

ASX Release 31 January 2020

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#### **Directors**

Mr Li, Yijie (Non Exec. Director/Chairman)

Mr. Mark Gregory Kerr (Managing Director/CEO

Dr David Tyrwhitt (Non Exec. Director)

Mr. Christopher Corrigan (Non Exec. Director)

Mr. Liao, Yongzhong (Non Exec. Director)

Mr. Liu, Zhensheng (Non Exec. Director)

#### Senior Management

Mr. William Lloyd (Operations Manager)

Mr. Mourice Garbutt (Company Secretary)

Mr Tony Amato (CFO)

ASX Symbol: HAW

## Hawthorn Resources Limited December 2019 Quarterly Report

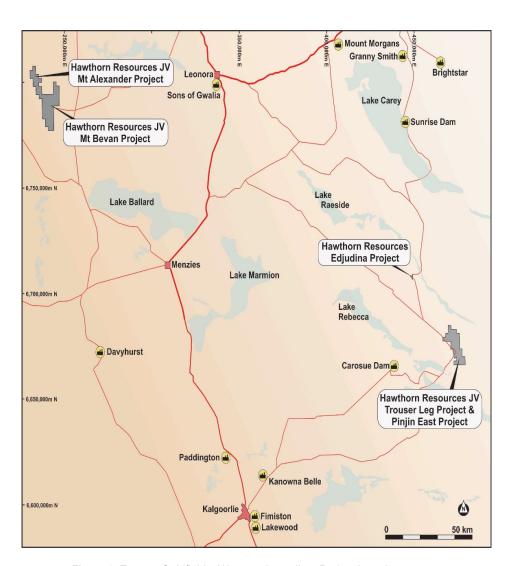


Figure 1. Eastern Goldfields, Western Australia – Project Locations

#### **EXPLORATION**

#### **GOLD**

#### Trouser Legs Gold Mine - open pit

During the December 2019 quarter, Hawthorn Resources Limited, as both a participant and Joint Venture Manager, completed mining of the *Trouser Legs Gold Mine and the Coles Project*.

#### **Trouser Legs Gold – underground**

The December quarter saw the undertaking and completion of an initial Stage 1 exploratory drilling programme seeking to test for a viable underground gold project that may exist below and down plunge to the south of the current open pit; see section below for drilling results. Based on the results arising from Stage 1 the Joint Venture has committed to a Stage 2 appraisal programme.

#### MINING AND PRODUCTION

#### Trouser Legs Gold Mine - Open Pit

(Trouser Legs Mining JV) - Hawthorn Resources 70%, Gel Resources 30%)

Mining and gold production at the *Trouser Legs Gold Mine* was completed in December 2019.



Figure 2. Trouser Legs Gold Mine – Open pit with the underground drilling area in foreground – December 2019

The Project area, 140 km north east of Kalgoorlie and 35 kilometres to the east of the Carosue Dam Mill of Saracen Mineral Holdings Limited, is a contributory Joint Venture with **Gel Resources Pty Ltd**.

Gold ore as mined at the *Trouser Legs Mine open-pit* continued to be hauled to the Carosue Dam Mill (operated by Saracen Gold Mines Pty Ltd).



Figure 3. Trouser Legs Gold Mine – underground drilling - December 2019

During the December 2019 quarter mining operations continued with:

Ore mining activities producing:

- o 83,909 BCM (September: 145,808 BCM) of waste and ore was mined from the deposit,
- o 54,795 tonnes (September: 72,651 tonnes) of ore was delivered to the minesite ROM pad,
- 37,145 tonnes (September: 45,789 tonnes) of ore was delivered to the minesite Low Grade stockpile.

#### September Quarter Parcel details updated:

- Ore Parcel #16 (41,465 tonnes) returned 3,342 ounces of gold at 2.63 g/t with 95.32% recovery. Parcel gold price \$ 2,022.38 AUD / ounce.
- Ore Parcel #17 (22,415 tonnes) returned 3,056 ounces of gold at 4.45 g/t with 95.35% recovery. Parcel gold price \$ 2,212 31 AUD / ounce.
- Ore Parcel #18 [Coles Project] (12,690 tonnes) returned 896 ounces of gold at 2.40 g/t with 91.37% recovery. Parcel gold price \$ 2,212 31 AUD / ounce.
- Ore Parcel #19 (38,029 tonnes) returned 4,055 ounces of gold at 3.50 g/t with 94.64% recovery. Parcel gold price \$ 2,220 08 AUD / ounce.

