

15 December 2021

## Massive Sulphides Intersected in Second Drill Hole at Gibsons

Critical Resources Limited (ASX:**CRR**) **("Critical Resources"** or the **"Company"**), is pleased to advise that it has intersected further massive sulphides in its drilling campaign at the Gibsons prospect, part of the broader Halls Peak project in New South Wales.

# <u>Highlights</u>

- Gibsons's second and third drill holes have intersected visual Massive Sulphides and mineralisation<sup>1</sup>
- Drilling of fourth hole underway to depths of ~130m, which will be followed by a fifth hole to a depth of ~200m
- The second hole intersected a shallow polymetallic Massive Sulphide interval that extends from 7.7m-9.6m downhole which is part of a broader highly mineralised zone of 5.3m (7.7m-13m downhole) <sup>1</sup>
- Gibson's first hole also encountered Multiple Massive Sulphides in intervals up to an intersection length of 3.8m. Hole completed to depth of 141.6m (see ASX announcements 03 December 2021 and 07 December 2021)<sup>1</sup>
- Drill intersections in all holes so far have confirmed the existence of multiple stacked lodes of high grade massive sulphide mineralisation
- Selected core has been dispatched to the ALS laboratory in Brisbane for express assaying
- It is expected the assays of the Massive Sulphide intervals will return high zinc and lead values plus copper, silver and gold <sup>1</sup>
- Holes are designed to confirm near surface mineralisation and deeper targets to a maximum depth of up to 500m
- Work on the proposed 14-hole diamond drilling program at Gibsons for ~2,500m and subsequent 3-hole drill program for Sunnyside for ~1,700m is progressing on time and on budget

<sup>1.</sup> In relation to the disclosure of visual mineralisation, the Company cautions that visual estimates of sulphide and oxide material abundance should never be considered a proxy or substitute for laboratory analysis. Laboratory assay results are required to determine the widths and grade of the visible mineralisation reported in preliminary geological logging. The Company will update the market when laboratory analytical results become available.



The Company is pleased to announce that it has encountered 3.8m of massive sulphide in four intervals within a broader highly mineralised zone of 5.3m (7.7m-13m downhole) in its second drill hole CRR21DD\_06 at its 100% owned Gibsons prospect, part of the Halls Peak project near Armidale in New South Wales. This is the second hole in a planned fourteen hole, ~2,500m program of diamond drilling at Gibsons before beginning a three hole, ~1,700m drilling program at the adjacent Sunnyside prospect.

Drilling is ongoing and core from completed hole CRR21DD\_01 has been dispatched to ALS laboratory in Brisbane for express assaying. It is expected assays of the massive sulphide intervals will return high zinc owing to the presence of abundant low-iron, yellowy-brown coarse sphalerite. Previous drilling indicates the massive sulphides will also contain coarse grained galena (lead mineral) and some chalcopyrite (copper mineral), silver and gold.

Drill intersections have confirmed the existence of multiple stacked lodes of high grade massive sulphide mineralisation.

Critical Resources Managing Director Alex Biggs said: "To intersect Massive Sulphides on our second hole at Gibsons as well as our first hole is a great result. We're ecountering strong mineralisation which we feel is indicative of what Halls Peak has to offer on a larger scale. We look forward to pushing on with our program and updating the market with more exciting results."

Figure 1: Diamond drill core showing (bottom three rows) part of a shallow polymetallic massive sulphide interval that extends from 7.7m-9.6m downhole - it is part of a broader highly mineralised zone of 5.3m (7.7m-13m downhole). The interval will comprise sphalerite (Zinc), galena (Lead-Silver) and chalcopyrites (Copper), (Diamond drill hole CRR21DD\_06, Scale: NQ core 50mm diameter variety)

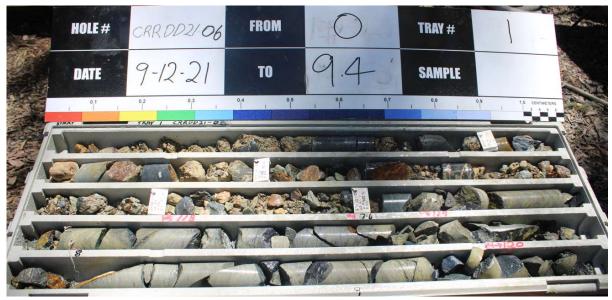




Figure 2: Detail of a shallow polymetallic massive sulphide interval that extends from 7.7m-9.6m downhole – Note yellow-brown, low iron, high grade sphalerite (zinc sulphide) and silvery galena (lead sulphide) (Diamond drill hole CRR21DD\_06, Scale: NQ core 50mm diameter variety



