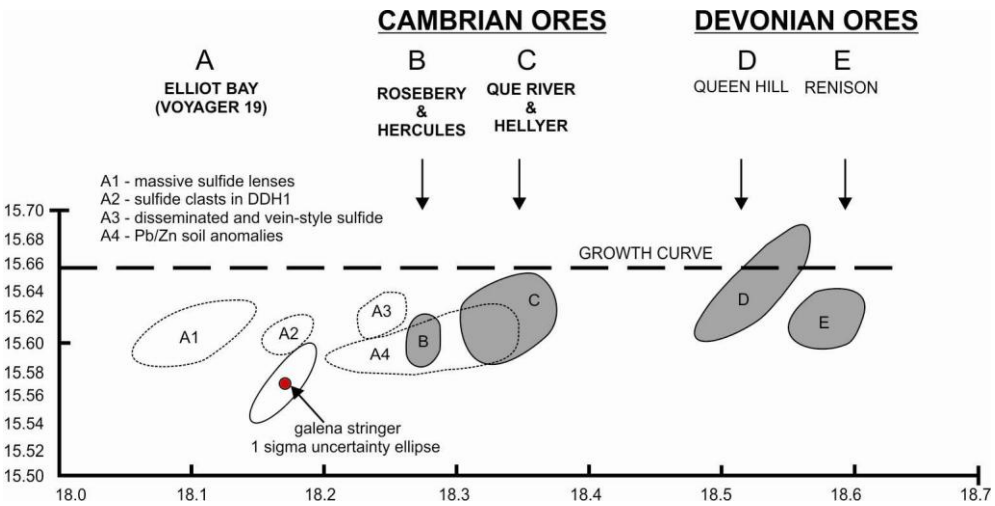


Figure 13 Lead isotope ratio plot for Hill 99 galena sample. Modified from Gulston *et al.* 1987.

Age Dating

One sample from Hill 99 rhyodacite unit was submitted for U-Pb zircon age dating at CODES at University of Tasmania. The sample gave an age of 507 ± 13 million years (see Figure 14). The error is too wide which suggests that the age can range from Lower Cambrian to Upper Cambrian (542 – 488 million years). The wide error is due to high U content of the zircon and there were only two usable zircons on the mount. More samples/materials are needed to separate the small zircons to obtain a more definitive age for the host rock.

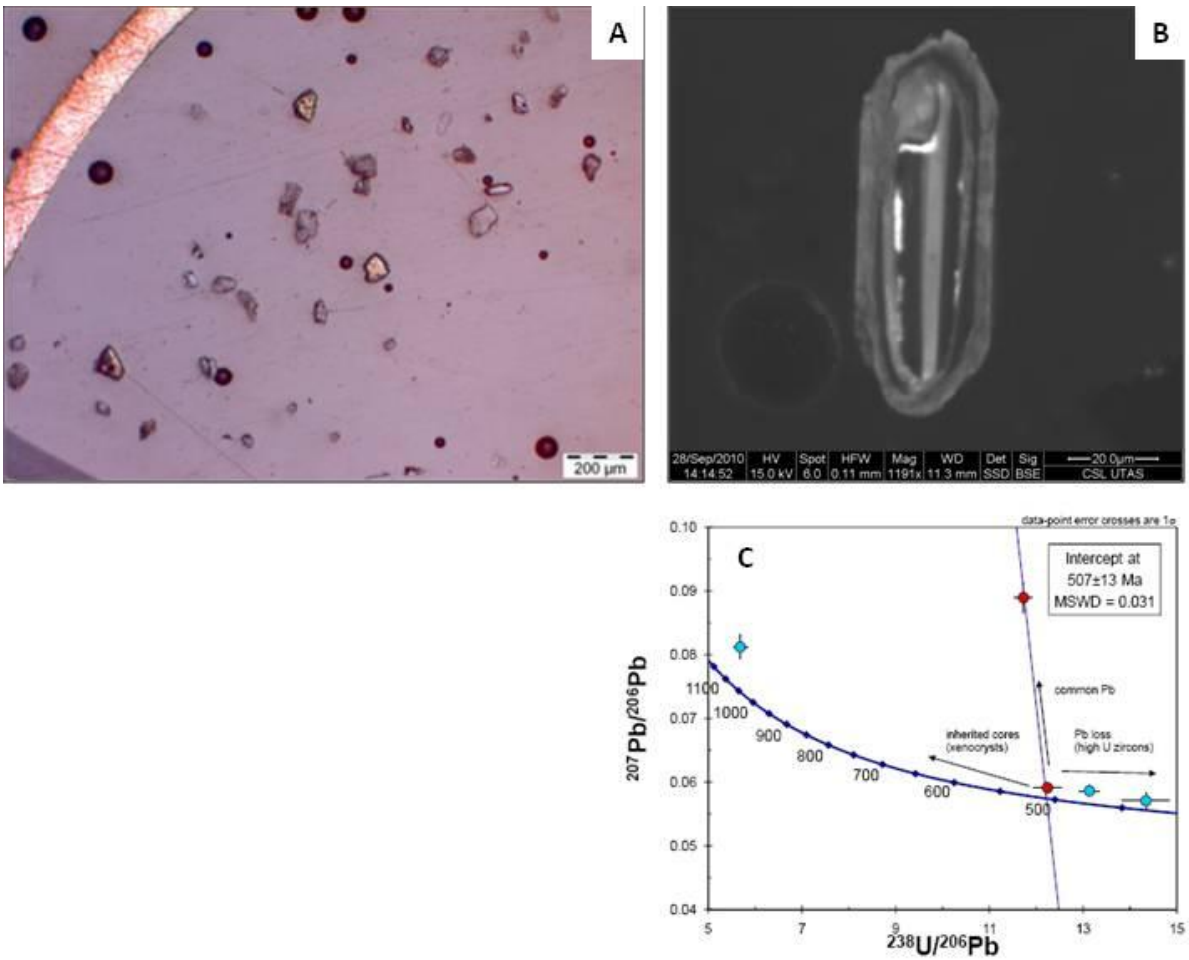


Figure 14 Hill 99 U-Pb age dating of zircon.

a) **Zircon grains from Hill 99-1, 294.5m**

b) **B) CL images of zircons from (a)**

c) **C) Tera-Wasserburg concordai plot of total 207Pb/206Pb Blue dots are excluded samples.**

The age dates compares with a date from the Timbertops area of about 503± 4 Ma (Black et al., 1997). The age of the Mount Lyell mineralization is of Middle Cambrian age (513 ± 2 million years to 499 ± 2 million years; Corbett, 2001).

