



# IMX Resources

## **EL 47/2006 “Mt Frankland” Annual Report for the Period 10th July 2010 to 9th July 2011.**

Volume 1 of 1

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## ABSTRACT

EL47/2006 'Mt Frankland' was granted to IMX Resources Ltd for a period of 5 years commencing 10 July 2007 with the intention to explore for mafic-hosted Ni-Cu sulphide mineralisation.

Following interpretation in 2009 of VTEM data collected in 2008, a MMI geochemical survey was conducted in areas where conductivity indicated potential intrusion sites.

The MMI samples show moderate to high values for Cu, Ti, Zr, Li, Sc, Ce, Co and Pd.

Expenditure for the reporting period is \$18,160.69.

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EL472006\_201106\_01\_report.pdf

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Surface sample ledger: EL472006\_201106\_02\_geochem.txt

## 1 INTRODUCTION

The following report details work conducted at IMX Resources Ltd's ('IMX') EL 47/2006 – 'Mt Frankland' during the period 10<sup>th</sup> July 2010 to 9<sup>th</sup> July 2011. The tenement is located 9km northeast of Balfour, in the Land District of Russell and vicinity of Wellington of Julius River (Figure 1).

### 1.1 Exploration Rationale

EL47/2006 is considered to have potential for Ni-Cu sulphide mineralisation in subvolcanic basic-ultrabasic intrusions.

### 1.2 Geological Setting

The Rocky Cape region of northwest Tasmania consists of thick, weakly metamorphosed deformed Neoproterozoic sedimentary and volcanic successions (Calver 1998). The oldest exposed succession consists of orthoquartzite, siltstone and minor carbonate (the Rocky Cape Group) that underlies the Togari Group. The Rocky Cape Group is younger than 1200Ma. An angular unconformity separates the Rocky Cape Group from the Togari Group which occupies the Smithton Synclinorium in far northwest Tasmania. The Togari Group (Everard et al. 2007) consists of siliciclastics (Forest Conglomerate), a carbonate -chert-shale unit (Black River Dolomite) dated at 750-650 Ma, rift tholeiite and associated volcanoclastics (Kanunnah Subgroup) and dolostone (Smithton Dolomite) dated at 580-545 Ma. The Smithton Dolomite is overlain by Middle to Late Cambrian sandstone and shale, the Scopus Formation (Brown, 1989). On older maps e.g. the 1: 50 000 SMITHTON sheet all carbonates and dolostone are shown as Smithton Dolomite.

Dolerite dykes dated at 600-588 Ma and differentiated basic- ultrabasic intrusions related to the tholeiitic sequence were emplaced into the sequence below the Kununnah Group. The Proterozoic- Palaeozoic sequence is locally overlain by Tertiary basalts occurring mainly as hill cappings. Basalt compositions range from basanite through alkali olivine basalt to tholeiite (Everard et al, 2007).

Both the Rocky Cape Group and the Togaru Group were deformed during the Cambrian and the Devonian.