Figure 3: Detail of a shallow polymetallic massive sulphide interval that extends from 7.7m-9.6m downhole – Note yellow-brown low iron, high grade sphalerite (zinc sulphide) and silvery galena (lead sulphide) (Diamond drill hole CRR21DD\_06, Scale: NQ core 50mm diameter variety





Figure 4: Diamond drill core showing part of a shallow highly mineralised zone that extends from 7.7m-13m downhole . Note the yellow-brown and silvery intervals of polymetallic high grade massive sulphides that will comprise sphalerite (Zinc), galena (Lead-Silver) and chalcopyrites (Copper), (Diamond drill hole CRR21DD\_06, Scale: NQ core 50mm diameter variety)



Figure 5: Detail of part of a shallow highly mineralised zone that extends from 7.7m-13m downhole. Note the yellowbrown and silvery intervals of polymetallic high grade massive sulphides that will comprise sphalerite (Zinc), galena (Lead-Silver) and chalcopyrites (Copper), (Diamond drill hole CRR21DD\_06, Scale: NQ core 50mm diameter variety)





#### Halls Peak Project Description

The 100% owned Halls Peak project is located in New South Wales approximately 45km South-East of Armidale in the New England Fold Belt, an area well known for its mineral endowment and production. The Halls Peak massive sulphide deposits were discovered in 1896 where near surface mining extracted high-grade Zinc, Lead, Copper and Silver. More recent near surface exploration has been conducted by Precious Metal Resources Limited, Sovereign Gold Company Limited (now Critical Resources Limited) and Force Commodities Limited (now Critical Resources Limited) yielding high-grade intercepts to a depth of approximately 150m at the Gibsons prospect. Some near surface historic mining has occurred around the Sunnyside prospect.

<sup>1</sup>Previous drilling results includes:

# *Critical Resources Limited (formerly Sovereign Gold Company and Force Commodities Limited) – ASX Announcements*

11.3m @ 15.18% Zn, 8.02% Pb, 597g/t Ag, 1.61% Cu from hole SG-03 (refer to ASX announcement dated 15 December 2016) 11.2m @ 19.71% Zn, 10.77 % Pb, 134.96 g/t Ag, 0.8% Cu from hole SG-06 (refer ASX announcement dated 29 December 2016)

7.2m @ 20.19% Zn, 7.17 % Pb, 30.93gpt Ag, 0.66% Cu from hole SG-05 (refer to ASX announcement dated 29 December 2016) 5.7m @ 9.44% Zn, 7.09% Pb, 155g/t Ag, 0.53% Cu from hole SG-03 (refer ASX announcement dated 15 December 2016)

## Precious Metal Resources Limited – ASX Announcements

37.2m @ 8.7% Zn, 3.0% Pb, 85g/t Ag, 1.4% Cu from hole DDH HP 026 (refer to ASX announcement dated 03 January 2014\*\*) 7.45m @ 8.88% Zn, 3.11% Pb, 22 g/t Ag, 0.56% Cu from hole DDH HP 027 (refer to ASX announcement dated 15 January 2014)

#### <sup>1</sup>The information required pursuant to listing rule 5.7 is included in ASX announcement dated 08 July 2021

Halls Peak is considered to have potential to contain world class deposits similar to those already being mined in north Australia. The project area comprises multiple historic mines and prospects including Gibsons, Sunnyside, Firefly, Faints, Khans Creek, Keys and Mickey Mouse. All current exploration activities are focused on exploration licence EL 4474 with primary targets being the Gibsons and Sunnyside prospects. A summary of the project location is shown in Figure 6.



Figure 6 - Halls Peak project location

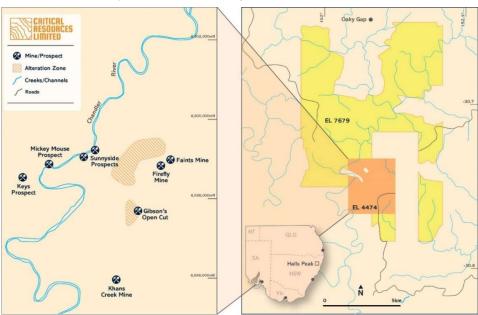
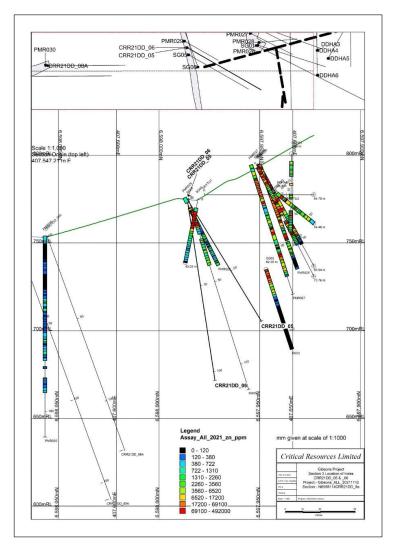


Figure 7- Drillhole CRR21DD\_6 Cross Section



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#### This announcement has been approved for release by the Board of Directors.

