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## THOR MINING PLC

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### Key Projects:

- **Tungsten**  
*Molyhil NT*  
*Pilot Mountain USA*
- **Copper**  
*Kapunda SA*

## Company Announcements Office

ASX Securities Limited,  
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### CLARIFICATION - PILOT MOUNTAIN SUCCESSFUL METALLURGICAL PROCESSING INITIAL FINDING OF GOLD IN THE PROCESS SAMPLE

The Board of Thor Mining Plc ("Thor") (AIM, ASX: THR) is pleased to provide some additional information in respect of the announcement on 11 June 2019. The release announced positive metallurgical testwork results from drill samples from the Desert Scheelite deposit at the 100% owned Pilot Mountain in Nevada USA.

In addition to this successful testwork, assays of both the head sample and the tailings following scheelite recovery showed **potentially economic levels of gold** in the sample.

### Highlights

- Production of a scheelite concentrate assaying over 68% WO<sub>3</sub> (tungsten trioxide);
- Metallurgical recovery of 73.6%;
- Gold assays of 0.29g/t in the initial feed, and 0.33g/t in the combined tailings.

### Mick Billing, Executive Chairman, commented:

*"This is a significant step forward for our 100% owned Pilot Mountain project."*

*"The locked cycle testwork has demonstrated production of a high grade scheelite concentrate with good recoveries".*

*"We are following up the gold potential via extraction of sample pulps from previous drill assays which will be re-assayed for gold".*

*"Significant potential exists for further enhancements to this work which may improve project economic outcomes".*

*"Tungsten remains classified as a critical mineral in the USA, with no domestic tungsten production".*

*"We continue to have a principle focus on securing off-take and finance agreements for our flagship Molyhil project, and we will keep investors apprised of progress as appropriate. However our other projects, including Pilot Mountain, have significant value and we are committed to continuing to take these forward".*

## Further Information

Locked cycle metallurgical testwork has been conducted on 600Kg of drill core grading 0.265% WO<sub>3</sub> from the Desert Scheelite deposit at Pilot Mountain, by the Guangdong Institute of Resources Comprehensive Utilization in Guangzhou, PRC, under the supervision of Mr Matt Bolu of BOMENCO Inc. in Vancouver, Canada.

The material selected from 3 diamond drill holes summarised in Table D and Figure 1, is considered to be representative of the potential processing feed from the first few years of open pit mining at the Desert Scheelite deposit.

The work follows earlier, open cycle, testwork by Black Fire Minerals (ASX: BFE) (reported to ASX 11 October 2013), on a more broad selection of material, including from the other deposits at Pilot Mountain, which produced a 65% WO<sub>3</sub> concentrate at 65% recovery. This earlier work was carried out on samples averaging 0.38% WO<sub>3</sub>, a 43% higher grade than the material selected for the testwork now reported. Assays for gold were not carried out in this 2013 work.

The major component composition of the ore tested is as follows:

Element	WO <sub>3</sub>	Mo	Zn	Cu	S	Fe	Au*	Ag*	As
Abundance, %	<b>0.265</b>	0.0173	<b>0.52</b>	<b>0.068</b>	0.38	11.56	<b>0.29</b>	<b>9.00</b>	0.009
Element	CaCO <sub>3</sub>	CaF <sub>2</sub>	P	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	Mn
Abundance, %	14.63	2.12	0.048	41.88	4.43	1.39	0.044	0.043	0.94

*Table A: Major chemical composition of ore tested.*

\*: grams/tonne

The material selected was sufficiently oxidised (weathered) which limited any meaningful possible flotation recovery of copper, zinc, and silver minerals. Other deeper parts of the Desert Scheelite deposit, and other deposits at Pilot Mountain, are considered likely to exhibit less weathering, and potential therefore exists for economic recovery of portion of those minerals in other phases of mining at Pilot Mountain. Testwork for this purpose shall be scheduled during the feasibility study process.

The testwork produced a scheelite concentrate considered saleable at a recovery of 73.57% with a chemical composition as follows:

Product	Assay %								
	WO <sub>3</sub>	CaCO <sub>3</sub>	CaF <sub>2</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	S	As	Mo	Fe
H. G. Conc.	68.22	4.05	2.43	0.52	0.010	0.55	0.006	3.11	0.48

*Table B: Major chemical composition of concentrate produced.*

Further work is also scheduled with the aim of improving the quality of this concentrate.