Noddy Creek Prospect

Six high priority VTEM anomalies at Noddy Creek were soil sampled in a "+" pattern with 9 samples from each site. Samples were collected from the C horizon. Each bar of the cross was 100m long. Sampling was at 50m spacing with one sample at the centre, hence 9 samples from each site. Samples were dried and sieved to -80# before pulverising and sent to ALS labs in Brisbane.

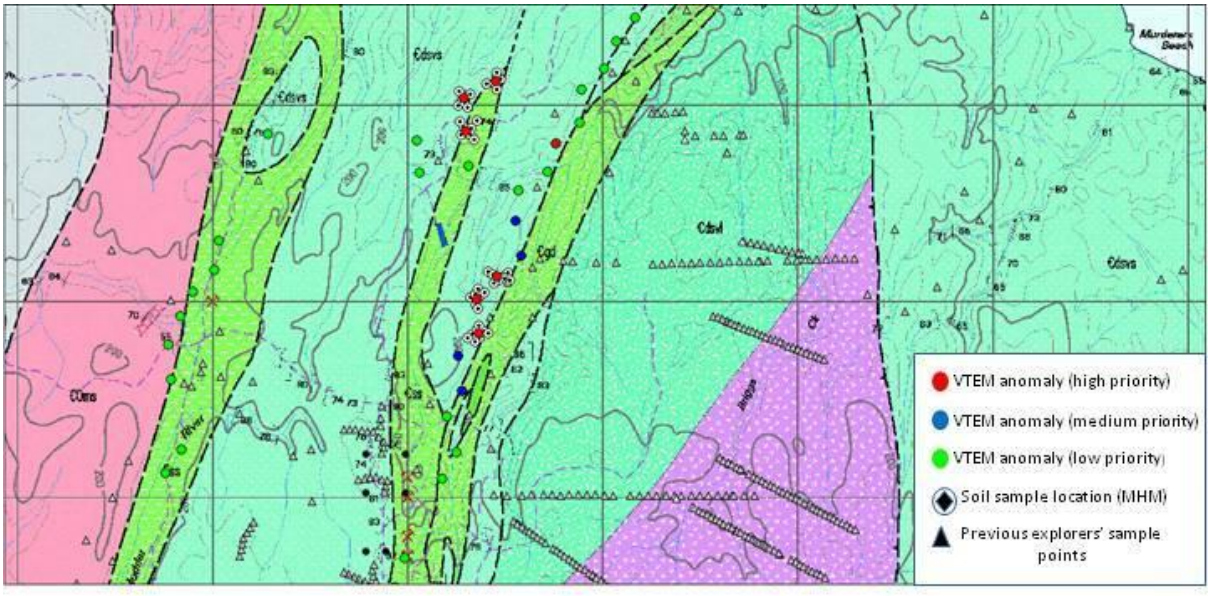


Figure 15 Geological map of Noddy Creek showing high priority VTEM anomalies, six of which were soil sampled.

A total of 56 soil samples were taken and best results are presented in Figure 16 The peak values from the programme were from the following stations/sample number:

Station	assay
5B-38/2140	0.30g/t Au
5B-38/2140	0.32% Ni
5B-38/2134	0.11% Ni
5B-23/2164	0.20% Ni
5B-34/2117	0.16% Ni

Table 2 Best assay results from soil sampling program at Noddy Creek.

Assays are found in Appendix 3. Only one sample yielded an anomalous gold grade (0.30g/t Au). This sample was taken from a pisolitic laterite area rich in iron and the anomaly is attributed to the adsorbsion effect of the iron oxides. Nickel with grades above 0.1% is dispersed throughout the area and is related to mapped pyroxenites and serpentinites (Figure 16).

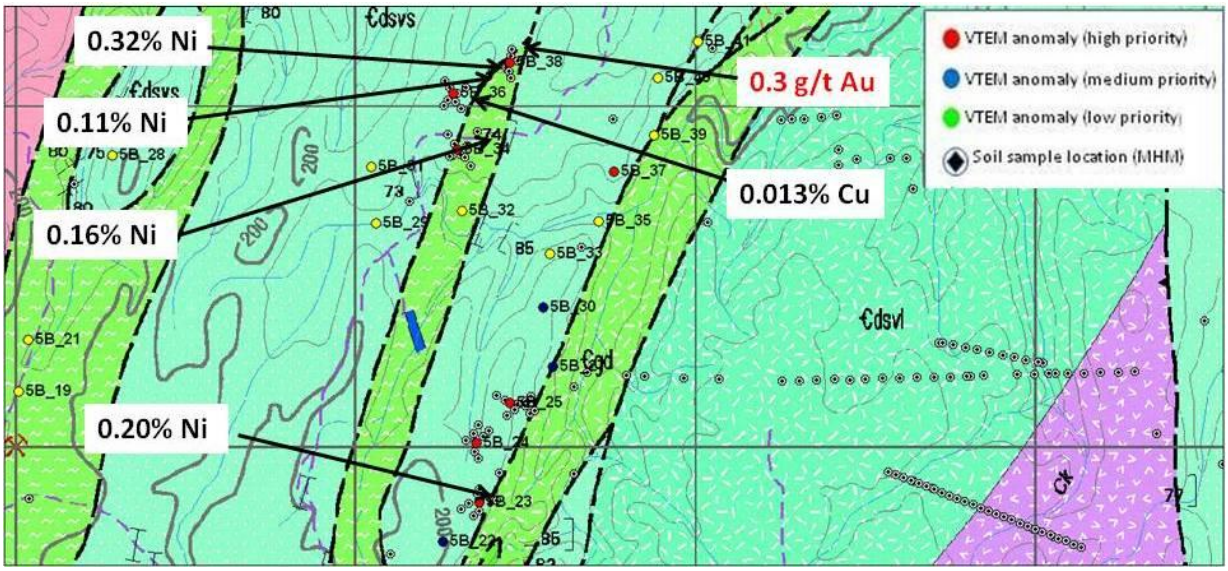


Figure 16 Best soil results from Noddy Creek.

