



Tim Callaghan – Resource and Exploration Geology



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**BLYTHE RIVER PROJECT**

**ANNUAL REPORT**

**EL53/2007 MT EVERETT**

**NW TASMANIA**

**Prepared for: Forward Mining Limited**

**Tim Callaghan, November 2012**

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## **MAP CONVENTIONS**

Coordinates in this report and in digital data associated with this report are recorded as GDA94 Zone 55.

RL's in this report are MSL.

Cross sections are drawn looking north.



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## **EXECUTIVE SUMMARY**

This report covers exploration activities completed on EL53/2007 Mt Everett. The EL forms part of a tenement package prospective for Magnetite and Tungsten mineralisation around the House Top Granite in NW Tasmania.

Only limited reconnaissance field work was completed in 2012 as most work concentrated on the adjacent EL18/2007. The proposed work program for 2013 includes a program of ground magnetics and 700m of RC drilling for approximately 25 holes. The majority of the proposed work for 2013 will concentrate on the Kara No 2 deposits on EL18/2007 and EL53/2007.



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## 1 INTRODUCTION

EL53/2007 Mt Everett is one of 6 current exploration licenses held by Blythe River Iron Pty Ltd (BRI). The tenements were acquired from either Red River Resources Ltd (RVR) or Iron Mountain Ltd (IRM) and managed by BRI. Tenement details are listed in Table 1.

<b>EL</b>	<b>Name</b>	<b>Held By</b>	<b>Size</b>	<b>Expiry</b>	<b>Comments</b>
EL6/2005	Cuprona	BRI	22km <sup>2</sup>	9/2013	1 Year Term for Extension
EL15/2006	Camena	BRI	30km <sup>2</sup>	6/2013	1 Year Term for Extension
EL25/2009	Highclere	BRI	33km <sup>2</sup>	5/2015	3 years remaining
EL35/2006	Hampshire 1	BRI	89km <sup>2</sup>	2/2013	1 Year Term for Extension
EL18/2007	Hampshire 2	BRI	103km <sup>2</sup>	7/2013	1 Year Term for Extension
EL53/2007	Mt Everett	BRI	47km <sup>2</sup>	12/2012	Term of Extension required

Permission to submit a combined annual report for all tenements in the Blythe Project was granted on 10<sup>th</sup> June 2009, with EL 25/2009 being granted on 24<sup>th</sup> May 2010 and added to the reporting area. The board of BRI decided to return to separate annual reports for the tenements in early 2012. This report contains information on exploration activities completed on EL53/2007 which have been partially reported in the Combined Annual Report for the district submitted in November 2011 (Callaghan, 2011).

Five of the six tenements are nearing the end of the term of tenure and will require terms of extension and diligent commitment to work programs. The majority of the work completed over the last year was focused on EL18/2007 Hampshire 2 with only limited reconnaissance work completed on EL53/2007. A Term of Extension is required for EL53/2007.

The Blythe River Iron Project (BRIP) consists of a number of small to medium size magnetite skarn deposits located in NW Tasmania, approximately 30km south of Burnie (Figure 1 and 2). Exploration is focused on resource delineation of semi massive to massive magnetite deposits to provide a resource base for a magnetite mining operation for the iron ore market. EL53/2007 hosts the Kara No 2 East deposit and is integral to the development of the area.



## 2 REGIONAL GEOLOGY

The Blythe River Iron Project is located on the western margin of the Dial Range Trough and is underlain by lithologies of the Late Proterozoic Oonah Formation, Owen Group Siliciclastics, Gordon Group Limestone, Devonian Granites and Tertiary Basalt (Figure 1). The Dial Trough is a structurally interesting basin that includes a possible Northern Extension of the Hellyer Fault, and significant basin bounding faults on the western and eastern sides. The Devonian post orogenic Husetop Granite dominates the geology to the south of the project area and is considered to underlie much of the southern Dial Trough. The Dial Trough has been poorly mapped and stratigraphic correlations are uncertain for many units.

### *Oonah Formation*

The oldest rocks in the district are the Proterozoic Oonah formation, consisting of poly-deformed quartzwacke, siltstone and pelite with lesser dolerite intrusives. These are overlain by a sequence of pelite-carbonate with minor mafic volcanics and conglomerate. This association is host to replacement deposits at Mt Bischoff and near Zeehan and consequently represents a potential host for similar styles of skarn mineralisation.

