# Thomas Creek (EL4/2024) Annual Report on Exploration 2025

## Cape Sorell, Tasmania

### For the period 15 August 2024 to 14 August 2025

**Tenement:** EL4/2024
**Report Type:** Annual
**Reporting Period:** 15/08/2024 – 14/08/2025
**Tenement Holder:** Stunalara (Operations) Pty Ltd / INCA Minerals Ltd
**Operator:** Stunalara (Operations) Pty Ltd / INCA Minerals Ltd
**Author:** Gregor Bennett
**Submission Date:** 14/08/2025
**Datum:** GDA94 Zone 55

# 1. Summary

The Thomas Creek Project (EL4/2024) is located on the Sorell Peninsula in western Tasmania, approximately 40 km south of Strahan. During the reporting period, exploration activities advanced the understanding of multiple mineral system models across the Hibbs Ultramafic Belt and associated prospects, with particular focus on the Thomas Creek porphyry–IOCG system. A comprehensive Geological Review and Targeting Assessment, undertaken by Consultant Geologist Robert Reid, integrated geological mapping, structural interpretation, geochemical sampling, and geophysical modelling to refine target areas and mineral system interpretations.

At Thomas Creek, detailed review of historical drilling, IP, aeromagnetic, and Mobile Magnetotellurics (MobMT) data refined four high-priority targets, including shallow potassic–magnetite Cu–Mo–Au mineralisation on the northern rim and deeper untested chargeable–resistive anomalies interpreted as potassic cores to the system. The prospect also retains potential for VHMS-style mineralisation, supported by Hylogger and geochemical signatures in historical drilling.

Elsewhere in the Hibbs Ultramafic Belt, work confirmed the regional prospectivity for both magmatic and hydrothermal Ni–Cu–Co systems, as well as IOCG-related mineralisation. At Henrietta and Hill99, structural analysis suggests potential for structure-hosted Cu and Pb–Zn mineralisation associated with graphitic shale horizons, while at Noddy Creek and nearby ultramafic sequences, the interplay between gabbro intrusions, sulphides, and graphite may have provided favourable chemical and structural traps for mineralisation.

Exploration during the reporting period has highlighted the importance of integrated, multi-scale targeting, with both regional and prospect-scale datasets converging to define clear next steps. The proposed work program for the coming year is deliberately geochemistry-focused, aimed at cost-effectively refining target definitions at Thomas Creek and Henrietta ahead of drill testing, ensuring the most prospective anomalies are drill-ready in future campaigns.

# 2. Contents


1. Summary ..... 1
2. Contents ..... 2
3. Introduction ..... 3
4. Location and Access ..... 3
5. Land Tenure ..... 4
6. Geology ..... 5
7. Mineralisation ..... 6
8. Previous Work and Exploration History ..... 7
   - 8.1 1956–1962 Lyell-EZ Explorations (LEE) ..... 7
   - 8.2 1964–1972 BHP Exploration ..... 7
   - 8.3 1983-88 Amoco Minerals Australia Company ..... 8
   - 8.4 1992-1998 Plutonic Operations limited ..... 8
   - 8.5 1998-2001 Pacific-Nevada Mining Pty Ltd ..... 9
   - 8.6 2007 – 2012 MHM Metals ..... 10
   - 8.7 2013 to 2017 Sherlock ..... 11
   - 8.8 2017 / 2018 Accelerate Resources Ltd. ..... 12
   - 8.9 2018 / 2019 Accelerate Resources Ltd. ..... 14
   - 8.10 2020 / 2023 Stunalara (Operations) Ltd. ..... 15
9. Exploration completed during the reporting period ..... 17
   - 9.1 Thomas Creek Prospect ..... 17
   - 9.2 Henrietta Prospect ..... 24
   - 9.3 Hill99 Prospect ..... 25
   - 9.4 Noddy Creek Prospect ..... 26
   - 9.5 Hibbs Ultramafic Belt ..... 27
   - 9.6 Exploration Recommendations ..... 27
10. Proposed Work Program – Next Reporting Period ..... 30
11. Expenditure ..... 30
12. References ..... 31
13. Appendix ..... 33
    - 13.1 Appendix 1: List of Appended Digital Files ..... **Error! Bookmark not defined.**

# 3. Introduction

This Annual Report summarises exploration activities conducted on Exploration Licence EL4/2024 for the period 15 August 2024 to 14 August 2025. The license covers 224 km² on the Sorell Peninsula in western Tasmania, approximately 40 km south of Strahan.

EL4/2024 is held by Stunalara (Operations) Pty Ltd. In March 2025, Inca Minerals Ltd acquired the project through its purchase of Stunalara (Operations) Pty Ltd.

Exploration during the reporting period was directed toward assessing the potential for Volcanic-Hosted Massive Sulphide (VHMS) and hybrid mineral systems hosted within Cambrian Mount Read Volcanics equivalent strata. The primary focus was on porphyry and intrusion-related copper–cobalt–gold mineralisation at the Thomas Creek Prospect. Secondary objectives included evaluating nickel–cobalt–copper sulphide and platinum group element (PGE) mineralisation associated with Middle Cambrian mafic and ultramafic rocks of the Hibbs Ultramafic Belt.

The principal work completed was a comprehensive Geological Review and Targeting Assessment undertaken by Consultant Geologist Robert Reid. This work involved compilation, integration, and reinterpretation of historical exploration datasets, combined with regional and prospect-scale geological, geophysical, and geochemical analysis. This integrated approach refined the geological framework and prioritised untested targets for future drilling.

All spatial data presented in this report are referenced to GDA94, Zone 55.

# 4. Location and Access

Access to the project area can be achieved via Macquarie Harbour coastal landing by boat or by helicopter from Strahan (Figure 1). Access within the project areas is achieved on foot via historical exploration tracks (all of which are currently unsuitable for vehicular egress) and cut lines.

The area has a high annual rainfall of approximately 1750 millimeters. The natural vegetation is dominated by rainforest and related scrub, most dominantly Nothofagus rainforest. Additionally, there are areas of wet eucalypt forest and woodland flora types, heathland and coastal vegetation complexes. Bauera scrub areas are very thick and generally impenetrable without prior line cutting work. Where tree canopy is high, undergrowth is significantly less and access over the ground can be achieved with some effort.

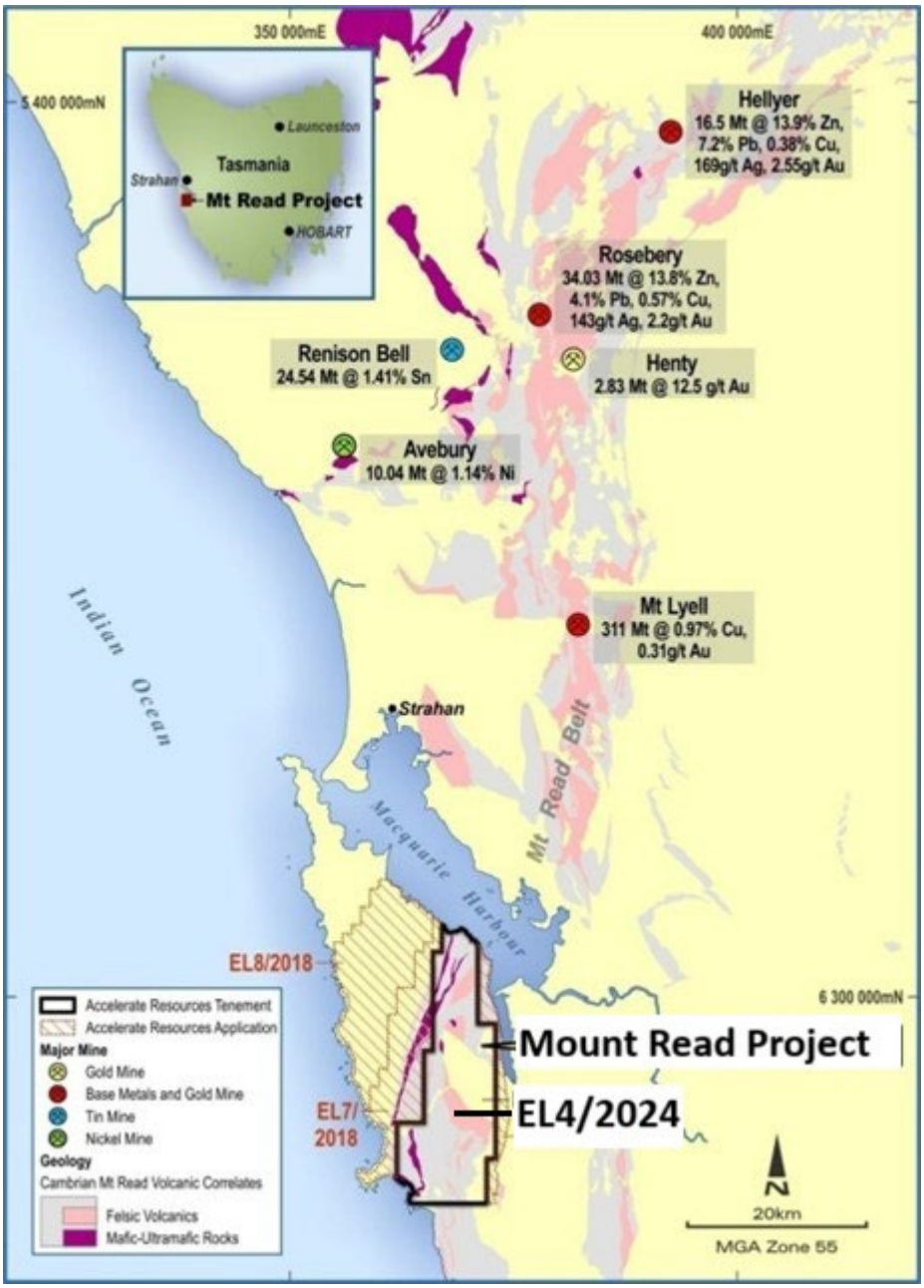


*Figure 1. Location of EL4/2024*

## 5. Land Tenure

Exploration Licence EL4/2024 was granted on 15 August 2024 for a term of five years, expiring on 14 August 2029. The licence covers an area of 224 km² on the Sorell Peninsula in western Tasmania and is held by Stunalara (Operations) Pty Ltd, a wholly owned subsidiary of Inca Minerals Ltd.

The EL4/2024 tenement lies entirely within the Southwest Conservation Area and forms part of the Cape Sorell Strategic Prospectivity Zone, a region protected under the Mining (Strategic Prospectivity Zones) Act 1993. This legislation ensures continuing access for mineral exploration and mining activities in areas identified as having high mineral potential.

The tenement is bordered to the east by the Franklin Gordon Wild Rivers National Park, a World Heritage–listed area, and to the northeast by the Macquarie Harbour Historical Site. The surrounding land tenure and statutory protections require careful planning and regulatory compliance to ensure

exploration activities are conducted in accordance with both environmental and heritage management requirements.

## 6. Geology

The geology of the Sorell Peninsula area (Figure 2) has been described in unpublished company reports of BHP and Amoco/Cyprus, and in White's (1975) PhD thesis. Mapping in the late 1960s by BHP was largely based on coastal exposures and a few inland traverses, with a large component relying upon aerial photo interpretation. Subsequent explorers have relied heavily upon BHP's initial mapping, with a re-interpretation provided by Close and Reid (1995). Limited description of the regional geology is given in Corbett and Solomon (1989).

Little is known south of the Sorell Peninsula. Regional mapping by the Mines Department at 1:50,000 covers the area to the north of Varna Bay ("Macquarie Harbour" map sheet; McCleneghan and Findlay, 1989) and to the south of High Rocky Point ("Montgomery" map sheet; Brown, 1988). The Hibbs 1:50,000 sheet, encompassing the Thomas Creek area, has been partially mapped, but remains incomplete due to lack of funding. A report by Brown et al. (1991) supplements this mapping and provides the most extensive discussion and interpretation of the Sorrell Peninsula geology thus far. Brown et al. (1991) recognised two Precambrian rock successions and six Eocambrian-Cambrian volcano-sedimentary associations in the region (Figure 4). Four of the volcanic associations are relevant to the tenement area.

These associations are: -

1) Andesite-rhyolite association (Noddy Creek Volcanics);
2) Boninitic association (Timbertops Volcanics);
3) Picritic basalt- basalt association (Birch's Inlet-Mainwaring RiverVolcanics);
4) Serpentinised ultramafic rock-gabbro association incorporating sheared blocks of 1. and 2. above (Point Hibbs Melange Belt).

These polydeformed associations are bounded by a series of NE to NNE-trending faults and the distribution of these associations is interpreted by Brown et al. (1991) to result from thrust sheet stacking. Their structural model of "thin skinned tectonics" probably incorporates a pre-Ordovician thrusting event, reworked by late (Devonian?) thrusting. Thrusts are interpreted as eastward dipping with west/north-west thrust direction. Younger transcurrent faulting further disrupted the Point Hibbs Melange Belt.

