ASX Release 30 April 2020

ASX Symbol: HAW

ABN 44 009 157 439

#### **Hawthorn Resources Limited**

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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)

#### QUARTERLY ACTIVITIES REPORT - MARCH 2020



# HAWTHORN RESOURCES LIMITED

# Quarterly Report – March 2020

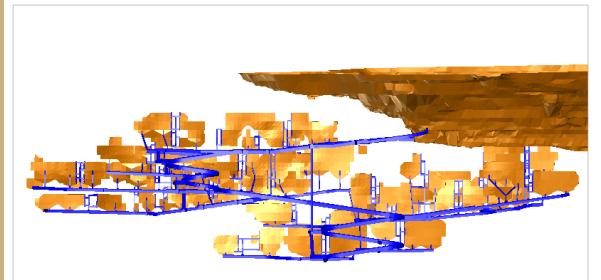


Figure 1: Underground mine design at the Trouser Legs Joint Venture (70% Hawthorn Resources, 30% Gel Resources).

# MINING AND PRODUCTION

#### Trouser Legs Joint Venture

(Hawthorn Resources 70%, Gel Resources 30%): Manager - Hawthorn Resources Limited. Trouser Legs JV – Open Pit - Gold

Grades and final payments for the remaining high-grade open pit parcels were received during the quarter, with average grades slightly exceeding forecast:

- Parcel 21 (17,969 tonnes) returned a payable grade of 2.71g/t to deliver 1,566oz.; Gold Price – A\$2,152.50/ ounce.
- Parcel 22 (18,307 tonnes) returned a payable grade of 2.14g/t to deliver 1,257oz; Gold Price A\$2,149.26/ ounce.

For a full summary of the open-pit gold mine results refer to the December 2019 Half-Year Financial Report as released to the ASX on 13 March 2020 – see item 2.6 in the Directors' Report.

Significant low-grade stockpiles remain on site from open pit mining, with an estimated 210kt stockpiled within a grade range of 1.1g/t to 1.4g/t. Whilst the processing of these stockpiles is economic at the current gold price, metallurgical test work is being undertaken to assess alternative processing options that may deliver superior economics.



Figure 2: Low grade stockpiles at the Trouser Legs JV.

The company's strategy of utilising a predominantly local contract workforce means that the transition to underground mining can occur with minimal disruption from COVID-19 restrictions.

# DEVELOPMENT

## Trouser Legs JV – Gold - Underground

During the quarter 2,947m of reverse circulation and 640m of diamond core infill drilling was undertaken on the down plunge southern extension of the high-grade core of mineralisation at the Trouser Legs gold project. Drilling results were in-line with expectations and culminated in the release of a maiden underground Mineral Resource Estimate<sup>1</sup> post quarter.

Mineral Resource Category	Tonnes	Au (g/t) (Cut)	Ounces (Cut)	Au (g/t) (Uncut)	Ounces (Uncut)
Indicated	448,000	6.9	99,000	8.3	119,000
Inferred	337,000	5.1	55,000	5.3	58,000
Grand Total	785,000	6.1	154,000	7.0	177,000

Table 1: Underground Mineral Resource Estimate<sup>1</sup> for the TLGP. Grade are given at a 45g/t cut and uncut

Importantly, the work has confirmed a gentle southerly plunge to the orebody of approximately 10° to 15°. A fence of three diamond holes is planned, subject to Board approval, to be drilled to a depth of 320m below surface over the June quarter, with the aim of extending the resource a further 200m south. If the orebody is intersected as expected it will lead to a near 50% increase to the current un-mined strike length.

During the quarter historical geophysical data was reinterpreted by independent geophysical consultants. The work confirms that the magnetic geological unit adjacent to the mineralisation can be traced for at least 750m south of the existing resource before the signature becomes ambiguous. This greatly assistance in the targeting of mineralisation down plunge of the existing resource.

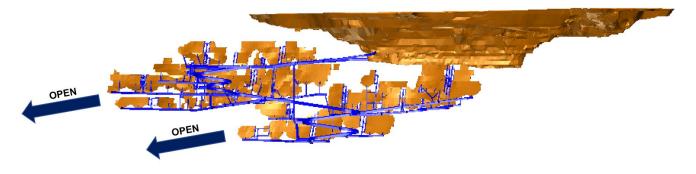


Figure 3: Oblique westerly view of the underground mine design. Arrows indicate the plunge of the mineralisation.

