



# IMX Resources

## **EL 46/2006 'Smithton' Annual Report for the Period 9th July 2007 to 9th July 2008.**

Volume 1 of 1

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## **ABSTRACT**

EL 46/2006 is considered to have potential for Ni-Cu sulfide mineralisation in subvolcanic basic-ultrabasic intrusions. Magnetic highs are prominent in the Forest and South Forest areas, but due to a thin cover of Tertiary basalts, it is not possible to determine the origin of the magnetic highs by direct observation or sampling.

A small part of the tenement was covered by an EM (VTEM) survey, but no strong conductors were located, and further exploration within the tenement depends on results in EL48/2006 to the south.

## **KEYWORDS**

Tasmania North West, Smithton, EM(VTEM) Survey, magnetics, geochemistry, Ni-Cu sulfide mineralisation

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EL46\_2006\_2007\_A\_01\_ReportBody.pdf

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## **1.0 INTRODUCTION**

The Rocky Cape region of northwest Tasmania consists of thick, essentially unmetamorphosed deformed Neoproterozoic sedimentary and volcanic successions (Calver 1998). The oldest exposed succession consists of orthoquartzites, 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. 1996) consists of siliciclastics (Forest Conglomerate), a carbonate -chert-shale unit (Black River Dolomite) dated at 750-650 Ma, rift tholeiites 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. On older maps e.g. the 1: 50 000 SMITHTON sheet all carbonates and dolostones 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 basalts to tholeiites. For a recent account of the Smithton Basin geology see Everard et al. (2007)

Mafic-ultramafic intrusions- shown on published maps as dolerite- in the South Forest area have been interpreted as feeders to the overlying basaltic volcanic and as possible host rocks for Ni-Cu sulfide mineralisation. Possible sulfur sources for Ni sulfide deposits are present in the Cowrie Siltstone (Rocky Cape Group) and in shales of the Duck River Dolomite.

## **2.0 TENURE**

Exploration Licence 46/2006 was granted to Goldstream Mining NL (now IMX Resources NL) and covers an area of approximately 68 km<sup>2</sup> in the Land District of Wellington vicinity of Forrest (9 km east of Smithton) for a term of 5 years from the 10<sup>th</sup> July 2007.

Table 1 Licence Details

<b>Licence</b>	<b>Granted</b>	<b>Expiry</b>	<b>Year</b>	<b>Area</b>
EL46/2006	10 <sup>th</sup> July 2007	10 <sup>th</sup> July 2012	5	68 km <sup>2</sup>

## **3.0 REVIEW OF PREVIOUS WORK**

Very limited work has been carried out in EL 46/2006 as most of the area is farm land, with most attention being on limestone/ dolomite.



