

# Hawthorn Resources Limited December 2013 Quarterly Report

#### **EXPLORATION AND DEVELOPMENT**

### Kalgoorlie, Eastern Goldfields – Gold, Western Australia

- Mineral Resource Estimate at Anglo Saxon Trouser Legs JV
- Indicated Mineral Resource 599,000t at 3.3 g/t gold for 63,700 oz of gold
- Inferred Mineral Resource 1,687,000t at 4.1 g/t gold for 221,800 oz of gold
- Metallurgical, geotechnical, environmental, survey and hydrological studies near completion mine plan in development.
- Exploration drilling at Coles Trouser Legs JV returns
  - 11 metres @ 3.10 g/t Au,
  - o 6 metres @ 4.58 g/t Au,
  - 6 metres @ 2.08 g/t Au.
- Exploration drilling recommences at *Deep South* initial results include
  - o 2 metres @ 9.93 g/t Au,
  - o 3 metres @ 5.93 g/t Au,
  - o 2 metres @ 6.19 g/t Au.

#### Central Yilgarn, Eastern Goldfields - Iron Ore, Western Australia

- *Hawthorn* and JV Manager *Legacy Iron Ore* agree on exploration program and budget for 2014.
- Updated Mt Bevan Magnetite Indicated Mineral Resource Estimate announced
  - 322Mt @ 34.7% Fe mass recovery 44%,
- Drilling to resume at **Mt Mason North Haematite** further targeting northern extension of known **Mt Mason Haematite** resource of **Jupiter Mines Limited**.

ASX Release 31 January 2013

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#### **Directors**

Mr Mark Gregory Kerr (Chairman)

Mr Mark Edward Elliott (Managing Director/CEO)

Dr David Tyrwhitt (Non Exec. Director)

Mr Li, Yijie (Non Exec. Director)

Mr Liao, Yongzhong (Non Exec. Director)

Mr Ye, Xiaohui (Non Exec. Director)

#### Senior Management

Mr Ian Moody (Exploration Manager)

Mr Mourice Garbutt (Company Secretary)

Mr Paul Chare (Project Manager)

**ASX Symbol: HAW** 

#### INTRODUCTION

Hawthorn Resources Limited ("Hawthorn") is an Australian diversified minerals exploration company with tenement holdings and joint ventures primarily focussed in the Kalgoorlie District of the Eastern Goldfields of Western Australia.

#### **GOLD**

Hawthorn's exploration effort remains focussed on the progression of its highly prospective portfolio of gold tenements towards production, with exploration concentrated on its 5 key project areas.

• Trouser Legs – Anglo Saxon, Deep South, Yundamindera – Coffey Bore, Edjudina – Triumph, and Whiteheads.

During the quarter exploration and development continued to focus on the **Anglo Saxon Gold Deposit** and other prospects in the **Trouser Legs Project Area**, with a Mineral Resource Estimate completed. Geotechnical, hydrogeological, environmental, survey and metallurgical testwork and studies are nearing completion that will allow a detailed mining plan to be completed and a Mining Approval and Closure Plan to be submitted to the West Australian Department of Mines during the quarter. Short programs of RC drilling were carried out at the **Coles** and **Exile North** prospects

Exploration continued in the **Yundamindera Project area** where further targets revealed from recent detailed aeromagnetic surveys have been geologically assessed and soil sampled prior to drill testing in the upcoming quarter.

Drilling recommenced at the **Deep South Project area** with the initial 8 RC holes of an approximate 22 hole program completed at the end of the quarter. Several high grade results have been returned from initial results from this program with the program to be completed during the initial weeks of February.

#### **IRON ORE**

At *Mt Bevan - Central Yilgarn Iron Province*, the Joint Venture Manager, Legacy Iron Ore, released an updated *Mt Bevan Mineral Resource Estimate* on the known magnetite mineralisation. This *Indicated Resource* estimate of *322Mt* @ *34.7% Fe* with high mass recovery rates of *44.2%* has been estimated for a central 2.0km section of the larger 10km strike of *Inferred Resource*.

A work program and budget proposed by the Joint Venture manager has been approved for the December 2013 to June 2014 period. This work program is designed recommence drilling testing of near surface haematite mineralisation at *Mt Mason North* – the northern extension of the Jupiter Mines Limited *Mt Mason Resource* (9.4Mt @ 57.6% Fe – JMS AGM presentation 28/11/13) while greenfield exploration for haematite and magnetite is planned for the *Mt Alexander and Eastern BIF* areas.

#### **Gold Exploration – Western Australia incorporating:**

**Deep South Project**Hawthorn Resources 80%, Alacer Gold Corp/MetalsX 20%;

Trouser Legs Project Hawthorn Resources 70%, Gel Resources 30%;

Edjudina - Triumph Project Hawthorn Resources 100% and Edjudina-Pinjin JV Tenements

(Hawthorn Resources 80%, Alacer Gold Corp/MetalsX 20%);

Yundamindera Project Hawthorn Resources 100% and Edjudina-Pinjin JV Tenements

(Hawthorn Resources 80%, Alacer Gold Corp/MetalsX 20%); and

Whiteheads Project Hawthorn Resources 100%

Hawthorn Resources' Western Australian gold exploration programs are primarily focussed in five major project areas where Hawthorn Resources holds in its own right, has earned or is earning equity from joint venture partners in over 80 granted exploration, mining, prospecting licences and applications. The Company believes that each of the major project areas, in close proximity to milling and transport infrastructure, hold both exploration upside and near term potential for development.

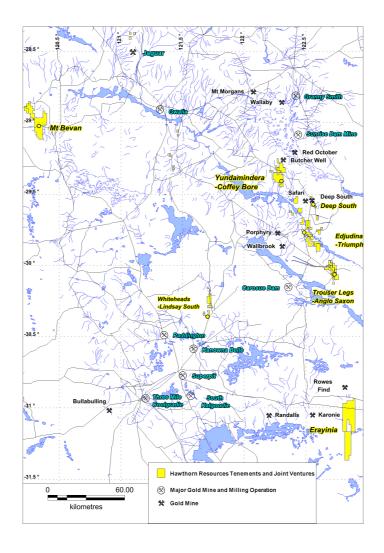


Figure 1. Eastern Goldfields, Western Australia – Project Locations

The major projects cover two distinct areas.