Discovery Nickel Limited conducted a due diligence in Cape Sorell including the Modder River (North Butler area) and concluded the this area was not prospective for magmatic Ni-Cu sulfide deposits but the area still holds potential for an Avebury Styled Nickel occurrences (Johnstone et al., 2007.

EL23-2007

Thomas Creek Prospect

Core Re-logging and research

Drill core from 8 previously drilled diamond drill holes by Plutonic Operations was re-logged and in some places sampled and assayed where not previously done so.

The best results obtained from this sampling of old core was from hole TD05:

TCD5: from 31.5 to 46.5 m (15m) @0.167% Cu and very weak Au (.05g/t)

This intersection expanded an original intersection reported by Plutonic Operations who recorded the following:

TCD5: From 32 to 37m (5m) @ 0.21% Cu and 0.12g/t Au

Other assay results from this sampling program returned the following:

Hole #	From	To	Interval	Cu ppm	Au ppm	Zn ppm	Ni ppm	Fe %
TCD1	56	74	18	206	bdl	71	89	8.2
TCD2	23	27	4	112	bdl	41	76	3.4
	113	120.4	7.4	162	bdl	44	84	4.7
	120.4	121.8	1.4	1194	0.05	73	95	4.9
	121.8	127.8 (EOH)	6	236	bdl	39	90	4.8
TCD6	17.1	21.5	4.4	266	bdl	47	64	4
	52.5	62	9.5	270	bdl	35	56	3.7
	77	81	4	103	bdl	38	61	3.4
	92	93	1	507	bdl	130	45	3.2
TCD8	86	94.4 (EOH)	8.4	227	bdl	40	49	2.4

Table 3 Assay results from Thomas Creek sampling of old core.

Assay results are found in Appendix 1 (drill hole assays).

Results of the 11 core samples submitted for wholerock geochemistry from Thomas Creek have been evaluated. The geochemical patterns seen in Thomas Creek can be grouped into two rock suites; nine samples are calc-alkaline to high-calc-alkaline igneous rocks of intermediate to acidic in composition, and two samples fall in the shoshonite series of igneous rocks (see Figure 17).

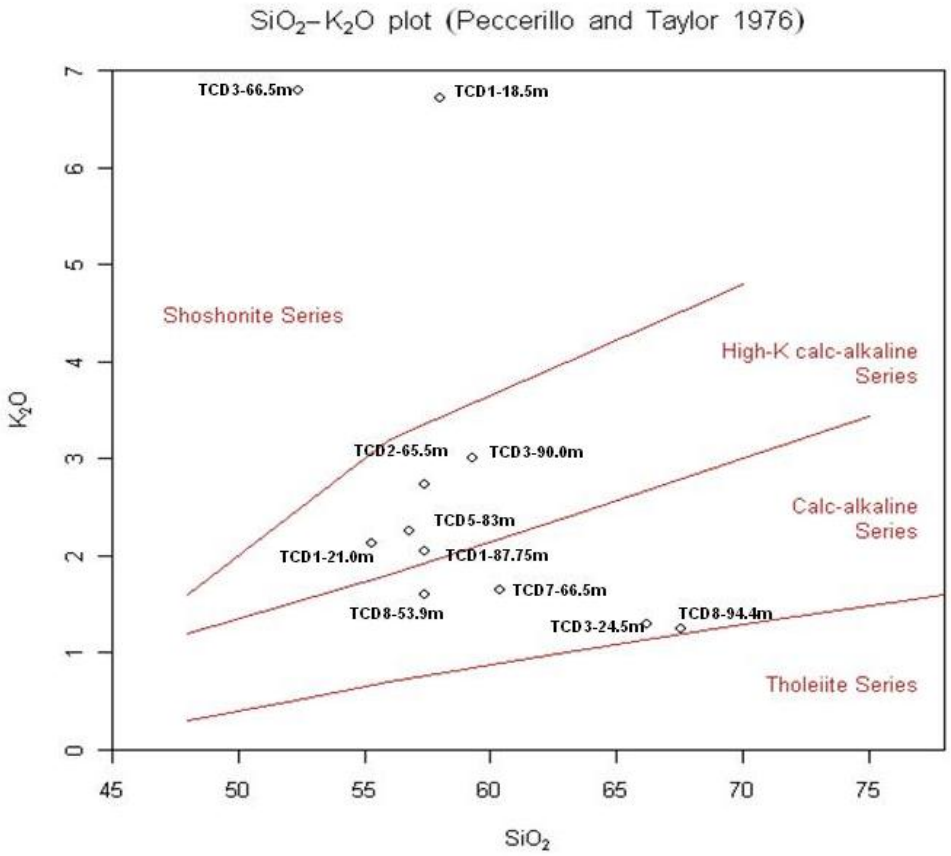


Figure 17 Major elements discrimination diagram from intrusive rocks from Thomas Creek prospect. Note the two samples plot on the shoshonite series.

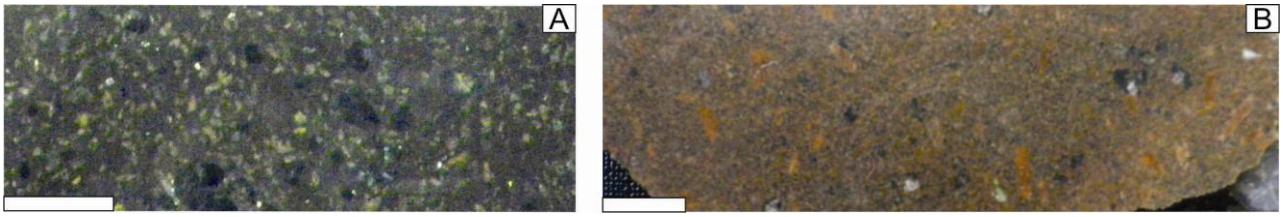


Figure 18 Photograph of the 'shoshonitic' intrusions from Thomas Creek prospect. A) TCD3-66.5m. B) TCD1-18.5m.

The presence of two samples with very high K_2O content is anomalous (see Figure 18 17). It may be that the K_2O reflects the composition of K-feldspar in highly altered rocks. However, major and trace element concentrations of intrusions related to porphyry style mineralisation in the Cadia district have shoshonitic magmatic affinity (Wilson, 2003). Moreover, weakly-developed porphyry-style alteration at Gooleys, Timaru and Forestry (around Cadia) also show high-K to shoshonitic magmatic affinity.