# TASMANIA SMITHTON

Figure 1

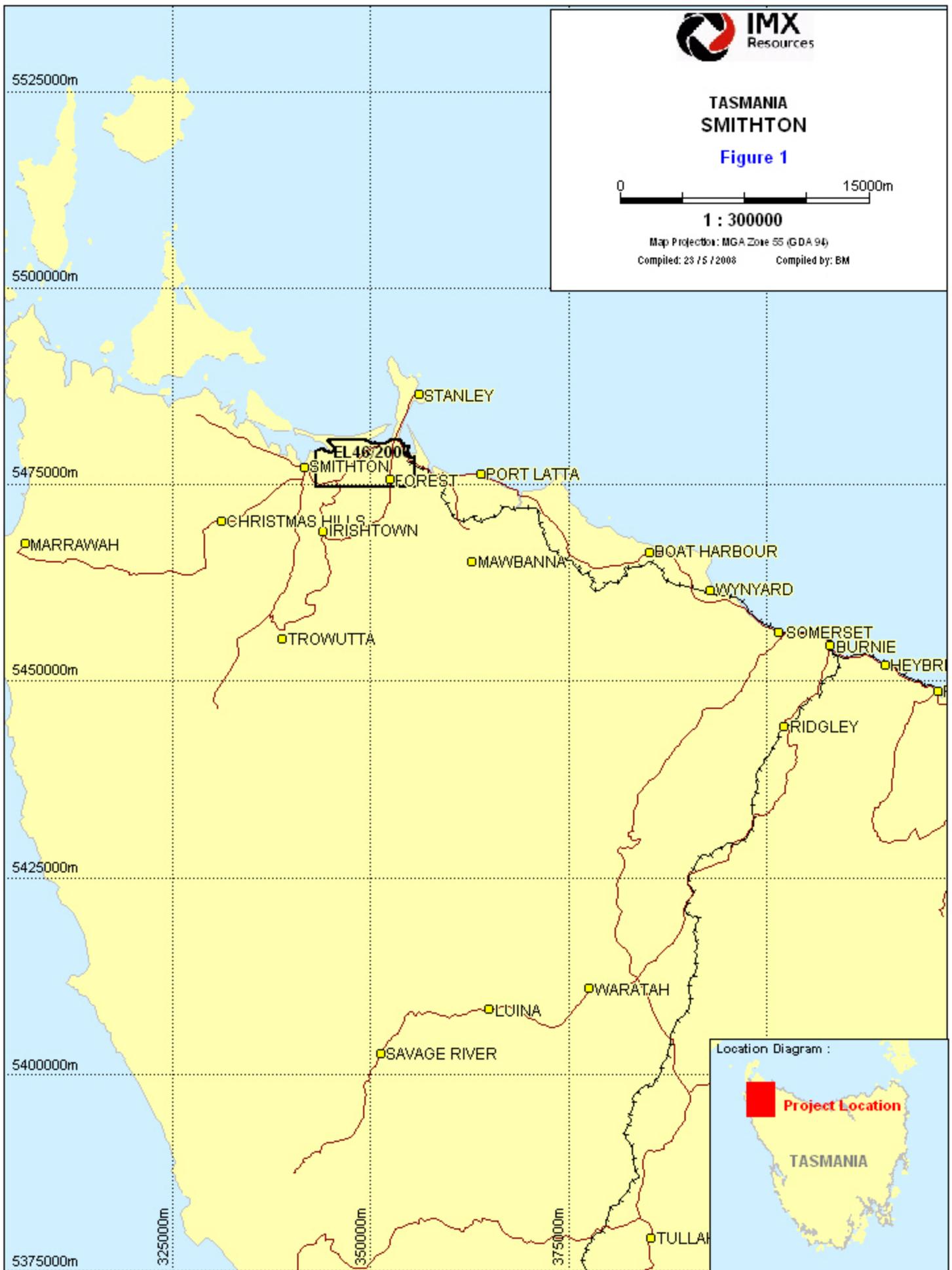


1 : 30000

Map Projection: MGA Zone 55 (GDA 94)

Compiled: 28 / 5 / 2008

Compiled by: BM



Location Diagram :



Australia and New Zealand Exploration Company collected a few stream sediment samples during 1972 as part of their regional sampling program, but no anomalies were located and no follow up carried out. From 1997-2002 Morrith Holdings, Pacific Nevada and Greenstone Resources explored EL11/97 which large overlaps EL 46/2006 for epithermal gold along the Roger River Fault and over siliceous and calcareous spring mounds like Smokers Bank immediately south of Smithton. Exploration methods used were soil and stream sediment sampling and auger drilling of spring mounds, and they detected low level concentrations of elements normally associated with epithermal gold but no significant gold values.

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

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

Exploration activities during the period included the completion of an airborne EM survey and an open file data review public datasets including EM, magnetics and geochemistry. Topographic and geological maps were purchased and landholder information sourced to enable field activities.

Geotech Airborne Pty Ltd conducted an airborne EM (VTEM) survey on the 5<sup>th</sup> March to the 11<sup>th</sup> March 2008 over the South Forest area, but only a small part of the surveyed area of 26.04 line km is within EL46/2006. Principal geophysical sensors included a versatile time domain electromagnetic (VTEM) system and a cesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter.