- A substantial part of the Eastern Goldfields extending from the Lake Carey to the historic Pinjin Mining Centre – a strike length of approximately 125 kilometres. Hawthorn's tenement package is surrounded by major gold mines, deposits and advanced resources including Sunrise Dam, Wallaby, Red October, Carosue Dam, Safari Bore, Deep South, Porphyry and Butchers Well Mines. The gold endowment of these mines and resources currently exceeds 22 Million ounces.
- A contiguous group of 15 tenements ("Whiteheads") covering the historic Gindalbie Mining Centre that surrounds the *Lindsays* gold resource of KalNorth Gold Mines Limited ("KalNorth"), and only 50 kilometres from the mining infrastructure hub of Kalgoorlie.

#### **Trouser Legs - Anglo Saxon Project**

(Hawthorn Resources 70%, Gel Resources 30%).

The *Trouser Legs Project* area is located 140 km north east of Kalgoorlie and is centred on the historic *Anglo Saxon Mine*. The *Trouser Legs - Anglo Saxon* project area is situated 35 kilometres to the east of the Carosue Dam Mill of Saracen Mineral Holdings.

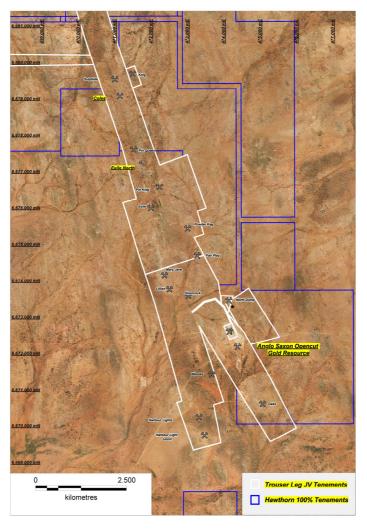


Figure 2. Trouser Legs JV and Hawthorn Tenements - Major Prospects

During the quarter Hawthorn Resources announced a new Mineral Resource estimate at *Anglo Saxon*, prepared by *Australian Mining Consultants* ("AMC").

#### Hawthorn Resources Limited - December 2013 Activities Report

The Mineral Resources Estimate, in the table below, is reported accordance with the JORC Code 2012, a copy of which can be found on the Hawthorn Resources Limited website www.hawthornresources.com.

Further details regarding the estimation are provided in the JORC Code Table 1 document attached to the announcement, "Anglo Saxon – Indicated Mineral Resource Upgrade: ASX Announcement: 30/10/2013".

Table 1. Anglo Saxon Mineral Resource as at 30 October 2013

Classification	Material	cog Au (g/t)	Tonnage (t)	Au (g/t)	Au (oz)
Indicated	Oxide	0.5	233,000	3.0	22,500
Indicated	Transition	0.5	366,000	3.5	41,200
Total Indicated			599,000	3.3	63,700
Inferred	Oxide	0.5	9000	5.8	1,700
Inferred	Transition	0.5	13,000	1.4	600
Inferred	Primary	0.5	1,665,000	4.1	219,500
Total Inferred			1,687000	4.1	221,800
Total Indicated and Inferred			2,286,000	3.9	285,500

#### Notes:

- 1 The Mineral Resource is reported in accordance with the 2012 Edition of the JORC Code
- 2 Contained metal is rounded to the nearest 100 oz
- 3 All resources have been rounded to the nearest 1,000 tonnes
- 4 COG is defined as cut-off grade
- 5 Top cut/top cap of 25 g/t gold has been used in oxide, 35 g/t gold in the transition and 43 g/t gold in the primary
- 6 The base of the Indicated Mineral Resource is 280m RL, approximately 100 m below surface

Hawthorn Resources confirms that all material assumptions and technical parameters underpinning the Mineral Resource Estimate in the announcement, Anglo Saxon – Indicated Mineral Resource Upgrade; ASX Announcement: 30/10/2013, continue to apply and have not materially changed, and that the form and context in which the Competent Persons findings are presented have not been materially

During the quarter Environmental, Flora and Fauna, Hydrological and Hydrogeological, Topographic, Metallurgical and Geotechnical surveys and testwork continued with all surveys nearing completion.

These surveys have been carried out by independent firms **Sustainability**, **Rockwater Pty Ltd.**, **Cardno Survey**, **ALS Metallurgical** and the **West Australian School of Mines Geotechnical Laboratory**. A program of sterilisation drilling was successfully completed in potential waste dump positions to the east of the existing pits and waste dumps during the quarter with no major impediments to the preferred waste dump site identified.

These studies should be completed during the March quarter and will enable Mining Approval and Closure Plans to be submitted to the West Australian Department of Mines.

Potential pit and waste dumps designs are currently being prepared by **Australian Mining Consultants** utilising much of the study data captured from the testwork above.

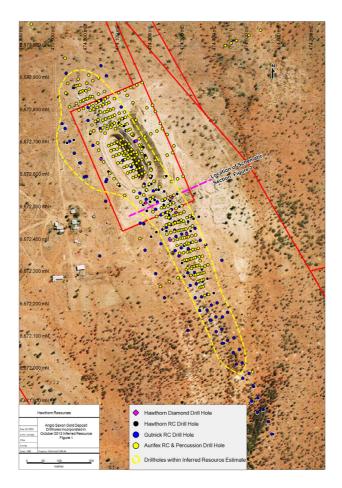


Figure 3. Drillhole Location Map – Anglo Saxon Resource 2013

Potential exists to expand the project at **Anglo Saxon**, at depth and along strike, and at the known prospects within the **Trouser Legs JV** tenements and on Hawthorns extensive tenement portfolio surrounding the project area. Figure 2.

Exploration to identify and test targets in the larger project are continued through the quarter with soil sampling and RC drilling carried out at *Coles* and *Exile North*.