### *Mt Read Volcanics*

Mt Read Volcanic associations have been correlated with the felsic volcanoclastics of the Western Volcano-sedimentary sequence and the Tyndall Group quartz-feldspar phyrlic volcanoclastics.

### *Owen Group*

The Late Cambrian to Ordovician Owen Group overlies the Mt Read Volcanics and is comprised dominantly of siliciclastic conglomerate and sandstone. Locally volcanic derived conglomerates are associated with basal members. The Moina Sandstone, comprised of coarse to fine siliciclastic sandstone with minor intercalated conglomerate is the uppermost siliciclastic unit of the Owen Group and has a gradational contact with the overlying Gordon Group.

### *Gordon Group Limestone*

Conformably overlying the Owen Group is the Gordon Group limestone and dolomite sequence which is the host of the Kara district magnetite skarns. The stratigraphic thickness of the limestone is regionally variable ranging between 50-1000m.

### *Husetop Granite*

The Husetop granite outcrops in much of the Blythe River Prospect and is believed to extend below much of the area (Leaman, 1993). Leaman concludes that the Husetop granite is anomalously dense and highly magnetic, which may explain the abundance of iron metasomatism in the district. The granite is responsible for massive Magnetite-Sn-WO<sub>3</sub> mineralisation of the Kara District. The association of Tasmanian Devonian granites with Magnetite, Sn-WO<sub>3</sub>, Pb-Zn-Ag and Au mineralisation is well documented.



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### *Tertiary Basalt*

Basaltic flows are widespread throughout the Blythe River Iron Project area, flooding Tertiary palaeo-topographic lows. The basalts vary widely in thickness and frequently have a high magnetic susceptibility creating difficulties for magnetite exploration below basaltic cover. Recent resource and exploration drilling at the Kara Mine indicates that the magnetite skarn extends below basalt cover.

