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MINERALS EXPLORATION | INDUSTRIAL MINERALS | ENERGY RESOURCES | TENEMENTS MANAGEMENT

# Annual Report

**Mount Dundas**

**ASF Metals Pty Ltd**

**Title: EL14/2007**

**Reporting Period From: 23 July 2012**

**To: 22 July 2013**

**Licensee: ASF Metals Pty Ltd**

**Address: Suite 2 Bennalong, 3B Macquarie Street, Sydney NSW 2000**

**Job No. 2515-01**

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A handwritten signature in blue ink, appearing to read "J.P. Randell", with a horizontal line underneath.

## Abstract

EL14/2007 is located approximately 7km east of Zeehan and access to the centre of the tenement is via gravel road from the Zeehan Highway to the mining centre of Dundas.

Previous exploration has comprised geological mapping, rock chip sampling and soil sampling and while no exploration work was conducted during the reporting period, two prospects, K1 and K2, warrant further exploration and it is proposed to implement a programme of ground EM and drilling to test the anomalies identified on these prospects. No further work is recommended on the K3 prospect.

## Keywords

File Name	
Location Name:	Dundas, Adelaide Creek
Earth Science Related Terms:	Geological Mapping, Soil Geochemistry, Rock-chip Geochemistry
Environment of Mineralisation:	
Commodities:	Lead, zinc, copper, gold
Exploration Methods:	Rock chip, soil sampling
Stratigraphic Name:	Oonah Formation, Mt Read Volcanics
Lithologic Name:	
Geological Province:	Dundas Trough
Geological Age:	Cambrian

Table 1: Key words associated with EL 14/2007

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## Introduction

### EXPLORATION RATIONALE

Previous tenement holdings in the general area have been numerous; however the majority of exploration activity has been adjacent to, rather than coincident with, the present tenure.

Previous exploration appears to have been most intensive in the 1980's/1990's, with virtually no co-incident exploration in the immediate area of EL 14/2007 from 2000 until the present. Activity in the areas of overlap has included geological mapping, geochemical grid sampling (rock chip, stream sediment and soil) and ground and airborne EM surveys, and subsequent follow-up and assessment. Drilling was undertaken in the area of overlap during 1980's, mainly in the centre and the north.

Given that much of this work was undertaken several years ago, and in many cases around, rather than within, EL 14/2007, there appears to be scope for further examination and consideration of renewed exploration methods. The exploration target is precious, base metals and iron in the south-west of Tasmania in the vicinity of the Zeehan, Queenstown and Roseberry Mining Centres. The target mineralisation styles are volcanogenic base metals and epigenetic vein and replacement tin mineralisation.

### GEOLOGICAL SETTING

EL14/2007 is located in the highly mineralized Paleozoic Dundas Trough on the West Coast of Tasmania. The region is host to a number of significant Cambrian age volcanogenic base metal and gold deposits (Hellyer, Que River, and Henty (?)), porphyry associated copper-gold deposits (Mt. Lyell) and numerous epigenetic deposits associated with Devonian granite intrusions including tin, lead – silver and skarn tin/zinc deposits (Mt. Bischoff, Cleveland, Renison Bell, Razorback, and Oceana).

The oldest rocks in the region are the Meso to Neoproterozoic quartzitic rocks of the Tyennan Block which provide basement to the younger sequences in western Tasmania. In the area of interest the Tyennan Group is overlain by the quartzwacke turbidite rocks of the Oonah Formation (100-750Ma) which were deposited in an N-S trending basin which was probably the precursor to the later Dundas Trough. The upper sequence of the Oonah Formation is dominated by pelites and/or carbonates with some mafic rocks and conglomerates. This part of the sequence provides an important host to vein, skarn and replacement tin deposits at Zeehan and Mt Bischoff.

The Oonah Formation is disconformably or unconformably overlain by the Success Creek and Crimson Creek Groups of the Togari Group of Neoproterozoic to Cambrian age (750-520Ma). Within the project area these rocks tend to comprise a lower sequence of dolomitic shallow water sediments resting on basal conglomeratic sandstone followed by upper mafic rift volcanic and associated volcanoclastic sediments. The lower dolomitic sequence is an important host to the tin replacement deposits of Renison Bell.

The above sequence was subjected to a number of major deformations during the Tyennan Orogeny commencing with the south directed compression (515-510Ma) followed by E-W compression from Middle Cambrian which produced the linear narrow Dundas Trough. The Dundas trough was an important depositional site for the Mount Read Volcanics and associated sediments and their polymetallic mineralisation.