No ground activities took place as much of the tenement is covered by a thin cap of Tertiary Volcanics that prevents the potentially mineralised sequence from being directly observed and sampled.

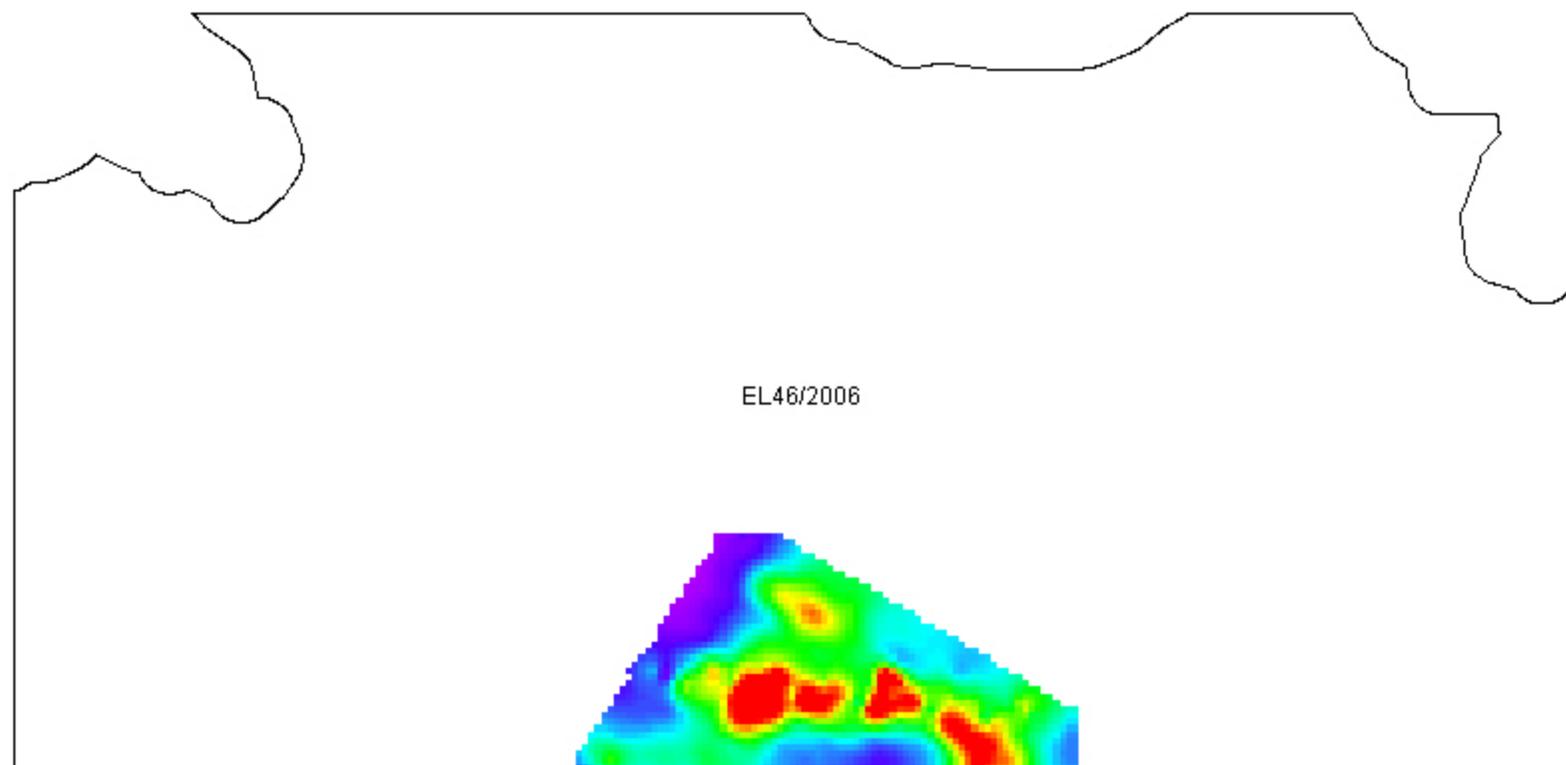
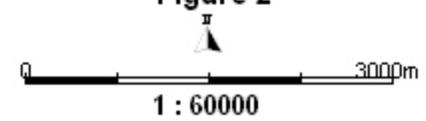
#### **5.0 DISCUSSION OF RESULTS**

