



ASF COPPER PTY LIMITED
ABN 17 154 824 441



TASMANIA
TEMMA PROJECT
EXPLORATION LICENCE: EL44/2011

RELINQUISHMENT REPORT

FOR THE PERIOD

03/04/2016 TO 02/04/2017

Report Prepared By
S. KE

12th April 2017

TENEMENT REPORT INDEX

OPERATOR:	ASF COPPER PTY LIMITED
PROJECT:	TEMMA
TENEMENTS:	EXPLORATION LICENCE: EL44/2011
TITLE:	EXPLORATION LICENCE: EL44/2011, TEMMA RELINQUISHMENT REPORT FOR THE PERIOD 03/04/2016 TO 02/04/2017
HOLDER:	ASF COPPER PTY LIMITED
REPORT PREPARED BY:	ASF COPPER PTY LIMITED
AUTHOR:	S. KE
STATE:	TASMANIA
LATITUDE:	-41° 16' 29.69"
LONGITUDE:	144° 44' 0.28"
MGA	mN: 5 428 246.4
(GDA94)	mE: 310 164
1 : 250,000 SHEET:	BURNIE SK-55-3
1 : 25,000 SHEET:	ORDNANCE 3042 AND TEMMA 3043

TABLE OF CONTENTS

1	SUMMARY	1
2	TENEMENT STATUS	3
2.1	LOCATION AND ACCESS	3
3	GEOLOGY	4
4	MINERALISATION	7
5	HISTORIC EXPLORATION	8
6	EXPLORATION ACTIVITIES	10
7	CONCLUSIONS	10
8	REFERENCES	11

TABLE OF FIGURES

Figure 1.	Temma Regional Location	2
Figure 2	Temma solid geological interpretation – 1:250K geology	5
Figure 3.	Tenement geology – 1:25K geology	6

LIST OF TABLES

Table 1.	EL 44/2011 details	3
----------	--------------------------	---

1 SUMMARY

Exploration in the Temma area since the mid-1960s' has identified a number of epigenetic ironstone occurrences in which two stages of mineralisation have been demonstrated; an earlier magnetite-Cu association and a later quartz-Pb-Cu-Ag+/-Au event. Both mineralisation events are spatially associated. The magnetite bodies are developed as steeply, mostly west dipping planar bodies up to 20m thick and up to 1.0-1.5km in strike length. The mineralogy of the magnetite bodies is consistent with an IOCG style of mineralisation.

Despite a long history of exploration, considerable potential exists for significantly mineralised positions within and adjacent to the ironstones as geochemical anomalism remains unclosed at the Strickland and Possum Creek prospects and drilling has tested only approximately 500m of strike in the prospects drilled to date. In addition to the ironstone targets, a number of discrete helicopter borne EM (HEM) conductors remain unexplained and represent potential exploration targets.

Work by ASF Copper Pty Ltd has involved rapid reconnaissance to assess access to the ironstone targets and determine the nature of the regolith for the suitability of further soil sampling. Seven HEM anomalies were briefly visited to determine if there were any obvious sources for the anomalies and to assess access and regolith to determine a practical exploration approach.

As a consequence of this work, an exploration programme has been formulated in involving the compilation of existing data and the extension of the existing geochemical grids at the Strickland and Possum Creek prospects with the objective of defining drill targets during the summer season.

During 2014 the southern portion of the Temma Project was relinquished due to the lower mineral prospectivity of the EM targets. Work in 2015 will focus on the northern portion of EL44/2011 where historical exploration drilling has defined Cu/Au mineralised "ironstones". To that end ASF Copper has gained approval to carry out surficial exploration at the Strickland and Possum Creek Grids which will involve geological mapping, soil sampling and collection of ground magnetic data with a view to define drill targets. ASF Copper is also aware of their heritage obligations and will organise heritage clearance surveys as required prior to any on ground surficial exploration.

EL 44/2011 is held by ASF Copper Pty Ltd and was granted on 4 April 2012. Despite a long history of exploration dating back to the 1960's, ASF considers the potential for Cu and Au mineralisation associated with well documented magnetite bodies to be high. Previous exploration results indicate that the Cu-Fe-Zn-Pb-Ag-Ag mineralisation intersected by drilling is most probably affiliated with iron oxide copper-gold ("IOCG") style of mineralisation.