The Cambrian andesites and rhyolites of the Noddy Creek Volcanics (NCV) crop out in the southern portion of the Sorell Peninsula and are inferred to extend further south past Point Hibbs (Brown et al., 1991; Close and Reid, 1995). The NCV hosts a series of diorite intrusions and an extensive intrusive complex of diorites occurs within the southern portion of the NCV, southwest of the Ordovician – aged Timbertops Syncline. The Thomas Creek Cu Prospect is believed to be hosted by a roof pendant within this intrusive complex.

The relationship of the NCV to the Mt Read Volcanics (MRV) is somewhat enigmatic. The MRV crops out in a N-S trending belt to the east, and extends from Mount Darwin, disappearing beneath a Tertiary Graben to re-emerge further south in the D'Aguillar Range area. Corbett and Solomon (1989) have correlated the NCV with the MRV based on similar calc-alkaline composition, and suggest the NCV could be a smaller, separate arc or sub-arc west of the main Mt Read Belt. More recent work by

Brown et al (1991) has suggested a more direct correlation based on geochemical similarities of the southernmost NCV to volcanics of the Que River-Hellyer area.

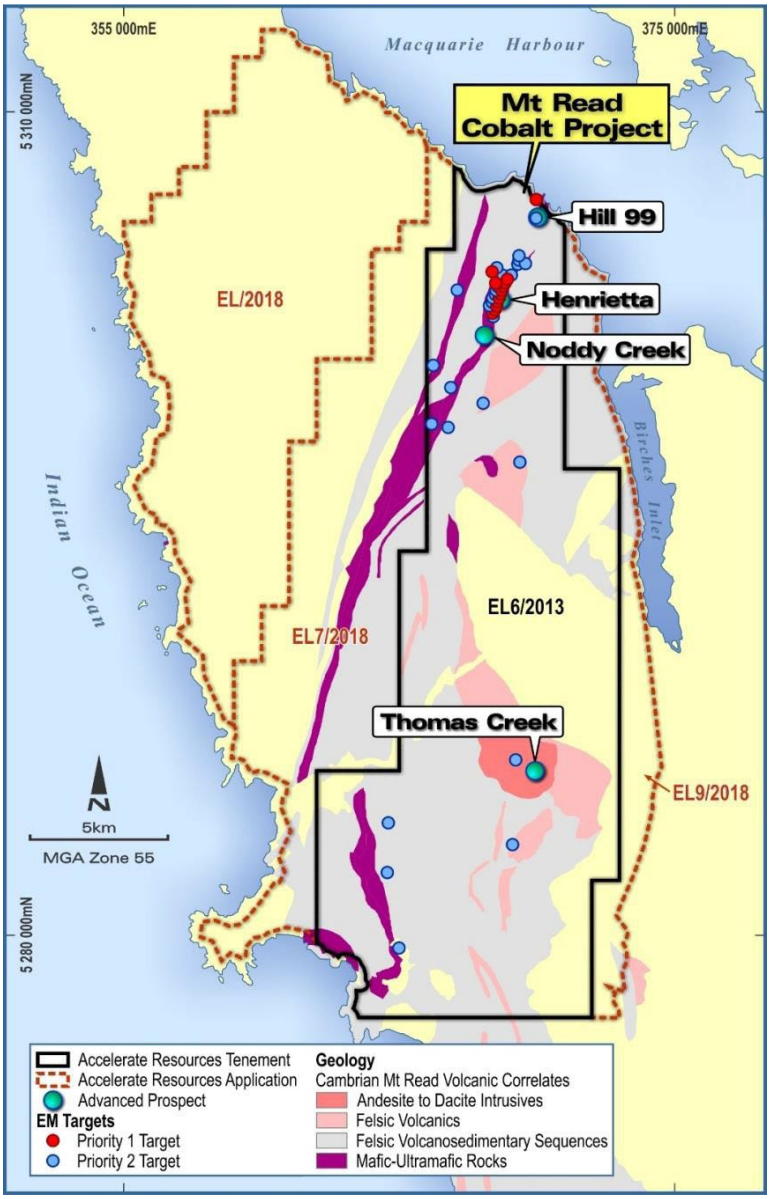


*Figure 2. EL4/2024 Cambrian Geology.*

Cambrian volcanics are mapped as overlain by Ordovician-aged Upper Owen Sandstone forming the Timbertops Syncline, northeast of Thomas Creek. Here, Calver et al. (2014) report siliceous conglomerate and quartz arenite overlain by grey siltstone, dated as likely oldest within the Gordon Group. The upper heavy mineral banded quartz sandstone of the Owen Sandstone maybe a Pioneer / Moina correlate (Corbett in Calver et al., 2014 & McCleneghan and Findlay, 1993). The Owen Group and particularly its contact with the NCV is a potentially favourable environment for Western Tharsis / North Lyell style mineralisation.

## 7. Mineralisation

The Thomas Creek (Cu-Co-Au) Prospect is recognised as a significant occurrence of poorly outcropping low-grade copper, cobalt and gold mineralisation associated with hydrothermal alteration of an andesitic to dioritic intrusive-volcanic complex. Sulphide mineralisation occurs over a large area and is associated with micromonzodiorite intrusions, brecciation, veining and 'porphyry'-style K-feldspar-

silica and magnetite-chlorite alteration. The combination of volcanic and intrusive rock, stratigraphic association, geochemical signature, alteration and sulphide mineral assemblages, and geophysical expression has been used by previous explorers to draw analogies between the Thomas Creek Prospect and the Mount Lyell Cu-Au deposit (311Mt @ 1% Cu, 0.3g/t Au) of western Tasmania. However, the addition of strong Co credits suggests it may also be similar to a Besshi-stlye VMS (i.e. Windy Craggy [Canada], 297Mt @ 1.38% Cu, 0.2 g/t Au).

# 8. Previous Work and Exploration History

The lack of road access, absence of any permanent settlements, the difficult and scrubby nature of much of the country, have all served to inhibit exploration of the area. Knowledge and understanding of the geology has mostly come in the last four decades from several regional mineral exploration programs by large companies and by regional mapping surveys by Mineral Resources Tasmania through the 1990's.

Sporadic small-scale mining/prospecting was carried out around the beginning of the 20th century for asbestos at Asbestos Point, copper at Birthday Bay (where a few tonnes of chalcopyrite, bornite and copper carbonates were produced from near-shore workings and alluvial osmiridium, gold, and chrome along the Spero River south of Point Hibbs and on creeks along the north coast near Gravelly Beach and parts of Birch's Inlet.

## 8.1 1956–1962 Lyell-EZ Explorations (LEE)

A large helicopter-based exploration program was undertaken by Lyell-EZ Explorations (LEE) over an area stretching from Queenstown to Port Davey from 1956 to 1962. This ambitious program greatly expanded knowledge of the geology of South West Tasmania, which was largely unknown country at that time, but did not result in any commercial mineral discoveries. Airborne magnetics (the first over the southwest), EM and scintillometer surveys were flown over much of the area in 1958, and a variety of ground geophysical methods were used. The ultramafic belt between Point Hibbs and Macquarie Harbour was discovered (Hibbs Ultramafic Belt).

## 8.2 1964–1972 BHP Exploration

A second major helicopter-based exploration program, covering most of South West Tasmania (9,600 $km^2$), followed soon after, and was conducted by BHP between 1964 and 1972. The project resembled a geological survey in many ways, and much regional mapping was undertaken. BHP based their exploration on follow-up of the LEE aeromagnetics and EM surveys, with stream sediment geochemistry as their other main regional technique, however, Au and Sn were not assayedfor.

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. Rock chip sampling from costeans across this contact returned up to 0.8% Cu and 0.15% Ni. In addition, a zone of disseminated pentlandite about 12 m wide occurring as small blebs up to 6 mm in slightly sheared olive-green serpentinite had been found along with specks of pentlandite in shear planes in a costean. One hole was drilled to 95m, testing a ground EM anomaly. No anomalous nickel was intersected with the anomaly being explained by an intersection of 3.4 meters of graphitic siltstone below the ultramafic contact. BHP recommended that EM traverses be run at 30 m intervals along strike but no further

work was done on nickel. Towards the south of the belt an area of anomalous Zn and Ni was determined from stream sediment sampling in creeks between Hibbs Lagoon and Point Hibbs.

Asbestos was discovered in the northern part of the ultramafics and this became a major focus of further exploration by BHP in the area. This work culminated in the outlining of 8.5 million tonnes of 2.3% asbestos.

In 1971/72 BHP followed up an aeromagnetic anomaly southwest of Birch's Inlet with ground magnetics, soil sampling and rock chip sampling (Thomas Creek Prospect). The results are presented unprocessed with no discussion and it appears that there was no follow-up. Several samples from this work yielding up to 1000 ppm Cu, 1000 ppm Pb, 100 ppm Zn and up to 100 ppm Ag. The samples were taken from rocks with visible disseminated sulphides, some of the rocks being boulders. BHP's interest in the Sorell Peninsula was relinquished in 1972.

## 8.3 1983-88 Amoco Minerals Australia Company

(Later Cyprus Gold Australia Corp., in joint venture with Placer Development Ltd and Poseidon Minerals Ltd.)

Work initially comprised a detailed 150m line spaced airborne aeromagnetic and radiometric survey to assist geological mapping as well as to locate any tin replacement (i.e. Renison Style) deposits over the whole Sorrell Peninsula. In 1983-84 Amoco conducted reconnaissance mapping and sampling of the Noddy Creek Volcanics around Timbertops north to Briggs Creek and south to Thomas Creek to assess various aeromagnetic anomalies. The main target for exploration was a polymetallic volcanogenic massive sulphide orebody with minimum reserves of 15 million tonnes of 20% lead-zinc with gold plus silver credits similar to the Rosebery and Que River/Hellyer deposits 70 kilometres to the north.

A DigHEM survey was flown over the northern portion of the Hibbs Belt and Noddy Creek Volcanics in 1986 (Figure 3), which identified seven targets that were never followed up, as coincident DigHEM work to the south over the coeval Lucas Creek Volcanics at Elliot Bay located higher tenor anomalies which became the focus of later work.

Weak base metal veining was reported adjacent to diorite at Timbertops, and more significantly a Cu-Au (Ba) association with diorites and intermediate volcanics was recognised in the Warrens to Thomas Creek area. Here a peak value of 0.2% Cu, 0.1% Ba and 0.97 g/t Au was related to a sub-volcanic diorite intrusion south west of the anomalous Cu-Pb volcanics reported by BHP.

Follow-up bedrock soil surveys over a grid at Thomas Creek in 1984 followed and this outlined a zone of anomalous copper approximately 300 metres by 400 metres in size which was greater than 250 ppm Cu. Amoco had a polymetallic VMS focus and the absence of significant associated Pb-Zn with the copper or regularly repeatable high Au downgraded the prospect and no further exploration was conducted.

## 8.4 1992-1998 Plutonic Operations limited

Plutonic Operations Ltd were granted two licenses EL4/1992 and EL7/1992 which covered most of the ground currently held by Sherlock Minerals. In 1993-94 plutonic planned to carry out a 200m line space airborne GEOTEM survey over the Noddy Creek Volcanics (Figure 3) which are thought to be a direct

equivalent of the fertile Mt Read Volcanics, but occur in a possible sub-rift immediately west of the main volcanic belt. Contractor delays meant this was not carried out until March 1996. The survey identified approximately 20 targets that warranted follow up. This appears not to have occurred as ground operations had shifted by that time to Thomas Creek Prospect.

During the 1994-95 period a large program of gridding, soil sampling, and petrology over the Thomas Creek Prospect confirmed Amoco's results and indicated a significant zone of alteration with the characteristics of a porphyry Cu-Au system. The copper soil anomaly extended approximately 1000 m x 700 m, with other satellite anomalous zones also appearing. Many exceptional copper soil values were returned over 1000 ppm and includes 2 samples one recording 2.4% Cu and 1.04 g/t Au and another of 7.5 % Cu and 2.96 g/t Au in highly pyritic, chloritic and chalcopyrite bearing interpreted microdiorite. Elsewhere gold values were generally below detection, apart from where very high copper (>2000 ppm) were sampled. Panned concentrate from drainage areas fringing the eastern side of Thomas Creek plateau returned some visible gold with assays returning up to 3 g/t.

In 1995 Zonge Engineering were contracted to conduct two gradient array surveys totalling 7-line km over the grid area and three dipole-dipole lines amounting to 1.25km within the detailed grid. These surveys were designed to outline the extent and relative intensity of disseminated or stockwork vein-controlled sulphide mineralisation in the Thomas Creek prospect area. The IP surveys successfully defined one major and three minor discrete chargeability zones. Zone A is a broad (600m x 400m) multi peaked, moderate to strong (3 times background) chargeability anomaly coincident with disseminated pyrite and copper anomalism in the detailed gridarea.

In 1996 a light "Gopher" rig was used to test areas of high Cu soil geochemistry and corresponding IP chargeability. The program comprised 8 BQ sized holes angled 45 degrees to the South and 90 -127m hole depth. Significant core loss (clays – highly altered/weathered) was encountered however more consolidated core sections showed intense K-feldspar–silicification, pyrite, chlorite, actinolite, magnetite, hematite, pyrite, chalcopyrite with late tourmaline, pyrite, smectite, and epidote alteration. The drilling revealed widespread copper anomalism, such as 58 m @ 0.08% Cu from 40 m in TCD2 and 15m @ 0.17% Cu from 32m in TCD5. Plutonic were disappointed that better copper grades were not intersected, given the high tenor of the soil geochemistry however did recognised that this was a large, probable porphyry style mineralised system, that required expanded exploration and deeper drilling. After failing to attract a joint venture partner, and due to other core business pressures occurring in the late 90’s Plutonic relinquished the area in 1998.