The Mount Read Volcanics (MRV) is divided into three sequences. The Central Volcanic Sequence (CVS) is comprised of marine, proximal volcanics consisting of rhyolite and dacite domes and cryptodomes, massive

pumice breccias, andesites and rare basalts. The CVS is host to most of the polymetallic volcanogenic hosted mineralisation in the Dundas Trough ie Hellyer, Que River and Rosebery. The CVS interfingers with the Western Volcano-Sedimentary Sequence to the west comprised of lithicwacke, turbidites, mudstones, siltstones, shale with subordinate intrusive rocks and lavas. The CVS inter fingers with the Eastern Quartz Phyric Sequence (EQPS) to the east, comprised of quartz phyric lavas, intrusive porphyries and volcanoclastics intruded by magnetite series granite.

The MRV on the Western side of the Dundas Trough is overlain by the Tyndall Group of quartz bearing volcanoclastic sandstone and conglomerates of mixed felsic and andesitic provenance. Some workers (Seymour et al 2007) have suggested that the Tyndall Group is a time correlate of the EQPS to the east.

In the late Cambrian – Lower Ordovician, a period of E-W compression caused basin inversion of the Dundas Trough, resulting in uplift of the Tyennan Block to the west and subsequent deposition of the Owen Group conglomerate in a half graben on the western side of the Dundas Trough. Basin inversion also caused reactivation of the major faults in the Dundas Trough.

In the Middle Devonian, Tasmania was affected by polyphase deformation, attendant folding and intrusion by major I-type granite batholiths. In the west most of the intrusions post-date the folding event and are represented by reduced, moderately to strongly fractionated I-type granite.

LICENCE

EL14/2007, comprising 23km<sup>2</sup> of land in the land district of Montagu vicinity of Mount Dundas (5km SE of Dundas) was granted to ASF Resources Pty Ltd on 23 July 2007 for five years (Table 2). In 2011, 100% of EL14/2007 was transferred to ASF Metals Pty Ltd and a joint venture was established between ASF Resources Pty. Ltd. and Heilongjiang Pty. Ltd.

An extension of term for one year was granted until 22 July 2013.

Tenement	Area (km2)	Grant Date	Final Date
EL14/2007	23	23/07/2007	22/07/2013

Table 2: EL14/2007 Licence Details

LOCATION AND ACCESS

EL14/2007 is located approximately 7km east of Zeehan and access to the centre of the tenement is via gravel road from the Zeehan Highway to the mining centre of Dundas. The eastern and southwestern area of the Mount Dundas Project is heavily vegetated and access is limited (Figure 1).



## Review of Previous Work

### PRIOR TO CURRENT TENEMENT

The region has been subjected to extensive exploration in the past with exploration based primarily on a volcanogenic model for base metal mineralisation in the Mt. Read Volcanics. “Modern” exploration has been undertaken from the late 1950’s to the mid to late 1990’s and includes a large amount of ground and airborne geophysics.

Parts of the area of EL 14/2007 have been held by at least 11 companies since 1959, generating many annual reports. The most comprehensive exploration appears to have been undertaken by RGC from 1987-1995 under EL’s 101/87 and 13/88 (Crossing, 1992). Despite this considerable history of exploration, work has tended to be focused on known mineral occurrences to the north of the current ELA boundaries such as the Dundas, Razorback and Moore Pimple areas. No drilling appears to be undertaken in the tenement area.

RGC explored parts of EL’s 101/87 and 13/88 for replacement tin mineralisation similar to Renison Bell and also explored the southern continuation of the Rosebery Fault for Henty style gold mineralisation using grid soil geochemistry. Stream sediment geochemistry was also undertaken (-200# analysed by NAA) in the Moores Pimple area on streams draining the Rosebery Fault to the east. SRM is unsure of the location of the stream samples in relation to the EL but at least part of the soil grid appears to plot within the northern part of the EL. Soil results report up to 20ppb Au which SRM considers of interest, particularly with the analytical method used at the time. The stream sediment samples also report results to 13.5ppb Au, which may also be considered anomalous considering the mesh fraction and the analytical method used. Also of interest is a report of strong sericite–pyrite-carbonate alteration on the Rosebery Fault in the area around Moores Pimple – Mt Dundas area. It is not known if this reported occurrence is within the area of the EL.

