

**ASF RESOURCES PTY LTD**

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**TASMANIA**  
**WILMOT PROJECT**

**EXPLORATION LICENCES: EL55/2007**

**2<sup>nd</sup> ANNUAL TECHNICAL REPORT**

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## 1. Summary

During the second year of grant for EL 55/2007 (Wilmot Project) ASF Resources generated exploration targets from a review of all historical data and compiling digital data within Mapinfo.

On the 26<sup>th</sup> April 2010 China Coal Geology Engineering Corporation (China Coal) entered into a conditional cooperative agreement with ASF Resources for the exploration of EL55/2007. China Coal will be responsible for funding the exploration programs and will spend approximately \$1.6M subject to Chinese Government approval.

The exploration targets are outlined later in the report (**Appendix1**) with exploration planed to commence in the 2<sup>nd</sup> half of 2010.

Exploration will commence with surficial geochemical sampling and geological mapping in Stage 1 followed by grid based soil sampling and ground geophysical surveys. Following a successful conclusion to Stage 2 with the delineation of geological/geochemical and geophysical targets Stage 3 will involve drill testing of the targets.

## 2. Introduction

This report details exploration work undertaken within EL 55/2007 granted to ASF Resources on 5 June, 2010

ASF Resources main targets on the project tenements are Cambrian Rosebery or Hellyer type, Zn-Pb-Cu-Au-rich VHMS mineralisation hosted by the Mount Read Volcanics (MRV).

The project tenements cover an area of moderate relief, which is occasionally heavily forested and incised (e.g. surrounding Lake Barrington, Leven River). It extends from the northeast slopes of Mount Roland (1233m ASL) near Beulah, west through the townships of Roland, West Kentish, Wilmot, Upper Castra and Nietta (Plan 1) towards the Loongana Range, as well as north through Preston and Central Castra towards Sprent. Access to the area is via numerous sealed arterial roads, minor sealed and unsealed roads, forestry tracks and numerous 4WD tracks in private property. The only area of difficult access is in the western half of EL 15/2005, in the Leven River valley.

### 3. Location and Access

The Wilmot Project is located approximately 20km south west of Devonport and access to the tenement is via sealed and gravel roads which head in a southerly direction from Devonport. The project is bisected by the Wilmot and Forth Rivers and is adjacent to the Leven Gorge (Figures 1 & 2).

### 4. Tenure

The Mount Dundas Project comprises one granted exploration licence (Table 1) which was granted to ASF Resources on the 23/07/2007.

**Table 1 Tenement Register**

Tenement	Area (km <sup>2</sup> )	Grant Date	Final Date	Expenditure Commitment
EL55/2007	148.9	5/06/2008	23/07/2013	\$375,000

### 5. Regional Geology and Mineralisation

#### 5.1 Regional Geology

The regional geological framework of the Mt Read Belt (MRB) is subdivided, from an exploration perspective, into three elements. The central MRB covering the area of outcrop from south of Queenstown to north of Hellyer, the northern MRB covering the area from Back Bluff eastwards through Gowrie Park and Mole Creek, and the Southern MRB comprising areas west and south of Macquarie Harbour. The project tenements are in the east-central part of the northern MRB.

Basement in the Central and Northern MRB is of Precambrian age, comprising predominantly greenschist facies metasediments with minor basalts and dolerites. Higher grade amphibolite and eclogite facies are also present within the Precambrian. This Precambrian basement, termed the Tyennan Block, lies to the south of the project tenements.

Cambrian volcanism and sedimentation developed on the Precambrian continental crust and, in the Central MRB, is subdivided into the Eo-Cambrian Tholeiitic Crimson Creek Formation (CCF), the mid to late Cambrian Dundas Group and the predominantly calcalkaline, Mt Read Volcanics (MRV).

The CCF was deposited in shallow but rapidly subsiding basins comprising basaltic lavas and volcanoclastics, turbidites, carbonates, chert and minor evaporites. This formation is not exposed in the licence area. Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian. They are absent from the licence area.

The MRV, in the Central MRB, form a 200 km long by 20 km wide north-south trending belt along the eastern side of the Dundas Trough, adjacent to and in some areas onlapping and intruding the Precambrian basement. The northern extension of the MRV swings eastwards around the northern margin of the Tyennan Precambrian block.

The volcanics include intermediate to felsic lavas, subvolcanic porphyries and granites, volcanoclastics and basement-derived sedimentary rocks. The MRV host five economically significant volcanic hosted massive sulphide deposits all of which lie in the Central MRB.

During late CVC to early Tyndall Group time, Cambrian granitoids intruded the volcanic pile. The majority of the granitoids occur along the eastern margin of the volcanics and stitch the volcanics to the Tyennan Block.

Cambrian volcanism and sedimentation was followed by predominantly basement derived late Cambrian to Devonian age sedimentation, including siliciclastic conglomerate, sandstone and limestone. These sequences occur within, and peripheral to, the project area.