## 8.5 1998-2001 Pacific-Nevada Mining Pty Ltd

The Hill 99 Prospect, located near the southern shores of Macquarie Harbour (Figure 2) was identified by Pacific-Nevada Mining Pty Ltd in 1999 after a reconnaissance sampling programme located an outcrop of massive pyrite-quartz mineralisation. A subsequent soil sample campaign identified a copper-zinc anomalous (150-511ppm Cu and 150-684ppm Zn) zone extending inland along strike from the coastal pyrite-quartz mineralisation. The zone trends north-east and is broadly coincident with a topographic high. Sampling of gossanous float material along the grid lines returned sporadic anomalous gold up to 50ppb with 92ppb Au also returned from a chlorite altered lithicwacke sample. A single panned concentrate stream sample returned 5.1 g/t Au.

A subsequent gradient array IP survey carried out over the Hill 99 grid identified a linear, moderate conductivity high coincident with the copper-zinc anomalous soil zone. A bullseye conductivity anomaly was also identified. A fixed loop ground EM survey failed to identify any conductive bodies of probable economic importance, however it did show a strong conductor forming off the western edge of the survey coincident with a prominent magnetic feature. The thick vegetation precluded the survey being extended further west at that time and this target remains untested.

Pacific-Nevada drilled three diamond drill holes totalling 669 m. The first two drill holes H99-01 & 02 targeted the Cu-Zn soil anomalies/alteration and mapped gossanous float and intersected a highly altered chlorite-carbonate-fuchsite volcanic rock of mafic to felsic origin with minor Cu, Zn and Au (best result 0.3m @ 0.59% Cu). H99-03 tested the coincident high phase and resistivity low anomaly modelled at 150m depth. Localised narrow zones of pyrite-chalcopyrite (i.e. 36 cm @1.05% Cu) mineralisation and quartz-carbonate-sphalerite-galena veining (i.e. 30 cm @ 0.17% Pb & 0.25% Zn) with intense fuchsite alteration were intersected before drilling was stopped due to hole instability approximately 30m above the IP target.

## 8.6 2007 – 2012 MHM Metals

In 2010 MHM commissioned a detailed 100m line spaced helicopter borne VTEM surveys over 4 areas (Figure 3). The survey areas covered the Hibbs Ultramafic belt, an area along the north coast region, covering a portion of the Noddy Creek volcanics and over recognised VMS mineralisation at Hill 99 Prospect and over the Thomas Creek Prospect area. The surveys identified many intermediate to strong conductors, the best associated with the ultramafic in an area immediately north of BHP's asbestos work at Noddy Creek. Some of the conductors associated with the ultramafic rocks were followed up with a limited spot soil sampling campaign at EM target sites and returned highly anomalous Nickel up to 2500 ppm and gold up to 1 g/t. Other EM conductors in remote areas including some sites identified near Thomas Creek were not followed up.

At Hill 99 prospect MHM Metals drilled two further holes totalling 368m to follow up previous encouragement from Pacific Nevada's Drilling. Drill hole H99-04 tested strike persistency of mineralised intercepts from H99-01 and 2 and hole H99-05 tested the bulls eye IP anomaly identified by Pacific Nevada work. Geochemical results from hole H99-04 showed anomalous gold with peak values of 0.105, 0.182 and 0.105ppm Au associated with fuchsite-quartz-sericite alteration of andesites and basalts from 155 to 172m. Copper from a 30cm massive quartz-chalcopyrite vein intersected at 177.6m returned a grade of 10.55% Cu, and 0.244% Zn. Independent geochemical analysis of the core suggested the sequence is comparable to suite 1 of Crawford's (1992) stratigraphic proposal of the Mount Read Volcanics which hosts several major deposits including Mount Lyell (Cu-Au), Henty gold mine, and Rosebery (Pb-Zn-Ag).

At Thomas Creek MHM noted the circular magnetic high edging the intermediate intrusive body and undertook soil sampling around this feature at 50 m spacing. This work extended the copper anomalous areas further south at Thomas Creek, but also identified a new region of high copper anomalism (up to 500 ppm Cu) about 1.5 km northwest of the original prospect. This new site is unconstrained and occurs along the inner magnetic rim.

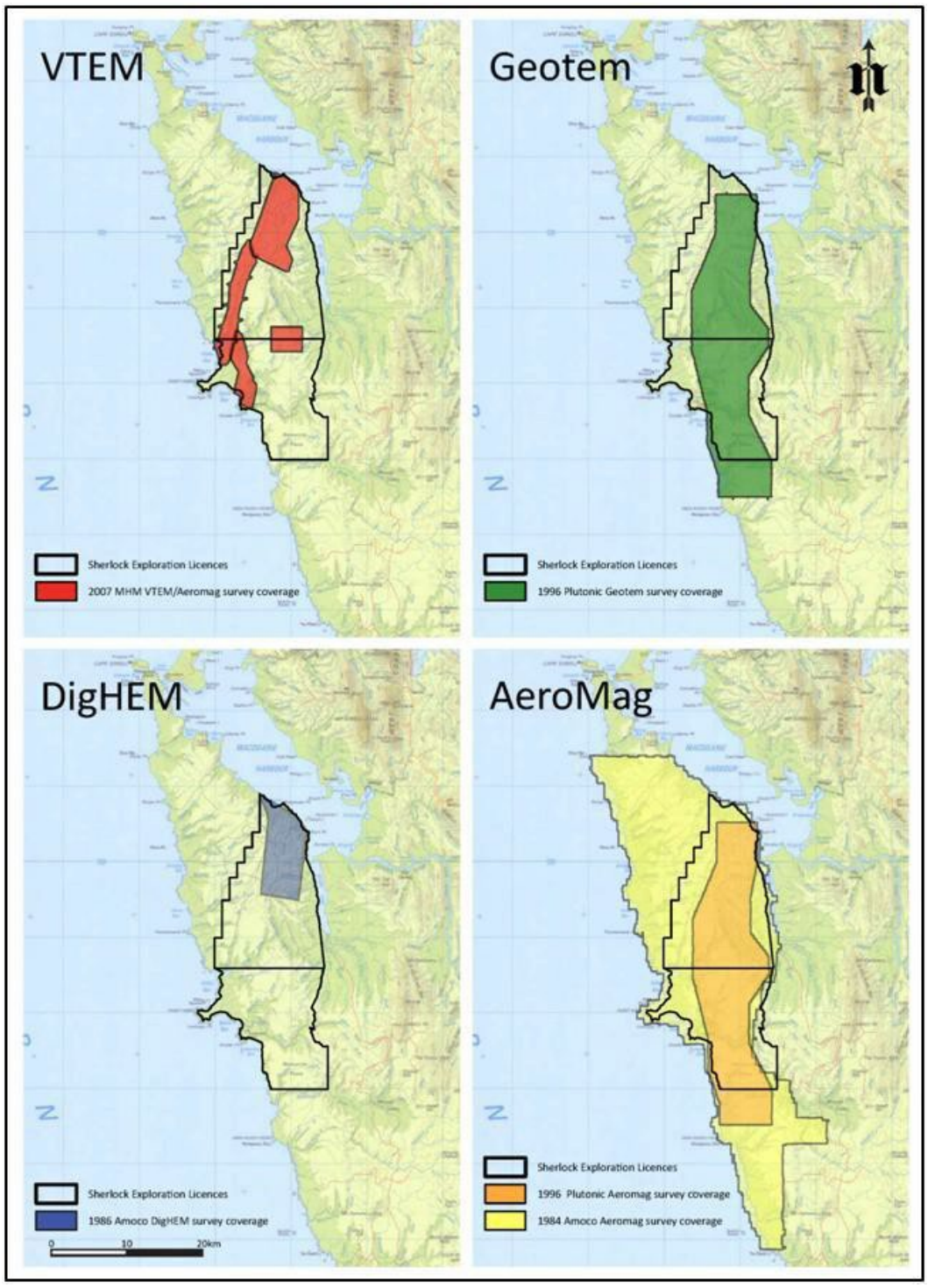


*Figure 3. Summary Airborne geophysics surveys.*

## 8.7 2013 to 2017 Sherlock

Sherlock undertook Dipole-Dipole induced polarization surveys, field reconnaissance and sampling, identifying Co potential. Geophysical modelling and interpretation of the historical drilling indicated the IP targets generated had not been previously drill tested.

In 2014, Sherlock Minerals conducted dipole-dipole induced polarisation (IP) surveys for a total of 7.3-line kilometres at the Thomas Creek Project. The IP surveys revealed the presence of a chargeability

anomaly approximately 300 m wide and 500 m long at 100 to 200m depth, that did not appear to have been tested by historical shallow exploration drill holes.

In 2015 at Thomas Creek, high-grade copper and gold mineralisation was redefined at surface, following up historic high-copper values in soils. The mineralisation comprised a massive pyrite zone approximately 5 metres wide containing abundant copper sulphides hosted within highly weathered saprolitic bedrock, beneath peaty soil cover. Geochemical analyses of the mineralised saprock zone returned values ranging between 0.8% to 3.8% copper, 0.7 g/t to 1.3 g/t gold, and 0.1% to 0.78% cobalt. The mineralisation occurs above the chargeability IP anomaly identified in 2014.

## 8.8 2017 / 2018 Accelerate Resources Ltd.

EL6/2013 was amalgamated with EL7/2013 on 15th June 2018, having initially been transferred from Sherlock Minerals to form the foundation for Accelerate Resources' successful January 2018 IPO and ASX listing.

Accelerate Resources ("Accelerate") undertook extensive exploration activities on EL6/2013, targeting intrusion and vein-related Cu-Co mineralisation at Thomas Creek, as well as Nickel-sulphide and platinum-group element mineralisation at the Young Henry Prospect.

During 2018, 212 field surface samples were collected from the Thomas Creek, Henrietta and Young Henry Prospect areas, comprising a total of 173 soil samples, 22 rock chips and 10 bulk stream sediment samples for -80# analysis. Soil sampling at Young Henry (No. 49) selectively covered the ultramafic rocks and surrounds, centred upon the targeted airborne EM. At Thomas Creek, the soil sampling (No. 124) rationale selectively covered previous unsampled Sherlock 2014 IP grids and new Accelerate 2018 IP grids.

A ground IP survey at Thomas Creek was undertaken, extending the 2014 Sherlock IP survey. A total of 10.8 line kilometres was surveyed on five 150m spaced north-south and one east-west oriented lines. The IP Survey was a 2D dipole-dipole design with 75m dipole length using 1-14 separation. 3D IP modelling combining the 2014 Sherlock and 2018 Accelerate IP defined a large ~600 x 400m chargeable anomaly located along the eastern margin of an ovoid aeromagnetic body beneath a surface copper-cobalt soil anomaly (Figures 4 & 5).

Diamond drilling at Thomas Creek comprised three holes, TCDD001 to TCDD003 for 831.7m, targeting strong chargeability highs and resistivity lows within the large 3D inversion modelled IP chargeability anomaly. The drilling intersected a fertile mineralised system bearing abundant disseminated and veined sulphides and several felsic-intermediate (micromonzodiorite) intrusions, with associated anomalous copper-cobalt grades. Best results included: 3m @ 2,323ppm Co and 0.09% Cu in TCDD001; 46m @ 0.11% Cu in TCDD002; 22m @ 193ppm Co and 0.01% Cu in TCDD003 (Table 3). All three drill holes intersected pervasive silica-pyrite ± sericite alteration with overprinting magnetite-K-feldspar-actinolite-chlorite-pyrite-chalcopyrite veining. Zones of weak to moderate pervasive K-feldspar-silicate alteration were also seen.