Historical drilling has tested three ironstone occurrences; the Strickland, Little Eel and Possum Creek prospects. This drilling has comprised a total of only 7 drill holes over the three ironstone occurrences which have a cumulative strike length of approximately 2.5km, testing approximately 500m of the cumulative extent of the ironstones. Similarly, soil geochemistry at both the Strickland and Possum Creek prospects remains unclosed and there is potential to significantly extend these zones and define additional drill targets. In addition, a number of EM targets defined by previous explorers' co-incident with the ironstones have not been tested.

ASF's primary focus is on the potential for IOCG mineralisation in untested parts of the ironstones where elevated Au and Cu assays have been obtained from historical drilling. The source of these anomalies remains unknown but appears not to be associated with magnetic ironstone bodies.

Initially, ASF will utilize a combination of geochemistry and drilling to assess the ironstone targets, utilizing the existing magnetic data accumulated by previous explorers and grid based geological mapping, soil sampling and collection of grid based ground magnetic data.



Figure 1. Temma Regional Location

2 TENEMENT STATUS

Table 1. EL 44/2011 details

Tenement	Holder	Date of Grant	Date of Expiry	Area (km ²)
EL 44/2011	ASF Copper Pty Limited	3 April 2012	2 April 2017	56.61

ASF Copper Pty Limited applied for EL 44/2011 on the 19th July 2011. The EL was granted for a five-year period on the 3rd April 2012. There are no current mining leases located within the tenement.

2.1 LOCATION AND ACCESS

EL 44/2011 is located in NW Tasmania, approximately 25km south of Arthur River (Fig.1). The small fishing village of Temma locates in the NW part of the tenement. Road access is limited, with the Sandy Creek Temma track providing access along the coast and the Balfour Track providing east-west access. These tracks are passible by 4WD in dry weather. A number of old tracks developed by previous explorers provide access to the Strickland and Possum Creek prospects, however these are in very poor condition and require upgrading to allow 4WD access to these areas.

The natural vegetation transitions from coastal heathland on the coast and variably throughout the licence area through to dense tea tree scrub and dense mixed tea tree-eucalypt forest.

3 GEOLOGY

The regional and local geology of the area has been well described in the Annual Reports of previous explorers, notably; Herman and Sumpton (Geopeko, 1982), Weir (CRAE 1983) and Hughes (Jaguar 2009). L.A. Newnham (Pacific Nevada, 2000) provides detailed petrology and mineralogy for the Strickland prospect. The following summary is derived from these authors.

The regional geology is dominated by the Mesoproterozoic Rocky Cape Group, a thick siliclastic shelf sequence, the oldest rocks in Tasmania and for which the basement is unknown. The lithologies comprise clean, well sorted sandstones and siltstones through to laminated siltstones which may be graphitic and pyritic. The lithologies indicate a range of environments from reasonably high energy oxidizing to low energy reducing conditions.

The Rocky Cape Group has been divided into seven Sub Groups of which the Balfour Sub Group and Pedder River Siltstone dominating the geology of the Temma area of interest, comprising inter-bedded sandstone and siltstone, chloritic siltstone and carbonaceous, pyritic siltstone and shale (Figure 3). The tectonic history is characterized by two early phases of syndepositional extension followed by at least four deformational events; the most significant being D3, considered being Devonian in age. The D3 deformation is manifested by NW directed folding, cleavage development and major, NE-directed low and high angled thrusts. Reactivated extensional structures during D3 may have provided fluid pathways for mineralisation.

Younger rocks in the Temma area include Tertiary basalt and unconsolidated Pleistocene and Holocene beach and dune deposits. These units are particularly important from an exploration methodology perspective. Tertiary basalt is mapped at both Strickland and Possum Creek prospects but the extent of the basalt with respect to the ironstones is uncertain. The basalt is present on at least part of the magnetic high which defines an ironstone to the west of the main ironstone at Possum Creek and a similar situation is apparent at Strickland. Variable cover of beach and dune sands occurs at both prospects and at Possum Creek is reported to attain 15m in thickness. Both the Tertiary basalt and sand cover has important ramifications for geochemical sampling.