No strong natural conductors were located within EL46/2006 by the VTEM survey and the signals were distorted around an E-W powerlines. Additional processing is in progress. Preliminary draft survey maps are shown in Figure 2-5. Southern Geoscience Consultants (SGC) is processing the results and final data is yet to be receive by the client.

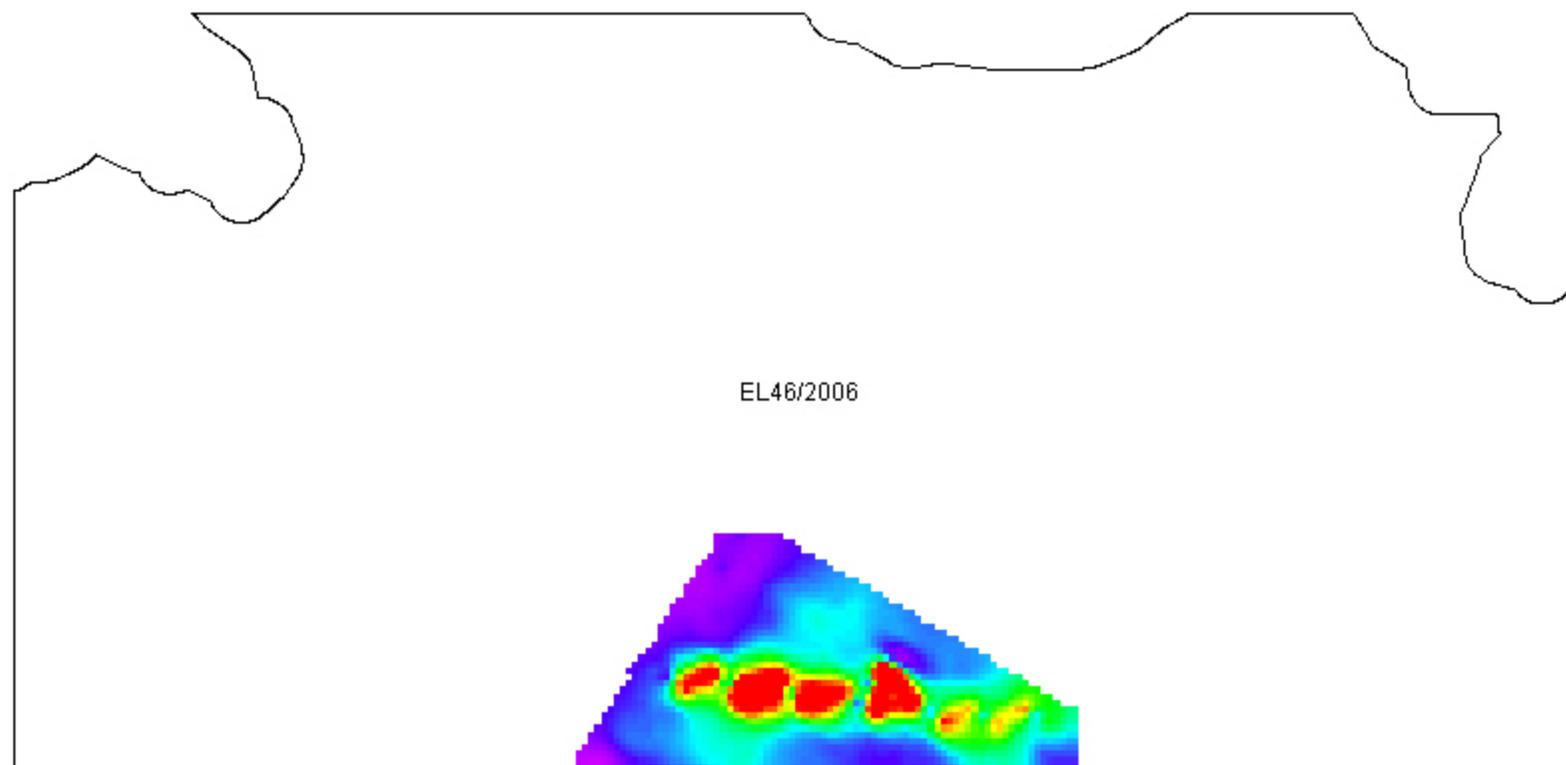
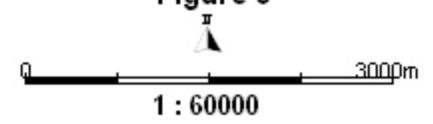
#### **6.0 CONCLUSIONS**