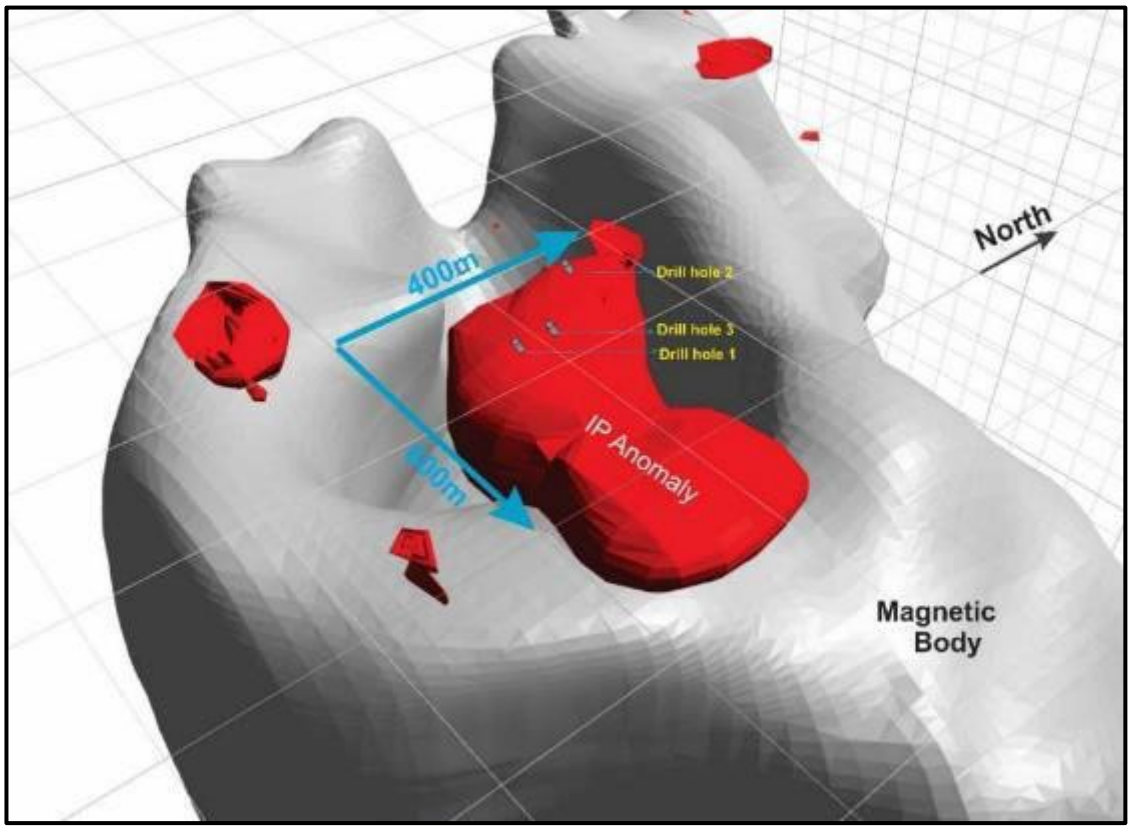


*Figure 4. Thomas Creek - 3D Chargeable IP Anomalies with Drill Holes.*

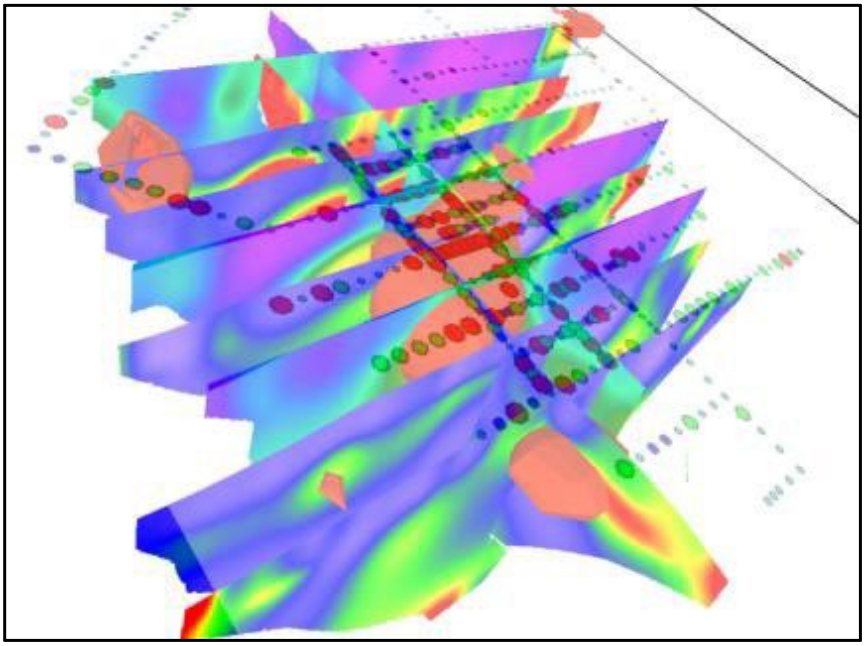

*Figure 5. Thomas Creek, 3D IP modelling defines large chargeable body beneath Cu in soil anomalism (View to NW).*

Downhole EM (DHEM) surveying of the three diamond holes facilitated by a further 1.5km of gridding for loops, indicated a number of in-hole and nearby conductors related to observed semi-massive sulphide mineralisation intersected by the drilling. The DHEM of hole TCDD003 identified a broad, distant and unconstrained off-hole conductor to the southeast and located ~150m east of TCDD001. This conductor occurs within the shallower eastern parts of the IP chargeability anomaly, overlying the magnetic rim of the Thomas Creek intrusive complex.

Shortwave infrared (SWIR) spectral data was collected for TCDD001 to TCDD003, with a preliminary consultant's report identifying strongest vectors to VHMS-style alteration in TCDD003, which drilled at an acute angle to dominant structure and veining.

Exploration at the Young Henry Prospect targeted an Airborne EM conductor, potentially associated with Nickel-sulphide and PGE mineralisation hosted within middle Cambrian mafic and ultramafic rocks of the Hibbs Ultramafic Belt. Mineralisation potential was clearly demonstrated with grid based sampling (3.6km) returning Ni, Co, Cu and Zn anomalous soils and gossan located up plunge from a modelled ground fixed loop EM (FLEM) conductor. Drill targeting (YHDD001, 156m EOH) returned two significant intersections of 38.3m @ 0.23% Ni and 17.7m @ 0.19% Ni. Two zones with magmatic Nickel sulphide potential were identified at the base of both serpentinised ultramafics intersected.

## 8.9 2018 / 2019 Accelerate Resources Ltd.

Exploration work during the year to 1 October 2020 continued to target the Thomas Creek Prospect, completing an ongoing field program. A final drill hole was undertaken, TCDD004 (EOH 657m), targeting a magnetic anomaly and soil Cu high as well as chargeability and a resistivity contrast at depth. TCDD004 was partly co-funded by the Tasmanian Government through MRT's Exploration Drilling Grant Initiative (EDGI) program. The hole intersected a sequence of altered andesitic lavas and volcanic breccias, cross-cut by several K-feldspar altered monzodiorites, with zones of magnetite-chalcopyrite-pyrite-K-feldspar veining intersected in the upper 300m of the hole. A number of zones of anomalous Cu and gold were intersected, including 4m at 0.19% Cu from 292m, 2m at 1.65g/t Au from 424m, 2m at 0.41% Cu from 458m and 4.3m at 0.11% Cu from 605.7m.

A particularly significant result was identification of a potential Cambrian seafloor exhalative VHMS-like horizon at 519m. This narrow 30cm interval featured chemical precipitate like textures within locally massive to semi-massive pyrite, beneath pervasively silicified and sericitised banding up hole.

A 430 line kilometre Mobile Magnetotellurics (MobileMT) airborne survey aiming to map resistivity contrasts to ~1,000m was completed. The survey focused on the Thomas Creek area but extended north encompassing Timbertops and south to Mt Lowran at the southern end of the Hibbs Ultramafic belt. A conductive anomaly in an unexplored area northeast of the Thomas Creek Copper-Gold-Cobalt prospect was identified, as well as a lower tenor conductive zone spatially correlating with the initial Thomas Creek IP Chargeability and geochemical target area. The survey also revealed the presence of an untested resistive plug extending to depth from the centre of the Thomas Creek Intrusive Complex.

GIS-based data interpretation generated significant insights into the geology and mineralisation at Thomas Creek. Structural elements identified utilising all orientated drill hole data included principal NW and SW dipping chalcopyrite bearing vein orientations, as well as a significant thrust fault. Analysis of geochemical correlation trends in both soil and drill hole data resulted in definition of two key element associations for intrusion related K-feldspar-silicate alteration (K, Ba, Tl & Rb) and vein (Cu,

Co, P, Ni, W, Re) related styles. Comparison to Mt Lyell and other VHMS was undertaken in part through developing geochemical vectoring indices. A number of highly prospective Cu-Co targets were identified, including in the south of the Thomas Creek Grid, as well as open potential in the north and northeast.

A new Cu-Au prospective zone near Thomas Creek's northern magnetic rim was defined with an elevated (~0.1ppm) Au zone coincident with Cu (400 to 1400ppm) in soils and P >10,000ppm with >15% Fe, 470ppm Cu and 134ppm Zn in rock chips.

## 8.10 2020 / 2023 Stunalara (Operations) Ltd.

Field work during the 2020 to 2023 Stunalara Metals Ltd. and Accelerate Resources Ltd JV period was curtailed by COVID-related concerns. Regardless, desktop work conducted assessing exploration potential and planning of field work met the expenditure requirements.

Assessment of new Vector Geosciences geophysical data and products in conjunction with existing GIS data was undertaken by a team of consultants; Mapitt Geo Solutions, Digimaps and consultant Robert Reid. A total of 8 priority regional prospects (Figure 3) were identified targeting Ni-Cu-Co sulphides related to the Hibbs Ultramafic Belt, as well as Cambrian volcanic-hosted Cu-Au-Co potential in the Thomas Creek vicinity. An additional Timbertops target with rare-earth element (REE) potential was also identified and remains untested. Significant outcomes of the Versatile Time Domain EM (VTEM) re-processing clearly depict the IP body in the centre of the Thomas Creek intrusion, as well as highlighting the untested north-eastern MobMT anomaly (Figure 7). Rank 1 VTEM anomalies similarly confirmed in the Ni-Cu-Co prospective Henrietta area.

Field exploration work undertaken during the year to 1 October 2022 commenced testing of the coincident MobMT conductor and IPLEVEL Effect anomaly in the northeast of the Thomas Creek Prospect. Limited track cutting with associated soil and rock sampling (No. 22) located anomalous Cu in soils to 527ppm. Initial re-interpretation of the Thomas Creek soil geochemistry data provided ample support for extension of gridding into prospective magnetic rim areas of the Thomas Creek Prospects north and northeast.

Reinterpretation of geochemical data via derived indices by Reid (2022) suggests that the drilled area of the Thomas Creek Prospect possibly represents "smoke" peripheral to a more significant mineralised system. Reid (2022) noted that many mineralisation-related index anomalies defined from soil and drill core analyses of the Thomas Creek core geochemical anomaly were relatively point source, possibly in large part reflecting structure related fracture fill veining. Whereas, more coherent mineralisation Western Tharsis / Mt Lyell (Figure 9) and similar IOCG indice anomalies are apparently peripheral, coincident with the aeromagnetic anomaly riming the Thomas Creek Prospect (Figure 12), highlighting the prospective potential of the little tested NE and northern rim of the TC intrusive complex.

The Thomas Creek and Henrietta Camps were demobilised and drill hole collars were rehabilitated following the cessation of the exploration joint venture on EL6/2013 between Accelerate Resources Ltd and Stunalara (Operations) Ltd, terminated late in 2022.

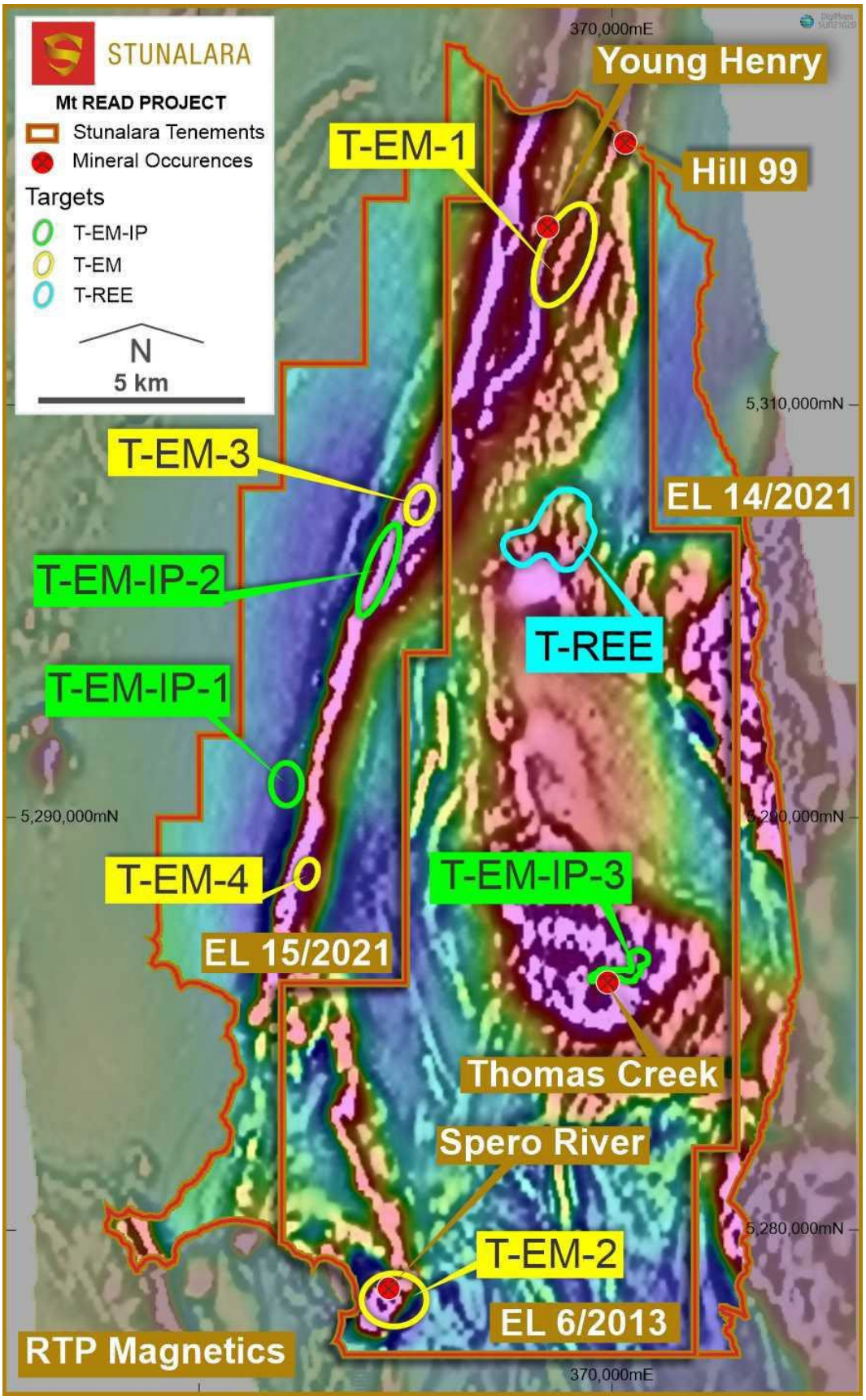


*Figure 6. Priority Exploration Targets identified during 2020/21 over Reduced To Pole Aeromagnetics.*