#### December Quarter Parcels details:

- Ore Parcel #20 (39,638 tonnes) returned 3,207 ounces of gold at 2.67 g/t with 94.31% recovery. Parcel gold price \$ 2,200.31 AUD / ounce.
- Ore Parcel #21 (17,969 tonnes) final gold grade and recovery pending. Parcel gold price - \$2,152.50 AUD / ounce; provisionally 2.10 g/t.
- Ore Parcel #22 (18,307 tonnes) final gold grade and recovery pending. Parcel gold price - \$2,149.26 AUD / ounce; provisionally 2.20 g/t.

#### Project Summary - December 2017 - December 2019:

With the completion of the open-pit mining and pending finalization of Parcels 21 and 22, the activities of the **Trouser Legs Mining Joint Venture** has, for Parcels 1 to 20, resulted in:

a)	Ore delivered to the Mill	636,316 tonnes
b)	Average au ounces/tonne Pre-Recovery	49,188 ounces
c)	Average au Recovery percentage	95.548%
d)	Average au ounces/tonne Post-Recovery	46,998 ounces
e)	Average gold price received – A\$/ounce High A\$2,220.08 - September 2019 Low A\$1,639.29 - August 2018 Last A\$2,200.31 - October 2019	A\$1,875.31
f)	Gross proceeds from mining/processing of au ore LESS Mill Processing costs Nett Proceeds from au ore milled	e – A\$88,136,143.00 <u>(27,064,880.00)</u> <u>A\$61,071,263.00</u>

<sup>\*</sup>Note gold grades and recoveries reported above are as payable and follow grade top-cutting and recovery deductions as per the Ore Purchase Agreement with Saracen Gold Mines Pty Ltd.

#### **EXPLORATION**

The Company's exploration programs during the December quarter were primarily focused on the underground resources at the Trouser Legs JV; the Mt Bevan / Mt Alexander tenements held in the JV with Legacy Iron Ore Limited. The Company also continued the ongoing review of its tenements interests.

#### **GOLD**

Trouser Legs Gold - underground (Trouser Legs Mining JV) - Hawthorn Resources 70%, Gel Resources 30%)

The December quarter saw the undertaking and completion of an initial Stage 1 exploratory drilling programme seeking to test for a viable underground gold project that may exist below and down plunge to the south of the current open pit; see details below for drilling results. Based on the encouraging results arising from Stage 1 the Joint Venture has committed to a Stage 2 appraisal programme.

Following several higher grade intersections made at depth about 200 meters south of the open pit in reverse circulation drilling, a program of nine diamond drill holes was recommended to evaluate these higher grade lodes which appeared to offer the potential of underground mining.

Diamond drilling though more expensive was considered as the open pit mining had often shown high grade quartz gold lodes of under 1 meter in thickness.

It was suspected that the reverse circulation drill holes sampling at 1 meter intervals could have underestimated the higher grade of narrower veins.

This program referred to as Stage1 of the underground evaluation was commenced in early November and completed mid- December for a total of 1,680 meters.

The results of this drilling have been most encouraging with a series of stacked narrow quartzgold lodes intersected in each hole.

Lodes were intersected in the expected position from the earlier RC drilling. Most of the lodes are under a meter thick but have recorded far higher grades than suggested from near- by RC holes.

Several lodes are well over a meter and up to exceptionally four meters wide, but maintaining high grades.

Full results are attached in the table below with the results suggesting that small scale air-leg underground mining may prove viable providing a sufficiently sized resource can be established.

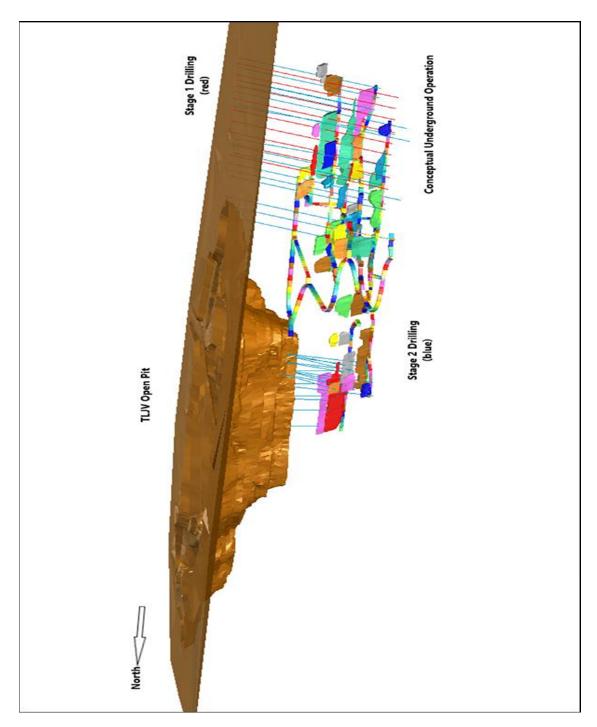


Fig 4 Isometric Section Trouser Legs mine showing underground near-mine exploration of the south plunging mineralized system