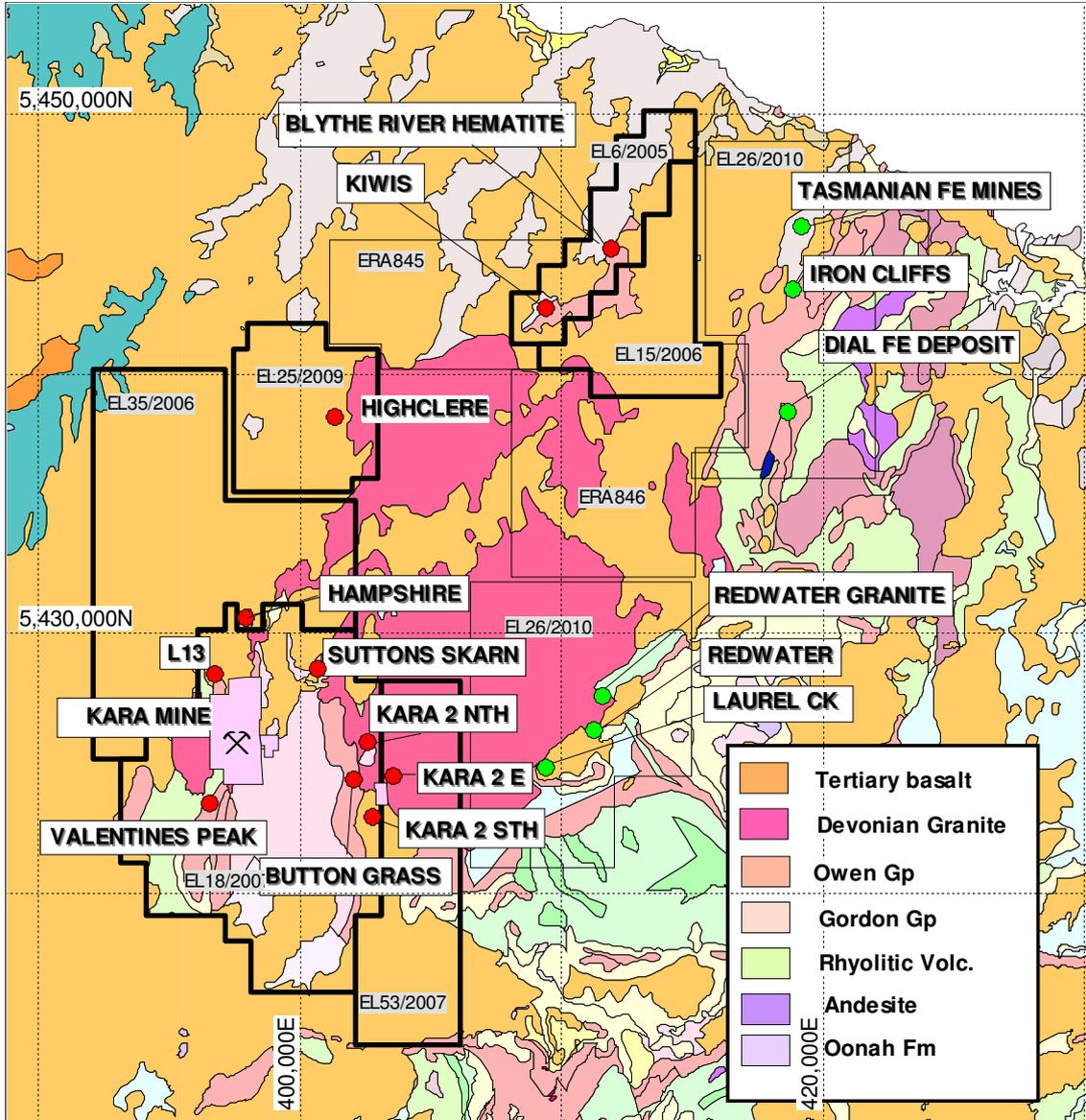


Figure 1. Blythe River Project location, Fe Prospects and MRT 250k Geology. Red dots are Blythe Project Fe prospects, green dots are other regional Fe Prospects.