# 9. Exploration completed during the reporting period

Exploration activities during the reporting period focused on advancing the geological understanding and prospectivity assessment of the Sorell Peninsula, with particular emphasis on the Thomas Creek Prospect within EL04/2024. Work undertaken incorporated a multi-system mineralisation approach, evaluating the potential for porphyry Cu-Au (PCD), Iron Oxide Copper Gold (IOCG), Volcanic Hosted Massive Sulphide (VHMS), and Ni-sulphide styles of mineralisation.

The principal work completed was a comprehensive geological review undertaken by Consultant Geologist Robert Reid. This review incorporated re-interpretation of historical datasets, integrated geophysical and geochemical analysis, and refinement of target models. The process involved compiling all available data, validating its quality, and re-analysing key geological, geophysical, and geochemical indicators to improve targeting confidence.

This work has refined the geological model for Thomas Creek, delineated new high-priority drill targets, identified critical data gaps, and provided a robust framework for ongoing exploration. The results and interpretations outlined in the following sections are based on the integration of compiled datasets, supported by field observations and specialist assessments.

## 9.1 Thomas Creek Prospect

**Geological Setting**

The Thomas Creek Prospect is located within the Sorell Peninsula, in an area underlain by the Noddy Creek Volcanics and intruded by a diorite complex associated with Cu–Co–Au mineralisation. Alteration styles include phyllic (sericite–pyrite), potassic (magnetite–K-feldspar–chalcopyrite–molybdenite), and propylitic assemblages. Geological, geochemical, and geophysical evidence indicates affinities with both alkalic porphyry copper–gold (PCD) and Iron Oxide Copper–Gold (IOCG) mineral systems, with mineralisation styles overlapping in places and suggesting the potential for hybrid systems.

**Historical Exploration**

Past work at Thomas Creek has included geological mapping, geochemical sampling, aeromagnetic and radiometric surveys, Induced Polarisation (IP), and Mobile Magnetotellurics (MobMT), as well as multiple diamond drill holes. Drilling to date has primarily intersected pyritic phyllic alteration above the interpreted potassic mineralisation level. Significant intersections include:

- 56 m @ 0.10% Cu, 218 ppm Co, 539 ppm Ni from 118 m (TCDD002

**Geophysics**

Interpretation of existing aeromagnetics, Induced Polarisation (IP), and 2019 Mobile Magnetotellurics (MobMT) data was undertaken to refine target definition.

Aeromagnetic data show a pronounced magnetic rim surrounding a magnetite-depleted core. The magnetic rim corresponds to propylitic alteration zones, while the core is associated with phyllic alteration. This pattern is consistent with the zonation expected in alkalic porphyry copper–gold systems, where magnetite destruction occurs in the phyllic core and potassic ore-related alteration is expected at depth. Reverse faulting along the northern rim may have brought deeper potassic alteration to higher levels, coincident with elevated Cu and Mo in soils. (Figure 9).

The main IP chargeability anomaly, central to the Thomas Creek Prospect, is interpreted as pyritic phyllic alteration overlying a potassic Cu–Mo–Au zone. At Ridgeway (NSW) and Batu Hijau (Indonesia), similar anomalies correspond to pyrite haloes above economic mineralisation. Drilling to date has only tested the upper part of this anomaly, leaving deeper targets untested. On IP section 369850 mE (Figure 7), a large resistive–chargeable feature is evident at ~600 m depth beneath the drilled anomaly, coinciding with the southern edge of the MobMT modelled core resistor. This feature is interpreted as potential potassic mineralisation within an inferred diorite intrusion.

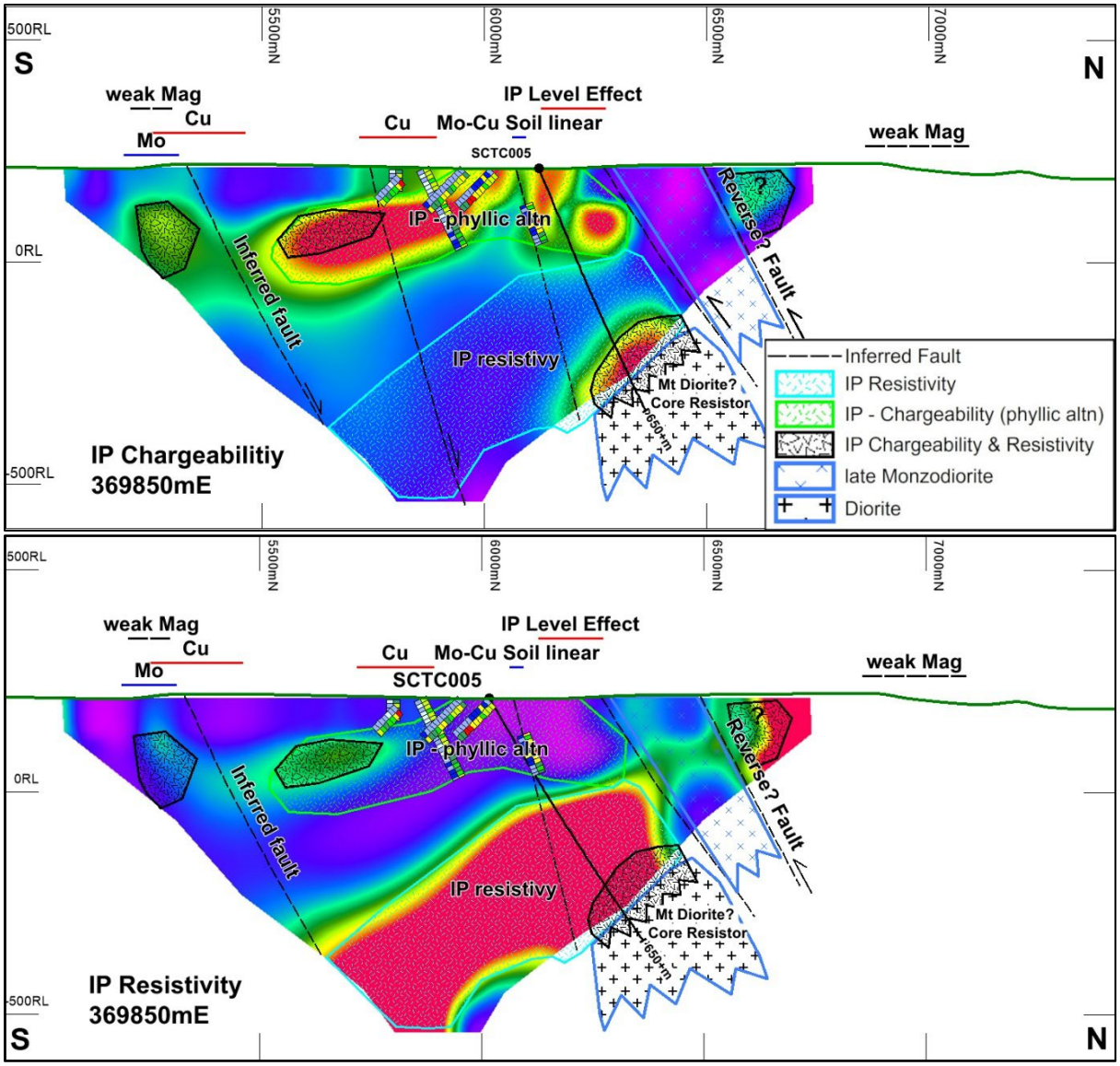


*Figure 7. Thomas Creek Prospect, 369850 mE. Three-dimensional IP pseudo-sections showing (top) chargeability and (bottom) resistivity, with interpreted phyllic alteration, inferred and possible reverse faults, and proposed drill hole SCTC005. Ten-metre composite grade indicators are plotted along drill traces, with cobalt shown in blue-to-red shades (left side of traces) and copper in green-to-red shades (right side).*

MobMT data define a resistive core coincident with the magnetic rim, and a significant NE conductor interpreted as a phyllic–argillic alteration plume that may overlie porphyry mineralisation. The resistive zone extends east and NE of the current drill grid, indicating further untested ground.

Additional targets are evident on IP section 370300 mE (Figure 8), where sulphidic potassic altered

float at surface overlies an IP chargeability anomaly and a deeper resistive “plug”. This feature represents a shallow to moderate depth drill target above a larger intrusive body.

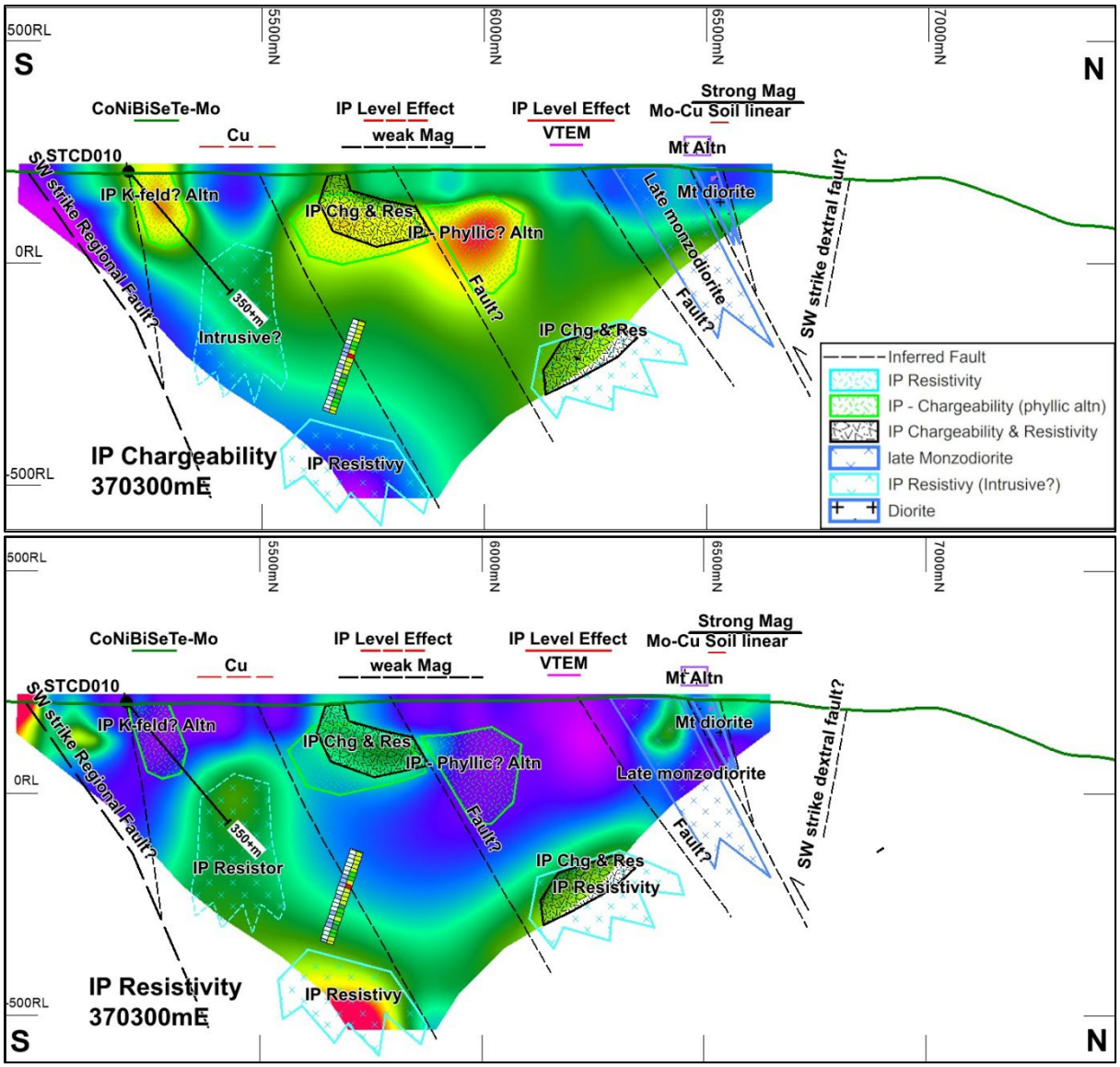


*Figure 8. Thomas Creek Prospect 370300mE IP chargeability (top) and Resistivity (bottom) pseudo section with IP Level effect anomaly location at surface.*

These interpretations provide the basis for defining both shallow and deep drill targets and for extending survey coverage to the north, east, and south to better resolve possible mineralisation extensions.