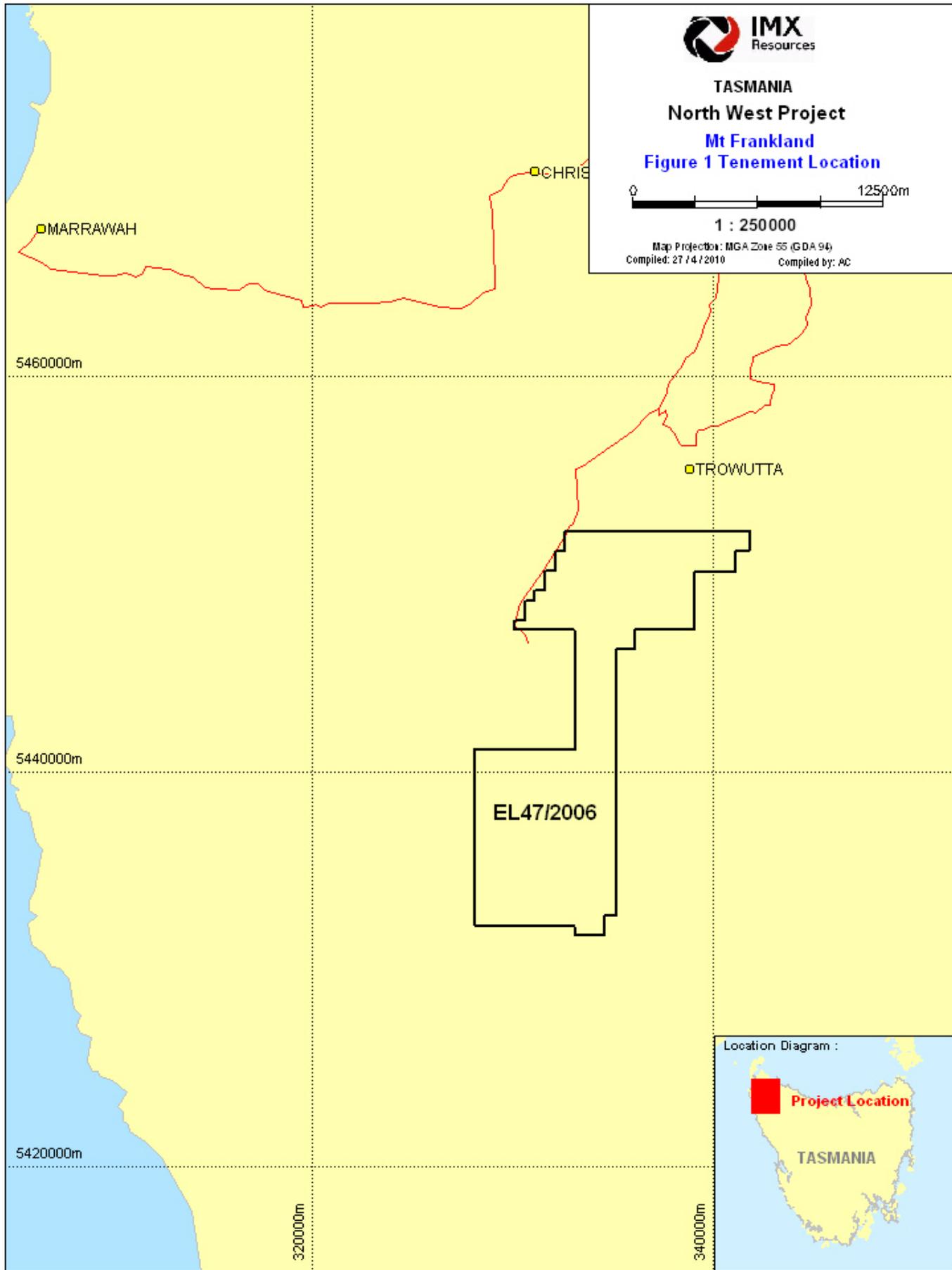
The presence of subvolcanic basic-ultrabasic intrusions in a sequence of sulphide bearing sedimentary rocks, imply that the region has potential for Ni-Cu sulphide deposits. On published maps ultramafics in the South Forest Area are shown as dolerites. Possible sulphur sources for Ni sulfide deposits are present in the Cowrie Siltstone (Rocky Cape Group) in shales of the Black River Dolomite and in Keppel Creek Formation.

### 1.3 Tenure

EL47/2006 was granted to Goldstream Mining NL (now IMX) for a term of 5 years from 10<sup>th</sup> July 2007 covering an area of approximately 249km<sup>2</sup>. A partial relinquishment of 129km<sup>2</sup> was made during 2009 reducing the licence to 120km<sup>2</sup>. Table 1 summarises the licence history.

**Table 1: Licence Details**

Licence	Period		Year	Area
	From	To		
EL47/2006	10 <sup>th</sup> July 2007	9 <sup>th</sup> July 2008	1	249 km <sup>2</sup>
	10 <sup>th</sup> July 2008	9 <sup>th</sup> July 2009	2	249 km <sup>2</sup>
	10 <sup>th</sup> July 2009	9 <sup>th</sup> July 2010	3	120 km <sup>2</sup>
	10 <sup>th</sup> July 2010	9 <sup>th</sup> July 2011	4	120 km <sup>2</sup>



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## 2 REVIEW OF PREVIOUS WORK

Australia and New Zealand Exploration Company collected stream sediment samples over much of the ground covered by EL47/2006 during 1972 as part of their regional sampling program (Kinnane, 1972). Their pan concentrates showed remarkably high values for Sn with values up to 24.2% Sn in samples from Arthur River near Kanunnah Bridge.