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#### **EXPLORATION WORK - COMPETENT PERSONS STATEMENT**

The information in this ASX Announcement that relates to Exploration Results is based on information compiled by Mr Michael Leu, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Leu is a full-time employee of Critical Resources Limited. Mr Leu 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 Leu consents to the inclusion in this ASX Announcement of the matters based on his information in the form and context in which it appears.

#### FORWARD LOOKING STATEMENTS

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### NO NEW INFORMATION

Except where explicitly stated, this announcement contains references to prior exploration results, all of which have been cross-referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements.



#### ABOUT CRITICAL RESOURCES LIMITED

Critical Resources is a base metals exploration and development focused company headquartered in Perth, Western Australia and is listed on the Australian Securities Exchange (ASX:CRR). The Company has recently been undergoing a structured process of change at the Director and Executive level. These changes mark the commencement of a renewed focus by the Company on providing shareholder value through the exploration, development and advancement of the Company's long held NSW assets and also of its Copper assets in Oman.



# Appendix 1: JORC Table 1 – CRRDD21\_06 Exploration Results

1.1 Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.)

Criteria	JORC-Code Explanation	Commentary
Sampling techniques	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.	<ul> <li>Oriented NQ core was cut in half using a diamond saw, with a half core sent for assay and half core retained.</li> <li>No other measurement tools other than directional survey tools have been used in the holes at this stage.</li> </ul>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Oriented core was placed V-rail and a consistent cut-line drawn along core to ensure cutting (halving) of representative samples
	Aspects of the determination of mineralisation that are Material to the Public Report. 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.	<ul> <li>Core sample interval was based in logged mineralisation</li> <li>Determination of mineralisation has been based on geological logging and photo analysis.</li> <li>Diamond Core drilling was used to obtain 3m length samples from the barrel which are then marked in one meter intervals based on the drillers core block measurement.</li> <li>Assay samples will be selected based on geological logging boundaries or on the nominal meter marks.</li> <li>Samples will be dispatched to an accredited laboratory (ALS) in Brisbane, Australia for sample preparation and shipment to analysis</li> </ul>
<b>Drilling</b> techniques	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).	<ul> <li>NQ2 diamond double tube coring by Sandvik DE710 rig was used throughout the hole.</li> <li>Core orientation was carried out by the drilling contractor.</li> </ul>



Criteria	JORC-Code Explanation	Commentary
Drill sample	Method of recording and assessing core and	Lithological logging, photography
recovery	Chip sample recoveries and results assessed. Measures taken to maximise sample recovery	• Core samples were measured with a standard tape within the core trays. Length of core was then compared to the interval drilled, and any core loss was attributed to individual rock units based on the amount of fracturing, abrasion of core contacts, and the conservative judgment of the core logger. Results of core loss are discussed below.
	and ensure representative nature of the samples.	<ul> <li>Experienced driller contracted to carry out drilling.</li> <li>In broken ground the driller produced NQ core from short runs to maximise core recovery.</li> <li>Core was washed before placing in the core trays.</li> <li>Core was assessed by eye before cutting to ensure</li> </ul>
	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.	<ul> <li>representative sampling.</li> <li>See "Aspects of the determination of mineralisation that are Material to the Public Report" above.</li> </ul>
Logging	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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	<ul> <li>Core samples were not geotechnically logged.</li> <li>Core samples have been geologically logged to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>The core logging was qualitative in nature.</li> <li>All core was photographed</li> <li>100%</li> <li>Total depth of the hole was 141.6m at time of logging of a planned 105m hole.</li> <li>100% of the relevant intersections were logged.</li> </ul>
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether         If non-core, whether riffled, tube sampled,         rotary split, etc and whether sampled wet or         dry.         For all sample types, the nature, quality and         appropriateness of the sample preparation         technique.	• No sampling completed at this stage
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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.	



Criteria	JORC-Code Explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	• <i>Assays</i> methods appropriate for style of mineralisation: ME- MS61 0.25g sample for 48 Elements and Gold by method Au- AA25 30g sample. Sample will be sent to highly accredited Australian Laboratory Services (ALS)
	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.	
	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.	
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	• No independent verification completed at this stage
	The use of twinned holes.	• This hole is a twin of previous hole SG06
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Core measured, photographed and logged by geologists. Digitally recorded plus back-up records.
	Discuss any adjustment to assay data.	• No assay data received at this stage
Location of data points	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.	• Drill collars recorded with Garmin GPS that has an accuracy in the order of ±3 metres for location. A registered surveyor will be contracted to accurately survey all drill collars at completed of drill program.
	Specification of the grid system used.	
	Quality and adequacy of topographic	• MGA94 (Zone 56)
	control.	• Topographic control based on Department of Lands digital terrain model.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	• Not relevant to current drilling.
	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.	• Not relevant to current drilling.
	Whether sample compositing has been applied.	• No sample compositing has been applied.