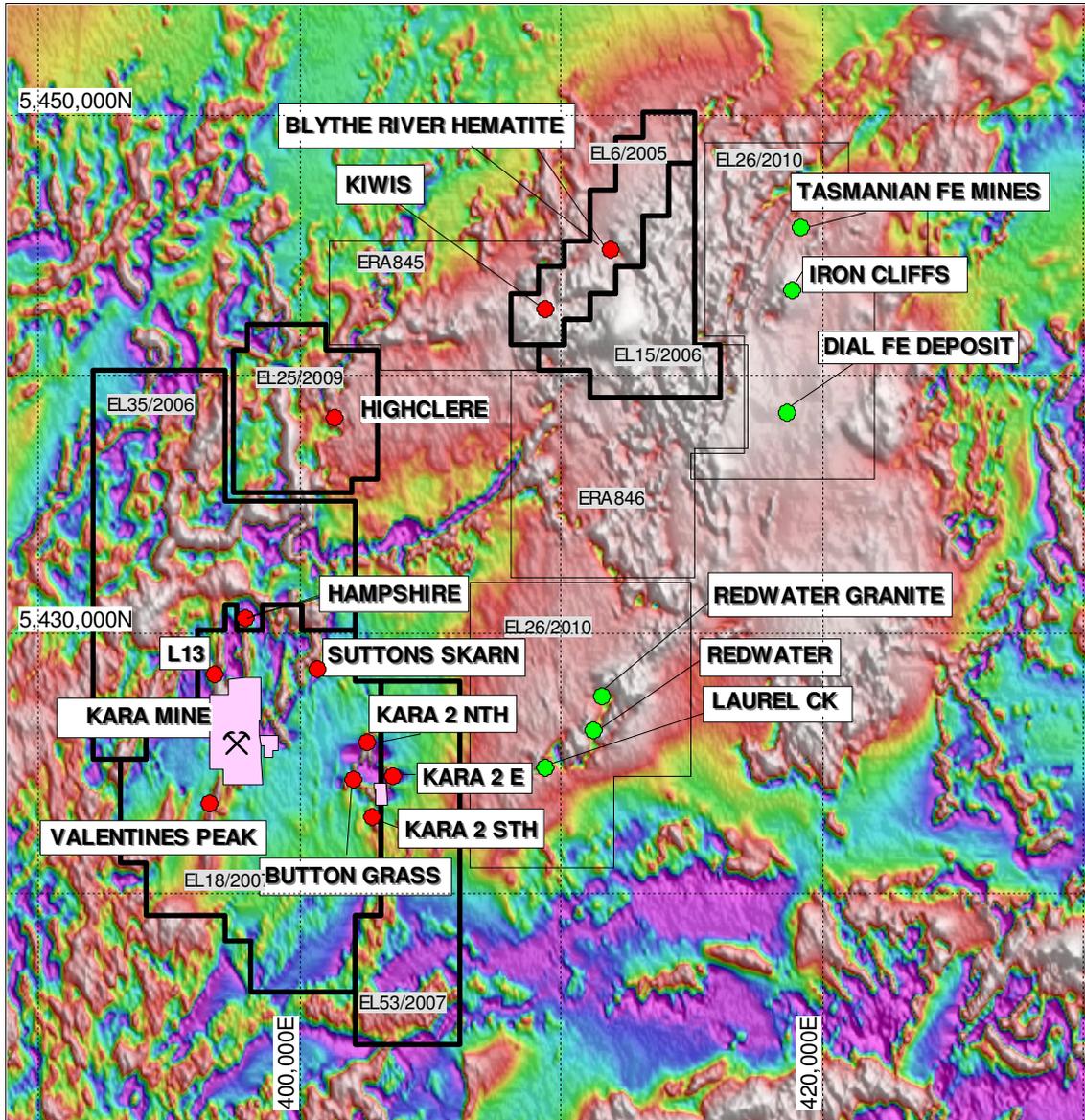


Figure 2. Blythe Project tenements, TMI and prospect locations. Red dots are Blythe Project Fe prospects, green dots are other regional Fe Prospects.



## 2.1 LOCAL GEOLOGY

The geology of northern end of EL53/2007 is dominated by the Housetop Granite. To the south much of the EL is covered by Tertiary basalt flows. There are several remnant roof top pendants of folded calc-silicate-magnetite skarn lying on top of the Housetop Granite in the north of the EL. The skarn is hosted in metasomatised calcareous sediments of the Gordon Group and Gordon-group-Moina sandstone transitional series. The magnetite skarns have a very strong aeromagnetic signature. Several high grade skarns have been identified in the area. Initial exploration by Tasminex in the 1970's and 1980's identified two main areas of magnetite skarn in the district, the Kara No1 skarns which form the basis of Tasmania Mines operation to the west of the EL, and the Kara No2 skarns which are covered by EL53/2007 and the adjacent EL18/2007.

Of particular interest for magnetite production are the Kara No 2 deposits, of which the Kara No 2 East deposit is located on EL53/2007.

Iron Mountain completed a fence of RC drilling over the deposit in early 2008, drilling 7 holes for 221m. All the holes ended in granite at shallow depths suggesting the remnant skarn averages approximately 10-20m in thickness. Not all of the skarn was magnetite skarn with several holes intersecting garnet skarn only (eg. KERC002 and KERC002). A table of RC drill results is listed below:

**Table 2. Kara No 2 East Drilling Results**

BHID	X	Y	depth	azm	dip	Z	From	To	Length m	Fe%
KERC1	403533	5424865	36	0	-90	530	0	10	10	44.5
KERC2	403615	5424703	37	0		528	No significant assays			
KERC3	403613	5424743	40	0		530	24	28	4	41.1
KERC4	403561	5424754	40	0		531	No significant assays			
KERC5	403526	5424770	12	0		531	No significant assays			
KERC6	403532	5424826	36	0		530	22	34	12	36.2
KERC7	403531	5424901	20	0		529	0	10	10	40

The skarn consist of proximal calc-silicate magnetite skarn in direct contact with the underlying granite. Magnetite occurs as coarse crystalline aggregates and coarse grained massive magnetite in a diopside-actinolite-garnet gangue. The skarn is moderately to strongly weathered near surface with calc-silicates oxidised to clays and magnetite to limonite and goethite.

A prominent aeromagnetic high is associated with the skarn. The anomaly extends over a distance of 600m and has only been tested over a small area in the centre. Not all drillholes intersected magnetite suggesting the skarn is complex. Detailed ground magnetics prior to drilling is recommended to best site drill holes.