Work on the various environmental and operating approvals for the project progressed during the quarter, with approval of the Underground Mining Proposal received from the West Australian Department of Mines, Industry Regulation and Safety (DMIRS) post quarter.

As Manager, the Company is currently establishing for participants' consideration a budget regarding the feasibility of the underground project and the risk return dimensions.

<sup>&</sup>lt;sup>1</sup>Refer to ASX announcement Trouser Legs Gold Project Underground Update, released April 14 2020 and the Exploration Results and Mineral Resource compiled by Mr Darryl Mapleson contained therein.

# **EXPLORATION**

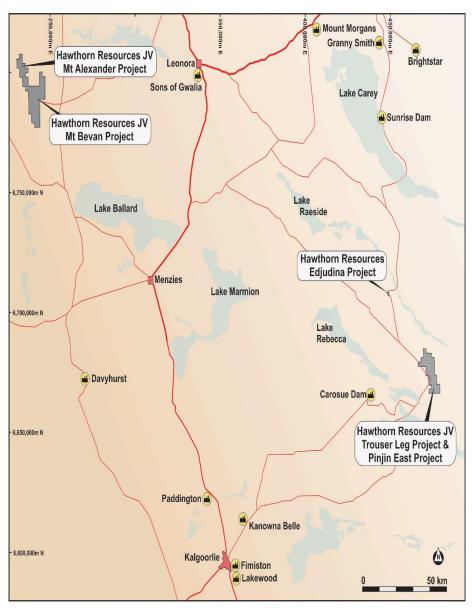


Figure 4: Project location map, Western Australian goldfields.

#### Mount Bevan/ Mt Alexander - Joint Venture - Base Metals

(Legacy Iron Ore Ltd 60%; Hawthorn Resources Limited 40%): Manager- Legacy Iron Ore Ltd.

The Joint Venture tenement area consists of Exploration Licence 29/510, being approximately 100 km west of Leonora in the Central Yilgarn region of Western Australia and is located immediately south of St George Mining Limited's (ASX: SGQ) Mt Alexander Project;

St George Mining has had significant success identifying nickel-copper sulphide mineralisation at its "Cathedrals", "Strickland's", and "Investigators" prospects along the Cathedrals Shear zone (refer to St George Mining Limited ASX announcements).

### QUARTERLY ACTIVITIES REPORT - MARCH 2020

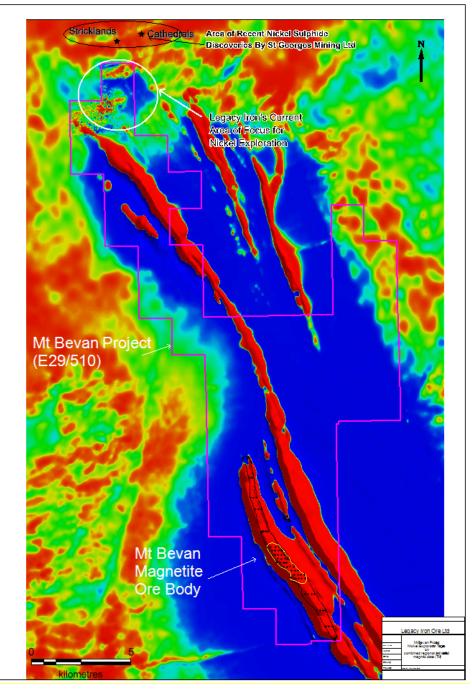


Figure 5: Mt Bevan Project – airborne magnetics data (TMI) showing area of interest for nickel sulphide mineralisation

For the March 2020 quarter the Manager has reported that no major field activities were carried out at the project. However, the results of the mineragraphic and petrological studies on the RC drill chips completed by Teale & Associates Pty Ltd were received towards the end of the quarter.

The studies indicate the presence of non-deformed, non-metamorphosed, post tectonic ultramafics in drill hole 1114 (Drill depths: 32m-34m and 68m-71m in MBC1114). These results support the progression of a follow up drill program to the south of drill holes MBC 1114 and MBC 1122, to verify the low order anomalism noted in both the down hole as well as surface EM.

#### QUARTERLY ACTIVITIES REPORT – MARCH 2020

#### Trouser Legs – Joint Venture – Gold

(Hawthorn Resources Limited 70%; Gel Resources Pty Ltd 30%): Manager – Hawthorn Resources Limited.