A review of the open file aeromagnetic data indicate a large number of magnetic highs in the Forest and South Forest areas. Most of these are likely due to magnetite bearing metabasalts, but some could be caused by subvolcanic intrusions, but due to the cover of Tertiary Volcanics, the origin of most of the magnetic highs cannot be established by surface observations. Further work in EL46/2006 will depend on results in adjacent EL48/2006.

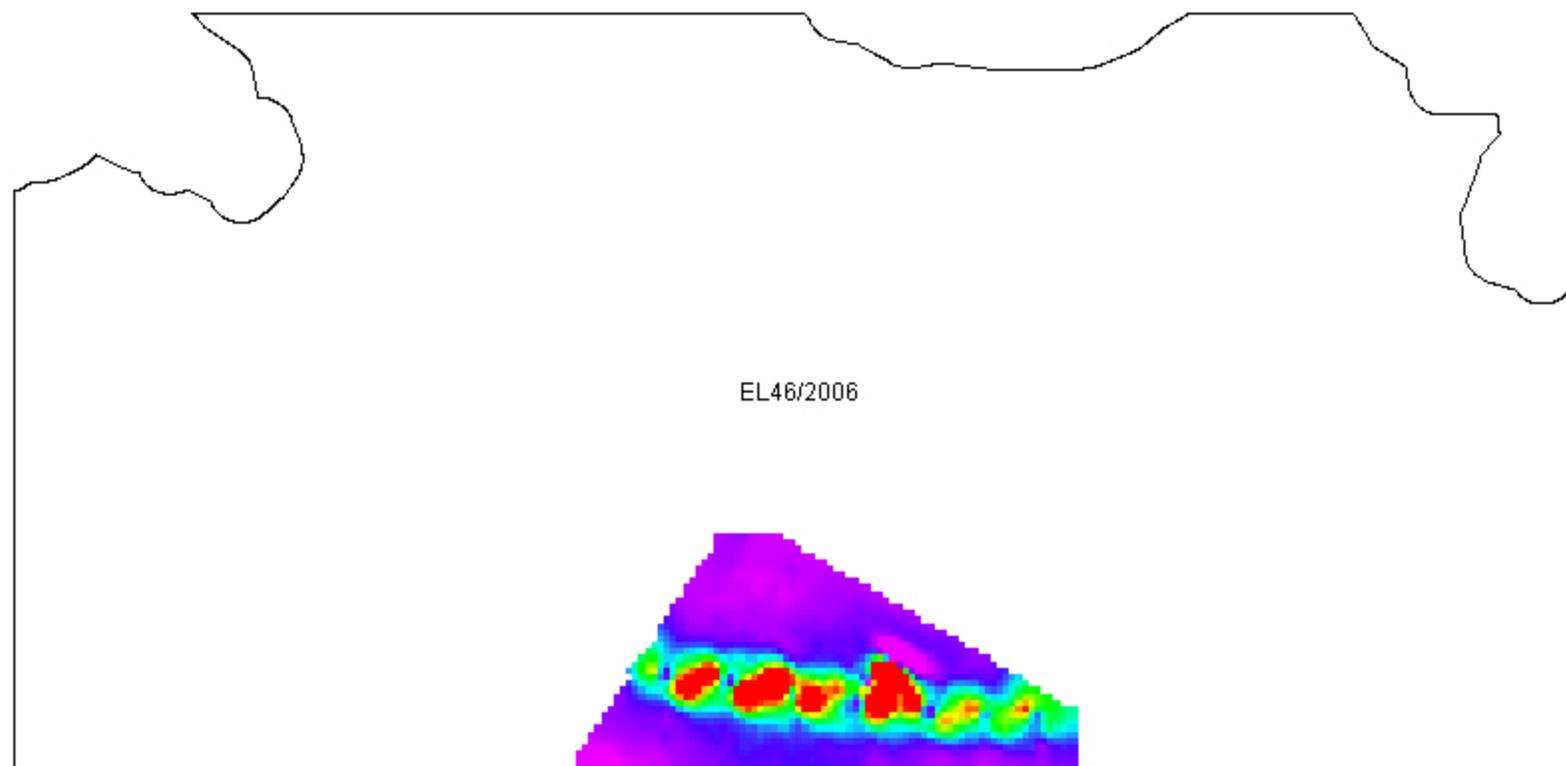
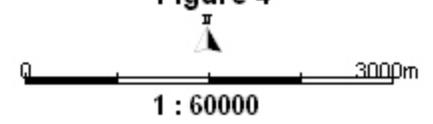
Tasmania  
EL46/2006  
EM(VTEM) CH10  
Figure 2