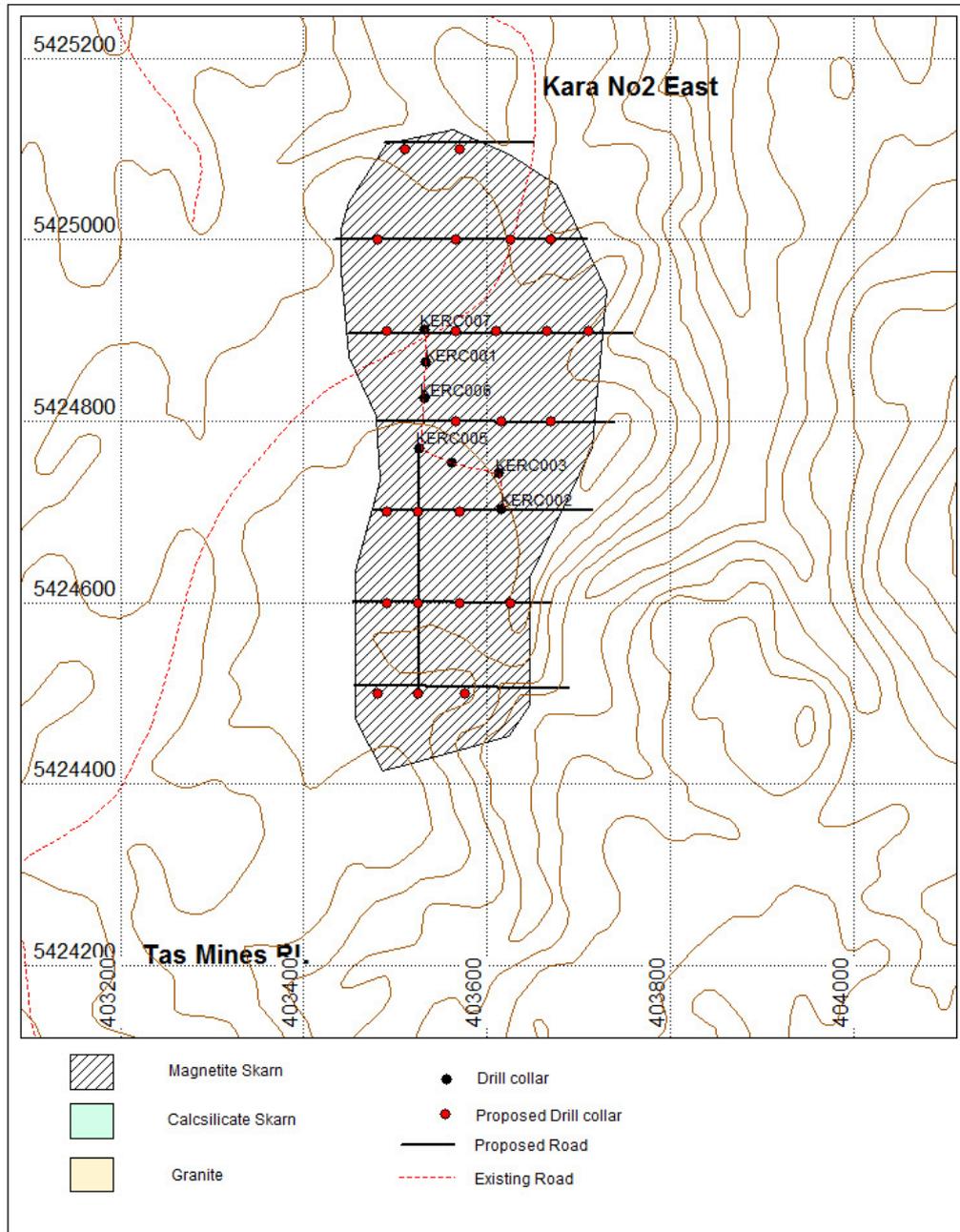


Figure 3. Kara No 2 East Deposit, drilling and proposed infill drilling.



### **3 WORK COMPLETED DEC 2011 – DEC 2012**

Work completed specifically on EL53/2007 included reconnaissance geological work to assess the potential for infill drilling, compilation of historic data and baseline environmental studies.