 Table 2. RC drilling results Coles and Exile North Prospects

Hole No.	<u>Azimuth</u>	Dip	<u>North</u>	<u>East</u>	From (m)	<u>To</u>	Width (m)	<u>Au</u>
						<u>(m)</u>		(g/t)
COLC007	077	-60	6679122	471098	26	34	8	0.56
and					55	63	8	0.50
COLC008	077	-60	6679119	471098	18	26	8	1.00
and					36	39	3	1.28
and					55	59	4	0.84
COLC009	077	-60	6679143	471088	4	15	11	0.72
and					36	44	8	1.62
(incl					36	40	4	2.84)
COLC010	077	-60	6679163	471082	8	19	11	3.10
(incl					15	17	2	8.16)
and					25	31	6	4.58
(incl.					27	29	2	9.07
COLC011	077	-60	6679159	471067	41	46	5	0.50
COLC012	077	-60	6679187	471078	8	14	6	2.08
and					20	26	6	1.67
EXNC002	090	-60	6677289	471703	0	20	20	0.71*
EXNC005	090	-60	6677360	471673	4	28	24	0.30*

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No significant intersection > 2.00 gram metres of gold in holes *EXNC001*, *EXNC003*, *EXNC004*, *EXNC006* -4m composites
All samples collected as 1 metre splits through standard riffle splitter. Holes initially assayed as 4 metre spear composites and results if >0.15 g/t Au over 4metres – 1 metre sample bags are submitted for assay.
All Assays Bureau Veritas Laboratories, Kalgoorlie
0.50 g/t Au lower cut - < 2.0m of internal waste for each intersection

\* 4 metre composite samples only – one metre sample results pending

Further details associated with this drilling program can be found in the attached Appendix 1, and Appendix 2 – JORC Table 1.

A short drilling program was undertaken at both *Coles* (6 holes) and *Exile North* (6 holes) as both prospects lie within the potential haul road construction route through which ore will pass during future mining at *Anglo Saxon*. Results from this drilling continue to maintain our enthusiasm for potential near surface feed in close proximity to infrastructure when mining operations commence.

In particular the two intercepts in **COLC010** reflect the thickness and good grade of mineralisation historically reported while the two intercepts in **COLC012** are significant in that this hole is drilled at the northern end of modern drilling carried out and indicate that the gold mineralisation remains open along strike to the north and at depth.

The initial RC results from *Exile North* drilling confirm earlier RAB results of broad zones of low grade gold mineralisation. Assessment of these results is incomplete as further resampling of this prospect is required.

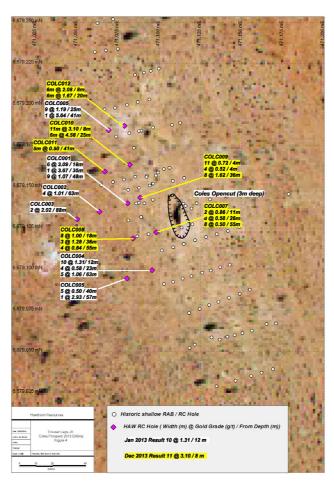


Figure 4 - Coles Prospect Drilling - Plan view

Hawthorn remains satisfied with the progress of development and exploration activities at **Anglo Saxon** and in the **Trouser Legs Project** area and will continue to keep shareholders informed of the progress of the project towards production.

#### Hawthorn Resources Limited - December 2013 Activities Report

#### **Deep South Project**

(Hawthorn Resources 80%, Alacer Gold / MetalsX 20%).

The project area lies directly along strike to the south of **Deep South Mine**, approximately 170 km to the north east of Kalgoorlie in Western Australia. Hawthorn holds tenements in this area in Joint Venture, with Alacer Gold.

Hawthorn has identified a gold mineralised horizon analogous to the adjacent **Deep South** gold orebodies (Indicated and Inferred Resource - 279,000 oz Au) of Saracen Mineral Holdings Limited.

Exploration resumed at the project area during the quarter with 9 RC holes of a 22 hole program completed. This program will be completed commencing in the first week of February 2014.

Drilling was designed to focus on the known high grade gold shoot at *Central* and other targets along the main mineralised horizon between the *Central* and *Southern Mineralised Zones* and to the north of the *Central zone* towards the existing *Deep South Mine.* 

Results presented in Table 3 below are incomplete with a number of composite samples remain to be re-assayed on an individual metre basis.

Table 3. RC drilling results Deep South Project

Hole No.	<u>Azimuth</u>	<u>Dip</u>	<u>North</u>	<u>East</u>	From (m)	<u>To</u>	Width (m)	<u>Au</u>
						<u>(m)</u>		<u>(g/t)</u>
DSC084	090	-58.5	6729633	456622	152	156	4	1.60*
DSC085	090	-60	6729580	456634	102	105	3	5.93
DSC086	088	-60	6729249	456650	123	126	3	1.26
DSC087	089	-58	6729266	456551	40	44	4	1.04*
DSC088	086	-60	6729305	456555	278	280	2	2.24
DSC089	086	-60	6729226	456551	299	301	2	6.19
DSC093	091	-55	6728106	456783	38	40	2	9.93 #
DSC102	086	-59	6729224	456620	Results	Pending		
DSC103	090	-55	6728146	456787	Results	Pending		
DSC104	089	-55	6728146	456755	Results	Pending		

All samples collected as 1 metre splits through rotating splitter.

Holes initially assayed as 4 metre spear composites if results >0.15 g/t Au over 4metres – 1 metre sample bags are submitted for assay. All Assays Bureau Veritas Laboratories, Kalgoorlie

These results are significant as most holes drilled intercepted equivalent zones to the 2 distinct ore zones observed, and mined, in the **Deep South Mine** to the north, however despite obtaining high grade gold results from the upper quartz-sulphide mineralised zone, the thick lower carbonate-quartz-sulphide zone has yet to return equivalent high grade gold results.

<sup>0.50</sup> g/t Au lower cut - < 2.0m of internal waste for each intersection

<sup>\* 4</sup> metre composite samples only – one metre sample results pending

<sup>#</sup> Re-assay of hole DSC093 - original 4m @ 1.99 g/t Au

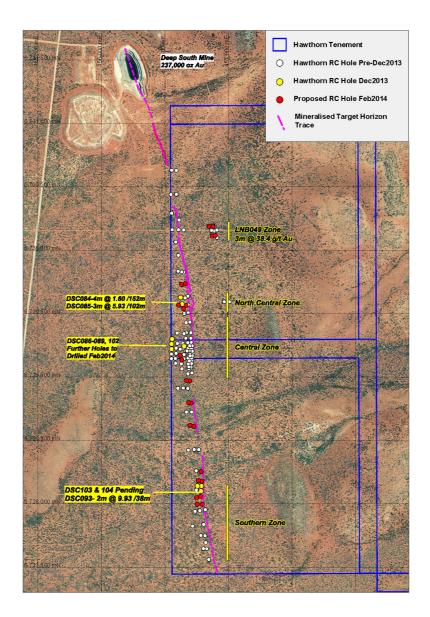


Figure 5 – Deep South Drillholes December 2013

The high grade intercept in **DSC085**, however, is very significant as it occurs in an area that previously had not returned gold results, despite strong geological observations and is approximately 350 metres north along strike of the high grade **Central Zone** of mineralisation, and up dip position also remain open for exploration.