Trace elements and rare earth geochemistry

Figure 19 shows the normalized rare earth element (REE) of the different intrusions from Thomas Creek, using the values from Taylor and Gorton (1977). The REE were normalized to estimates of their abundances in primordial Earth (Wilson, 1989).

The shape of REE profiles is generally considered to reflect variations in the pressure, temperature and fluid conditions under which magmas may have been generated, in addition to fractional crystallisation history (Kay et al., 1999). At Thomas Creek, the REE profiles have moderate negative slopes (indicating LREE fractionation) and decreasing REE concentrations with increasing fractionation (Figure 19), an upwardly concave middle to heavy REE profile in the most fractionated intrusions. Similar REE profiles have been reported from Laramide intrusive complexes related to porphyry copper mineralisation in Arizona (Lang and Titley, 1998) and late Ordovician intrusions that host porphyry copper-gold mineralisation (Goonumbla, Lickfold and Cooke, 2002; Cadia, Wilson 2003, Cuison, 2010).

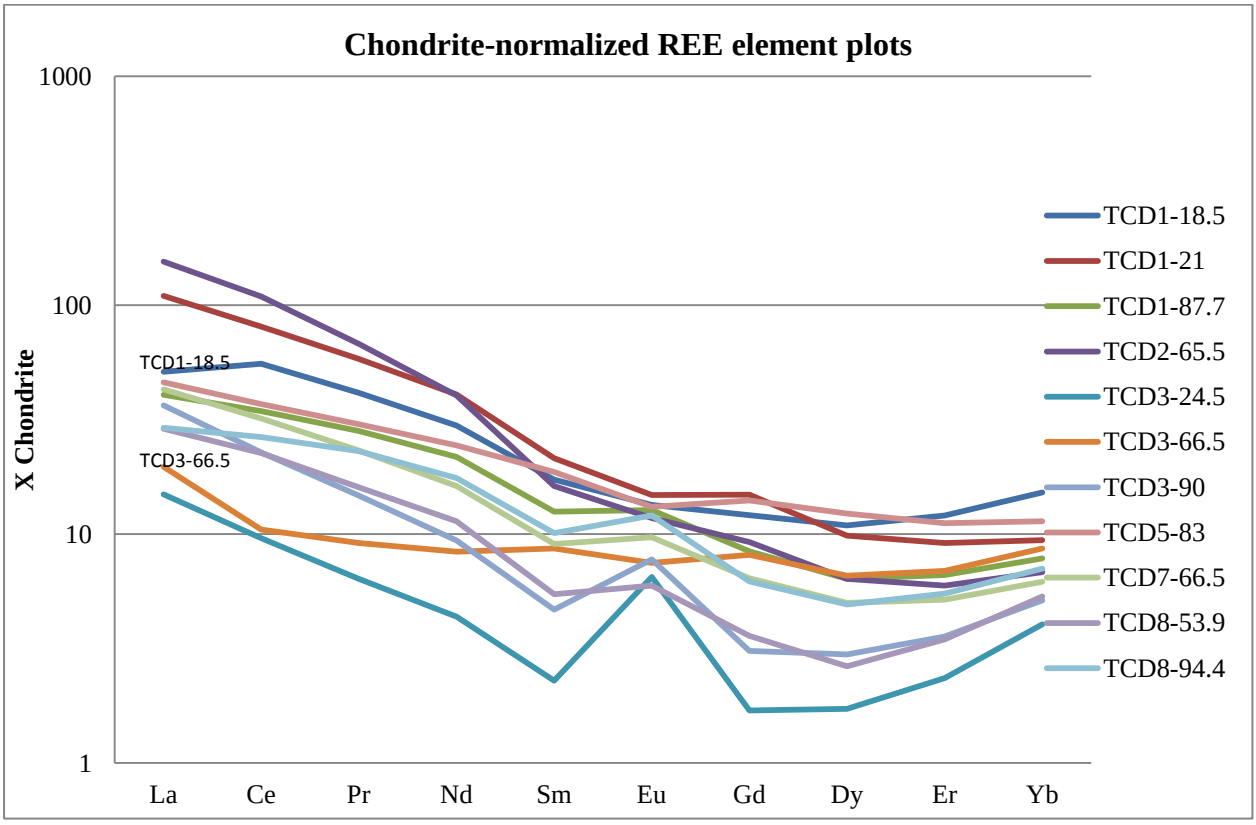


Figure 19 Chondrite normalized REE pattern for the intrusive rocks from Thomas Creek prospect, normalized to chondrite values of Taylor and Gorton (1977).

Previous surface sampling by Amoco and Plutonic-Nevada at Thomas Creek were conducted in grid lines at 50m interval, infilled to 25m and 12.5m in highly anomalous site (Kary, 1995; Figure 5). Reconnaissance mapping and soil sampling on rock chips in auger holes by Pacific Nevada indicated a 400x300 m (minimum) of highly altered rocks with anomalous Cu and Au which were then drill tested by diamond drillholes (MacDonald, 1993; Reid and Close, 1997; Figure 5). The drillhole locations correspond to a magnetic low within a core of a large magnetic high (Reid, 2001; Figure 7). The results from the drillholes revealed a widespread (600x400m) low grade copper mineralization (Reid and Close, 1997).

MHM Metals conducted soil/rock sampling at Thomas Creek during the reporting period, with a total of 109 samples collected. Whilst previous explorers concentrated in the core of a magnetic anomaly, MHM Metals extended the sampling locations to the magnetic annulus around the perimeter of the Thomas Creek intrusive complex (Figure 20). Sampling was carried out every 50m along the cut tracklines covering the entire magnetic high.. Results are found in Appendix 3.