Regional exploration was recommenced at the Trouser Legs JV with the completion of a 16hole program of aircore drilling on lease E31/781. The 16 holes were evenly divided amongst two drill lines and drilled to a maximum depth of 54 metres. These lines were spaced 250 metres apart. On average the collars within each line were spaced every 25 metres. No significant intersections were returned however the area is still considered prospective and a follow up campaign of auger work is being planned for the 2021 season.

## 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 March 2020 was unchanged at 326,615,613 fully paid ordinary shares.

As at 31 March 2020 the Top 20 Shareholdings held 245,363,986 shares (December 2019: 244,946,138 shares) being 75.11 per cent of the number of shares on issue (December 2019: 72.67 per cent):

#### Funding/Cash Balance/Working Capital

As of 31 March 2020 the Company held funds-on-hand of A\$30.84 million (December 2019: A\$30.58 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, GST Collections and Credits, Local Government rates/taxes, mining operations closure and rehabilitation of mine site.

#### Mining Tenements

For full details of the movements in Mining Tenement interests during the period and held as at 31 March 2020 refer to the schedules attached to the Appendix 5B Report accompanying this Quarterly Activities Report.

#### QUARTERLY ACTIVITIES REPORT – MARCH 2020

#### 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:

"...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.

As at the date of this Report discussions are continuing with the ATO and an update to shareholders will be provided upon conclusion.

For further information, please contact Mourice Garbutt on (03) 9605-5950.

1.hr

Mourice Garbutt Company Secretary

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 Exploration Results and Mineral Resources 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 has been engaged as a consultant by Hawthorn Resources Limited. 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.

# JORC Code, 2012 Edition – Trouser Legs February 2020 Mineral Resource

#### **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>Sampling was conducted using a Reverse Circulation (RC) drilling rig and Diamond drilling rig (DD).</li> <li>RC samples were collected at every 1m and 0.5m interval using a cyclone and cone splitter to obtain a ~3kg representative sub-sample for each 1m interval. The cyclone and splitter were cleaned regularly to minimize contamination.</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>Field duplicates were collected at a rate of twice per hole.</li> <li>Samples were pulverised to produce a 40g charge for fire assay.</li> <li>Sampling and QAQC procedures are carried out using Hawthorn protocols as per industry best practice.</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>Reverse circulation (RC) drilling was carried out using a face sampling hammer with a 143mm (5 5/8") drill bit.</li> <li>Diamond drilling core was HQ diameter</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>RC sample recoveries are visually estimated qualitatively on a metre and 0.5 metre basis and recorded in the database.</li> <li>Diamond core sample recovery was measured and calculated during the logging, using standard RQD logging procedures.</li> <li>Drilling contractors adjust their drilling approach to specific conditions to maximise sample recovery.</li> <li>No sample recovery issues have impacted on potential sample bias.</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> </ul>	<ul> <li>All drillholes are logged in full.</li> <li>RC holes were logged at 1m and 0.5m intervals for the entire hole from drill chips collected and stored in chip trays.</li> <li>DD holes were logged geologically and structurally.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <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>Data was recorded for regolith, lithology, veining, fabric (structure), grain size, colour, sulphide presence, alteration and oxidation state.</li> <li>Logging is both qualitative and quantitative in nature depending on the field being logged.</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>All RC samples were passed through cyclone and cone split, and a ~3kg split sample is collected for each 1m or 0.5m interval, depending on depth.</li> <li>DD half core samples were collected at intervals of 1m or less if geologically relevant.</li> <li>Field duplicate samples were collected twice per hole through mineralised zones and certified reference standards were inserted at a rate of 1 per every 50 samples. Blank samples were inserted every 50 samples directly after a standard and also after potential ore zones.</li> <li>Sample preparation was conducted at Bureau Veritas Laboratory in Kalgoorlie using a fully automated sample preparation system. Preparation commences with sorting and drying. Oversized samples are crushed to &lt;3mm and split down to 3kg using a rotary or riffle splitter. Samples are then pulverized and homogenized in LM5 Ring Mills and ground to ensure &gt;90% passes 75µm.</li> <li>200g of pulverized sample is taken by spatula and used for a 40g charge for Fire Assay for gold analysis. A high-capacity vacuum cleaning system is used to clean sample preparation equipment between each sample.</li> <li>The sample size is considered appropriate for this type and style of mineralisation.</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>Fire Assay is an industry standard analysis technique for determining the total gold content of a sample. The 40g charge is mixed with a lead based flux. The charge/flux mixture is 'fired' at 1100oC for 50mins fusing the sample. The gold is extracted from the fused sample using Nitric (HNO3) and Hydrochloric (HCI) acids. The acid solution is then subjected to Atomic Absorption Spectrometry (AAS) to determine gold content. The detection level for the Fire Assay/AAS technique is 0.01ppm.</li> <li>Laboratory QA/QC controls during the analysis process include duplicates for reproducibility, blank samples for contamination and standards for bias.</li> </ul>