Similarly the re-assay of a visually apparent mineralised zone in **DSC093** identified another zone of high grade gold mineralisation 1100 metres south of the **Central Zone** of mineralisation. Results from a number of resplit assays are still pending, with some potential for further encouraging results.

Drilling is to resume in this project are in the upcoming week, completing the holes planned in this program. Infill drilling will also further test the newly identified zones of high grade gold mineralisation.

#### Hawthorn Resources Limited - December 2013 Activities Report

#### **Whiteheads Project**

(Hawthorn 100%)

The **Whiteheads Project** area is situated within the historic Gindalbie Mining area, 50 kilometres north-east of Kalgoorlie, Western Australia. The project area is also only 30 kilometres from gold plants at Kanowna Belle and Paddington Mines.

The project area is adjacent to the historic *Gindalbie Mining Centre* (45,000 ounces of gold produced at 27 g/t Au) and surrounds KalNorth Gold Limited's (ASX:KGM) – *Lindsay's Deposit* (43,000 ounces of Gold Reserve, 323,000 ounce Gold Resource).

Drilling during the previous quarter continued to identify thick zones of supergene clays above a complex suite of quartz veined and brecciated basalts, in contact with granodiorite sills and dykes in the *Lindsay's South* area and sheared felsic volcanics in contact with more mafic units in the two Whiteheads areas drilled.

No detailed exploration was carried out in the project area during the quarter.

#### **Yundamindera Project**

(Hawthorn 100% and Hawthorn Resources 80%, Alacer Gold . MetalsX 20%).

In the **Yundamindera Project** area, located approximately 175 kilometres to the north east of Kalgoorlie, Western Australia exploration has focused on the discovery of gold associated with mineralised syenitic porphyry dykes, BIF's and shears.

A significant mineralised body has been identified at **Coffey Bore** where a broad zone of gold mineralisation associated with stockwork quartz veining at the base of a shallow, 45° east dipping, porphyry intrusion has been drill tested over 450 metres of strike.

Interpretation and target definition studies carried out by **Southern Geoscience Consultants Pty Ltd** identified a further series of combined magnetic and radiometric targets in areas of pervasive soil cover.

Drill testing of these targets and strike extension drilling of the **Coffey Bore** is expected to commence in March 2014.

#### **Edjudina – Triumph Project**

(Hawthorn 100%)

Gold mineralisation in the project area, 145 kilometres North-east of Kalgoorlie is hosted by a series of strike parallel quartz veins. Three major, distinct and separate quartz vein sets ("Reef 1, 2 & 3") host most of the known gold mineralisation in the project area.

Limited exploration has been undertaken in this project area during the quarter, however further drilling in the **Senate Mine** area is expected March and April 2014.

#### Iron Ore Exploration - Western Australia

#### Mount Bevan Iron Ore Project

(Hawthorn 40%, Legacy 60%)

The **Mount Bevan Project** comprising Exploration Licences 29/510 and 29/713 is located approximately 100 km west of Leonora in the central Yilgarn region of Western Australia.

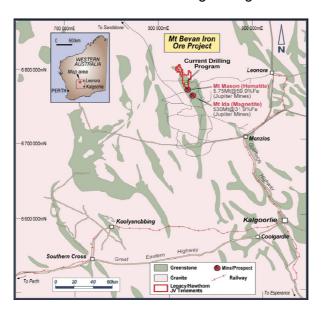


Figure 6- Mt Bevan Project Area

The tenement covers a sequence of Banded Iron Formation (BIF) units, sediments and lavas that dip at 20 - 50 degrees towards the north east. Three substantial BIF horizons have been identified within the tenement to date that extend in a north-northwest orientation throughout the entire length of the tenement; a strike distance of more than 25 kilometres.

During the quarter the Joint Venture Manager, Legacy Iron Ore, released an updated *Mt Bevan Mineral Resource Estimate* on the known magnetite mineralisation of the Western BIF area, a coherent gently dipping slab-like body that is known to extend for approximately 10 km of strike.

Drilling carried out during 2012, under Phase 3, confirmed the consistency of this mineralised body as per the Figure 8 below. This East – West section, Legacy's Section 3, at the southern end of the infill drilling program, clearly demonstrates the consistent thickness of mineralisation intersected.

#### Hawthorn Resources Limited - December 2013 Activities Report

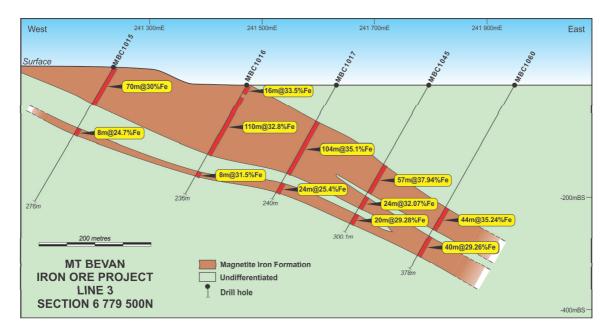


Figure 7 – Mt Bevan Project – Schematic Section 6779500 N – "Section 3"

As reported by the JV Manager, Legacy Iron Ore, the results of the 2012 drilling program have resulted in a revised Mineral Resource Estimate modelled and completed by SRK Consulting.

This *Indicated Resource* estimate of 322Mt @ 34.7% Fe with high mass recovery rates of 44.2% has been estimated for a central 2.0km section of the larger 10km strike of *Inferred Resource* estimate. The Joint Venture is encouraged by the mass recovery of the Indicated Resource at 44% - indicative of the relative high Fe content of the magnetite in the host BIF.