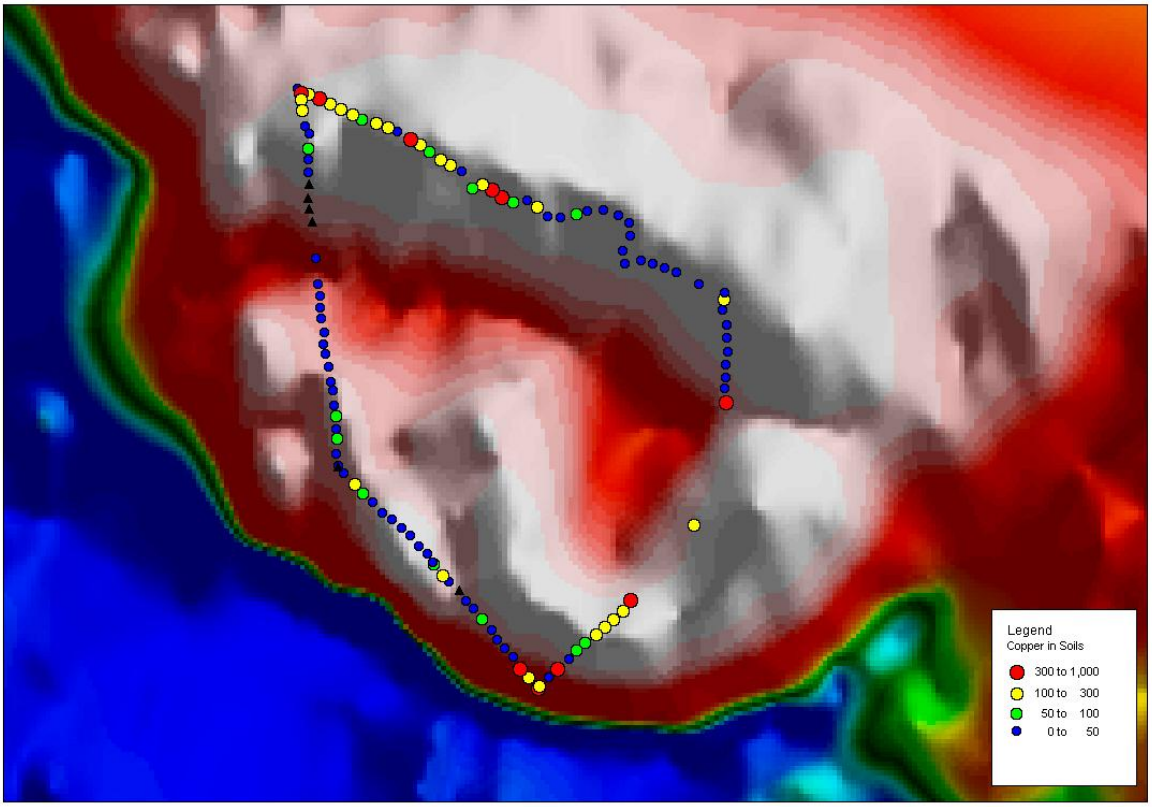


Figure 20 Thomas Creek soil sampling (Cu in ppm).

Two surface rock samples were petrographycally analysed for alteration and sulfides. A greenish, medium-grained chlorite-altered coherent rock (diorite, Figure 21B) with visible sulfides was sampled from the northern side of the magnetic anomaly (Figure 21). Under the microscope, this sample shows chalcopyrite dissemination (Figure 21) associated with the altered mafic minerals (amphibole, biotite, and pyroxene). In places, pyrite occurs as rim around the chalcopyrite (Figure 21D). A light-coloured, whitish-creamy, coarse-grained, equigranular coherent rock (Figure 21E) unit was sampled west-southwest of the magnetic anomaly (Figure 21A). This rock unit has undergone selective pervasive alteration. The feldspars have been pervasively altered to clay, with the pyroxene selectively altered to chlorite-epidote; quartz occurs interstitially with the mafic and felsic minerals (Figure 21F).

Figure 21 Thomas Creek Prospect rock samples.

Age dating

Two samples from Thomas Creek intrusions from hole TCD05 (53.4m) were submitted for U-Pb age dating. Most of the zircons in these rocks have euhedral form (Figs. 22A and 22C) and rhythmic zoning characteristic of igneous origin (Black et al., 1997), and as revealed from cathodoluminescence (CL) imaging (Figure 21B and 22D).

Thomas Creek intrusions returned a U-Pb age of 508.7 ± 4.8 million years (TCD5-53.4m see Figure 22E) and 505.2 ± 5.0 million years (TCD7-54.2m; Figure 22.F). The ages derived are within the limits of analytical error of each other. Although the zircon U-Pb ages were from the intrusions at Thomas Creek, it can be argued that the mineralization associated with these intrusions (and the fact that these intrusions are also mineralized) is within this age range.

Interpretative plan and sections of the Thomas Creek Cu porphyry prospect (Figures 23 to 26) were generated based on the detailed review from old diamond drillholes by Plutonic Operations. Interpretative geologic cross-sections along drillholes were generated, overlain by copper grade pattern.

Preliminary interpretation suggests multiple intrusions comprise the Thomas Creek complex. The Thomas Creek copper porphyry prospect is hosted by a cluster of subvertical porphyry pipes, dikes and stocks of feldspar-pyroxene-phyric diorite, medium-grained to equigranular diorite and equigranular syenitic intrusion (U–Pbzircon age: 508.7 ± 4.8 Ma). Truncating this intrusive complex are breccia dikes and pipes, with hydrothermal solutions probably emanating from the same magmatic reservoir during its waning stages produced hydrothermal brecciation, with consequent deposition of breccia-type copper mineralization. Cross-sectional shapes of the intrusions and the hydrothermal breccias are broadly pipe-like (see Figure 2425 and 26).

The highest Cu grades (>1000ppm) at Thomas Creek are associated with chalcopyrite ± tourmaline ± quartz veins and stringers hosted in the intrusive complex, and as chalcopyrite–tourmaline-actinolite cement in the breccias.