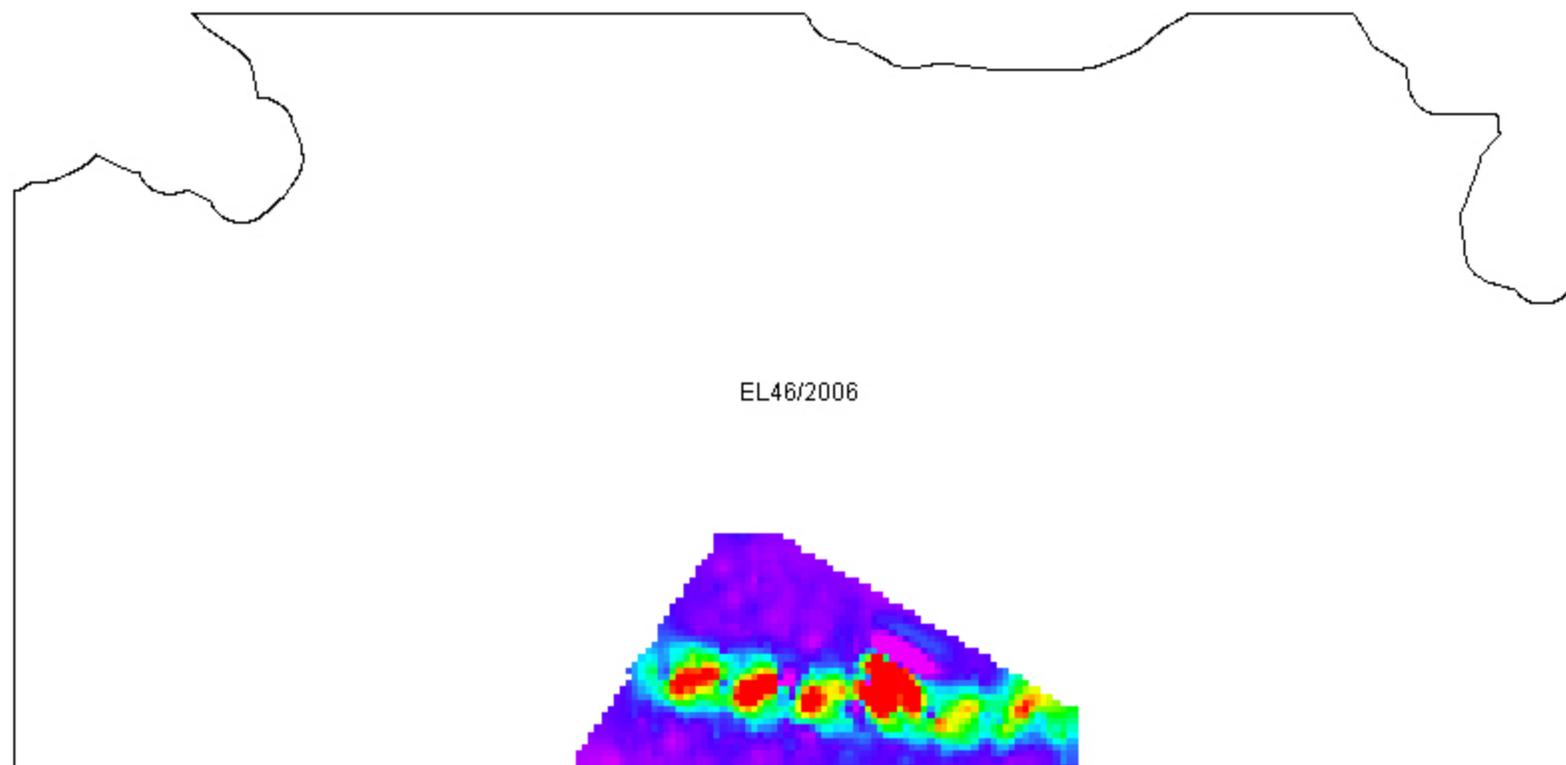
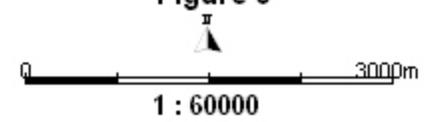
Tasmania  
EL46/2006  
EM(VTEM) CH15  
Figure 3