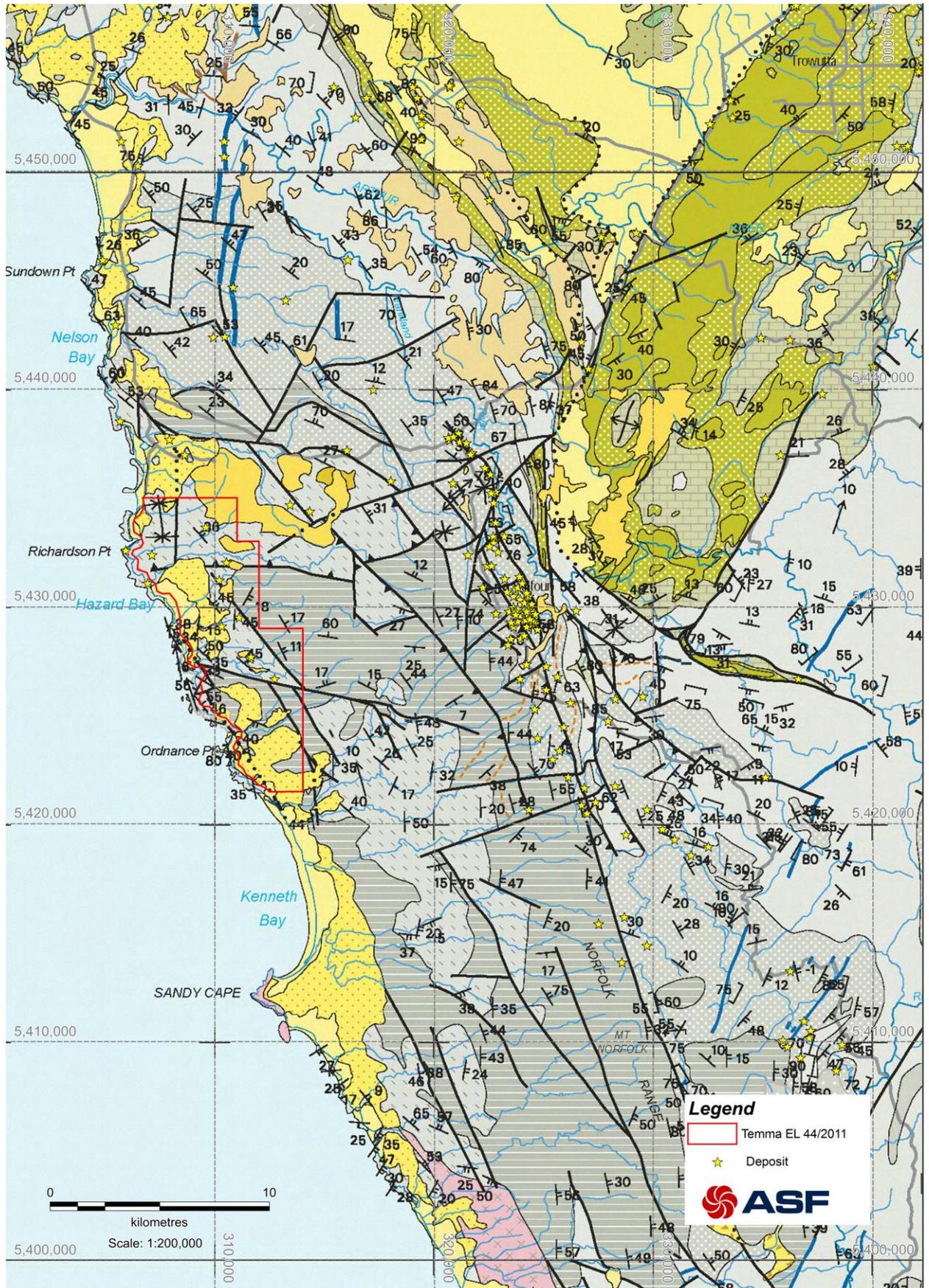


Figure 2 Temma solid geological interpretation – 1:250K geology

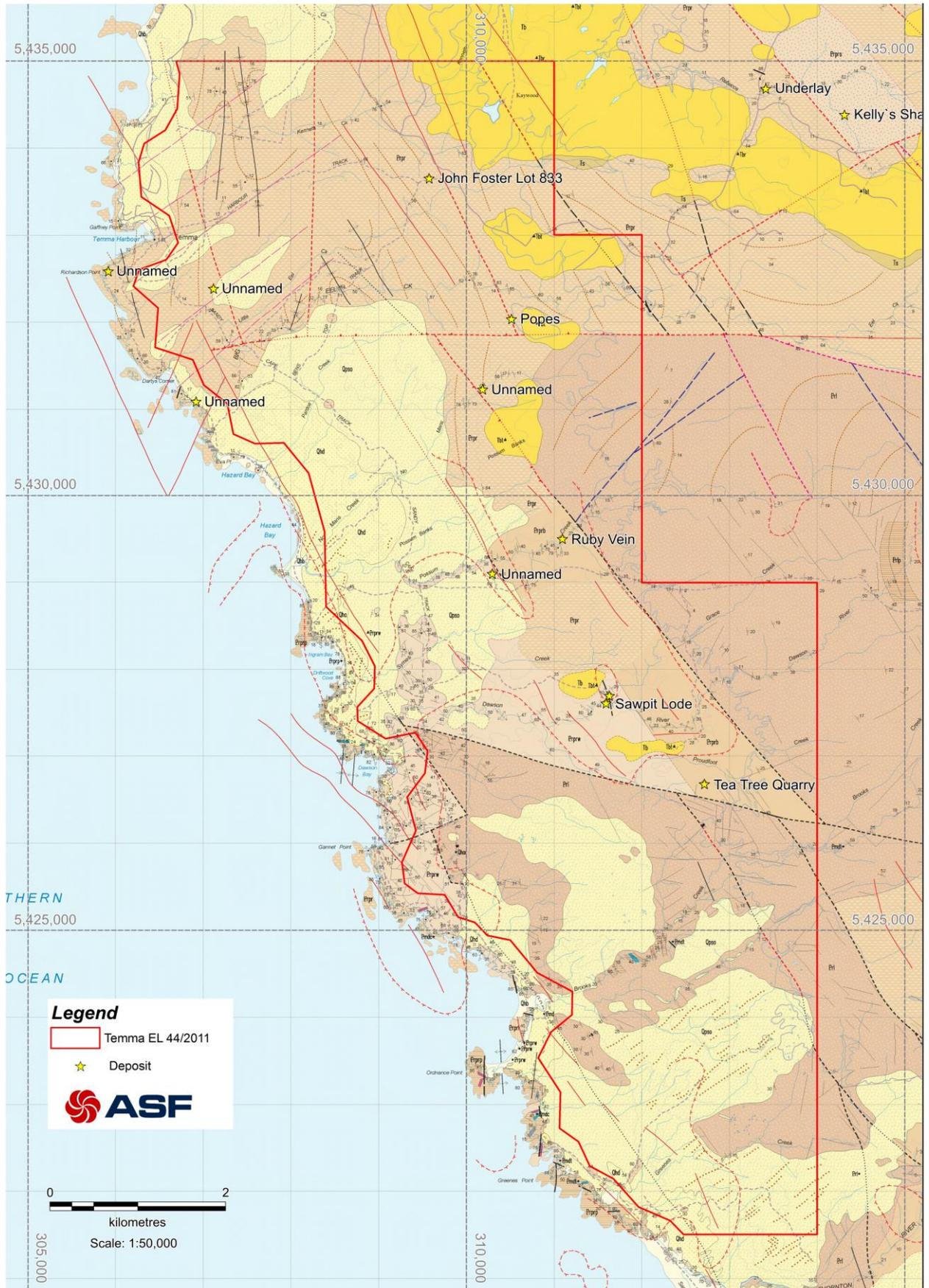


Figure 3. Tenement geology – 1:25K geology

4 MINERALISATION

A detailed description of mineralisation styles is given by Herrmann and Sumpton (1982). A number of occurrences are evident in the Temma area with a few being prospected by shallow workings including Strickland, Possum Creek and Couta. However there appears to have been little production from these occurrences and these represent prospecting works.

Mapping and drilling have clearly demonstrated that mineralisation is epigenetic, crosscutting both the dip and strike of the host lithologies and there is good evidence to show that the strike of the mineralisation is parallel to cleavage, at least at local scales. This suggests that mineralisation is syn or post D3. There have been suggestions that mineralisation is genetically related to Devonian granite emplacement and while plausible, there are no exposed granite occurrences in the Temma area.