#### **3.1 RECONNAISSANCE AND PLANNED INFILL DRILLING**

Several reconnaissance trips were made to investigate potential infill drilling programs. The area is covered by thick re-growth after logging operations and foot access over much of the aeromagnetic anomaly is difficult. The first pass drilling utilised a cleared track and 50m spaced RC drilling but as limited to 7 holes. A more extensive and systematic approach is required to adequately assess the deposit. It is recommended that 100m spaced east-west drill access lines be established to allow a series of infill RC or RAB holes on 50m centres to be drilled. A total of 2-2.5km of track work is required. A ground magnetic survey is required prior to siting drill rigs. The access tracks will provide access for the magnetic survey as well as the drilling program.

#### **3.2 BASELINE ENVIRONMENTAL STUDIES**

GHD have been contracted to complete baseline environmental studies required for the submission of a DPEMP associated with a proposed mining lease covering the Kara No2 North skarn. The Kara No 2 North Skarn is located several kilometres NW of Kara No2 East on adjacent EL 18/2007. Studies completed so far include flora and fauna surveys, aboriginal and European Heritage surveys and water quality analysis of the Blythe river catchment that will be effected by the proposed operations. The water quality studies are ongoing for a full year.



#### 4 PROPOSED WORK PROGRAM

A 2 year exploration program for the Blythe River Project involving a full expenditure of \$1.9M was proposed to the board of Forward Mining. Most of the proposed work for 2012 was likely to occur on EL's 18/2007 and 53/2007 involving definition drilling and completion of a feasibility study on the Kara No2 skarns.

An RC drilling program consisting of approximately 24 drill holes for 700m is proposed on 100m spaced east west lines across the aeromagnetic anomaly. Proposed hole details are listed in Table 3 and displayed in Figure 3.

<b>Table 3. Proposed RC drilling</b>			
<b>BHID</b>	<b>X_GDA</b>	<b>Y_GDA</b>	<b>Length m</b>
1	403510	5425100	30
2	403570	5425100	30
3	403480	5425000	30
4	403565	5425000	30
5	403625	5425000	30
6	403670	5425000	30
7	403490	5424900	30
8	403565	5424900	30
9	403610	5424900	30
10	403665	5424900	30
11	403710	5424900	30
12	403565	5424800	30
13	403615	5424800	30
14	403670	5424800	30
15	403490	5424700	30
16	403525	5424700	30
17	403570	5424700	30
18	403490	5424600	30
19	403525	5424600	30
20	403570	5424600	30
21	403625	5424600	30
22	403480	5424500	30
23	403525	5424500	30
24	403575	5424500	30
<b>Total</b>			<b>720</b>

A light excavator will be required to clear scrub to allow access for the drill rig. E-Drill are the preferred drilling contractor.



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## **5 ENVIRONMENTAL**

No rehabilitation was completed during the last year. Minor rehabilitation of the 2008 drill tracks is required if the EL is to be relinquished.



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## **6 EXPENDITURE**

Expenditure for 2013 is anticipated to be approximately \$200,000.



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## **ADDITIONAL NOTES**

### ***LIMITATIONS AND CONSENT***

The report is provided to Blythe River Iron Pty Ltd in the context of an Annual Report and should not be used or relied upon for any other purpose.

This report has been prepared using information available to the Author at the time of writing. The opinions stated herein are given in good faith and with the belief that the basic assumptions are factual and correct and the interpretations reasonable.

This report is not intended for use as a public document nor, in whole or in part, in a public document without written consent to the form and context in which it appears.

### ***COMPETENT PERSON AND JORC CODE***

This report was prepared in accordance with the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") by Tim Callaghan, who is a Member of The Australian Institute of Mining and Metallurgy ("AusIMM"), has a minimum of five years experience in the estimation and assessment and evaluation of Mineral Resources of this style and is the competent Person as defined in the JORC Code. This announcement accurately summarises and fairly reports his estimations and he has consented to the resource report in the form and context it appears.

### ***STATEMENT OF INDEPENDENCE***

Tim Callaghan has no material interest or entitlement in the securities or assets of the to Blythe River Iron Pty Ltd or any associated companies.