The tailings produced from the testwork contained potentially economic levels of gold assayed at 0.33 g/t, along with other tungsten minerals which are not normally recovered using flotation, including wolframite. These may have potential for subsequent recovery, and this will be investigated.

Hole ID	Deposit	Northing (NAD 83 zone 11)	Easting (NAD 83 zone 11)	Azi - muth	Dip	Intersection	Est true width (m)
DSDD-03 BFE announcement 21 Feb 2012	Desert Scheelite	4248288	424083	0	-90	17.6m @ 0.28% WO3 from 0.0m 2.3m @ 0.32% WO3 from 38m 1.8m @ 0.14% WO3 from 48.2m 13.6m @ 0.2% WO3 from 51.9m 2.6m @ 0.21% WO3 from 74.6m 8.4m @ 0.33% WO3 from 82.7m	6m 1m 0.6m 4m 1m 3m
DSDD-04 BFE announcement 21 Feb 2012	Desert Scheelite	4248291	424152	0	-90	14.6m @ 0.3% WO3 & 0.17% Cu from 1.1m 24.1m @ 0.32% WO3 & 0.32% Cu from 17.8m 1.9m @ 0.18% WO3 from 45.1m 14.5m @ 0.25% WO3 from 52.7m 11.9m @ 0.29% WO3 from 71.3m 6.4m @ 0.4% WO3 & 0.13% Cu from 87.8m 17.8m @ 0.38% WO3 & 0.11% Cu from 97.1 2.7m @ 0.27% WO3 & 1.44% Cu from 133.6m	5m 9m 0.6m 5m 2.5m 2m 6m 1m
DSDD-06 BFE announcement 29 Feb 2012	Desert Scheelite	4248249	423907	0	-90	13.7m @ 0.22% WO3 from 22m 6.8m @ 0.24% WO3 from 40.7m 14.2 @ 0.32% WO3 from 62.6m 2.5m @ 0.24% WO3 from 79.9m 9.8m @ 0.29% WO3 from 85.1m	5m 2.5m 5m 0.9m 3.5m