Mineralisation in the area is of two styles:

- Quartz stringer veins and/or massive quartz veins up to 2m wide with pyrite, chalcopyrite and galena. Examples are Grace Creek, Couta, Richardson Point and Sarah Anne Rocks. Selected sampling of this style of mineralisation (Herrmann and Sumpton, 1982) has returned assays of up to 3.3% Cu, 40% Pb, 500g/t Ag and 0.06g/t Au.
- Massive magnetite lodes up to 20m wide comprising magnetite to 70% with high manganese (6% Mn) and titanium (0.5% Ti). Iron rich amphibole, Fe-Mn carbonate, mica, chlorite, quartz and pyrite and chalcopyrite (0.2% Cu) are typical mineral assemblages of the magnetite lodes (Figure 4). This mineral association has strong similarities with many IOCG occurrences globally. There are no geochemically significant levels of Pb, Zn, Ag, Au, Bi, Mo, Sn, W, Cr, Ba or As associated with the magnetite lodes. The magnetite lodes are characterized by sharp contact boundaries with the enclosing sediments.

There is a close spatial association between the two styles of mineralisation with the quartz stringer mineralisation occurring in close proximity to the magnetite lodes (Grace Creek, Little Eel) and more commonly developed within and crosscutting the magnetite lodes and developed on either the hanging or footwall to the magnetite lodes (Strickland, Possum Creek). However the stringer mineralisation is not consistently developed along the magnetite lodes. Alteration characterized by chloritisation, particularly along cleavage planes and in extreme cases, garnet, typifies both mineralised styles with alteration generally confined within a few meters of the mineralisation.

The relationship between the two styles of mineralisation indicates that the quartz stringer mineralisation is later than the magnetite lodes and that the close spatial association suggests common fluid pathways (structures). It is postulated here that the magnetite lodes may have acted as both chemical and structural traps (brittle fracturing) for later Pb, Ag, Cu, Ag rich fluids of the quartz stringer mineralisation. A similar genetic model has been proposed for the Cu-Au mineralisation at Tennant Creek (Normandy Mining Ltd pers. comm.).

5 HISTORIC EXPLORATION

The area has been the subject of mineral exploration since the mid 1960's, commencing with Picklands Mather Co. International who drilled two diamond drill holes, T301 and T302, into the Strickland prospect targeting magnetite. By far the most comprehensive and extensive exploration in the area was conducted by CRAE under EL 1/77 and Geopeko who entered into a JV with CRAE during the 1980's.

Geopeko undertook extensive geophysical work including airborne and ground magnetics and EM. Work included detailed prospect evaluation at Nelson River (outside of the current EL), Strickland, Little Eel and Possum Creek which included mapping, rock chip and 'C' horizon auger sampling, ground magnetics and EM. CRAE drilled one diamond hole each at Little Eel (DD LE1) and Possum Creek (DD PG1). In addition, Geopeko briefly assessed numerous mineralised occurrences in the district, which included limited rock chip sampling and reconnaissance mapping.

Nevada Pacific Mining Pty under EL 27/97 during 1999-2000, re-logged and resampled the Picklands Mather diamond holes at Strickland and the two CRAE holes at Little Eel and Possum Creek. The company then drilled three holes at Strickland. Two of these holes, S303 and S304 scissored Picklands Mather's diamond drill holes T301 and T302 respectively. The third hole, S305, tested a magnetic anomaly approximately 100m west of the main Strickland ironstone.

Jaguar Minerals Ltd over the period 2006-2010 under EL 27/2005 processed and interpreted a Geotech Hummingbird HEM survey and selected a number of priority targets for follow up. Limited orientation ground magnetics and orientation partial leach geochemistry involving 8 lines were undertaken at Possum Creek. This work conclusively showed that "C" horizontal sampling is the most effective medium to use in the local area. Limited reconnaissance of selected HEM targets including some geochemistry on three, proved inconclusive.

Work by ASF Copper in 2012 comprised a thorough review of previous exploration results leading to the identification of target areas and the formulation of an exploration programme.

A reconnaissance trip was undertaken using a helicopter to rapidly traverse the areas of interest. The purpose of the reconnaissance was primarily to ascertain the nature of the regolith for geochemical sampling, locate previous drill holes and to determine requirements for access. In addition, a total of seven HEM targets were briefly visited to inspect the geology, regolith and accessibility of the targets and to determine if any obvious sources for the EM response.

Vegetation at both Strickland and Possum Creek primarily comprises thick tea tree scrub with areas of dense eucalypt forest. Old grids and cut lines at both prospects are completely regrown and except for the main access tracks to these prospects, no evidence of the former grids could be found. The access tracks are in poor condition. Prior to the proposed work being undertaken, access tracks will require upgrading and the proposed geochemical sampling will require cut lines. The regolith at both Strickland and Possum Creek shows variable thicknesses of recent dune sands and surface sampling is considered inappropriate and will necessitate the use of an auger.