The isometric section indicates the underground flat southern plunging mineralized system flowing from the southern end of the Trouser Legs open-pit mine. The proposed Stage 2 exploration holes are coloured blue, they overlap in the south, right hand, with red holes of Stage 1

To ensure the full strike length indicated by the early RC drilling is included a further program of in-fill RC and Diamond Drilling has been scheduled for late January referred to as Stage 2. This will ensure the area between the south end of the open pit and the Stage 1 drill area is fully covered. Once assay results are back a new resource estimate will be made and an independent mining study by Chris Hiller will be completed. These studies should be completed towards the end of the first quarter this year.

 Progression of study work on an underground resource at Pinjin with the completion of the Stage 1 drilling and evaluation programme. Arising from the evaluation of the Stage 1 programme results has lead the Joint Venture to give approval for a Stage 2 programme of works.

Table 1 Collar coordinates for Stage 1 diamond core holes

hole_id	Easting	Northing	RL	Max_depth	Dip	Azimuth
TLDD_005	474409	6672194	373	186.05	-60	246
TLDD_006	474416	6672174	373	186.0	-60	246
TLDD_007	474424	6672157	372	186.0	-60	246
TLDD_008	474432	6672138	372	183.0	-60	246
TLDD_009	474440	6672120	372	185.8	-60	246
TLDD_010	474449	6672102	371	189.1	-60	246
TLDD_011	474461	6672085	371	185.9	-60	246
TLDD_012	474469	6672067	371	189.1	-60	246
TLDD_013	474477	6672049	371	190.2	-60	246

Table 2 Significant intersections for all Stage 1 diamond core holes

Hole_id	Easting	Northing	RL	Depth from	Interval	Au	Comment
TLDD_005	474409	6672194	373	58.3	0.2	13.30	
TLDD_005	474409	6672194	373	65.68	0.54	10.35	
TLDD_005	474409	6672194	373	77.6	0.2	15.05	
TLDD_005	474409	6672194	373	91.31	0.6	7.31	
TLDD_005	474409	6672194	373	123.61	1.49	13.72	
TLDD_005	474409	6672194	373	133.63	1.62	7.36	visible gold
TLDD_005	474409	6672194	373	139.25	0.7	14.76	
TLDD_005	474409	6672194	373	144	0.2	10.90	
TLDD_005	474409	6672194	373	160.64	0.96	10.71	
TLDD_005	474409	6672194	373	174.4	0.32	24.15	
TLDD_005	474409	6672194	373	184.98	0.2	20.75	
TLDD_006	474416	6672175	373	46.34	0.2	2.18	
TLDD_006	474416	6672175	373	62.32	4.68	16.72	visible gold
TLDD_006	474416	6672175	373	72	1	8.91	
TLDD_006	474416	6672175	373	75.53	1.2	7.30	
TLDD_006	474416	6672175	373	90.61	0.46	209.50	visible gold
TLDD_006	474416	6672175	373	102	1	59.90	visible gold
TLDD_006	474416	6672175	373	113.84	0.2	2.00	
TLDD_006	474416	6672175	373	115.63	0.24	38.75	visible gold
TLDD_006	474416	6672175	373	120.97	0.26	7.42	
TLDD_006	474416	6672175	373	128.8	0.67	8.69	
TLDD_006	474416	6672175	373	132.9	0.2	18.40	visible gold
TLDD_006	474416	6672175	373	160.67	0.52	54.27	visible gold
TLDD_006	474416	6672175	373	164	0.32	14.55	
TLDD_006	474416	6672175	373	173.03	0.5	4.28	
TLDD_006	474416	6672175	373	179.08	0.2	3.15	
TLDD_007	474424	6672157	372	42.55	0.2	3.04	
TLDD_007	474424	6672157	372	75	4	15.94	
TLDD_007	474424	6672157	372	90.35	0.63	17.27	
TLDD_007	474424	6672157	372	101.48	0.7	4.42	
TLDD_007	474424	6672157	372	106.84	0.24	41.35	visible gold
TLDD_007	474424	6672157	372	113.85	0.2	7.32	-
TLDD_007	474424	6672157	372	130.65	0.2	59.95	visible gold
TLDD_007	474424	6672157	372	132.86	0.45	125.50	visible gold
TLDD_007	474424	6672157	372	147.15	0.22	20.60	
TLDD_007	474424	6672157	372	162.45	0.33	4.97	-
TLDD_007	474424	6672157	372	174.84	0.27	2.88	