*Table D: Pilot Mountain drill results previously reported ASX:BFE Feb 2012*

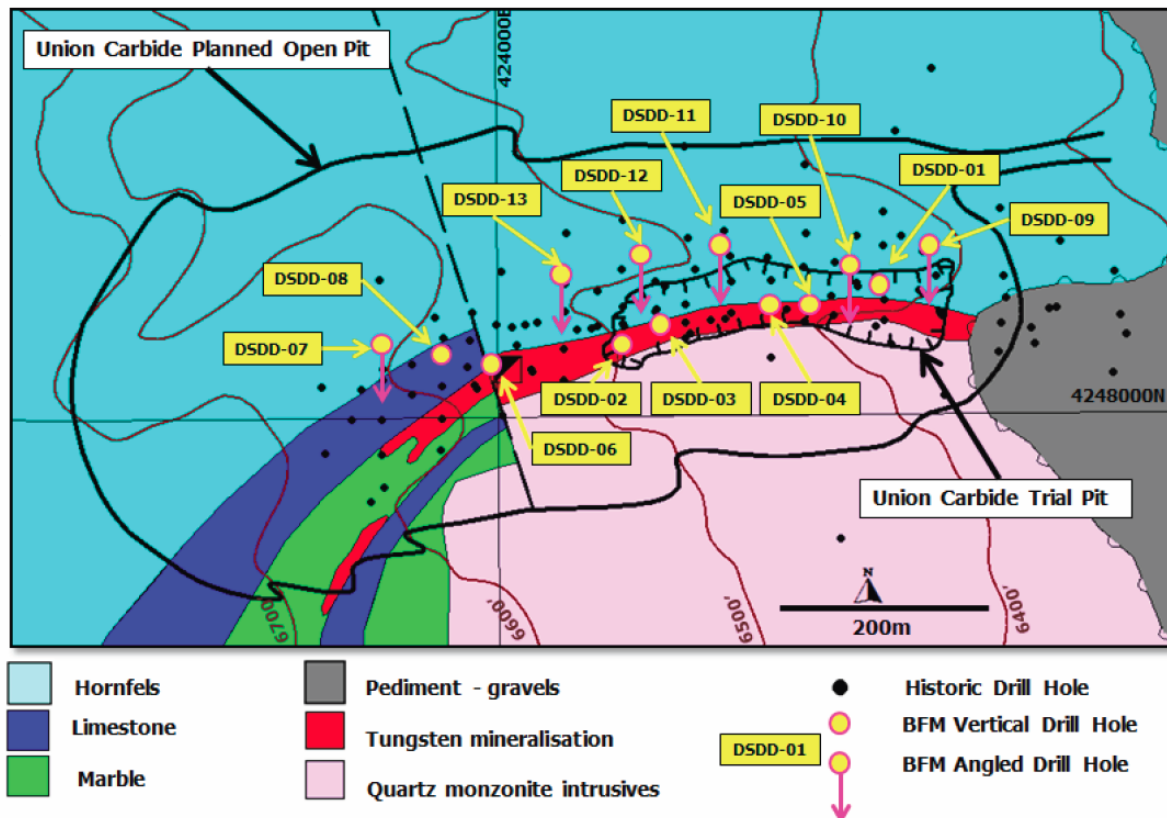


Figure 1: Pilot Mountain drill hole location plan from ASX: BFM 21 Feb 2012

**Table C: Pilot Mountain Resource Summary 2018 – Announced 13 December 2018**

Resource			WO <sub>3</sub>		Ag		Cu		Zn	
		MT	Grade %	Contained metal (t)	Grade g/t	Contained metal (t)	Grade %	Contained metal (t)	Grade %	Contained metal (t)
Garnet	Indicated		-	-						
	Inferred	1.83	0.36	6,590						
Sub Total		1.83	0.36	6,590						
Desert Scheelite	Indicated	9.01	0.26	23,400	20.73	187	0.15	13,200	0.41	37,100
	Inferred	1.69	0.25	4,300	12.24	21	0.16	2,800	0.19	3,200
Sub Total		10.70	0.26	27,700	19.38	207	0.15	16,000	0.38	40,300
Summary	Indicated	9.01	0.26	23,400						
	Inferred	3.53	0.31	10,890						
Pilot Mountain Total		12.53	0.27	34,290						

Note:

- 100% owned by Thor Mining PLC
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding
- Cut-off grade 1,500ppm WO<sub>3</sub>
- The Company is not aware of any information or data which would materially affect this previously announced resource estimate, and all assumptions and technical parameters relevant to the estimate remain unchanged.

Gold has not been routinely assayed at Pilot Mountain, either historically or by Thor. Until further follow-up work on the gold found in this test sample is done, it remains unknown if gold will have a material economic impact on the project.

For further information, please contact:

#### THOR MINING PLC

Mick Billing Executive Chairman  
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#### Competent Person's Report

*The information in this report that relates to exploration results is based on information compiled by Richard Bradey, who holds a BSc in applied geology and an MSc in natural resource management and who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Bradey is an employee of Thor Mining PLC. He has sufficient experience which is relevant to the style of mineralisation and 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 for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Richard Bradey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

Updates on the Company's activities are regularly posted on Thor's website [www.thormining.com](http://www.thormining.com), which includes a facility to register to receive these updates by email, and on the Company's twitter page [@ThorMining](https://twitter.com/ThorMining).

#### About Thor Mining PLC

*Thor Mining PLC (AIM, ASX: THR) is a resources company quoted on the AIM Market of the London Stock Exchange and on ASX in Australia.*

*Thor holds 100% of the advanced Molyhil tungsten project in the Northern Territory of Australia, for which an updated feasibility study in August 2018<sup>1</sup> suggested attractive returns.*

*Adjacent Molyhil, at Bonya, Thor holds a 40% interest in deposits of tungsten, copper, and vanadium, including an Inferred resource for the Bonya copper deposit<sup>2</sup>.*

*Thor also holds 100% of the Pilot Mountain tungsten project in Nevada USA which has a JORC 2012 Indicated and Inferred Resources Estimate<sup>3</sup> on 2 of the 4 known deposits. The US Department of the Interior has confirmed that tungsten, the primary resource mineral at Pilot Mountain, has been included in the final list of Critical Minerals 2018.*

*Thor is also acquiring up to a 60% interest Australian copper development company Environmental Copper Recovery SA Pty Ltd, which in turn holds rights to earn up to a 75% interest in the mineral rights and claims over the resource<sup>4</sup> on the portion of the historic Kapunda copper mine in South Australia recoverable by way of in situ recovery.*