Only two holes were located at Strickland; Pacific Nevada's S302 and S304. The drill collar was located at S302 but not at S304, where the remains of a sump provided some confidence of the correct location of the hole. The main Strickland workings were located but no evidence of mineralised or magnetite lode material was found on the dumps. At Possum Creek, the drill collar of CRAE's DDH PG1 was not located but a possible sump was located in the approximate position of the GPS co-ordinates for the hole.

The Little Eel prospect was visited but no evidence of CRAE's hole DDH LE1 could be found, with the drill site located in very dense tea tree swamp according to the co-ordinates and CRAE's own

description. The regolith varies at Little Eel from a large area of outcrop to subdued relief of dune sand cover and black, organic rich soil of localized tea tree swamps. Further geochemical work at this prospect will require a combination of sampling methods.

HEM anomalies 3,4,5,7, 11, 31 and 36 (Jaguar Minerals nomenclature, Busbridge, 2007) were located and a brief reconnaissance conducted over each. The seven HEM anomalies were interpreted by Jaguar to be priority targets and most likely to represent discrete bedrock conductors. All the anomalies were located in open, low-heath covered ground with good outcrop with a thin and variable cover of dune sand. The lithologies at every site were similar being fine grained highly siliceous sandstones and siltstones with lesser shale. No obvious sources for the EM response were observed except at HEM anomaly 31. This site is located above a deeply incised creek below the plateau of the drainage divide. At the actual location, lithologies comprise the usual white siliceous fine sandstones and siltstone. However an inspection of stream float in the creek immediately north of the site located a significant quantity of black graphitic shale. While not conclusive, the graphitic shale is considered a probable source for the anomaly.

The reconnaissance concluded that the HEM targets can be readily tested by a combination of surface soil geochemistry and rock chip sampling with access possible by quad bike from the main tracks in the area. According to Jaguar's interpretation of the data, the shallow penetration ability of the Hummingbird system used in the HEM survey would place the top of a conductive body at less than 80m.

6 EXPLORATION ACTIVITIES

During five years of tenure, work carried out within the relinquished sub-blocks of EL44/2011 has included:

- a) Detailed literature review
- b) A tenement analysis to identify historic exploration tenements and associated historic exploration company reports.
- c) GIS review of all open file geochemistry sample data
- d) Review of available geophysical datasets over the project area
- e) Identification and ranking of potential target areas
- f) Recommendations for further work

7 CONCLUSIONS

From work completed to date, target areas within EL44/2011 were identified for further work and areas of least potential were recommended for relinquishment.

8 REFERENCES

- | | | |
|----------------------------|------|---|
| Anderson N.M. | 2011 | Temma Project: EL 27/2005 Annual Report for the Period 23 March 2010 – 22 March 2011. MRT Report 11-6226 |
| Busbridge M.J | 2007 | Temma Project EL 27/2005 Annual Report for the Period 23 March 2006 – 22 March 2007 MRT Report 07-5446 |
| Derriman M. | 2014 | EL 44/2011 Temma Year 2 Annual Technical Report, 3 rd April 2013 to 11 th April 2014 for ASF Copper. . MRT Report |
| Hughes C.D.E | 2009 | Annual Report for the Period 23 March 2008 – 22 March 2009 Temma – EL27/2005 MRT Report 09-5836 |
| Hughes C.D.E | 2010 | Temma Project: EL 27/2005 Annual Report for the Period 23 March 2009 – 22 March 2010 EL report 10-6036 |
| Herrmann W.,
Sumpton J. | 1981 | Progress Report EL 1/77 Temma Area 1981 MRT Report 82-1871 |
| Perring R.J. | 1983 | EL 1/77 Rocky Cape Temma Area Progress Report 1 st August 1982 to 31 st July 1983 MRT Report 84-2151 |
| Newnham L.A | 2000 | EL 27/97 Temma Strickland Drilling Program July 2000 MRT Report 00-4500 |
| Swensson C. | 2013 | EL 44/2011 Temma Year 1 Annual Technical Report, 3 rd April 2012 to 11 th April 2013 for ASF Copper. . MRT Report |
| Turner N.J. | 1999 | EL 27/97 Temma Area Annual Report to 12.11.99 MRT Report 99-4387 |
| Weir D.J. | 1982 | Rocky Cape EL 1/77, Progress Report, July 1981-June 30 th 1982 MRT Report 82-1811 |