The mineral resource estimate as published by Legacy, has been reported as being JORC 2012 compliant and details regarding the estimation are provided in the JORC Code Table 1 document attached to the announcement by Legacy (*LCY: ASX Announcement - 17/12/13 - Mt Bevan - Significant Resource Upgrade*). The summary table of this resource estimate as provided by Legacy is below

**Table 3. Mt Bevan Mineral Resource Estimate** 

	Mt Bevan Fresh BIF Resource										
Class	Material	Tonnes x 10 <sup>6</sup>	Fe %	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub> %	CaO %	P %	s %	LOI %	MgO %	Mn %
	In situ Total	322	34.7	46.2	0.57	1.35	0.054	0.131	-1.05	1.91	0.31
Indicated	In situ Magnetic*	44.18%	30.0	2.4	0.01	0.08	0.005	0.053	-1.38	0.05	0.01
	Concentrate	142	68.0	5.5	0.02	0.18	0.012	0.130	-3.12	0.12	0.03
	<i>In situ</i> Total	847	35.0	45.6	0.77	2.00	0.063	0.39	-1.15	1.77	0.04
Inferred	In situ Magnetic*	45.70%	30.8	2.8	0.01	0.06	0.004	0.042	-1.37	0.03	0.01
	Concentrate	387	67.5	5.9	0.03	0.14	0.009	0.096	-3.00	0.06	0.02
	<i>In situ</i> Total	1,170	34.9	45.8	0.71	1.82	0.060	0.137	-1.12	1.81	0.11
Total	In situ Magnetic*	45.28%	30.6	2.7	0.01	0.07	0.004	0.045	-1.37	0.03	0.01
	Concentrate	530	67.7	5.80	0.03	0.15	0.010	0.105	-3.03	0.07	0.02

#### Hawthorn Resources Limited – December 2013 Activities Report

\*In situ Magnetic is the material that is expected to report to the magnetic fraction. The in situ Magnetic quantities in the Tonnes column are expressed as the percentage of the in situ Total tonnes) as estimated from Davis Tube Mass recovery

It has been reported that a block cut-off grade has not been applied in the resource reporting as the minimum Fe and MagFe block grades for the fresh BIF are relatively high (at 19% and 16% respectively).

Further details of this project and the Mineral Resources Estimate are available on the various Joint Venture websites (www.hawthornresources.com and www.legacyiron.com.au )

A work program and budget proposed by the Joint Venture manager material has been approved for the December 2013 to June 2014 period. This work program is designed recommence drilling testing of near surface haematite mineralisation at *Mt Mason North* – the northern extension of the Jupiter Mines Limited *Mt Mason Resource* of *9.4Mt* @ *57.6%* Fe (*JMS AGM presentation 28/11/13*). Hawthorn is pleased that the potential of this valuable asset will be revisited and is encouraged that the Joint Venture will continue greenfield exploration for haematite and magnetite in the *Mt Alexander and Eastern BIF* areas.

#### **Joint Ventures**

#### Erayinia Joint Venture - Western Australia

(Black Raven Mining 70%, Hawthorn Resources 30%).

The Joint Venture manager, Black Raven Mining Pty Ltd, reports that a drilling program to test targets identified in the VTEM survey flown in 2013 is to commence shortly. The VTEM targets identified have had limited or no test drilling to date and represent compelling exploration targets in an area with a shallow but pervasive cover sequence.

The Programme of Work application to drill these targets has been approved.

#### East Kimberley Joint Venture – Western Australia

(Matsa Resources 80%, Hawthorn Resources 20%)

No exploration was reported from this project for the guarter.

#### **CORPORATE**

Issued Securities: During the quarter ended 31 December 2013 there were no changes in the number of the Company's securities on issue.

Directorate: No changes.

Results of Annual General Meeting: Held 29<sup>th</sup> November 2013 – for results please see www.hawthornresources.com

Cash Balance: As at 31 December 2013 the company cash balance was \$11.6 M AUD.

Mourice R Garbutt Company Secretary

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The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Ian Moody, who is a member of the Australasian Institute of Mining and Metallurgy and a full time consultant geologist with First Principle Mineral Exploration Company Pty Ltd. Mr Moody has sufficient experience as a geologist which is relevant to the style of mineralization and the type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Moody consents to the inclusion in this report of the matters based on his information in the form and context in which it appears

The information in this report that relates to the Mineral Resource estimation is based on information compiled by Ms T Burrows, a Competent Person who is a Member and Registered Professional Geologist of The Australasian Institute of Geoscientists. Ms Burrows is employed by AMC Consultants Pty Ltd. Ms Burrows has been engaged as an external independent consultant by Hawthorn Resource Limited. Ms Burrows has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ms T Burrows consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

#### Hawthorn Resources Limited – December 2013 Activities Report

Appendix 1. Drill Hole Collars and Assays – December 2013 ASX Quarterly Report

Hole No.	<u>Project</u>	<u>Prospect</u>	<u>Azimuth</u>	<u>Dip</u>	End Depth (m)	GDA94 North	GDA94 East	From (m)	<u>To</u> (m)	Width (m)	<u>Au</u> (g/t)
COLC007	Trousers	Coles	077	-60	71	6679122	471098	26	34	8	0.56
and	Housers	00/63	011	-00	,,	00/3/22	47 1030	55	63	8	0.50
COLC008	Trousers	Coles	077	-60	92	6679119	471098	18	26	8	1.00
and	11003013	00/03	011	- 00	<u> </u>	00/0//0	47 1000	36	39	3	1.28
and								55	59	4	0.84
COLC009	Trousers	Coles	077	-60	62	6679143	471088	4	15	11	0.72
and	77000070	00.00	0		- 02	00.01.0	11.1000	36	44	8	1.62
(incl								36	40	4	2.84)
COLC010	Trousers	Coles	077	-60	80	6679163	471082	8	19	11	3.10
(incl	77000070	55.55	011			0070700		15	17	2	8.16)
and								25	31	6	4.58
(incl.								27	29	2	9.07
COLC011	Trousers	Coles	077	-60	74	6679159	471067	41	46	5	0.50
COLC012	Trousers	Coles	077	-60	62	6679187	471078	8	14	6	2.08
and								20	26	6	1.67
EXNC001	Trousers	Exile Nth	090	-60	101	6677288	471732				NSR
EXNC002	Trousers	Exile Nth	090	-60	80	6677289	471703	0	20	20	0.71*
EXNC003	Trousers	Exile Nth	090	-60	95	6677220	471750				NSR
EXNC004	Trousers	Exile Nth	090	-60	95	6677360	471705				NSR
EXNC005	Trousers	Exile Nth	090	-60	80	6677360	471673	4	28	24	0.30*
EXCN006	Trousers	Exile Nth	090	-60	80	6677360	471644				NSR
DSC084	Deep South	North Central	090	-58.5	159	6729633	456622	152	156	4	1.60*
DSC085	Deep South	North Central	090	-60	159	6729580	456634	102	105	3	5.93
DSC086	Deep South	Central	088	-60	165	6729249	456650	123	126	3	1.26
DSC087	Deep South	Central	089	-58	296	6729266	456551	40	44	4	1.04*
DSC088	Deep South	Central	086	-60	339	6729305	456555	278	280	2	2.24
DSC089	Deep South	Central	086	-60	356	6729226	456551	299	301	2	6.19
DSC093	Deep South	South	091	-55	79	6728106	456783	38	40	2	9.93#
DSC102	Deep South	Central	086	-59	230	6729224	456620	Results	Pending		
DSC103	Deep South	South	090	-55	74	6728146	456787	Results	Pending		
DSC104	Deep South	South	089	-55	80	6728146	456755	Results	Pending		