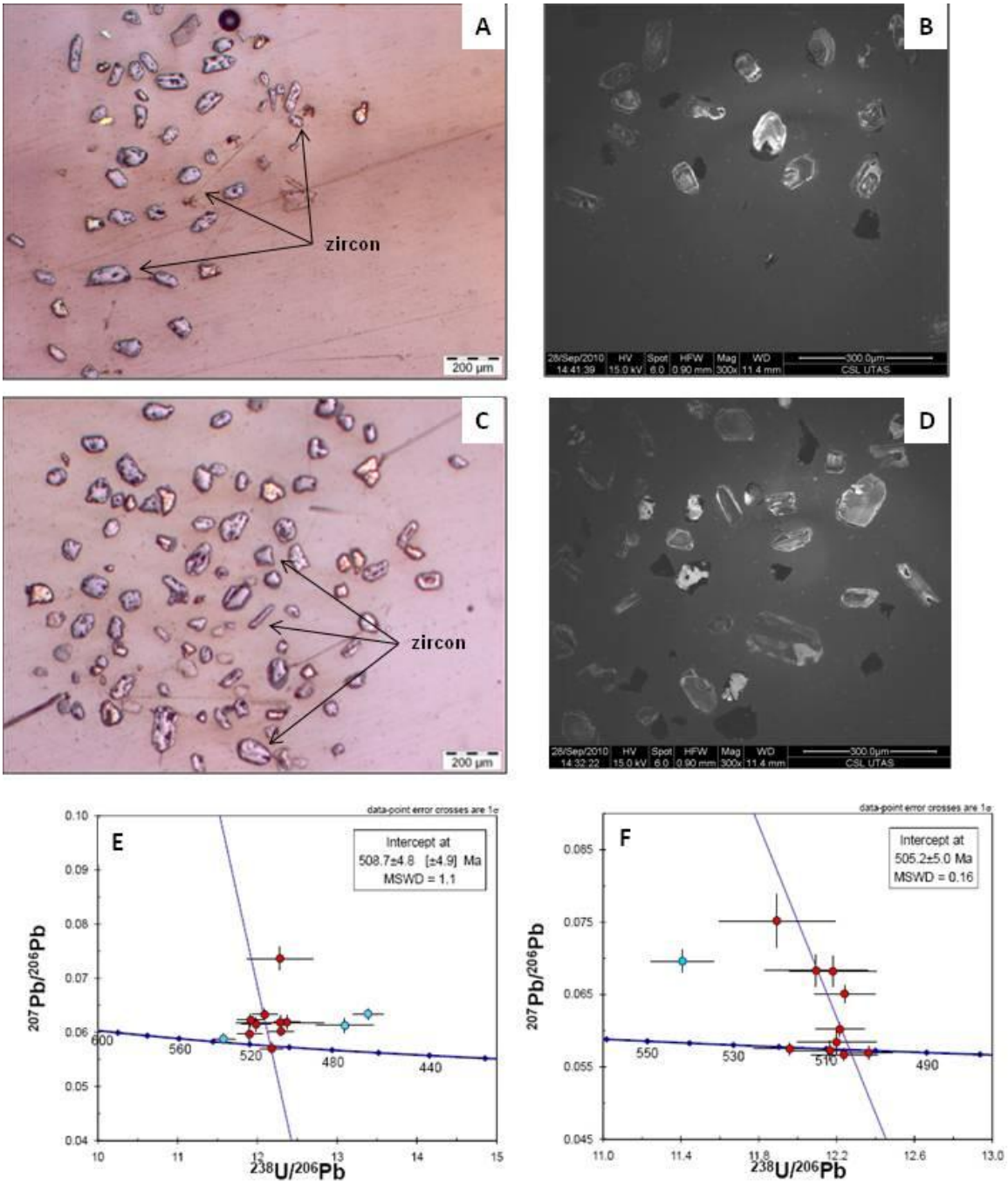
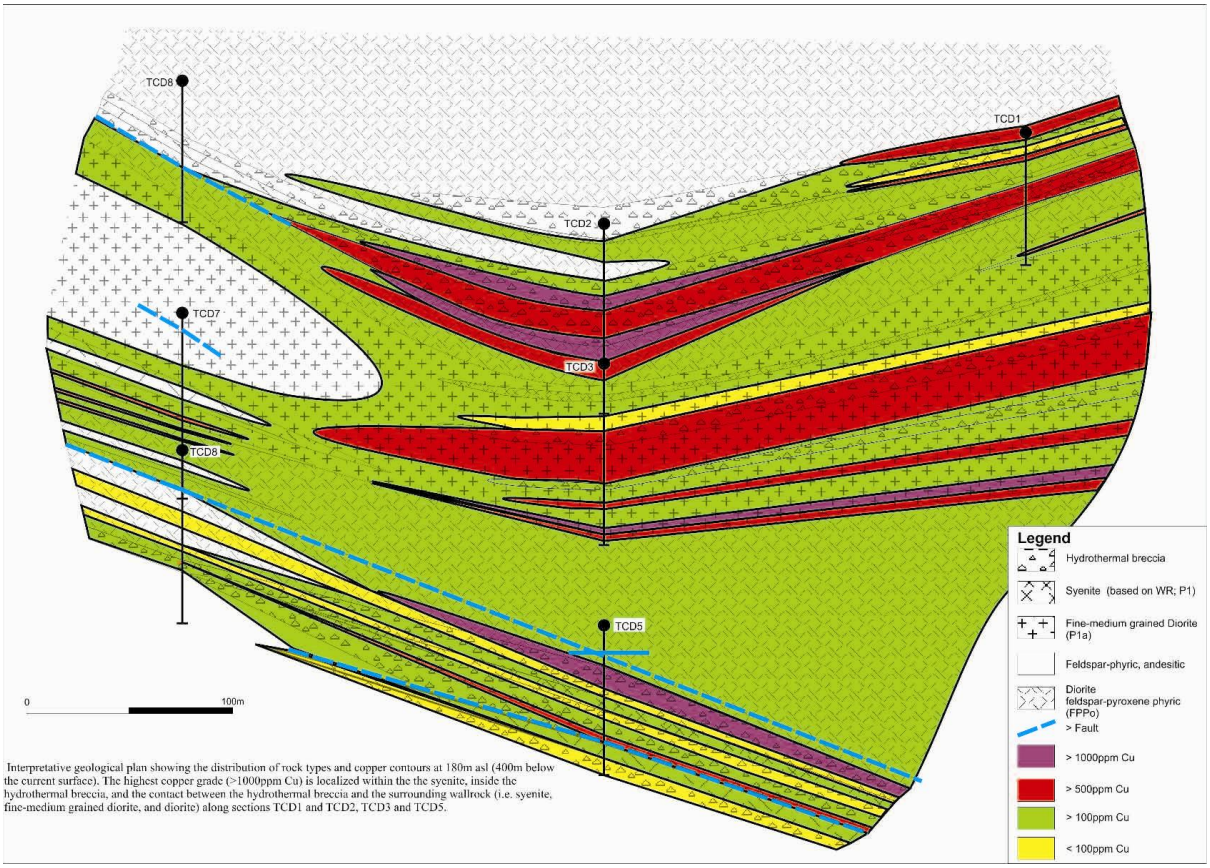


Figure 22 Thomas Creek Prospect U-Pb age-dating of zircon.