Tasmania  
EL46/2006  
EM(VTEM) CH20  
Figure 4



Tasmania  
EL46/2006  
EM(VTEM) CH25  
Figure 5



## **7.0 ENVIRONMENT**

No ground exploration activities were conducted during the period.

## **8.0 EXPENDITURE**

Expenditure for Smithton, EL46/2006 for the reporting period ending 9<sup>th</sup> July 2008 is listed below. This summary includes all expenses accrued up the end of May 2008.

Total expenditure for the reporting period was \$ **50,970.30**

Table 2 Expenditure 2007 to 2008.

Item	Amount
<b>Assaying</b>	\$ 705
<b>Geological Consultants</b>	\$ 8,803
<b>Geophysical Consultants</b>	\$ 482
<b>Geochemical Data</b>	\$ 24,887
<b>Tenement Administration</b>	\$ 110
<b>Tenement Costs</b>	\$ 1,235
<b>Communication - Sat Phone</b>	\$ 25
<b>Vehicles - Hire</b>	\$ 468
<b>Computer Software</b>	\$ 3,040
<b>Field Supplies</b>	\$ 222
<b>Salaries</b>	\$ 2,880
<b>Accommodation</b>	\$ 400
<b>Travel</b>	\$ 1,065
<b>Overheads (15%)</b>	\$ 6,648.30
<b>TOTAL EXPENDITURE</b>	\$ 50,970.30

## **9.0 REFERENCES**

Brown, A.V., 1989. Geological Atlas 1: 50 000 Series Sheet 21 Smithton. Explanatory Report Geological Survey Tasmania

Calver, C.R., 1998. Isotope stratigraphy of the Neoproterozoic Togari Group, Tasmania. Aust. Jour. Earth Sci. 45, 865-874.

Everard, J.L., Seymour, D.B., Reed, A.R., McClenaghan, M.P., Green, D.C., Calver, C.R. and Brown, A.V., 2007. Regional geology of the southern Smithton Synclinorium. Explanatory Notes for Roger, Sumac and Dempster 1: 25 000 scale geological map sheets, far north-western Tasmania.