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>All drilling and significant intersections have been assessed by Mine Geology staff at the Trouser Legs Gold Mine.</li> <li>No pre-determined twin holes were drilled during this program.</li> <li>Geological logging was captured digitally for each hole.</li> <li>No adjustments or calibrations were made to any assay data reported.</li> <li>Initial assays of &gt;0.4 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>Drillhole collar locations are surveyed before and after by a qualified surveyor using sophisticated DGPS with a nominal accuracy of +/-0.05m for north, east and RL (elevation)</li> <li>Down-hole surveying was completed using a Li Hue north seeking gyroscope at the end of the program</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>Drillholes were located on 20m spaced traverses at 10m centres between and along strike from previous drillholes.</li> <li>Drilling was designed to update the Mineral Resource in this area and test the continuity of gold mineralisation.</li> <li>The drill spacing is considered sufficient for the style of mineralisation.</li> <li>No sample compositing has been applied to mineralised intervals.</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>Drilling was perpendicular to the strike of the main mineralised structure targeted for this program. All reported intervals are however reported as downhole intervals and not true-width.</li> <li>No drilling orientation and/or sampling bias have been recognized in the data at this time.</li> </ul>
Sample security	• The measures taken to ensure sample security.	• During sampling of all drill holes, a staff member was always present. Samples were delivered to the laboratory in batches by staff.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audits or reviews have been conducted on sampling techniques and data at this stage.</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 mineral tenements M31/79 and M31/284 with a PoW and Mining Approval in place. The tenement is in a 70:30 contributory JV with Gel Resources.</li> <li>The tenements are in good standing.</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 drill holes gave been surveyed in the current coordinate system and 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.</li> <li>Gutnick Resources NL drilled 23,566 m RC and 912.7 m DD.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Mineralization occurs in a broad shear bound alteration zone that dips west from 55 to 70 degrees and ranges from 20 to 100 m in width. The mineralisation is interpreted to dip from 38 to 75 degrees and occurs in a number of fairly discrete packages, stacked above each other, broadly similar to a ladder vein system. Gold mineralization is related to thin quartz veins which vary in thickness from 2 mm to 80 cm but occur in sub parallel groups. The geology was confirmed during the mining operation between December 2017 to December 2019. Many veins can be followed for 50 to 80 metres with more prominent veins being followed for up to 120m.</li> <li>Open pit mining of the deposit has taken place and vein orientation maps were 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> </ul> </li> </ul>	<ul> <li>Drill hole information for the drilling discussed in this report is listed in Appendix 1 in the context of this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>down hole length and interception depth</li> <li>hole length.</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>	
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>There has been no aggregation, compositing or top capping applied.</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>	<ul> <li>The majority of the holes were drilled perpendicular to the ore body and are believed to be representative of the true thickness if mineralisation.</li> </ul>
Diagrams	• 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.	<ul> <li>Appropriate plans and sections have been included in the body of this report.</li> </ul>
Balanced reporting	• 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.	<ul> <li>No misleading results have been reported in this program.</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>	<ul> <li>Drill holes have all been surveyed using a Li Hue north seeking gyroscope at 5m intervals by Kalgoorlie based ABIM Solutions.</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> </ul>	<ul> <li>A single programme of three surface diamond drill holes stepping out 200 metres from the last section of known mineralisation has been</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <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>	planned.

# Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Database inputs were logged electronically at the drill site. The collar metrics, assay, lithology and down-hole survey interval tables were checked and validated by BMGS staff.</li> <li>The database was checked for duplicate values, from and to depth errors and EOH collar depths.</li> <li>A 3D review of collars and hole surveys was completed in Surpac to ensure that there were no errors in placement of dip and azimuths of drill holes.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• No sites visits were undertaken by the Competent Person; however, the project was organised and overseen by BMGS staff who adequately described the geological processes used for the collection of geological and assay data.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>Mineralisation is defined by a westerly dipping shear zone that contains numerous parallel lodes that dip to the east between 40-80°.</li> <li>There appears to be a sharp boundary on the eastern edge of the mineralised shear zone, but the western edge appears to be less defined.</li> <li>Confidence in the geological interpretation is high based on measurement from diamond drilling, observations made in the open pit and infill drilling aligning well with previous interpretations.</li> <li>The geological interpretation was created using a downhole width of 1 meter for lode widths based on the assumption that veins at Trouser Legs are 0.2 -0.6 meters wide and accounting for minimum underground mining widths. Much thicker zones of mineralisation are often present in RC drilling (2-3 meters compared to the 20cm veins seen in diamond holes) most likely caused by the thin high grade veins being smeared across consecutive 1m samples and also separate veins occurring close enough for it to appear that there is consistent wide areas of mineralisation. Previous interpretations often</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>incorporated these wide areas of mineralization resulting in inflated lode sizes. To account for this the current interpretation used surrounding diamond holes and vein logging in RC holes to target the interval that the vein is most likely to sit. Any surrounding mineralisation that was reasonably thought to be part of the lode that was smeared across samples was flagged in a second round of interpretation to be included in the compositing process.</li> <li>A lower mineralisation cut-off of 0.5 g./t was used.</li> <li>Wireframes have been created for weathering surfaces including base of complete oxidation and top of fresh rock and mineralised domains.</li> <li>RC, DD and AC drilling data has been used to inform the wireframes.</li> </ul>
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Trouser Legs deposit has a strike length of 1.2 km and the stacked narrow veins are hosted in a shear zone which is nominally 150 meters wide, with a strike of 330°. The deposit is currently open at depth with the current mineralisation continuing to 310 vertical metres below surface.
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul> <li>Composites were created at a length of 1 meter using assays that were flagged in the two-stage interpretation. Where samples were flagged over 2 meters as a part of a 1-meter lode due to smearing, the gold grades were added together and divided by the width of the lode, which in most cases was 1 meter. This ensured the metal content stayed the same for the interval, but the relative grade increased due to the tightening of the lode width.</li> <li>Estimations were performed using Ordinary Kriging (OK). Hard boundaries were used for all estimation. In order to prevent overestimation and smearing of high-grade samples, top capping was applied to some domains.</li> <li>A top cap of 45 g/t was applied to the dataset. Selection of a top cap value was based on statistical analysis of the individual domains and the whole dataset.</li> <li>During the estimation, ellipsoidal searches orientated along the approximate strike and dip of the mineralisation were used. The X axis was orientated along strike, the Y axis across strike in the plane of mineralisation.</li> <li>The block model extents have been extended to allow for a minimum of form in ell directions part the output of language.</li> </ul>
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison</li> </ul>	

Criteria	JORC Code explanation	Commentary
	of model data to drill hole data, and use of reconciliation data if available.	<ul> <li>The block model was rotated to strike towards 330° to better represent the orientation of mineralisation.</li> <li>The block model was built with 10m North 5m East and 5m elevation parent block cells with sub blocks of 1.25m North 0.625m East and 0.625m elevation.</li> <li>Block size was determined via a kriging neighbourhood analysis (KNA), using Snowden mining software. A series of checks are used to confirm the block size to be being geologically suitable.</li> <li>No estimation has been completed for other minerals or deleterious elements.</li> <li>The model has been checked by comparing composite data with block model grades in swath plots (north/East/elevation) on each estimated domain. The block model visually and statistically reflects the input data.</li> </ul>
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages have been estimated on a dry basis.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>The Mineral Resource has been quoted using a lower cut-off grade of 3 g/t.</li> <li>This lower cut grade is in line with the assumption of extraction of material using underground mining methodology.</li> <li>A variety of other cut-off grades were also presented to highlight the viability of a potential underground resource and financial analysis</li> </ul>
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>The Mineral Resource has been reported based on utilising underground airleg mining methods.</li> </ul>
Metallurgical factors or assumptions	<ul> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of</li> </ul>	<ul> <li>Previous toll treatment for the Trouser Legs open pit mine through third party processing plants indicated no issues with metallurgical recoveries as there is no material change below the open pit. However, it is the intent of HAW to undertake further metallurgical test work on the diamond core drilled in Stages 1 and 2.</li> </ul>