Criteria	JORC-Code Explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	• The orientation of the mineralisation is unknown. The drilling program is aimed at determining orientation of the base of mineralisation by drilling three holes.
	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.	• It is uncertain whether sampling bias has been introduced, or whether the thickness drilled is a true thickness.
Sample security	<i>The measures taken to ensure sample security.</i>	• Core samples will be stored at the Gibsons core yard core yard before express overnight freight to Australian Laboratory Services Pty. Ltd. (ALS) Brisbane. Sample movements and security documented by ALS Chain of Custody.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	• Not undertaken at this stage

## 2 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	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.	<ul> <li>The Halls Peak Project comprises granted Exploration Licenses EL 4474 and EL 7679, located in north-eastern NSW and covering an area of about 84km<sup>2</sup>.</li> <li>There are no known impediments to operate on the tenements</li> </ul>
	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.	• Tenure is current and in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• Exploration for base metals and gold have been conducted at Halls Peak since 1896 when massive sulphide deposits were discovered by prospectors. There was some small-scale mining of deposits of copper, lead, zinc and silver ore on the east side of the Chandler River until 1916. According to Report 52 – The Geological Survey of New South Wales "In 1965, 1,600 tons of ore were mined to give 263 tons of lead, 450 tons of zinc, 46.3 tons of copper and 12523 oz of silver". Following this several exploration campaigns were conducted until the mid-1980's for massive sulphides and silver by major mining companies such as BHP Co. Ltd., Mt. Isa Mines Ltd., The Zinc Corporation Ltd., Halls Peak Australia Limited and Allstate Exploration N.L. but most work was hindered as none were able to secure tenure to the whole area. All of these work programs comprising drilling, geochemistry and geophysics have resulted in an immense body of data.



Criteria	JORC-Code Explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	• Halls Peak is in the southern part of the New England Orogen, a belt of continental crust uplifted to form a mountainous region. Mineralisation is hosted in the Permian Halls Peak Volcanics, a sequence of felsic volcanic, volcaniclastic and sedimentary rocks that have been deformed and metamorphosed due to their formation in a rift setting. Sulphide mineralisation is stratiform with several massive sulphide bodies within broad zones of disseminated and stockwork sulphides. Massive sulphide bodies are generally moderate to steeply dipping and up to tens of metres across. The massive sulphides are often associated with sulphidic shale and siltstone within zones of stockwork and disseminated sulphides in sericite-quartz altered rocks. Sulphide mineralisation is dominated by sphalerite and galena, with minor amounts of chalcopyrite, pyrite and tetrahedrite. Metal grades in massive sulphides can average 3.5% Cu, 8% Pb, 24% Zn, 260g/t Ag and 0.42g/t Au.
Drill hole	A summary of all information material	
Information	to the understanding of the exploration	Hole ID Easting Northing RL Azimuth Dip Depth
	results including a tabulation of the following information for all Material	CRR21DD_06         407632         6597993         775         180         80         141.6
	drill holes: easting and northing of the drill hole collar	
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	dip and azimuth of the hole	
	down hole length and interception depth	
	hole length.	
	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.	• Not relevant
Data aggregation methods	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.	• Uncut • All aggregate intercepts detailed on tables are weighted averages.
	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. The assumptions used for any reporting of metal equivalent values should be clearly stated.	
		• None used



Criteria	JORC-Code Explanation	Commentary
Relationship between mineralisation widths and	These relationships are particularly important in the reporting of Exploration Results.	• True width not currently known. All lengths are down-hole lengths and not true width.
intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	• The precise geometry is not currently known but is being tested by the planned drilling, with diamond drill hole azimuths designed to drill normal to the interpreted mineralised structure.
	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').	• Down-hole length reported, true width not known.
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.	• The drilling is aimed at clarifying the structure of the mineralisation.
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.	• Representative reporting of all relevant grades is provided in tables to avoid misleading reporting of Exploration Results.
Other substantive exploration data	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.	<ul> <li>Overview of exploration data leading to selection of drill targets provided.</li> <li>There were no deleterious elements identified.</li> </ul>
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	• Drill program of 14 holes for a total of 2,500m to both verify historical drilling at Halls Peak but also to test deeper VTEM targets.