## **December 2019 Quarterly Report**

Hole id	Easting	Northing	RL	Depth from	Interval	Au	Comment
TLDD 008	474432	6672138	372	76.4	2.03	4.53	visible gold
TLDD 008	474432	6672138	372	89.45	0.44	3.76	3
TLDD 008	474432	6672138	372	99.01	0.99	8.75	visible gold
TLDD 008	474432	6672138	372	114.43	0.36	5.44	3
TLDD 008	474432	6672138	372	120.23	0.2	2.89	
TLDD 008	474432	6672138	372	132.87	0.64	71.15	visible gold
TLDD 008	474432	6672138	372	137.88	0.24	3.75	J
TLDD 008	474432	6672138	372	140.3	0.2	46.60	visible gold
TLDD 008	474432	6672138	372	165.26	0.2	2.71	visible gold
TLDD 008	474432	6672138	372	169.74	0.27	8.73	visible gold
TLDD 009	474440	6672120	372	105.68	0.44	5.01	G
TLDD 009	474440	6672120	372	127.85	0.25	38.30	visible gold
TLDD 009	474440	6672120	372	133.48	1.4	66.20	visible gold
TLDD_009	474440	6672120	372	138.58	0.28	46.53	visible gold
TLDD_009	474440	6672120	372	140.85	0.2	3.67	
TLDD_009	474440	6672120	372	144.25	0.2	35.00	
TLDD_009	474440	6672120	372	149.62	0.2	14.85	
TLDD_009	474440	6672120	372	170.16	0.32	34.63	
TLDD 010	474449	6672102	371	101	1	2.06	
TLDD_010	474449	6672102	371	103.9	0.83	41.70	
TLDD_010	474449	6672102	371	114.39	1.96	7.68	visible gold
TLDD_010	474449	6672102	371	129.02	0.83	258.00	visible gold
TLDD_010	474449	6672102	371	133.89	0.36	35.60	visible gold
TLDD_010	474449	6672102	371	140.05	0.48	4.41	visible gold
TLDD_010	474449	6672102	371	143	1	3.57	
TLDD_010	474449	6672102	371	171	0.25	59.20	
TLDD_010	474449	6672102	371	177.2	0.2	3.16	
TLDD_011	474461	6672086	371	102.14	0.38	4.05	
TLDD_011	474461	6672086	371	128.6	0.37	73.85	visible gold
TLDD_011	474461	6672086	371	143.38	0.64	170.33	visible gold
TLDD_011	474461	6672086	371	153.39	0.22	120.50	visible gold
TLDD_011	474461	6672086	371	164.8	0.2	35.50	
TLDD_011	474461	6672086	371	178.75	0.43	69.57	

Hole_id	Easting	Northing	RL	Depth from	Interval	Au	Comment
TLDD_012	474469	6672067	371	113.16	0.2	5.68	
TLDD_012	474469	6672067	371	134.19	0.51	63.20	
TLDD_012	474469	6672067	371	144.1	0.2	9.52	
TLDD_012	474469	6672067	371	147.8	0.2	3.39	
TLDD_012	474469	6672067	371	156.58	0.2	2.03	visible gold
TLDD_012	474469	6672067	371	163.83	0.33	8.99	
TLDD_012	474469	6672067	371	171.25	0.2	4.82	
TLDD_012	474469	6672067	371	178.09	0.2	6.74	
TLDD_012	474469	6672067	371	180.95	0.2	58.30	
TLDD_013	474477	6672049	371	37.24	0.5	3.94	
TLDD_013	474477	6672049	371	79.54	0.2	22.15	
TLDD_013	474477	6672049	371	99.22	0.2	3.46	
TLDD_013	474477	6672049	371	134.38	0.67	19.90	visible gold
TLDD_013	474477	6672049	371	143.23	1.57	5.00	<u>-</u>
TLDD_013	474477	6672049	371	174.64	0.2	2.47	
TLDD_013	474477	6672049	371	180.57	0.79	3.05	•

#### **IRON ORE / BASE METALS**

#### Mount Bevan Iron Ore / Base Metals Project

(Hawthorn 40%, Legacy 60% and managing)

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

#### Iron Ore

Several substantial BIF horizons have been identified within the tenement, the westernmost of these horizons hosts the *Mt Bevan Indicated Magnetite Resource* of *322Mt* @ *34.7% Fe* within a larger *Inferred Magnetite Resource* of *1,117 Mt* @ *34.9% Fe*. In addition, the northern extension of the Jupiter Mines Limited ("Jupiter") *Mt Mason Resource DSO Haematite Resource* (*9.4Mt* @ *57.6% Fe*) extends into the Joint Venture tenement.