From 1997-2002 Morritt Holdings, Pacific Nevada and Greenstone Resources explored for epithermal gold along the Roger River Fault and over siliceous and calcareous spring mounds like Smokers Bank immediately south of Smithton (Morritt Holdings – *author unknown*, 2003; Reid, 1998; Reid and Westbrook, 1998; Westbrook, 1999). They also explored for base metal mineralisation associated with Proterozoic Iron Formations. The spring mounds were soil and stream sediment sampled and drilled using an auger, which detected low level concentrations of elements normally associated with epithermal gold but no significant gold values. Soil and rock chip sampling over ironstones at Ekberg Creek was inconclusive.

An EM survey was carried out over the Roger River Fault but no interpretations are given, and images in open file reports suggest no significant conductors were located

A detailed aeromagnetic survey with 200 m line spacing was flown over the tenement by AGSO/MRT in 1996.

In 2007, open file public datasets including EM, magnetics and geochemistry were reviewed and an airborne EM survey was conducted. Topographic and geological maps were purchased and landholder information sourced to enable field activities.

In 2008 Exploration activities were limited to interpretation of the VTEM survey and no further field work was completed in 2009 (Chai and Barrett, 2010).

### **3 EXPLORATION COMPLETED DURING THE REPORT PERIOD**

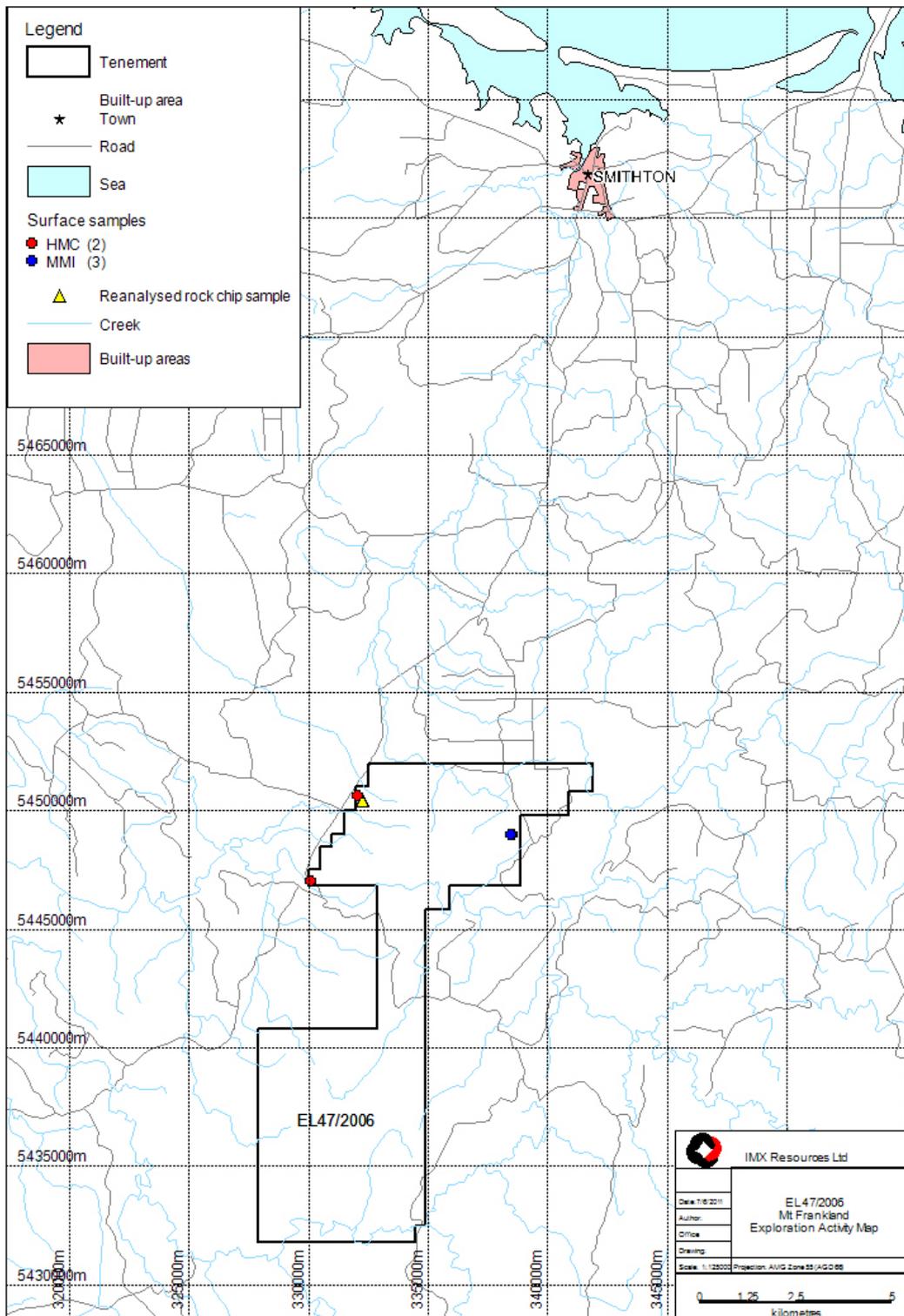
Targets generated from the VTEM data collected in 2008 were ground-checked and further investigated with surface sampling during the reporting year. As conventional surface sampling gives very low values for most elements of interest due to leaching by slightly acidic surface waters, it was to attempt MMI sampling, where material below the surface in many cases can be detected by analysing elements brought to the surface by very weak solutions (ground water) and adsorbed on to mineral grains in near-surface rocks/soils.