Interpretative geological plan showing the distribution of rock types and copper contours at 180m asl (400m below the current surface). The highest copper grade (>1000ppm Cu) is localized within the the syenite, inside the hydrothermal breccia, and the contact between the hydrothermal breccia and the surrounding wallrock (i.e. syenite, fine-medium grained diorite, and diorite) along sections TCD1 and TCD2, TCD3 and TCD5.

Figure 23 Interpreted geological plan showing the distribution of rock types and copper contours at 180m asl (400m below the current surface). The highest copper grade (>1000ppm Cu) is localized within the syenite, inside the hydrothermal breccia, and the contact between the hydrothermal breccia and the surrounding wall rock.

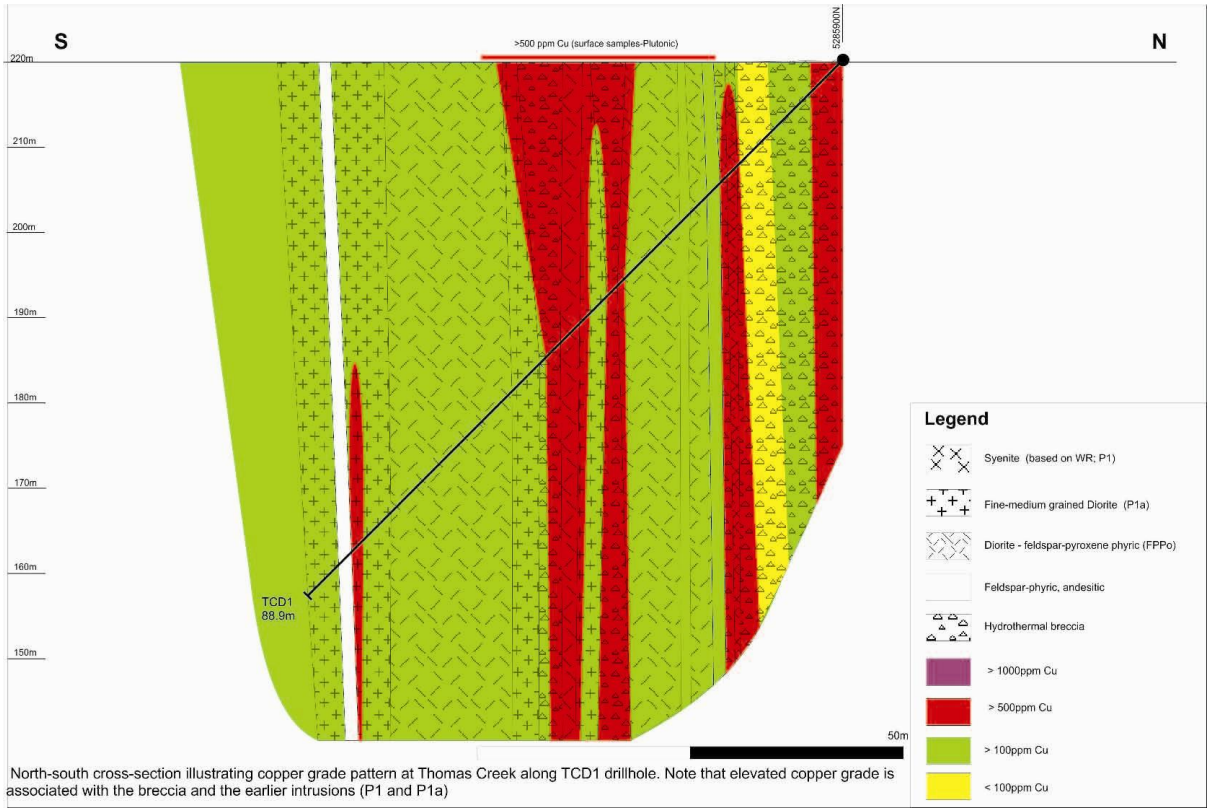


Figure 24 Interpreted geological cross-section along TCD1showing the distribution of rock types. Also shown is the copper grade pattern.