#### **Base Metals**

As reported in the September 2019 Quarterly Report, the Joint Venture through Legacy undertook a RC drilling program testing magnetic targets very close to the St George Mining (ASX: SGQ) tenement areas adjacent to and adjoining the Joint Ventures northern tenement boundaries. The details of the assay results and petrographic reports arising from the exploration program are not yet available.

Again, as noted in the September Report, should the petrographic studies of RC rock chips establish that the Joint Venture has intersected the younger mafic rocks this will significantly increase the possibility of finding sulphide concentrations of Ni-Cu-PGM mineralisation similar to that being drilled by St George. In places this activity is less than a kilometre from our northern lease boundary.

#### **CORPORATE**

#### Issued Securities - ASX Limited securities code: "HAW"

The number of ordinary fully paid shares on issue and quoted on the official lists of the ASX as at 31 December 2019 was unchanged at 326,615,613 fully paid ordinary shares.

As at 31 December 2019 the Top 20 Shareholdings, as set out below, held 244,946,138 shares (September 2019: 246,067,253 shares) being 72.67 per cent of the number of shares on issue (September 2019: 75.34 per cent):

SHAREHOLDER	No. shares	%
FENG HUA MINING INVESTMENT HOLDING (HK) LIMITED	120,788,101	36.98
BELFORT INVESTMENT ADVISORS LIMITED	56,095,028	17.17
LEGACY IRON ORE LIMITED	12,575,000	3.85
MR MARK GREGORY KERR & ASSOCIATES	11,100,456	3.40
HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	6,777,491	2.08
MR BRIAN THORNTON	5,761,879	1.76
YELRIF INVESTMENTS PTY LIMITED <pension a="" c="" fund=""></pension>	5,500,000	1.68
MR VICTOR LORUSSO	4,127,529	1.26
DR MARK THEO BLOCH	3,835,000	1.17
MR WILLIAM DONALD LLOYD	2,376,166	0.73
YELRIF INVESTMENTS PTY LIMITED	2,000,002	0.61
MR MICHAEL ROBERT WELLARD	2,000,000	0.61
AUSTIC ENTERPRISES PTY LTD	2,000,000	0.61
MR MARK A & MRS LINDA J MITCHELL <m &="" f<br="" l="" mitchell="" s="">A/C&gt;</m>	1,800,000	0.55
MR LUCIO ANTHONY CONTE	1,588,801	0.49
MILA INVESTMENT CO PTY LTD <mila a="" c="" investment=""></mila>	1,420,000	0.43
MR TONY DOMENIC AMATO	1,346,254	0.41
MS JANET ELIZABETH WELLARD	1,328,319	0.41
KRISHNAJIPITALE PTY LTD <krishnajipitale a="" c="" f="" s=""></krishnajipitale>	1,326,112	0.41
M CONWAY INVESTMENTS PTY LTD < CONWAY FAMILY A/C>	1,200,000	0.37

#### Funding/Cash Balance/Working Capital

As at 31 December 2019 the Company held funds-on-hand of A\$30.58 million (September 2019: A\$20.29 million). For full details of Cashflow movements refer to the Appendix 5B Report accompanying this Quarterly Activities Report.

The above reported funds on hand at quarter end relate to the movement in cash during the quarter under review and are not to be confused with the accrual accounting system applicable in the preparation and audit of financial statements.

As at the quarter end the Company and the Trouser Legs Mining Joint Venture ("TLMJV"), as managed by the Company, as required under accounting standards, accrue and account for expenditures and revenues incurred/generated during the quarter but have not, as at quarter end, been paid or received.

Such accrued outflow items include Joint Venture Distributions and Accrued Expenditures, such as Trading Creditors, State Royalty payments, GST Collections, Local Government rates/taxes and upcoming mining operations closure and rehabilitation of mine site. These currently amount to in excess of \$6m.

Pending final grade reconciliation there are expected inflows (net of processing costs) to be received from provisional ore parcels 21 and 22 and, subject to umpire confirmations, final invoices for ore parcels 20, 21 and 22.

#### Mining Tenements

#### **December 2019 quarterly movements:**

For full details of the movements in Mining Tenement interests during the period and held as at 31 December 2019 refer to the schedules attached to the Appendix 5B Report accompanying this Quarterly Activities Report.