Three MMI samples were collected from an EM anomaly south of Trowutta (Figure 2). The anomaly is not associated with a magnetic high. The MMI samples show moderate to high values for Cu, Ti, Zr, Li, Sc, Ce, Co and Pd. The samples were collected from the margin of the anomaly as the main part was inaccessible due to dense forest.

At the time of writing the 2010 Annual Report (and therefore outside the current reporting year), 2 heavy mineral concentrates (HMC) were collected. As these were not reported in the 2010 report, the results are discussed here. One of the HMCs (316157) contained Cr spinels with high Cr and Ti, and other Cr spinels from the same ridge are high Cr chromites, indicating that high Cr chromites may be locally derived and do not come from the Arthur River.

The pulps of two rock chip samples collected in 2007 were resubmitted for analysis of additional elements to the original suite.

All analyses are presented as Appendix 1.



**Figure 2: Exploration activity map**

#### **4 DISCUSSION OF RESULTS**

Considering the deep leaching of surface soils and rocks, the similarity of incompatible element patterns of the Ekberg Creek Iron Stones and the alkaline basics intersected in another IMX tenement (EL17/2007) makes the iron stones a drill target for the 2011-12 season. Chrome spinels from the ridge hosting the Ekberg Creek Iron Stones contain some high Cr and Ti chromites indicating the presence of highly-magnesian intrusive rocks.

## 5 CONCLUSIONS

Previous exploration programs in the region have indicated all high-Cr chromites and cassiterites originate in alluvial terraces deposited by the Arthur River. Sampling in 2010-11 has shown that at least some of the heavy minerals may have a more local source.

## 6 ENVIRONMENT

No ground-disturbing activities took place during the reporting year, therefore no rehabilitation was necessary.

## 7 EXPENDITURE

As financial figures for the reporting period were not finalised by the time of writing, expenditure for EL47/2006 is presented for the year ending 30 April 2011 (Table 2). Total expenditure is \$18,160.69.

**Table 2: Expenditure 2010 - 2011**

<b>Activity</b>	<b>Amount</b>
Assaying	\$ 182.08
Soil Sampling	\$ 2,053.20
Geological Salaries (recharge - staff S & W)	\$ 1,345.00
Field Supplies	\$ 310.76
Geological Consultants	\$ 3,900.00
Petrology / Mineralogy	\$ 1,417.00
Tenement Administration	\$ 205.00
Tenement Rentals	\$4,788.00
Vehicles - Fuel	\$ 36.14
Light Vehicle Hire	\$ 145.98
Computer Software	\$1,785.00
Courier	\$ 45.00
Travel & Accommodation - Domestic	\$458.27
Overheads	\$1,489.26
<b>TOTAL</b>	<b>\$ 18,160.69</b>

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## 9 KEYWORDS

Tasmania North West, Smithton, geochemistry, Ni-Cu sulphide mineralisation