*Thor has an interest in Hawkstone Mining Limited, an Australian ASX listed company with a 100% Interest in a Lithium project in Arizona, USA.*

*Finally, Thor also holds a production royalty entitlement from the Spring Hill Gold project<sup>5</sup> of:*

- A\$6 per ounce of gold produced from the Spring Hill tenements where the gold produced is sold for up to A\$1,500 per ounce; and*
- A\$14 per ounce of gold produced from the Spring Hill tenements where the gold produced is sold for amounts over A\$1,500 per ounce.*

#### Notes

<sup>1</sup> Refer ASX and AIM announcement of 23 August 2018

<sup>2</sup> Refer ASX and AIM announcement of 26 November 2018

<sup>3</sup> Refer AIM announcement of 13 December 2018 and ASX announcement of 14 December 2018

<sup>4</sup> Refer AIM announcement of 10 February 2016 and ASX announcement of 12 February 2018

<sup>5</sup> Refer AIM announcement of 26 February 2016 and ASX announcement of 29 February 2016

## JORC Code, 2012 Edition – Table 1 report

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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.</i></li> </ul>	<p>Exploration results are based on HQ sized diamond drill core</p> <p>Industry standard QAQC protocol was adopted with reference material inserted at 10%.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	Exploration results are based on HQ sized diamond drill core
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>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.</i></li> </ul>	Core recoveries exceed 95%
<b>Logging</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	Drill core were logged geologically and photographed for the entire length of the hole.

<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <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>	<p>Mineralised intervals of core were cut and half core sent for assay. Sample intervals were based on geological boundaries or a maximum of five feet.</p> <p>Industry standard QAQC protocol was adopted including certified reference material, certified blanks and field duplicates making up 10% of the assay samples.</p> <p>HQ drill core is appropriate to the nature of mineralisation reported.</p>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <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>	<p>Assay laboratory operates to ISO 17025 and are accredited by the local regulatory authority.</p>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <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>	<p>No 3<sup>rd</sup> party verification undertaken.</p> <p>Tungsten (W) assays are converted to Tungstate (WO<sub>3</sub>) using a factor of 1.261. No other adjustments are made to the assays data.</p>
<b>Location of data points</b>	<ul style="list-style-type: none"> <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>	<p>Hand held GPS.</p> <p>Map Grid NAD 83 zone 11.</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <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>	<p>Holes are spaced at less than 40m The hole spacing was adequate for indicated resource classification by independent resource consultants.</p>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <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>	<p>The drill orientation provides mineralised material across a broad area of the proposed mining volume which is ideal for metallurgical test work samples.</p>



<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	Drill samples remain in the custody of the supervising geologist and stored in a locked building.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	None

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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>	<p>100% Thor Mining plc mineral leases cover the Desert Scheelite prospect area.</p> <p>There are no issues with security of tenure and no known impediments to licence an operation.</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Pre – 2012 data is treated as historic data and used as a guide only unless validated. Pre-existing data post-2012 complies with JORC 2012 code.
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	Contact metamorphic skarn hosted tungsten.
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	Drill hole summary tables provided in text of announcement.
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <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>	<p>Data aggregation is based on a cut-off grade of 0.1% WO<sub>3</sub>, a maximum internal dilution of 2.4 metres and a minimum mining width of 1.6 metres.</p> <p>Averaging of grades is length weighted.</p> <p>No metal equivalents are reported.</p>
<b>Relationship between mineralisation and widths</b>	<ul style="list-style-type: none"> <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</li> </ul>	Estimated horizontal widths have been supplied.



Criteria	JORC Code explanation	Commentary
<b>and intercept lengths</b>	<p><i>be reported.</i></p> <ul style="list-style-type: none"> <li><i>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').</i></li> </ul>	
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	Provided
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	The drill hole data reported includes only the holes selected for the metallurgical test work. The holes and intervals were selected to provide an even spread of holes across the proposed initial mining volume and to result in a composite grade close to that of the reported resource.
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<p>No deleterious data or issues known which would adversely impact a potential mining operation.</p> <p>The samples reported have been taken to use for metallurgical testing.</p>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	Further exploration work including geophysical surveys and drilling will be undertaken but has neither been planned nor scheduled at this stage.