At least two phases of regional compression were associated with the mid Devonian Tabberabberan Orogeny. The development of folding, cleavage and regional thrusts in lower Palaeozoic rocks were associated with this event. Fold trends in the licence area are variable, some NW, and lesser E-W.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids of batholithic proportions. The Dalcoath Granite (and associated hornfels aureole) outcrops south of the licence, and the Housetop Granite outcrops across a large area to the northwest of the project tenements. The Devonian granites are associated with carbonate replacement Sn mineralisation at Renison Bell and Mount Bischoff, and the Pb-Zn-Ag vein deposits of Zeehan and possibly the Tullah Fields. A similar setting may be interpreted for the base metal vein deposits in the district (eg. Round Hill workings).

The Ordovician and older rocks in the far eastern part of the licence are unconformably overlain by marine sediments, including tillite, forming the basal units of the Permian

Parmeener Supergroup. Small bodies of Jurassic dolerite intrude the Permian sediments and older rocks.

After substantial erosion of this terrane, extensive Tertiary flood basalts and subvolcanic sediments were deposited. Basalt flows cover as much as 50% of the project area. In the Quaternary, talus deposits have developed on the lower slopes of Mt Roland and alluvial deposits have formed in the valley of major rivers.

## 5.2 Regional Mineralisation

The rocks of the Dundas Trough are host to significant polymetallic (Pb,Zn,Cu,Sn,Ag,Au) mineralisation including:

- Mt Lyell - 311Mt @ 0.97%Cu and 0.31g/t Au
- Rosebery - 34.03Mt @ 13.8%Zn, 4.1%Pb, 0.57%Cu, 143g/t Ag and 2.2g/t Au
- Hellyer - 16.5Mt @ 13.9%Zn, 7.2%Pb, 169g/t Ag and 2.55g/t Au

Mineralisation can be broadly classified into two associations.

1. Base metal and gold mineralisation related to volcanogenic processes associated with the emplacement of the MRV rocks, particularly the CVS, during the middle to late Cambrian.
2. Epigenetic Zn, Cu, Sn, Pb and Ag mineralisation associated with the intrusion of the Devonian Granites.

While it is generally accepted that the polymetallic mineralisation in the MRV is volcanogenic in nature, this has been questioned on the basis of observations that much of this mineralisation (eg Rosebery, Hercules) was emplaced subsequent to the main cleavage forming event and controlled by the interplay of cleavage and bedding in pure shear zones associated with carbonate altered lithologies (Dr. M. Tomkinson per.com.). If true then this model implies that lithologies in such settings outside the CVS may be prospective. Prior exploration has concentrated on the CVS based on a volcanogenic model. The Henty Fault, reactivated during the Tyennan Orogeny tends to divide mineralisation of a Zn-Pb-Cu-Au volcanogenic association to the NW of the fault from a Cu-Au-Fe association to the SE of the fault. The Henty gold mine (2.83Mt @ 12.5g/t Au) is unusual for the region, being a gold only deposit located within the Henty Fault. The Devonian granites have mineralized a broad range of lithologies, generally close to and within the contact aureoles of the batholiths. Mineralisation is represented by simple high angle veins (Pb, Ag, Zn, Sn), skarn (Zn, Sn) and replacement bodies (Sn) which have resulted in some significant deposits such as Renison Bell (24.54Mt @ 1.41%Sn), Mt. Bischoff (10.54Mt @ 1.1%Sn) and Ocean (2.6Mt @7.7%Pb, 2.5%Zn, 55g/t Ag). The larger granite related deposits tend to be associated with reactive and or replaceable host rocks, usually carbonates.

## 6. Previous Exploration

Located in Northern Tasmania, EL 55 / 2007 is centred in the locality of Wilmot, extending north to Preston and Central Castra ; west past Nietta towards Loongana ; and east through Roland and West Kentish to Sheffield (Refer Figure 1). Current tenure (as at April 2008) is illustrated in Figure 1.

Records indicate that EL tenure in these areas has been varied, with exploration for base metals starting in the 1960's, with current philosophies and methods being employed since the mid 1970's. Commencing with the present day and working backwards, the most recent previous tenement holders were Zinifex Rosebery Mine, with EL 16/2005 Sheffield, EL 17/2005 Nietta and EL 18/2005 Central Castra. Following completion of an exploration programme from September 2005 until December 2006, sections of the tenements were relinquished, these forming the subsequently granted EL 55/2007.

Prior to the Zinifex tenure, a number of other companies have held EL's in this area, with varying degrees of overlap with EL 55/2007. Table 1 provides an outline of these and includes MRT (Mineral Resources Tasmania) Open File report references. Maps showing EL locations at various times from 1987 until the present are included in Appendix 1. Whilst not exhaustive, the years shown (1987, 1990, 1993 and 2005) were identified as those of greatest activity. For reference, the area covered by the present day EL 55/2007, has been overlaid on the EL's of the time.