Criteria	JORC Code explanation	Commentary
Environmen- tal factors or assumptions	<ul> <li>the basis of the metallurgical assumptions made.</li> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	operation.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Densities were taken from the 2013 AMC resource report as no new density information has been collected. The densities were applied based on the weathering profile.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Mineral Resource is classified as an Indicated and Inferred Resource under the JORC 2012 code. This classification is considered appropriate given the confidence that can be gained from the existing data density, results from drilling and geological observations made during the open pit mining phase.</li> <li>Areas classified as Indicated were based on having a drill spacing of at least 10m by 20m and the lode intersecting a diamond hole or recent RC hole sampled at 0.5m to lend veracity to the method used for interpretation and calculation of grades used in this resource.</li> <li>Areas supported by drill spacings of less than 20m by 50m have been classified as Inferred.</li> <li>Data integrity has been analysed and a high level of confidence has been placed on the dataset and resultant resource estimation.</li> <li>The Mineral Resource classification and results appropriately reflect the Competent Person's view of the deposits and the current level of risk associated with the project to date</li> </ul>

Criteria	JORC Code explanation	Commentary
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>No audits have been completed on this Mineral Resource estimate.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>There is good confidence in the data quality, drilling methods and analytical results. The available geology and assay data correlate well, and the geological continuity has been demonstrated.</li> <li>Additional drilling of the Trouser Legs deposit will improve the geological and grade understanding of the deposit.</li> </ul>

+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 March 2020

44	009	157	439	

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	6,898	48,463
1.2	Payments for		
	(a) exploration & evaluation	(459)	(707)
	(b) development	-	-
	(c) production *	(3,278)	(24,493)
	(d) staff costs	(59)	(171)
	(e) administration and corporate costs	(157)	(656)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	45	189
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)	(630)	(2,357)
	Other - JV Partner contributions/(payments)	(2,100)	(5,286)
1.9	Net cash from / (used in) operating activities	260	14,982
*	Includes full repayment of mill processing concession		
2.	Cash flows from investing activities		
2.1	Payments to acquire:		

		0		
2	.1 Pay	yments to acquire:		
	(a)	property, plant and equipment	-	-
	(b)	tenements (see item 10)	-	-
	(c)	investments	-	(112)
	(d)	other non-current assets	-	-

+ See chapter 19 for defined terms

# Appendix 5B Mining exploration entity and oil and gas exploration entity quarterly report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 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	-	(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	30,580	15,970
4.2	Net cash from / (used in) operating activities (item 1.9 above)	260	14,982
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	30,840 *	30,840 *

\* 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 guarter but have not, as at guarter end, been paid or received.

Such accrued outflow items include Joint Venture Distributions and Accrued Expenditures, such as Trading Creditors, GST Collections and Credits, Local Government rates/taxes and mining operations closure and rehabilitation of mine site.

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	9,006	8,559
5.2	Call deposits	20,198	20,168
5.3	Bank overdrafts	-	-
5.4	Other (Mine Rehab Fund)	1,636	1,853
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	30,840	30,580

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	103
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 \$43,866 (Previous Quarter \$47,991)	
Fully Serviced Office facility rental \$52,250 (Previous Quarter \$52,250)	
Company requested Consulting Fees \$6,600 (Previous Quarter \$14,250)	

7.	Payments to related entities of the entity and their
	associates

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

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

7.1

7.2

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)	-	-
0.4	Include holes, a description of each facil		

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.

9.	Estimated cash outflows for next quarter	\$A'000	
9.1	Exploration and evaluation	400	
9.2	Development	-	
9.3	Production, Mine Closure & Rehabilitation	400	
9.4	Staff costs	210	
9.5	Administration and corporate costs	180	
9.6	Other (provide details if material)	-	
9.7	Total estimated cash outflows	1,190	

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		

#### **Compliance statement**

- 1 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.

1hr

Sign here:

(Company secretary)

Date: 30/04/2020.

Print name: MOURICE GARBUTT

+ See chapter 19 for defined terms

1 September 2016

#### Notes

- 1. 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.

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

10.1 Interests in Mining Tenements relinquished, reduced or lapsed

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

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

**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			
E 31/789		80%	80%	Westgold Resources Ltd
Teutonic Bore				
Royalty *	West Australia			
E 37/902		0%	0%	Jabiru Metals
P 37/7351		0%	0%	Jabiru Metals
	* Royalty up to a maximum	n of \$1m subject to o	conditions	