Electrolytic Zinc Company of Australasia Limited completed a drilling program in the northeastern area of EL14/2007 tenement in 1983. Drill holes MZP 244, MZP245a, MZP260, intersected low grade mineralization of 0.36-4.88%Pb, 0.51-3.53%Zn, over 6m apparent thickness as summarised in Table 3.

Hole ID	A.M.G.Coordinates		Collar Dip	Azimuth	Total Depth	Drilled
	Easting	Northing				
MZP 244	373027.9	5363960	60	240	250	1983-5-4
MZP 245a	373086.5	5364004	80	240	374	1983-5-5
MZP 260	373120	5363732	70	256	149.4	1984-4-27

Table 3: Electrolytic Zinc Company Drill Data

The drill holes targeted co-incident EM and soil-Sn geochemical anomalies for statabound Sn within the Montezuma Fault cutting the Maestries Dolomitic Conglomerate.

### DURING CURRENT TENEMENT

#### 2007-2008

A full review of the geological setting and mineralisation styles within EL14/2007 was completed (Derriman & Lee, 2008).

## 2008-2009

A full review of the geological setting and mineralisation styles within EL14/2007 was carried out. A visit to the northern margin of the project area where historical exploration has highlighted interesting base metal results was done. ASFR personnel visited the South Comet workings which lie just north of the northern margin of the tenement. A base metal hosted shear zone was observed adjacent to a steep track with a possible southerly continuation of the structure into EL14/2007. Moores Pimple area was visited and pyritic highly deformed metasediments were observed. This area has had limited diamond drill testing (Derriman, 2009).

## 2009-2010

There was no exploration completed during this period.

## 2010-2011

Exploration comprised a complete review of previous exploration, re-interpretation of previous geochemical surveys and drilling. In the Adelaide Mine Creek and other main structures, existing anomalies were followed up by reconnaissance using a portable XRF analyser.

Regional and detailed geological mapping was undertaken as a basis for controlling further gridded soil geochemistry and infill stream geochemistry over previously defined anomalous catchments. Rock chip sampling and orientation ground magnetics was conducted over areas of interest. Interpretation of regional geophysical data, accompanied by trials of appropriate airborne geophysical survey methods to define drill targets was undertaken (Huang, et al., 2011).

## 2011-2012

Interpretation of previous year's soil, rock chip and stream geochemical data. In the Adelaide Mine Creek, an existing anomaly was followed up by 5m rock-chip geochemistry. The area of interest defined in the Moore's Pimple Track area was followed up by gridded 100×20m soil geochemistry and gridded 100×40m rock-chip geochemistry over an area of 0.5km<sup>2</sup>. Between Tom Creek and Berry Creek, existing anomalies were followed up by gridded 100×20m soil geochemistry over an area of 1.0km<sup>2</sup>. A total of 76 stream samples, 267 rock-chip samples and 1113 soil samples were taken over these programmes. In addition to the geochemical surveys, detailed geological mapping at a scale of 1:10,000 was conducted over the areas referred to above.

The ASF/Heilongjiang Pty. Ltd. J.V also undertook regional and detailed geological mapping as a basis for controlling further gridded soil geochemistry and infill stream geochemistry over previously defined anomalous catchments. Rock chip sampling and orientation ground magnetics was conducted over areas of interest. Interpretation of regional geophysical data, accompanied by trials of appropriate airborne geophysical survey methods to define drill targets was undertaken. This work was reported in detail in the 2010-2011 Annual Report for E.L.14/2007 (Huang, 2012).

## Exploration Completed During Reporting Period

There was no exploration work conducted during the reporting period.

## Proposed Future Exploration

The 2012 season’s work identified two prospects, K1 and K2 which warrant further exploration. It is proposed to implement a programme of ground EM and drilling to test the anomalies identified on these prospects. No further work is recommended on the K3 prospect (Figure 2).