**Geochemistry**

Historical soil and rock chip geochemical datasets from Thomas Creek were compiled and assessed against porphyry copper–gold (PCD) and Iron Oxide Copper–Gold (IOCG) pathfinder models. Data sources included historical base metal surveys, AAS/ICP-AES datasets, and more recent ICP-MS programs. Differences in analytical methods, digestion techniques, and detection limits between programs were considered when interpreting results.

Soil geochemistry indicates scattered but extensive Cu–Co–Mo mineralisation across the central

prospect area, consistent with the upper levels of a porphyry Cu–Au system. The northern magnetic rim contains potassic-style Cu–Mo–Au–magnetite alteration with lower Co and Ni values, interpreted to have porphyry affinities (Figure 9).

A structurally controlled SW-trending molybdenum anomaly transects the central non-magnetic core of the prospect. This trend is interpreted as an early reverse fault (west side up), later reactivated with dextral movement. Reverse faulting is also interpreted to have uplifted K-feldspar and magnetite alteration on the northern rim, associated with elevated Cu, Mo, and V values.

Analysis of drill core geochemistry using a Co versus La plot grouped by uranium content shows two distinct populations:

- A higher-U group with scatter into the IOCG–Co–REE field.
- A lower-U group plotting mainly as ISCG or high-sulphidation mineralisation, with some overlap into the porphyry Cu–Au–Mo field.

Application of the Halley (2015) porphyry Cu pathfinder model to Thomas Creek soils identified Mo and W enrichment patterns consistent with “above porphyry” mineralisation levels. Variations in pathfinder element patterns are attributed to structural displacement and differences in erosion levels across the prospect.

Some pathfinder element data are incomplete due to historical analytical limitations, particularly for key immobile elements. Modern multi-element ICP-MS resampling of selected grid lines is recommended to improve geochemical discrimination and enable better integration with current porphyry/IOCG geochemical models.

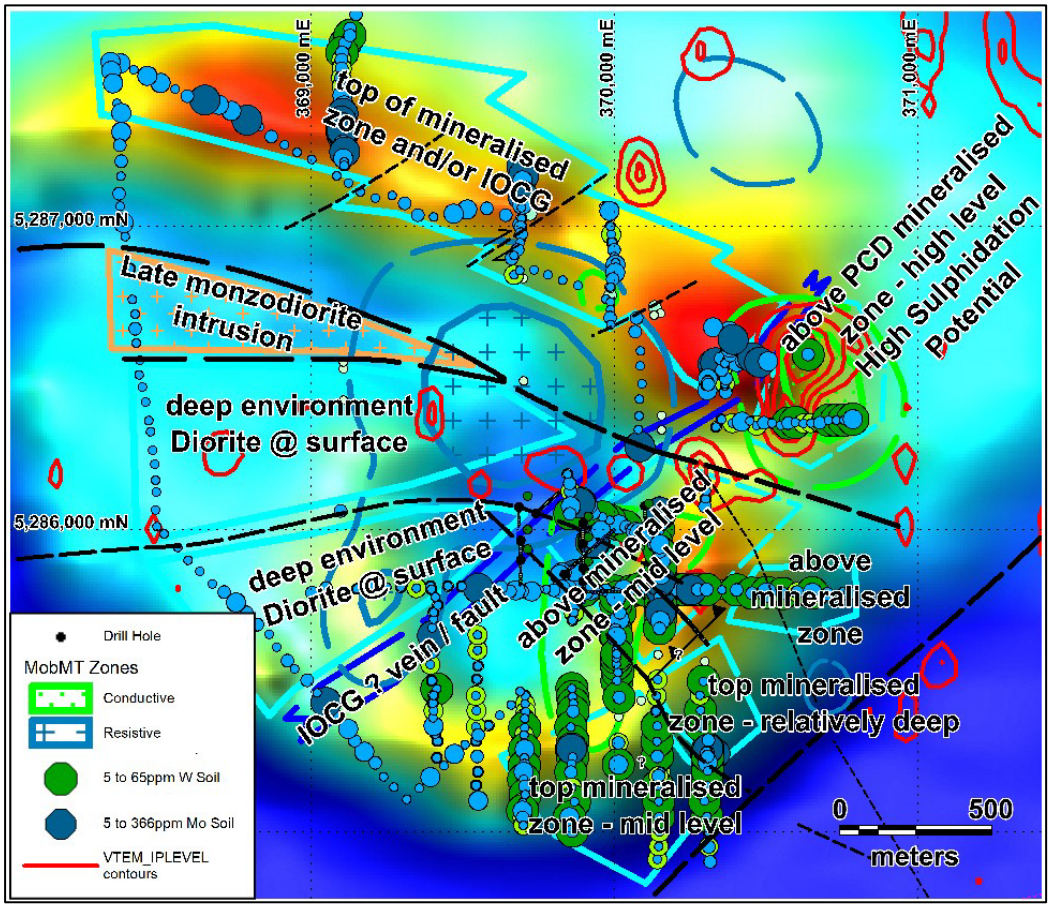


*Figure 9. Distribution of geochemical pathfinders in soils, highlighting molybdenum (>5 ppm; large blue symbols = proximal to porphyry Cu–Mo–Au [PCD]) and tungsten (>5 ppm; large green symbols = higher proximality), interpreted to represent an environment directly above a PCD system. Structural interpretations and selected proposed drill holes are shown, overlain on linear-stretched TMI aeromagnetic imagery (WTRMP, 2001) with MobMT modelled resistive zones (blue) and conductive zones (green). A late-stage, southwest-striking linear molybdenum anomaly is also evident.*

**Structural Interpretation**

Structural interpretation of Thomas Creek indicates that the intrusive complex is dissected by multiple SW- and NW-striking faults, which have influenced alteration and mineralisation patterns.

Reverse faulting along the northern rim could have uplifted deeper-level potassic magnetite–Cu–Mo–Au alteration to near surface. This zone coincides with magnetic highs, IP anomalies, and elevated Cu–Mo in soils (Figure 9).

Dextral strike-slip movement on late-stage faults is considered to have influenced the distribution of mineralised veining, including late Cu–Co–Ni sulphide veins. Several inferred dextral faults offset the WNW-trending magnetic rim and associated geochemical anomalies, creating structural jogs and dilational sites favourable for mineralisation.

The NE MobMT conductor occurs at the intersection of NW- and SW-trending structures and is interpreted as a phyllic–argillic alteration plume that may overlie deeper porphyry mineralisation.

Possible flower structures related to strike-slip movement have been proposed, which may have influenced the emplacement of mineralisation and the geometry of alteration zones. These structural complexities are interpreted to account for variations in exhumation level across the prospect, with shallower potassic zones exposed on the northern rim and deeper porphyry targets

preserved beneath the central IP anomaly (Figure 7).

**VHMS Potential**

Although exploration to date has primarily targeted porphyry and IOCG-style mineralisation, the Thomas Creek area retains potential for Volcanic Hosted Massive Sulphide (VHMS) mineralisation. This potential is associated with the bimodal volcanism of the Noddy Creek Volcanics, particularly where mafic to andesitic volcanic units occur in proximity to black shale horizons.

Historical SWIR/Hylogger data from drill holes TCDD001–TCDD003 show alteration characteristics providing loose vectors towards VHMS settings:

- TCDD002 – Least altered, with a VHMS signature in Pb, Zn, Ag, and Cd; “dirty” pyrite containing chalcophile elements; chlorite dominant; mafic units at the top of the hole possibly representing an exhalative horizon.
- TCDD001 – Altered with “dirty” pyrite; carbonate dominant; sulphur enrichment at depth.
- TCDD003 – Most altered; mica dominant; clean pyrite.

An inferred exhalite horizon occurs at 519 m in TCDD004, comprising massive fine-grained banded pyrite between coherent mafic units. This interval coincides with a marked alteration change from phengitic to muscovitic assemblages in Hylogger data and is associated with ferroan dolomite within a calcite envelope. The position of this horizon also corresponds with a downhole EM conductor located east of TCDD003 and north of TCDD004.

Given that Western Tasmanian Pb–Zn-rich VHMS systems can be weakly conductive, modest EM anomalies in the area should not be discounted.

**IOCG Potential**

Exploration review indicates that Thomas Creek displays several features consistent with Iron Oxide Copper–Gold (IOCG) mineral systems, in addition to its porphyry copper–gold potential.

The IOCG affinity is supported by geochemical signatures, alteration styles, and structural setting. Potassic and albitic alteration are both present within the intrusive complex, along with magnetite bodies on the northern rim and late Cu–Co–Ni sulphide veining. The regional tectonic setting is consistent with the arc-hosted Andean IOCG class described by Skirrow (2022), while some aspects of the orogenic syn-deformational IOCG class may also apply.

Geochemical analysis using a Co versus La discrimination plot for drill core samples with Cu > 1,000 ppm shows two distinct groups when sized by uranium content. The high-U group commonly plots with IOCG–Co–REE fields, while the low-U group plots mainly within ISCG/high-sulphidation fields, with some overlap into the porphyry Cu–Au–Mo field.

Drill hole TCDD001 contains intervals with elevated Ag (0.97 ppm), Co (3,330 ppm), Cu (3,120 ppm), Mo (137 ppm), Te (1.13 ppm), and U (101.5 ppm), along with significant rare earth content (>500 ppm Ce and 1,320 ppm La). These features support an IOCG–Co–REE association. Limited REE analyses from historical work returned profiles similar to Ordovician intrusions hosting porphyry Cu–Au at Goonumbla and Cadia.

Regionally, magnetite-related mineralisation at South Mt Darwin (~35 km NNE) has returned 73 m @ 1% TREO and an associated 50 m @ 0.4% Cu, 0.16 g/t Au, and 1 g/t Ag, suggesting Thomas Creek could also host REE-enriched IOCG-style mineralisation.

Structural controls are significant, with dextral faulting interpreted to have influenced the emplacement of late-stage Cu–Co–Ni veins. The northern magnetic rim may potentially represent early IOA-type magnetite mineralisation, with subsequent IOCG/ISCG-style Cu–Au–Mo mineralisation localised within breccias marginal to the magnetic anomalies.

**Targets and Recommendations**

Review and integration of geological, geophysical, and geochemical data have defined four priority untested targets at Thomas Creek:

- Northern Rim Target – Potassic magnetite–Cu–Mo–Au alteration coincident with magnetic highs. Reverse faulting may have uplifted this zone, placing mineralisation close to surface (Figure 9).
- 370300 mE Target – Sulphidic potassic altered float overlying a coincident IP chargeability anomaly and a deeper resistive "plug". This target offers potential for shallow mineralisation with a deeper intrusive source (Figure 8).
- Deep Central Target – Chargeable–resistive zone at ~600 m depth beneath the central IP anomaly, interpreted as potential potassic mineralisation within an inferred diorite intrusion. This zone remains untested by drilling (Figure 7).

- NE MobMT Conductor – Partially tested anomaly at a structural intersection, interpreted as a phyllic–argillic alteration plume above porphyry level (Figure 9), which may also contain high-sulphidation mineralisation.

**Recommended follow-up work includes:**

- Extending IP coverage to the north to better define the aeromagnetic high, and to the east to cover the NE MobMT conductor.
- Re-sampling selected soil grid lines using modern multi-element ICP-MS to improve compatibility between historical and modern datasets.
- Extending the soil grid and undertaking additional gridding and mapping on the eastern margin of the current grid, particularly around 370900 mE.
- Drilling approximately 2,500–3,000 m to test priority targets, with hole orientations designed to intersect multiple vein orientations and structural trends.
- Assessing rare earth element potential through re-analysis of historical drill core, focusing on intervals with elevated Ce and La as proxies for REE enrichment.
- Considering LIDAR or close-spaced (<50 m) drone magnetics to improve structural resolution ahead of drilling.

These targets and recommendations provide a staged pathway for advancing Thomas Creek, addressing both shallow and deep mineralisation potential across porphyry, IOCG, and hybrid mineral system models.

## 9.2 Henrietta Prospect

The Henrietta Prospect is defined by a 1.7 km-long VTEM conductor located between scattered nickel occurrences at Noddy Creek and structure-related Cu and Pb–Zn veining at Hill99. The anomaly lies along the faulted contact between ultramafic-related gabbro and volcanosedimentary rocks of the Noddy Creek Volcanics (NCV).