#### Return of Funds to Shareholders

In the Managing Director's address to shareholders at the 2019 Annual General Meeting held on 29 November 2019 Mr Kerr advised that:

"...With the funds generated from the sale of the Yundamindera Prospect the Company has resolved, subject to a satisfactory tax ruling, to distribute funds of \$13.5m that are surplus to the Company's current and 2020 obligations/ funding requirements. This would amount to a capital return of approximately 4.1 cents per share based on the number of shares on issue as at today..."

In December 2019 the Company lodged an application with the Australian Taxation Office seeking a draft ruling on the proposed return of capital.

Mourice Garbutt Company Secretary

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The information in this report that relates to the Mineral Reserve estimation is based on information compiled by Mr William Lloyd, a Competent Person who is a Member of Australasian Institute of Mining and Metallurgy. Mr Lloyd is employed by BM Geological Services. Mr Lloyd has been engaged as an external independent consultant by Hawthorn Resource Limited. Mr Lloyd 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'. Mr Lloyd consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Dr David Tyrwhitt, a Fellow of the Australasian Institute of Mining and Metallurgy. Dr Tyrwhitt 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. Dr Tyrwhitt consented 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 Stage 1 drilling at the Trouser Legs Gold Project and has been compiled by Mr Darryl Mapleson, a full time employee of BM Geological Services. Mr Mapleson is a Fellow of the Australian Institute of Mining and Metallurgy. Mr Mapleson have been engaged as a consultant by Hawthorn Resources. Mr Mapleson 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'. Mr Mapleson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## **Appendix 1**

## JORC Code, 2012 Edition – Trouser Legs Mine – Stage 1 Diamond Core Drilling

### **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>A Senior BMGS (site contractor) Geologist managed the drilling for Hawthorn Resources for the duration of the program.</li> <li>Diamond core (HQ) = 9 Holes / 1,681.15 metres</li> <li>Diamond core was cut using an Almonte automated core saw on selected geological intervals. The core was cut in half and one half of the core was submitted for gold analysis.</li> <li>The drill hole collar locations were surveyed by DGPS using Kalgoorlie based registered surveyors of Minecomp Pty Ltd. Sampling was carried out under Hawthorn's protocols and QAQC procedures as per industry best practice. See further details below.</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>	<ul> <li>The rig used was Terra Drilling Rig 6 which is a truck mounted KWL 1600. The diamond core drilled was HQ2.</li> </ul>
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>Assessment of RC recovery is by visual means. Recovery is good there is no known relationship between recovery and mineralisation grade in holes.</li> <li>Diamond Core is logged with any core loss noted in logsheets</li> <li>No effect between recovery and grade has been detected</li> </ul>
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	Core logging of this program

JORC Code 2012 1

Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	<ul> <li>has been digitally captured, and is capable of being included in a Mineral Resource Estimation.</li> <li>Holes have been digitally logged on site and uploaded into the main database on a weekly basis.</li> <li>Diamond Core logging for lithology, alteration, geotechnical and structural elements is ongoing at site.</li> </ul>
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>	<ul> <li>Drill core was sawn in half using an Almonte automatic core saw The half core was used for assay analysis. The remaining half of the drill core was stored.</li> <li>Core was sampled to geological units. Individual quartz veins were selectively sampled; varying in size between 15 cm to 1 metres down hole.</li> <li>CRM standards and blanks 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>Samples are assayed by Fire Assay, 50 g charge at Bureau Veritas, Kalgoorlie. The techniques is considered to be appropriate for the material and style of mineralization.</li> <li>3 different gold grade CRM standards, duplicates and blanks have been submitted at a rate of approximately 6 (3 CRMs, 2 duplicates, 1 Blank) / 100 samples.</li> <li>Analysis on individual standards is ongoing with each standard inserted performing reasonably well with no major variance observed.</li> <li>No distinct or systemic bias has been detected</li> </ul>

JORC Code 2012

Criteria	JORC Code explanation	Commentary
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>Significant intersections have been assessed by Mine Geology staff at the Trouser Legs Gold Mine</li> <li>Laboratory data is supplied electronically to site and head office</li> <li>Project data is currently stored at the head office of the company and in onsite laptops and on the Trouser Legs Mine server. Each system is backed up on a regular schedule.</li> <li>Geological logging is entered by technical staff and reviewed for correctness.</li> <li>Samples for assay are collected from drillsite and upon collection are transported in Bulka bags to the laboratory for assay</li> <li>Initial assays of &gt;0.40 g/t Au are requested for duplicate assay</li> </ul>
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>The grid is GDA 94 Zone 51.</li> <li>All collars have been surveyed by registered surveyors using a DGPS as part of mine site surveying</li> <li>Surface landform is generally flat and surveyed drill holes have been incorporated into a topographic surface.</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>Drill holes were drilled on fences 20 meters apart. Holes are designed to intersect ore lodes at regular vertical depths sufficient to be used in and Ore Resource Estimation</li> <li>Drilling was designed to update Mineral Resource in this area</li> <li>No compositing applied</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>	The drilling is collared at -60 degrees for each of the 13 holes and drilled at an azimuth of 240°. Orientations are at or within 10 degrees to the interpreted right angle of the strike of mineralization. Dip of mineralization is believed to be at greater than 60-70° to the E or ENE.