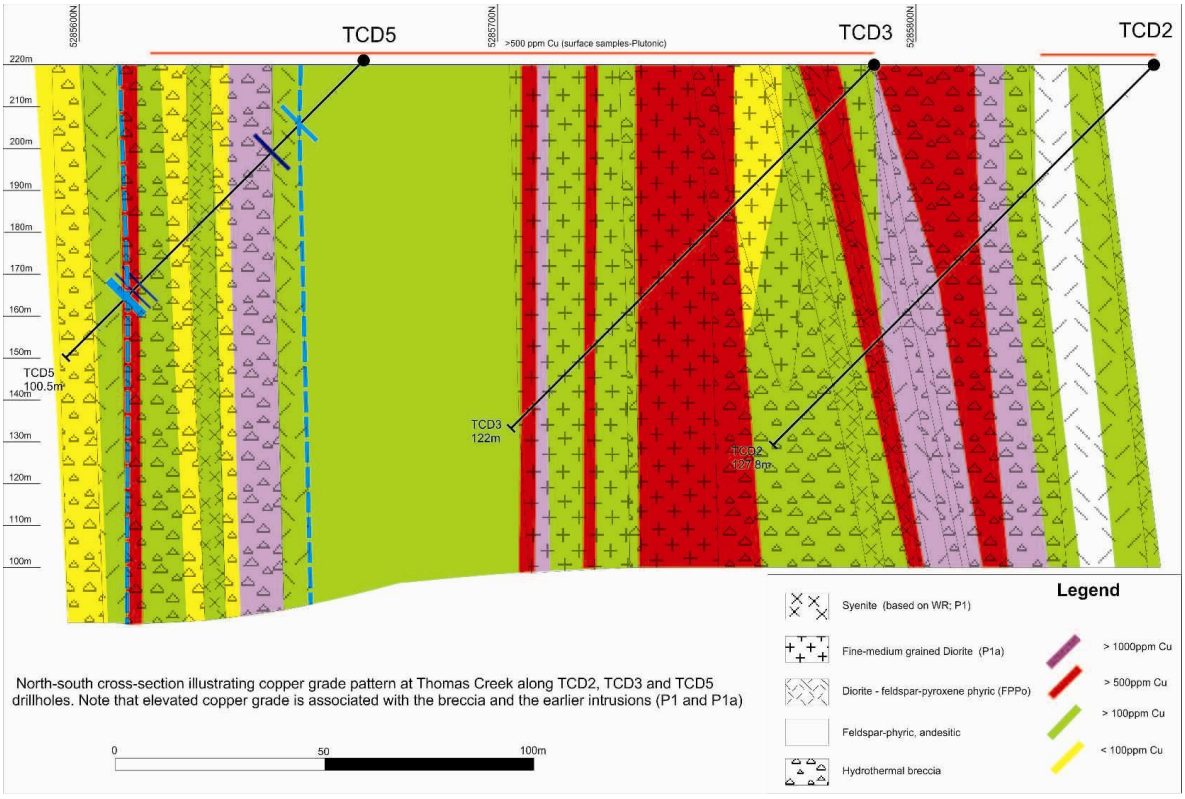


Figure 25 Interpretative geological cross-section along TCD2, TCD3, and TDC5 showing the distribution of rock types. Also shown is the copper grade pattern. Note that elevated copper grade is associated with the breccia and the earlier intrusions (P1 and P1a).

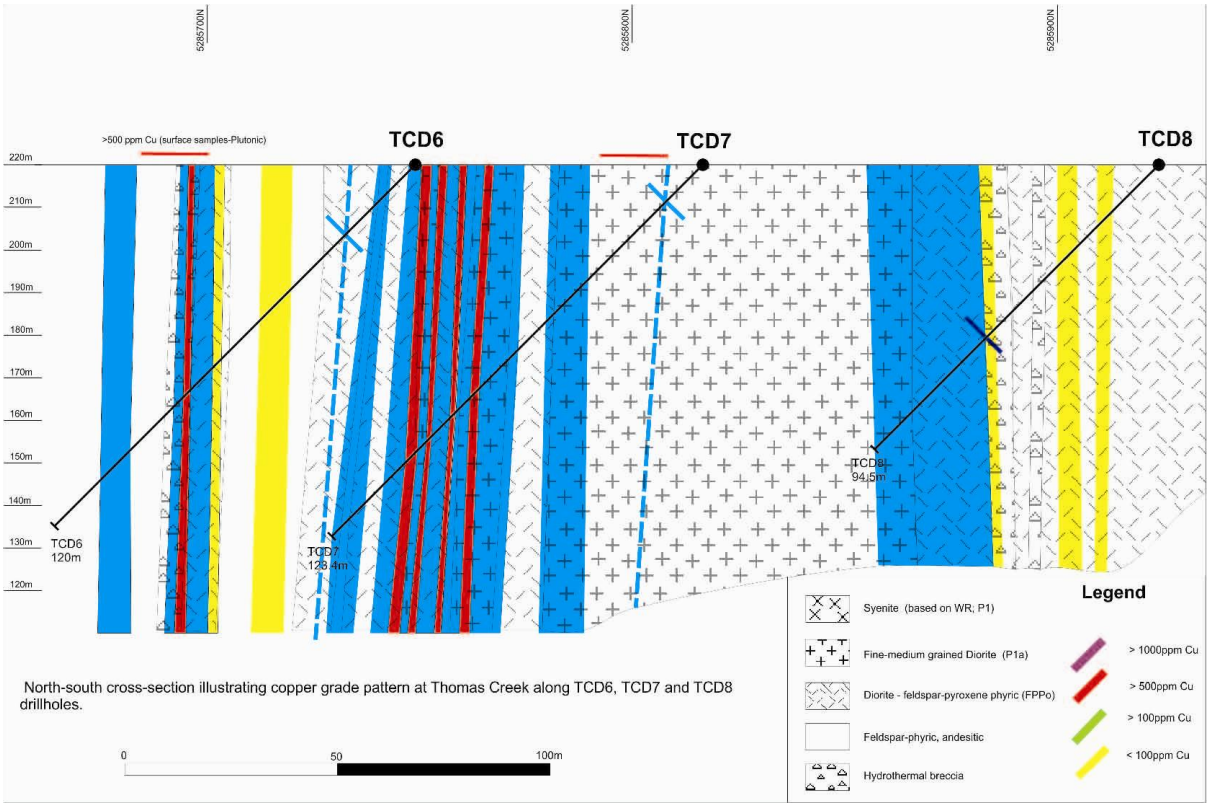


Figure 26 Interpreted geological cross-section along TCD6, TCD7, and TDC8 showing the distribution of rock types. Also shown is the copper grade pattern.

This interpretation is based on drillholes that bottomed ~100m below the current surface. Concealed porphyry deposits around the world have been discovered well below the current surface and deep mineralization may be concealed by unmineralized bedrock and/or post-mineral cover, for example, ore-grade Cu-Au mineralization at Ridgeway lies 500m below the surface (Holliday et al, 1999). At Far Southeast in the Philippines the ore grade occurs 400m below the surface. As in the case for Thomas Creek, to discover the extent of mineralization at depth requires exploration for deep targets.

A program of future work comprises drilling below the old Plutonic Operations drill holes to test if mineralisation increases with depth and also testing of two of the anomalous copper zones defined by soil sampling. Drilling is planned for the next reporting period in 2012.

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7 EXPENDITURE

Total annual expenditure for tenements EL22 and 23/2007.

Geoscientific Costs	
Geology	134,996
Geochemistry	9,422
Geophysics	5,720
Environmental	12,914
Drilling	71,433
Other Costs	16,987
Rental fees	16,034
Camp & Line Clearing	66,768
Helicopter Hire	68,021
Equipment Purchase	3,804
Assaying	4,167
Administration Costs	
(note: not to exceed 10% of annual expend)	
Legal	
Office & Admin	2,800
Total	**413,066**

8 APPENDICES

Appendix 1 Drill hole information

Appendix 2 Hy-logger graphs

Appendix 3 Soil geochemistry results

Appendix 4 Assay and QC certificates