## 7. Current Exploration

In the current reporting period a full review of the geological setting and mineralisation styles within EL55/2007 was carried out And as a result of the fallout from the world economic setting funding was limited as a joint venture partner was sought to fund exploration within EL 55/2007.

All existing data was incorporated within a Mapinfo framework and known mineralisation in proximity was evaluated in relation to similar mineralisation existing within EL55/2007.

A matrix was set up to rank the 8 defined prospect areas (Appendix 1) so that exploration would proceed with testing the highest priority targets first.

## 8. Conclusions and Recommendations

A thorough review of all historical exploration information was carried out in conjunction with a digital data base including magnetics, radiometrics, DTM, cultural, stream sediment

and rock geochemistry and drilling. This review resulted in the delineation of 8 prospects (**Appendix 1**) which will be explored during the 2010/2011 period.

Areas comprising outcropping Cambrian lithologies were subdivided according to a number of criteria including pre Tyndall/Tyndall geology, stream sediment/rock geochemistry, magnetic/radiometric signature, historical exploration results including drilling and proximity to known mineralisation. The prospects from east to west are: Barrington, Narrawa, Nietta, Castra, Upper Castra, Loyetea, Crosby west and Woodhouse. Areas with outcropping Tertiary Basalt based on magnetic signature and mapped geology were given a lower priority and may be evaluated by a combination of aerial magnetic and EM surveys to delineate prospective Cambrian geology and/or VHMS base metal /replacement tin mineralisation.

Exploration in the 2010/2011 period will be based on a staged approach with exploration success the key factor in advancing to the next stage:

**Stage1** - This will be the preliminary stage and involve prospect scale stream sediment and rock geochemical sampling, geological mapping and validation of the criteria used to select the prospects. During this stage aerial magnetic and EM surveys may be flown to delineate targets within the defined prospects and explore for buried targets beneath the basalt cover. Some preliminary soil sampling may be carried out.

**Stage2** - Based on exploration results from Stage 1 some areas may be gridded at intervals between 100m and 400m to facilitate soil sampling, geological mapping and ground geophysical surveys ie IP or magnetics. As required infill geochemistry and geophysics may be carried out.

**Stage3** - This is the drill testing stage which will target zones of anomalous geochemistry and geophysics from Stage 2 and likely involve a first round of RC/Diamond drilling and likely downhole geophysics.

## 9. Expenditure

The annual expenditure incurred for EL 14/2007 for the year ending 06<sup>th</sup> June 2010 was \$30,143 with a breakdown of expenditure shown below.

**Table 3 Expenditure Statement**

Cost Centres	Expenditure Incurred
Geoscientific (Geology)	\$19,003
Geoscientific (Geochemistry)	\$4,694
Other Costs(Rental)	\$6,081
Administration	\$365
<b>TOTAL</b>	<b>\$30,143</b>

Total expenditure since inception of EL14/2007 is \$77,544.

## 10. References

Caithness, S.J., 1986. Rianna EL 8/77. Progress Report for 12 months to 7 July 1986. *Unpublished company report to CRA Exploration*, CR 86-6596.

Cochrane, N., 1970 Final Report on the Sheffield Area, Tasmania EL 15/65. *Unpublished company report to BHP*, CR 70/679

Derriman, M.D EL 17/2005 Wilmot Project 1st Annual Technical Report for the period 5<sup>th</sup> June 2008 to 4<sup>th</sup> June 2009. ASF Resource report to Mineral Resources Tasmania 31<sup>st</sup> May 2009

Hicks, D.J E.L. 17/2005 Wilmont Partial Relinquishment Report Jan 2007 Sheffield EL. *Unpublished company report to Zinifex*. CR 07-5427.

Hungerford, N., 1989 EL36/79 - Loongana. Report on Explorartion for the 12 months period ending 1sy May, 1989. *Unpublished company report to BHP Aust. And CRA Exploration*, CR 89-2941.

Hungerford, N., 1990 EL36/79 - Loongana. Report on Explorartion for the 12 months period ending 1sy May, 1990. *Unpublished company report to BHP Aust. And CRA Exploration*, CR 90-3122

Purvis, J.G., EL 19/72 - Nietta, North West Tasmania. Progress Report No 4. *Unpublished company report to CRA Exploration* CR 78-1267

Randell, J.P., 1988. First Annual & Relinquishment Report EL 49/87 - Lower Wilmont *Unpublished company report to Shell - Metals Division and Billiton Australia*. CR 88-2875.

Seymour, D.B., Green, G.R., Calver, C.R, 2007. The Geology and Mineral Deposits of Tasmania: a Summary. Geological Survey Bulletin 72, Mineral Resources Tasmania.

## APPENDIX 1 - WILMOT PROJECT PROSPECT DESCRIPTION