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Criteria	JORC Code explanation	Commentary
		<ul> <li>It is understood that there is no bias introduced by the drilling direction.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>During sample cutting and bagging of all drill holes, a BMGS staff member is always present. Samples are delivered to the laboratory in batches by BMGS.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling and assaying techniques are industry standard.</li> <li>No specific audits or reviews have been undertaken at this stage in the program.</li> </ul>

## **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>The drilling was carried out on granted M31/79 with a PoW and Mining Approval in place. The tenement is in a 70:30 contributory JV with Gel Resources</li> <li>There are no known issues and the tenements are in good standing at this time</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Significant exploration has been undertaken by other parties. The data has been reviewed for both location and grade distribution. To date the post 2011 and the pre 2011 data grade distribution is almost identical. A selection of pre 2011 drillholes have been surveyed in the current coordinate system and are located correctly.</li> <li>Aurifex/Newmont/Amoco/Picon/Little River drilled 14,150 m RC, 438 m DD, 4,572 m percussion and 398.3 m of channel samples pre-1999</li> <li>Gutnick Resources NL drilled 23,566 m RC and 912.7 m DD between 1999 and 2008</li> </ul>

JORC Code 2012

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Mineralization occurs in a broad shear bound alteration zone within a felsic schist unit that dips west from 55 to 70 degrees and ranges from 20 to 100 m in width. Individual gold lodes are interpreted to dip from 38 to 80 degrees towards the east and occurs in a number of fairly discrete packages, stacked above each other, broadly similar to a ladder vein system. Gold mineralization appears to be related to thin quartz veins which vary in thickness from 2 mm to 80 cm but occur in sub parallel groups. A small pit mined during the mid to late 1980's provides good exposure for mapping mineralized veins. Many veins can be followed 30 to 50 m along strike with more prominent veins being followed for up to 120m.</li> <li>Mining of the deposit has commenced and vein orientation maps are being produced</li> </ul>
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>	<ul> <li>All drillholes drilled in the period have been reported in Appendix 2. All significant assays have been reported in the body of the report.</li> <li>Holes with no significant assay results are reported as such.</li> </ul>
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</li> </ul>	<ul> <li>As per Tables 1 and 2 in the attached release</li> <li>There has been no top-cutting applied</li> </ul>

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Criteria	JORC Code explanation	Commentary
	should be clearly stated.	
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 widths are estimated at approximately 60-80% of downhole reported width
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>Refer to Figures 1 – 4 of the report.</li> </ul>
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>	Not applicable as all results of > 5 gram metres are reported
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>	<ul> <li>Drill holes have all been gyroscopically surveyed at 5 m intervals by contract firm ABIM Solutions.</li> <li>In addition, all13 holes were surveyed using a downhole OTV camera system. These images are being used to assess the structural orientation of lodes.</li> </ul>
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>	Follow up RC drilling and core drilling will be undertaken as part of Stage 2.

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+Rule 5.5

## **Appendix 5B**

## Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

#### Name of entity

#### HAWTHORN RESOURCES LIMITED

**ABN** 

Quarter ended ("current quarter")

44 009 157 439

31 December 2019

Cor	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	24,247	41,565
1.2	Payments for		
	(a) exploration & evaluation	(173)	(248)
	(b) development	-	-
	(c) production *	(9,996)	(21,215)
	(d) staff costs	(61)	(112)
	(e) administration and corporate costs	(291)	(499)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	135	144
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Research and development refunds	-	-
1.8	Other – GST refunds/(payments)	(1,473)	(1,727)
	Other - JV Partner contributions/(payments)	(2,100)	(3,186)
1.9	Net cash from / (used in) operating activities	10,288	14,722

<sup>\*</sup> Includes full repayment of mill processing concession

2.	Cash flows from investing activities	
2.1	Payments to acquire:	
	(a) property, plant and equipment	-
	(b) tenements (see item 10)	-
	(c) investments	- (112)
	(d) other non-current assets	-