**Historical Exploration Results**

Field reconnaissance targeting the VTEM anomaly recorded handheld XRF values of 0.1–0.6% Ni and up to 0.43% Co. Laboratory confirmation returned 1,705 ppm Ni and 1,400 ppm Co from the highest-grade sample.

Interpretation of the VTEM response by MHM (2010) suggested the anomaly may be stratigraphically controlled and related to conductive graphite units. This interpretation is supported by similar graphite-rich conductors intersected at the Young Henry Prospect.

**Exploration Significance**

While a graphite source could downgrade magmatic nickel potential, graphite may act as a chemical reductant in IOCG-style mineralising systems and provide a ductile layer for localising faulting and focusing hydrothermal fluid flow.

Aeromagnetic data (Figure 10) show a pronounced dislocation of the ultramafic belt, interpreted as a dextral fault offset between Young Henry and Henrietta. This offset is supported by the reported termination of ultramafic rocks at the northern end of Young Henry drilling. The structure may link Henrietta with copper-bearing veining at Hill99 and provide potential for Hill99-style, structure-related Cu mineralisation in dilational zones.

**Recommendations**

Possible follow-up work could include further assessment of the structural setting and the conductor source, with consideration of the role of graphite-bearing horizons in IOCG-style mineralising systems.

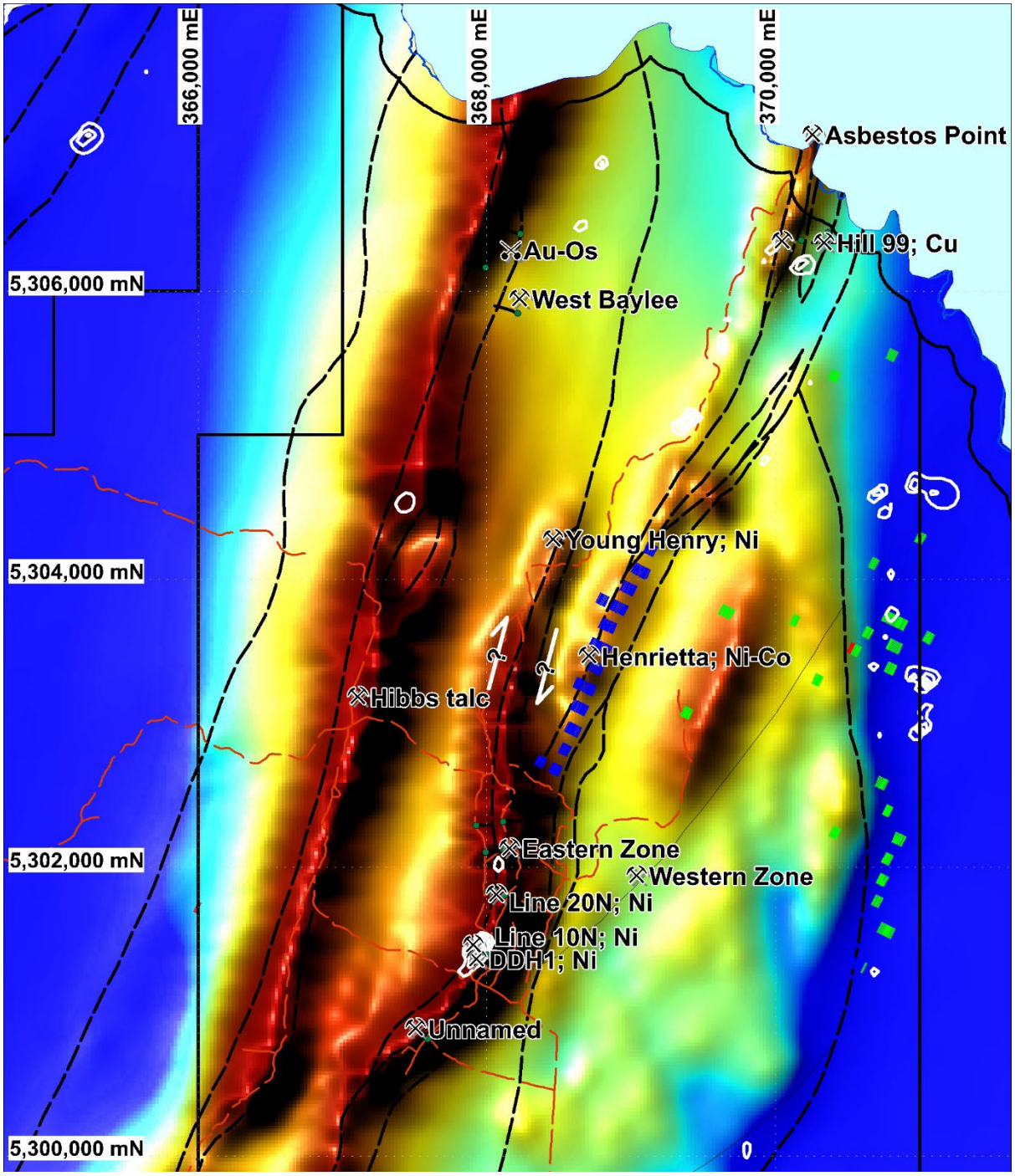


*Figure 10. Total magnetic intensity (TMI) imagery for the northern portion of the Hibbs Ultramafic Belt (10% bottom cut), showing inferred dextral fault offsets, Induced Polarisation (IP) Level Effect anomalies (white), VTEM anomalies (blue, green, and red), and key prospect locations.*

## 9.3 Hill99 Prospect

The Hill99 Prospect is located approximately 3 km along strike northeast from the Henrietta Prospect. Historical exploration has identified localised zones of base and precious metal mineralisation associated with structural controls and alteration zones.

**Historical Drilling**

Past drilling by multiple operators intersected:

- 0.30 m @ 10.55% Cu from 177.6 m within pyrite–chalcopyrite veining.

- 0.30 m @ 0.17% Pb and 0.25% Zn within quartz–carbonate–sphalerite–galena veining hosted in chlorite–carbonate–sericite–pyrite alteration.

Earlier drilling (Hill99-1) intersected a sequence of mafics, rhyolitic volcaniclastics, black shale, and polymict volcaniclastic breccia considered favourable for VHMS-style mineralisation. Hole Hill99-3 commenced in chlorite-altered gabbro–diorite.

**Geological Setting**
The mineralisation is hosted in zones of chlorite and carbonate–sericite–pyrite alteration, with a strong structural control evident. Mapped regional faults and sheared graphitic shale immediately up-hole of a significant puggy shear zone positively suggest a continuation or along-strike correlation with graphitic shale units interpreted at Henrietta.

**Exploration Significance**
The geological and structural setting at Hill99 is consistent with the potential for VHMS-style stratiform mineralisation and for IOCG/ISCG-style structure-related veining. The proximity to graphitic shale, possible structural linkage to Henrietta, and the association with favourable volcanic and intrusive units support further assessment of the prospect.

**Recommendations**
Possible follow-up work could include detailed structural mapping, re-logging of historical core, and targeted geophysics to assess both stratiform and structurally hosted mineralisation potential, with drilling considered where structural and geophysical anomalies coincide with favourable stratigraphy.

## 9.4 Noddy Creek Prospect

The Noddy Creek Prospect is located near the southern contact of the Hibbs Ultramafic Belt. Historical work, primarily by BHP in the 1970s, included nine diamond drill holes targeting asbestos mineralisation within ultramafic units.

**Historical Observations**
Pentlandite (Ni sulphide) was reported in several drill holes and outcrops within a ~1 km-long zone. Drill hole DDH1 targeted an EM anomaly that later proved coincident with an IP Level Effect anomaly, explained by the presence of graphite and sulphide. Probable nickel sulphide was described as pale yellow–pink sulphide on shear planes and, less commonly, as fine disseminations. No laboratory analyses were reported for these occurrences.

Sheared gabbro was intersected in drill hole DHNC7 and mapped elsewhere within the Hibbs Ultramafic Belt. Pyrite, carbonate, and quartz veining was noted along shear planes, indicating post-serpentinisation emplacement. Magnetite is commonly recorded in drill logs, although no quantitative assessments were made.

**Exploration Significance**
Earlier assessments considered the magmatic nickel potential of the Hibbs Ultramafic Belt to be low. However, the presence of graphite and sulphides may provide a favourable chemical environment

for hydrothermal nickel, copper, and cobalt mineralisation, potentially linked to IOCG systems. The proximity of gabbro intrusions suggests potential for magmatic-hydrothermal interaction.

**Recommendations**

Follow-up is warranted to assess the metal content and mineralogical associations of the sulphide-bearing zones, and to evaluate possible links between Noddy Creek mineralisation and regional structures. Possible approaches could include re-logging and sampling of historical drill core (where available), targeted ground EM to refine conductor geometry, and geochemical sampling.

## 9.5 Hibbs Ultramafic Belt

The Hibbs Ultramafic Belt is a faulted sequence of variably serpentinised ultramafic rocks, including peridotite of komatiitic composition, with gabbro occurring along the eastern margin. It is a significant regional geological unit that hosts, or is directly associated with, several discrete prospects described separately in this report, including Noddy Creek (Section 10.4), Henrietta (Section 10.2), and Young Henry, each with their own mineralisation style and exploration history.

**Historical Assessment**

Previous explorers, including GeoForce (2007), have generally considered the Hibbs Ultramafic Belt to have low potential for magmatic nickel sulphide mineralisation. Nevertheless, pentlandite has been reported from multiple locations within and adjacent to the belt. At Young Henry, drill hole YHDD001 intersected 38.3 m @ 0.23% Ni and 17.7 m @ 0.19% Ni, although the nickel is interpreted to be largely hosted in silicates.

**Alternate Hypothesis**

An alternate hypothesis considers the potential for IOCG-related systems to upgrade nickel, copper, and cobalt grades within the Hibbs Ultramafic Belt. Late-stage Ni–Cu–Co sulphide veining, similar to that observed in the Thomas Creek intrusive complex, could be related to hydrothermal processes involving partial melting of subducted ultramafic crust.

**Exploration Significance**

The presence of gabbro intrusions within 1.5 km of the ultramafics, such as at Timbertops, raises the possibility of magmatic–hydrothermal interaction. Regionally, deep-seated fault-bound magnetite bodies may represent Iron Oxide–Apatite (IOA) systems, while areas such as North Butler and Hill99 exhibit alteration consistent with the upper levels of ISCG-style IOCG systems. These features suggest the Hibbs Ultramafic Belt could act as a favourable host and/or metal source in regional IOCG and hybrid mineral systems.

**Recommendations**

Further review is required to establish possible links between the Hibbs Ultramafic Belt and IOCG mineral systems. Possible approaches include structural mapping, targeted geophysical surveys, and geochemical sampling to evaluate the potential for hydrothermal upgrading of base metal content in ultramafic units, with any identified sulphide-bearing structures prioritised for follow-up drilling.

## 9.6 Exploration Recommendations

Exploration during the reporting period has refined the geological, geophysical, and geochemical models for key prospects across the Sorell Peninsula, defining multiple untested targets and

highlighting additional areas of prospectivity. The following staged program is recommended to advance these targets:

**Regional Assessment and Data Review**

A comprehensive compilation of Sorell Peninsula regional data should be undertaken, with further evaluation of mineralisation and alteration in the context of IOCG models to improve understanding of mineral system architecture. Gravity and magnetics modelling would complement this assessment, noting that a gravity low may be associated with porphyry stocks at depth. Although ground gravity coverage is sparse due to access constraints, the Falcon airborne gravity system may provide a viable alternative.

Stream sediment sampling coverage is inconsistent and generally biased towards volcanic stratigraphy. The Ni potential of the Hibbs Ultramafic Belt has not been systematically addressed except at its northern extent. Evaluating magnetite trace element geochemistry from stream sediment grains may allow discrimination between igneous (Hibbs Ultramafic) and magmatic-hydrothermal magnetite populations, as demonstrated at the Casino Porphyry Cu–Au–Mo deposit (McCurdie et al., 2022).

**Thomas Creek Prospect**

Compelling new drill targets include:

- The inferred reverse fault juxtaposition of potassic magnetite–Cu–Mo–Au (/IOCG–Co–REE?) mineralisation to surface along the northern rim.
- The southern end of 370300 mE, characterised by above-porphyry geochemistry with sulphidic potassic-altered float overlying an IP chargeability high and deeper resistive “plug” (Figure 8).
- Deeper chargeable and resistive potential potassic mineralisation at ~600 m depth on 369850 mE, beneath a large drilled IP chargeability anomaly interpreted as outer phyllic (pyritic) alteration (Figure 7).
- The NE MobMT anomaly, interpreted as a phyllic–argillic altered plume above porphyry level, potentially containing high-sulphidation mineralisation.

While IP, aeromagnetics, radiometrics, and MobMT surveys have delineated these targets well, further work is warranted:

- Extend IP coverage into peripheral areas, especially northward to cover aeromagnetic highs and eastward to include the NE MobMT anomaly.
- Review raw IP data, as truncation at the northern ends of pseudo-sections coincides with aeromagnetic highs and may indicate processing issues.
- Extend gridding east to 370900 mE and into the north and south to improve resolution of chargeability/resistivity anomalies and to better define the NE conductive anomaly.