Drillholes COLC007-012, EXNC001-006 = RC Drillholes – Kennedy Rig 1 - KD 150 RCA – riffle splitter
 Drillholes DSC084-089, 093, 102-104 = RC Drillholes – Kennedy Rig 7 - Schramm T685 – rotating splitter

## Appendix 2 – Coles, Exile North and Deep South RC Drilling

## THE 2012 AUSTRALASIAN CODE FOR REPORTING EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES (THE JORC CODE)

### **Table 1 Checklist of Assessment and Reporting Criteria**

## JORC Code, 2012 Edition - Table 1 report template

#### **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Sampling technique discussed over page in sub sampling technique section.</li> <li>Deep South RC Drilling.</li> <li>Sampling technique discussed over page in sub sampling technique section.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	Coles and Exile North RC Drilling.  RC Drilling – 4.75 inch hammer.  Deep South RC Drilling.  RC Drilling – 5.5 inch hammer

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Samples are dry and recovery good with all holes returning expected volume of sample except in collar area in laterite / loose colluvium where return from 0-3m depth can be variable due collapsing.</li> <li>Deep South RC Drilling.</li> <li>Samples are generally dry with some damp samples at depth however compressor size maintains sample recovery. Recovery good with all holes returning expected volume of sample except in collar area 0-4m.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Coles and Exile North RC Drilling.  Chip samples have been geologically logged for all relevant geological and some structural data. Logging for this program was on paper and data manually transcribed. Migration to full digital logging is to occur shortly.  Deep South RC Drilling.  Chip samples have been geologically logged for all relevant geological and some structural data. Logging for this program was on paper and data manually transcribed. Migration to full digital logging is to occur shortly.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Deep South RC Drilling.

Criteria	JORC Code explanation	Commentary
		<ul> <li>Composite Samples returning &gt; 0.10 g/t Au over 4 metres, had individual 1 metre samples submitted for assay.</li> <li>CRM standards, blanks and duplicates submitted with assays .</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling</li> <li>Samples are assay by Fire Assay, 30 g charge.</li> <li>A range of five different gold grade standards have been submitted at a rate of 3-5 / 100 samples.</li> <li>The number of each individual standard sample submitted is moderate as it is essentially First Pass drilling at Coles and Exile and the statistical data analysis on individual standards is limited.</li> <li>All standards perform reasonably,.</li> <li>Blanks (1 / 100) submitted these have performed reasonably with results less than 0.01 g/t gold, however only 4 of these samples have been assayed.</li> </ul>
		<ul> <li>Deep South RC Drilling</li> <li>Samples are assay by Fire Assay, 30 g charge.</li> <li>A range of five different gold grade standards have been submitted at a rate of 6 / 100 samples.</li> <li>The number of each individual standard sample submitted is moderate as the nature of the ore zone indicates that relatively few 1 metre samples are resubmitted - however at least one standard is submitted in each run of 1 metre reassays. Analysis on individual standards is limited.</li> <li>All standards perform reasonably,.</li> <li>Blanks (1 / 100) submitted these have performed reasonably with results less than 0.01 g/t gold, however only 8 of these samples have been assayed.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Coles, Exile North and Deep South RC Drilling</li> <li>No twinned holes have been drilled as this is first pass RC drilling</li> <li>Laboratory data is supplied electronically to site and head office.</li> <li>Geological logging is entered by technical staff and reviewed for correctness.</li> <li>Project data is currently stored at the head office of the company, with a weekly offsite backup of all data. Protocols are under review and</li> </ul>

Criteria	JORC Code explanation	Commentary
		are planned to be improved.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Coles, Exile North and Deep South RC Drilling</li> <li>The grid used is GDA 94 Zone 51.</li> <li>Collars collect on at least 3 cycling GPS points for Deep South, survey pickup of holes by Cardno Survey for Exile North and Colest.</li> <li>Surface land form in each prospect area drilled is gently sloping and equivalent for each hole at Deep South.</li> <li>AHD survey results at Exile North and Coles</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Coles, Exile North and Deep South RC Drilling</li> <li>Data collected is first and follow-up drilling with drill spaces from between 20m – 200m sections, with 20-40 m between holes along section.</li> <li>Drilling is not at sufficient spacing to compile Mineral Resource estimation</li> <li>1 m intervals sampled downhole.</li> <li>Samples were composited for the initial assaying. Composite Samples returning &gt; 0.10 g/t Au over 4 metres, had individual 1 metre samples submitted for assay</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling.</li> <li>The drilling is at -60 degrees at either 077 (Coles) or 090 (Exile) degrees. It is believed that these orientations are at right angles to the strike of mineralisation. Dip of mineralisation is unknown at this time however structural foliation in outcrop at both prospects is &gt;80°</li> <li>It is unknown if there is a bias introduced by the drilling direction</li> <li>Deep South RC Drilling.</li> <li>The drilling is primarily at between -55 and -60 degrees drilled towards 090 degres. It is believed that these orientations are at right angles to the strike of mineralisation. Dip of mineralisation is generally 74° - 78 West .</li> <li>Drillhole surveys indicate holes deviate markedly and surveys are</li> </ul>
Sample	The measures taken to ensure sample security.	<ul> <li>undertaken at approximately 30m intervals downhole</li> <li>It is unknown if there is a bias introduced by the drilling direction.</li> <li>All RC samples submitted to the laboratory are collected directly from the splitter with the sample bag tied. During sample collection for all</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>holes a staff member is always present. Samples are delivered to the laboratory by company staff.</li> <li>1M Sample bags are kept on drill site until results of 4 m composite assays are completed.</li> <li>Assay pulps are recovered from laboratory and stored in locked storage sheds</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There have been no audits or reviews of sampling techniques and data.

## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Drilling is on tenement M31/78 – a contributory JV between HAW 70% and private company Gel Resources 30%.</li> <li>There are no known issues and the tenement is in good standing</li> <li>Deep South RC Drilling.</li> <li>Drilling is on tenements E39/1298, E39/1299 and P39/4704 a JV between HAW 80% and Avoca Resources (now MetalsX) 20%</li> <li>There are no known issues and the tenements are in good standing</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Extensive soil and RAB and RC drilling since 1984 by company's including Picon, Burdekin Resources and Gutnick Resources.</li> <li>Deep South RC Drilling.</li> <li>Minor soil and RAB drilling in 2003-04 by Great Gold Mines NL. No targets were identified</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Mineralisation at both prospects is believed to be hosted by quartz flood veins with minor pyrite developed in the axial plannar cleavage of a folded sequence of mafic and ultramafic rocks.</li> </ul>

Criteria	JORC Code explanation	Commentary
		Deep South RC Drilling.  Mineralisation is hosted in two styles of veins  A hanginwall quartz-sulphide+/-carbonate vein  And a footwall carbonate-quartz-sulphide-magnetite vein set  The vein sets are separated by a sheared talc schist after a high Mg basalt  Further drilling is required to fully identify the style of mineralisation
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	All drillholes have been reported in in the body of this report and at Appendix 1.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Interval reported must be greater than 2.00 gram x metres</li> <li>Intervals lowercut 0.50 g/t Au and with &lt;2.0 metres of internal waste &lt;0.50 g/t Au.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Down hole lengths reported – true width not known.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being</li> </ul>	Refer to Figures 2-6 in the body of the report

Criteria	JORC Code explanation	Commentary
	reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Not applicable as all significant grade intervals reported above 2.00 gram / metres</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	No other exploration data available that has not previously been reported
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Coles and Exile North RC Drilling.</li> <li>Further RC drilling is likely to occur at Coles at depth and along strike to the north to fully assess the mineralisation identified.</li> <li>Reassay of 4 m composite sample will occur at Exile Nth and if positive further drilling may be undertaken.</li> </ul>
		<ul> <li>Deep South RC Drilling.</li> <li>RC Drilling will resume in the upcoming quarter to complete the planned program. Several extra holes may be drilled in close proximity to recently identified high grade zones of gold mineralisation.</li> <li>The position of the hole collars is likely to be commercially sensitive</li> </ul>

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*Rule 5.3* 

## **Appendix 5B**

## Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001, 01/06/10, 17/12/10

Name of entity

## HAWTHORN RESOURCES LIMITED

ABN

44 009 157 439

Quarter ended ("current quarter")

31 December 2013

#### Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter	Year to date (6 months)
1.1	Receipts from product sales and related debtors	\$A'000	\$A'000 -
1.2	Payments for (a) exploration and evaluation	(1,252)	(1,989)
	<ul><li>(b) development</li><li>(c) production</li><li>(d) administration</li></ul>	- (596)	- (922)
1.3 1.4	Dividends received Interest and other items of a similar nature received	167	305
1.5 1.6 1.7	Interest and other costs of finance paid Income taxes paid Other (provide details if material)	-	-
	- GST (Refundable)	-	99
	Net Operating Cash Flows	(1,681)	(2,507)
1.8	Cash flows related to investing activities  Payment for purchases of: (a) prospects (b) equity investments (c) other fixed assets	- - -	- - -
1.9	Proceeds from sale of:  (a) prospects (b) equity investments (c) other fixed assets	- - -	- - -
1.10 1.11 1.12	Loans to other entities Loans repaid by other entities Other (provide details if material)	- - -	- - -
1.12	Net investing cash flows	-	- (2.505)
1.13	Total operating and investing cash flows (carried forward)	(1,681)	(2,507)

<sup>+</sup> See chapter 19 for defined terms.

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1.13	Total operating and investing cash flows	(1,681)	(2,507)
	(brought forward)		
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	-	-
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other – payments in relation to June 2013	-	(238)
	Quarter Share Placement		
	NT 4.00	-	(238)
	Net financing cash flows		` ′
		(1, (0.1)	(0.745)
	Net increase (decrease) in cash held	(1,681)	(2,745)
1.20	Coch at hanimains of anomaly and data	12 202	14 267
1.20	Cash at beginning of quarter/year to date	13,303	14,367
1.21	Exchange rate adjustments to item 1.20	<u>=</u>	
1.22	Cash at end of quarter	11,622	11,622

Payments to directors of the entity and associates of the directors

Payments to related entities of the entity and associates of the related entities

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	286
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions in item 1.23

Directors fees & salary \$168,170 (Previous Quarter \$78,170)
Fully Serviced Office facility rental \$86,625 (Previous Quarter \$86,625)
Company requested Consulting Fees \$31,350 (Previous Quarter \$37,950)

#### Non-cash financing and investing activities

	5 to 1
2.1	Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows
2.2	Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

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<sup>+</sup> See chapter 19 for defined terms.

## Financing facilities available

Add notes as necessary for an understanding of the position.

		Amount available \$A'000	Amount used \$A'000
3.1	Loan facilities		
3.2	Credit standby arrangements		

Estimated cash outflows for next quarter

	Total	1,430
4.4	Administration	480
4.3	Production	-
4.2	Development	-
4.1	Exploration and evaluation	950
		\$A'000

## **Reconciliation of cash**

show	nciliation of cash at the end of the quarter (as n in the consolidated statement of cash flows) to elated items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
5.1	Cash on hand and at bank	562	1,293
5.2	Deposits at call	11,060	12,010
5.3	Bank overdraft	-	-
5.4	Other (provide details)	-	-
	Total: cash at end of quarter (item 1.22)	11,622	13,303

## **Changes in interests in mining tenements**

		Tenement	Nature of interest	Interest at	Interest at
		reference	(note (2))	beginning	end of
				of quarter	quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed		See Attached		
6.2	Interests in mining tenements acquired or increased		See Attached		

<sup>+</sup> See chapter 19 for defined terms.

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## **Issued and quoted securities at end of current quarter**Description includes rate of interest and any redemption or conversion rights together with prices and dates.

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	Preference +securities (description)	-	-	-	-
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-	-	-	-	-
	backs, redemptions	-	-	-	-
7.3	<sup>+</sup> Ordinary securities	171,263,644	171,263,644	-	-
7.4	Changes during quarter				
	(a) Increases through issues	-	-	-	-
	(b) Decreases through returns of capital, buybacks	-	-	-	-
7.5	+Convertible debt securities (description)	-	-	-	-
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted	-	-	-	-
7.7	<b>Options</b> (description and conversion factor)			Exercise price	Expiry date
7.0	Tanad daning accorden	-	-	-	-
7.8 7.9	Issued during quarter Exercised during quarter	-	-	-	-
7.10	Lapsed during quarter	-	-	-	-
7.11	Debentures (totals only)	-	-		
7.12	Unsecured notes (totals only)	-	-		
				1	

## **Compliance statement**

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<sup>+</sup> See chapter 19 for defined terms.