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

<sup>1</sup> September 2016

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	<b>-</b>	(112)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
3.2	Proceeds from issue of convertible notes	-	
3.3	Proceeds from exercise of share options	-	
3.4	Transaction costs related to issues of shares, convertible notes or options	-	
3.5	Proceeds from borrowings	-	
3.6	Repayment of borrowings	-	
3.7	Transaction costs related to loans and borrowings	-	
3.8	Dividends paid	-	
3.9	Other (provide details if material)	-	
3.10	Net cash from / (used in) financing activities	-	

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	20,292	15,970
4.2	Net cash from / (used in) operating activities (item 1.9 above)	10,288	14,722
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	(112)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	30,580 *	30,580 *

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

As at the quarter end the Company and the Trouser Legs Mining Joint Venture ("TLMJV"), as managed by the Company, as required under accounting standards, accrue and account for expenditures and revenues incurred/generated during the quarter but have not, as at quarter end, been paid or received.

Such accrued outflow items include Joint Venture Distributions and Accrued Expenditures, such as Trading Creditors, State Royalty payments, GST Collections, Local Government rates/taxes and upcoming mining operations closure and rehabilitation of mine site. These accrued items currently amount to in excess of \$6m.

Pending final grade reconciliation there are expected inflows (net of processing costs) to be received from provisional ore parcels 21 and 22 and, subject to umpire confirmations, final invoices for ore parcels 20, 21 and 22.

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	8,559	6,942
5.2	Call deposits	20,168	13,350
5.3	Bank overdrafts	-	-
5.4	Other (Mine Rehab Fund)	1,853	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	30,580	20,292

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	114
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-

6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Directors fees & salary \$47,991 (Previous Quarter \$39,741)
Fully Serviced Office facility rental \$52,250 (Previous Quarter \$52,250)
Company requested Consulting Fees \$14,250 (Previous Quarter \$12,375)

7.	Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1	Aggregate amount of payments to these parties included in item 1.2	-
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.0		

7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

<sup>\*</sup> The above reported funds on hand at quarter end relate to the movement in cash during the quarter under review and are not to be confused with the accrual accounting system applicable in the preparation and audit of financial statements.

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

<sup>1</sup> September 2016

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1	Loan facilities	-	-
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)	-	-

8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.

Please note that the below estimated cash flows for the upcoming quarter have been prepared specifically excluding the proceeds from the delivery and processing ore from the Trouser Legs Mining Joint Venture mining operations.

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Exploration and evaluation	600
9.2	Development	-
9.3	Production *	4,200
9.4	Staff costs	110
9.5	Administration and corporate costs	160
9.6	Other (provide details if material)	-
9.7	Total estimated cash outflows	5,070

<sup>\*</sup> Revenue expected to be received during the quarter per the signed Ore Sale and Purchasing Agreement – see ASX announcement 27<sup>th</sup> October, 2017 and 12<sup>th</sup> June, 2018.

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced		See attached		
10.2	Interests in mining tenements and petroleum tenements acquired or increased		See attached		

1 September 2016

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

#### **Compliance statement**

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

(Company secretary)

 JJJJ

 Sign here:
 Date: 31/01/2020.

Print name: MOURICE GARBUTT

#### **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 that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, 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. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

1 September 2016

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

# HAWTHORN RESOURCES LIMITED ACN 009 157 439 CHANGES IN INTERESTS IN MINING TENEMENTS

#### 10.1 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

#### 10.2 Interests in Mining Tenements acquired Or increased

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

1 September 2016

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

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

Project / Tenement	Location	Interest at beginning of quarter	Interest at end of quarter	Joint Venture Partner / Farm- In Partner / Farm Out Partner
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 31/1049		100%	100%	
E 31/1050		100%	100%	
E 31/1176		100%	100%	
Triumph	West Australia			
M 31/481		100%	100%	
Mt Bevan Iron Ore Joint Venture	West Australia			
E 29/510 -I		40%	40%	Legacy Iron Ore Limited
Pinjin – Trouser Legs Joint Venture	West Australia			
G 31/4		70%	70%	GEL Resources
L 31/32		70%	70%	GEL Resources
L 31/65		70%	70%	GEL Resources
L 31/66		70%	70%	GEL Resources
L 31/68		70%	70%	GEL Resources
L 31/69 (A)		0%	0%	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				
Joint Venture	West Australia	9-7-1	9651	
E 31/789		80%	80%	Westgold Resources Ltd
Teutonic Bore				
Royalty *	West Australia	621	001	
E 37/902		0%	0%	Jabiru Metals
P 37/7351		0%	0%	Jabiru Metals
	* Royalty up to a maximun	n of \$1m subject to	conditions	

<sup>+</sup> See chapter 19 for defined terms 1 September 2016