**Geochemistry and Pathfinders**

- Apply geochemical pathfinders for porphyry Cu deposits to assess PCD exhumation levels and refine drill targeting.
- Re-sample selected grid lines with modern multi-element ICP-MS analyses for improved discrimination.
- Prioritise the southern end of line 369100 mE, where combined IP chargeability/resistivity

response occurs near surface above inferred diorite.
- Extend geochemical coverage along the eastern margin of Thomas Creek.

**Additional Considerations**

- Assess rare earth element potential (Ce, La) using existing datasets, given IOCG affinities and regional examples (e.g. South Mount Darwin, 73 m @ 1% TREO; Westbrook, 2024).
- Integrate AL–OH wavelength analysis of mica from future drilling to assist PCD level targeting (Phengite at depth, Muscovite/Pyrophyllite shallower).
- Acquire LiDAR for structural mapping and consider close-spaced (<50 m) drone-borne aeromagnetics.

**Drilling Orientation**

- Two principal chalcopyrite-bearing vein dips are observed: WSW–SW strikes and NW strikes.
- Most micromonzodiorite (+/-Cu) intrusions dip ~70° NW, similar to NW-dipping chalcopyrite veins.
- The WNW aeromagnetic/IP/geochemical trend on the northern margins likely dips SW toward the intrusive core, suggesting N–NNE azimuth drilling.
- The NE anomaly is at a structural intersection and may be best drilled E–ENE to intersect both SW- and NW-dipping vein sets.

**Proposed Drill Holes – Thomas Creek Prospect**

Around 2,500–3,000 m of drilling is proposed to test priority targets identified from geophysical and geochemical datasets. Drill holes are ranked based on target size, intensity, and mineralisation potential (Table 1).

*Table 1. Proposed Drill Holes – Thomas Creek Prospect.*

| Hole_ID | Priority | East (MGA94) | North (MGA94) | RL | Azimuth | Dip | Depth | Targeting |
|---|---|---|---|---|---|---|---|---|
| **STCD005** | 3 | 369895 | 5286020 | 210 | 0 | -60 | 800 | Targets Mo (344 ppm)–Cu (1050 ppm) anomaly along inferred steep NW-dipping soil trend near collar (~100 m along strike from TCDD002, 56 m @ 0.1% Cu). Follows IP Level Effect trend, then MobeMT Core Resistor at depth. |
| **STCD006** | 2 | 370430 | 5286555 | 230 | 77 | -60 | 500 | NE MobMT conductor coincident with strong IP Level Effect and VTEM conductors. Associated with marginally defined anomalous Mo and Cu in surface samples proximal to an intense magnetic high. |
| **STCD007** | 1 | 369720 | 5286955 | 230 | 0 | -60 | 350 | Strong magnetic high with flanking Cu (1400 ppm), Mo (36 ppm) and Au (0.11 ppm) in goethitic magnetite-bearing soils. Elevated IP chargeability and resistivity at depth. |
| **STCD008** | 3 | 369075 | 5287120 | 230 | 0 | -60 | 500 | Strong magnetic high with anomalous Mo (29 ppm) and Cu (606 ppm) in soils. Surface IP anomaly with resistivity extending to depth. |
| **STCD009** | 4 | 370010 | 5286690 | 230 | 0 | -60 | 350 | Targets pervasive K-feldspar–magnetite–disseminated pyrite mineralisation in float, coincident with two WSW-aligned spurs. Modest Mo in soils and chargeability anomaly at depth. NB breccia target located further north. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **STCD010** | 1 | 370290 | 5285200 | 230 | 0 | -50 | 350 | Targets angular float of pervasive K-feldspar–disseminated pyrite, pyritic porphyry, and grey pervasive silica alteration. Mo and Cu soil anomalies with chargeability coincident with a resistive feature at depth. |

# 10. Proposed Work Program – Next Reporting Period

The next reporting period will adopt a geochemistry-focused exploration strategy designed to cost-effectively advance the most prospective targets at Thomas Creek and Henrietta.
By prioritising detailed surface geochemical coverage, the program will refine drill targeting and ensure the highest-value prospects are drill-ready in subsequent periods.

**Thomas Creek Prospect**

- Targeted soil re-sampling and infill sampling across priority IP and magnetic features to improve geochemical resolution and compatibility with modern ICP-MS datasets.
- Selective grid extension to incorporate the NE MobMT anomaly and eastern margin, enabling direct comparison with existing datasets.
- Detailed geological mapping to integrate geochemical results with alteration and structural interpretations.

Budget allocation: ~$50,000

**Henrietta Prospect**

- Reconnaissance mapping and rock chip sampling along the 1.7 km VTEM conductor corridor to identify geochemical vectors to mineralisation.
- Limited gridding and track preparation (~2 km) to support soil sampling over structurally favourable positions.
- Systematic soil sampling to define anomalies for follow-up geophysics and drilling.

Budget allocation: ~$50,000

*Table 2. Year two proposed budget*

| Prospect / Program | Estimated Cost (AUD) |
|---|---|
| **Thomas Creek** | $50,000 |
| **Henrietta** | $50,000 |
| **Total** | **$100,000** |

# 11. Expenditure

Table 2: EL6/2013 expenditure for 2023, extending to completion of rehabilitation activities

| Expense Type | Cost |
|---|---|
| 1. Geoscience | |
| Geology | $ 55,939.36 |
| Geochemistry | |
| Geophysics | |
| Remote Sensing | |

| | |
|---|---|
| 2. Drilling & Gridding | |
| Drilling | |
| Gridding | |
| 3. Land Access | |
| 4. Rehabilitation | |
| 5. Feasibility Studies | |
| 6. Other | |
| 7. Administration | $6,285.08 |
| **8. Total Exploration Costs** | **$69,135.86** |

# 12. References


Reid, R., 2025. Geological Review and Targeting Assessment of EL4/2024 (Thomas Creek Project), Sorell Peninsula, Tasmania. Unpublished report prepared for Inca Minerals Ltd, March 2025.

Berry, R. F., 2014. Middle Cambrian Tectonics – The Tyennan Orogeny Stage 2. In Corbett, K. D,Quilty, P. G., and Calver, C. R., (eds). 2014. Geological Evolution of Tasmania. Geol Soc Aust. Special Publication 24.

Bottrill, R. S. and Unwin, L., 2019. Mineralogical Analyses, Thomas Creek Prospect. Mineralogical / Petrological Report LJN2018-143 by Mineral Resources Tasmania.

Brown, A. V. 1988. Geological Atlas 1:50 000 series. Sheet 78 (7912S). Montgomery. Department of Mines Tasmania.

Brown, A. V.; Findlay, R. H.; McClenaghan, M. P.; Seymour, D. B. 1991. Synopsis of the regional geology of the Macquarie Harbour, Point Hibbs and Montgomery 1:50 000 map sheets. Report Department of Resources and Energy Tasmania 1991/21.

Brown, A. V.; Findlay, R. H.; McClenaghan, M. P. 1993. Summary of the regional geology of the Macquarie Harbour, Point Hibbs and Montgomery 1:50 000 map sheets. Report Department of Resources and Energy Tasmania 1991/02.

Calver, C (etal., 2014). In Corbett, K. D, Quilty, P. G., and Calver, C. R., (eds). 2014. Geological Evolution of Tasmania. Geol Soc Aust. Special Publication 24.

Close, R.J. and Reid, R.O. 1995 Annual Report on Exploration Activity for the 12 months to August 1995. EL's 4/92 and 7/92. Sorell Peninsula. Unpublished Tasmanian Mines Department Report. Plutonic Operations Ltd.

Corbett, K. D, 2014. The Mt Lyell Field. In Corbett, K. D, Quilty, P. G., and Calver, C. R., (eds). 2014. Geological Evolution of Tasmania. Geol Soc Aust. Special Publication 24.

Corbett, K. D, Quilty, P. G., and Calver, C. R., (eds). 2014. Geological Evolution of Tasmania. Geol Soc Aust. Special Publication 24.

Corbett, K.D. and Solomon, M. 1989 Cambrian Mt Read Volcanics and Associated Mineral Deposits. In C.F. Burrett and E.L. Martin (Editors), Geology and Mineral Resources of Tasmania. Geol. Soc. Aust. Spec. Publ. 15: 84-153

Crawford. A. J., Everard. J. L., and Bottrill, R. S. 2014. Mafic-Ultramafic Complexes and Associated Mineral Deposits. in Calver et al., eds 2014).

Forsyth et.al., 2014. Cenozoic Onshore Basins and Landscape Evolution. In Corbett, K. D, Quilty, P. G., and Calver, C. R., (eds). 2014. Geological Evolution of Tasmania. Geol Soc Aust. Special Publication 24.

Gemmell, B. J., Large, R. R., and Zaw, K., 1998 Palaeozoic volcanic-hosted massive sulphide deposits. AGSO Journal of Australian Geology and Geophysics. 17(4). 129-137.

Hall, W. D. M., McIntyre, M. I., Corbett, E. B., McGregor, P. W., Fenton, G. R., Arndt, C. D. And Bumstead, E. D. 1969. Report on Field Work in Exploration Licence 13/65, South-west Tasmania during 1967-68 field season. BHP. Unpublished Company Report for MRT.

Huston and Kamprad (2000), The Western Tharsis deposit, A high sulphidation Cu-Au deposit in the Mt Lyell field, of possible Ordovician age. AGSO Research Newsletter May 2000, no. 32

Kary, G., 1985. Progress Report Twelve Months to September 1985 Sorell Peninsula Exploration Licences 35/83, 36/83 and 37/83 Tasmania. Amoco Minerals Australia Company. Unpublished Company Report for MRT.

Langlands, J. G., 1971. E.L. 13/65 Cape Sorell Peninsula, S. W. Tasmania Exploration for Chrysotile Asbestos in the Hibbs Belt Noddy Creek and Pad 2 to Asbestos Point 1970/71. BHP. Unpublished Company Report for MRT.

Large, R. R., McPhie, J., Gemmell, J. B., Herrmann, W., and Davidson, G. J., 2001, The Spectrum of Ore Deposit Types, Volcanic Environments, Alteration Halos, and Related Exploration Vectors in Submarine Volcanic Successions: Some Examples from Australia. Economic Geology v.96, p. 913-938.

McClenaghan and Findlay, 1989 Macquarie Harbour. Geological Atlas 1:50 000 series. Tasmanian Department of Mines.

McClenaghan, M. P.; Findlay, R. H. 1993. Geological Atlas 1:50 000 series. Sheet 64 (7913S). Macquarie Harbour. Explanatory Report Geological Survey Tasmania.

Mudge, S., 2021. Specialised Processing of VTEM data using TargetTMTM, Sorell, Tasmania, Australia. Unpublished Company Report for Stunalara Metals Ltd (in this report).

Reid, P.W, van der Stelt, B.J. and Ascough G.L. 2014. Combined Annual Technical Report– Sorell Project EL6/2013 & EL7/2013, Sorell Peninsula, Tasmania, For the period 22nd October 2013 to 21st October 2014. Unpublished Company Report, MRT Tasmania.

Reid, P.W, van der Stelt, B.J. and Ascough G.L. 2015. Combined Annual Technical Report– Sorell Project EL6/2013 & EL7/2013, Sorell Peninsula, Tasmania, For the period 22nd October 2014 to 21st October 2015. Unpublished Company Report, MRT Tasmania

Reid, P.W, Van Der Stelt, B.J. and Ascough G.L. 2016. Combined Annual Technical Report– Sorell Project EL6/2013 & EL7/2013, Sorell Peninsula, Tasmania, For the period 22nd October 2015 to 21st October 2016. Unpublished Company Report, MRT Tasmania

Reid, R. O., McClenaghan M. P. and Seymour D. B. 2006. New whole-rock geochemical analyses of the Middle Cambrian Thomas Creek intrusive complex and associated lavas of the Noddy Creek Volcanics, western Tasmania. Mineral Resources Tasmania Report UR2005_06.

Reid, R. O. 2001. Cambrian Intrusion Related Copper Mineralisation at the Thomas Creek Prospect, Southwestern Tasmania. Masters of Economic Geology Thesis. CODES University of Tasmania.

Reid, R., Rust, A., Vanzino, L. and Burton, J. 2019. Annual Report on Exploration on Birches Inlet

EL6/2013 for the period 1st October 2018 to 1st October 2019. Accelerate Resources Ltd. Unpublished Company Report, MRT Tasmania

Reid, R. O. 2021. Annual Report on Exploration on Birches Inlet EL6/2013 for the period 1st October 2021 to 1st October 2022. Stunalara (Operations) ltd. Pty. And Accelerate Resources Ltd JV. Unpublished Company Report, MRT Tasmania

Raymond, O. L. 1996. Pyrite composition and ore genesis in the Prince Lyell copper deposit, Mt Lyell mineral field, western Tasmania, Australia. Ore Geology Reviews 10(3):231-250.

White, N.C. 1975 Cambrian Volcanism and mineralisation, south-west Tasmania. PhD Thesis (unpublished), University of Tasmania

# 13. Appendix

Appendix 1: Reid, R., 2025. Geological Review and Targeting Assessment of EL42024 (Thomas Creek Project).pdf