- This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- 2 This statement does give a true and fair view of the matters disclosed.

(Company secretary)

Print name: MOURICE GARBUTT

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#### **Notes**

- The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities.** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report.
- Accounting Standards ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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<sup>+</sup> See chapter 19 for defined terms.

#### CHANGES IN INTERESTS IN MINING TENEMENTS

6.1 Interests in Mining Tenements relinquished, reduced or lapsed

Tenement Reference	Nature of Interest [note (4)]	Interest at beginning of quarter	Interest at end of quarter
E31/764	Expired	80%	0%
E39/1293	Expired	100%	0%

**6.2 Interests in Mining** Tenements acquired Or increased

Tenement Reference	Nature of Interest [note (4)]	Interest at beginning of quarter	Interest at end of quarter

**Interests in Mining Tenements**Disclosure in accordance with ASX Listing Rule 5.3.3.

+ See chapter 19 for defined terms.

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Project / Tenement  Deep South E 39/715  Melita E 40/287 M 40/316 P 40/1218 P 40/1219 P 40/1220 P 40/1221 P 40/1222 P 40/1223	Location  West Australia  West Australia	beginning of quarter	end of quarter	Partner / Farm Out Partner
E 39/715  Melita  E 40/287  M 40/316  P 40/1218  P 40/1219  P 40/1220  P 40/1221  P 40/1222	West Australia		quarter	Farm Out Partner
E 39/715  Melita  E 40/287  M 40/316  P 40/1218  P 40/1219  P 40/1220  P 40/1221  P 40/1222		1000/		
Melita E 40/287 M 40/316 P 40/1218 P 40/1219 P 40/1220 P 40/1221 P 40/1222	West Australia	1000/		
E 40/287 M 40/316 P 40/1218 P 40/1219 P 40/1220 P 40/1221 P 40/1222	West Australia	100%	100%	
M 40/316 P 40/1218 P 40/1219 P 40/1220 P 40/1221 P 40/1222				
P 40/1218 P 40/1219 P 40/1220 P 40/1221 P 40/1222		100%	100%	
P 40/1219 P 40/1220 P 40/1221 P 40/1222		100%	100%	
P 40/1220 P 40/1221 P 40/1222		100%	100%	
P 40/1221 P 40/1222		100%	100%	
P 40/1222		100%	100%	
		100%	100%	
P 40/1223		100%	100%	
		100%	100%	
P 40/1224		100%	100%	
Pinjin East	West Australia			
E 31/760		100%	100%	
E 31/781		100%	100%	
E 31/782		100%	100%	
E 31/783		100%	100%	
E 31/882		100%	100%	
E 31/888		100%	100%	
P 31/1903		100%	100%	
Savannah	West Australia			
E 31/454		100%	100%	
Triumph	West Australia			
E 31/778		100%	100%	
E 31/790		100%	100%	
M 31/481		100%	100%	
Whiteheads	West Australia			
E27/175		100%	100%	
E 27/347		100%	100%	
P 27/1769		100%	100%	
P 27/1770		100%	100%	
P 27/1771		100%	100%	
P 27/1772		100%	100%	
P 27/1773		100%	100%	
P 27/1784		100%	100%	
P 27/1785		100%	100%	
P 27/1786		100%	100%	
Yundamindera E 39/1292 E 39/1297	West Australia	100%	100% 100%	

<sup>+</sup> See chapter 19 for defined terms.

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E 39/1350		100%	100%	
E 39/1351		100%	100%	
E 39/1673		100%	100%	
E 39/1674		100%	100%	
P 39/4697		100%	100%	
P 39/4700		100%	100%	
P 39/4701		100%	100%	
P 39/4713		100%	100%	
P 39/4714		100%	100%	
P 39/4875		100%	100%	
P 39/4876		100%	100%	
Mt Bevan Iron Ore		10070	10070	
Joint Venture	West Australia			
E 29/510 -I		40%	40%	Legacy Iron Ore Limited
E 29/713		40%	40%	Legacy Iron Ore Limited
Deep South Edjudina		4070	4070	Legacy from the Limited
- Pinjin Joint Venture	West Australia			
E 39/1298		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 39/1299		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 39/1300		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 39/1301		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 39/1302		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4703		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4704		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4705		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4706		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4707		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4709		80%	80%	Avoca Resources Ltd / Metals X Ltd
Pinjin – Trouser Legs	West Australia			
Joint Venture		700/	700/	051.5
G 31/4		70%	70%	GEL Resources
L 31/32		70%	70%	GEL Resources
M 31/78		70%	70%	GEL Resources
M 31/79		70%	70%	GEL Resources
M 31/88		70%	70%	GEL Resources
M 31/113		70%	70%	GEL Resources
M 31/284		70%	70%	GEL Resources
Edjudina - Pinjin	West Australia			
Joint Venture		200/	000/	
E 31/766		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 31/788		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 31/789		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 31/1871		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 31/1872		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 31/1873		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 31/1874		80%	80%	Avoca Resources Ltd / Metals X Ltd
Yundamindera				
Edjudina - Pinjin				
Joint Venture	West Australia			
E 39/1294		80%	80%	Avoca Resources Ltd / Metals X Ltd
E 39/1295		80%	80%	Avoca Resources Ltd / Metals X Ltd
	1	1	1 -	

<sup>+</sup> See chapter 19 for defined terms.

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# Appendix 5B Mining exploration entity quarterly report

P 39/4596		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4695		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4696		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4698		80%	80%	Avoca Resources Ltd / Metals X Ltd
P 39/4699		80%	80%	Avoca Resources Ltd / Metals X Ltd
Yindana - Erayinia Joint Venture	West Australia			
E 28/1228		30%	30%	Black Raven Mining
E 28/1612		30%	30%	Black Raven Mining
Teutonic Bore Royalty	West Australia			
E 37/902				Jabiru Metals
P 37/7351				Jabiru Metals
Kimberley Joint Venture	West Australia			
E 80/2559		20%	20%	Kimberley Metals / Thunderlarra
Lake Rebecca Joint Venture	West Australia			
P28/1057		10%	10%	Renaissance

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<sup>+</sup> See chapter 19 for defined terms.