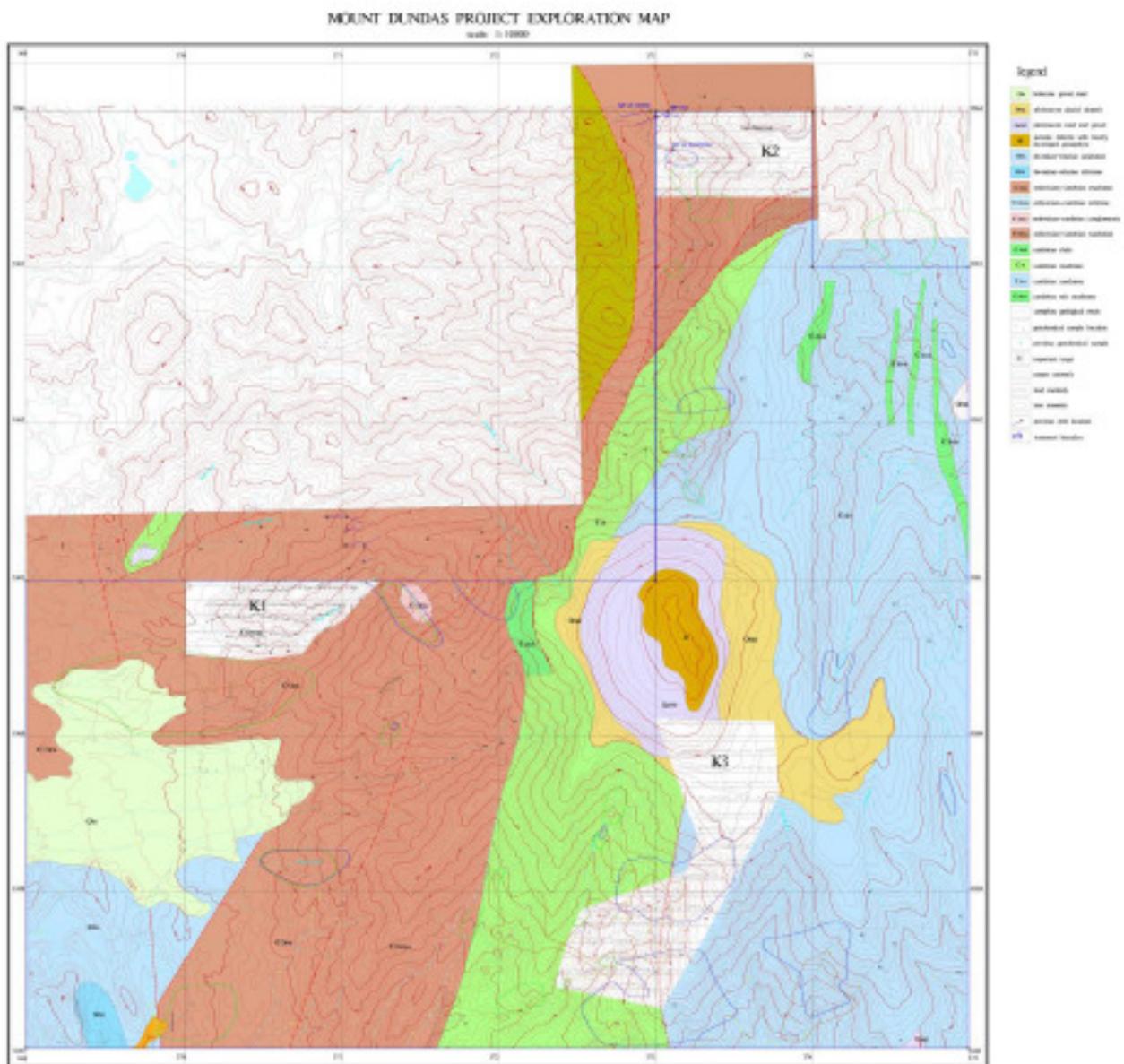


Figure 2: Location of K1, K2 and K3 Prospects

## Environment

No exploration work has been conducted during the reporting period.

## Expenditure

Exploration Category	Description of Activity	Quantity	Expenditure (AU\$)
<b>Office Administration</b>			
<b>Authority Management</b>	Consultant Fees		\$4,200
<b>Office Activities</b>			
<b>Field Activities</b>	<b>Geological Mapping</b>		
	Sampling		
	Equipment Hire		
	Accommodation/Field Camp		
	Travel		
	Landholder Liaison		
	Other - Nominate		
	<b>Geophysics</b>		
	<i>Airborne</i>		
	Type		
	<i>Ground</i>		
	Type		
	<b>Drilling (program cost)</b>		
	RAB/AC		
	RC		
	Diamond		
	Other		
<b>Laboratory</b>	Describe Analyses/Tests		
<b>Salaries/Wages</b>	Employees		
	Contractors		
		<b>Grand Total</b>	<b>\$4,200</b>

Table 4: Expenditure during the reporting period

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