30 June 2023

Maiden Mineral Resource Estimate for the Halls Peak Zn-Pb-Cu-Ag-Au Project

Highlights

- Maiden JORC 2012 Compliant Mineral Resource Estimate (MRE) completed for the Halls Peak Project in NSW following a series of successful drilling programs comprising 47 diamond core drill holes over four separate drilling campaigns, for a total of 6,921 metres.
- The drilling programs have confirmed the presence of multiple stacked lodes of both base metal (zinc, lead, copper) and precious metal (silver, gold) mineralisation.
- The drilling has also expanded the scale of known mineralization (both laterally and vertically), confirming large-scale potential of the Halls Peak System.
- The Inferred Mineral Resource contains 840,000 tonnes @ 3.7% zinc, 1.5% lead, 0.44% copper, 30 grams/tonne silver and 0.1 grams/tonne of gold at a 2.0% zinc cut-off grade.
- Mineralisation remains open along strike, and at depth, offering the potential to increase the MRE through follow-up drilling.

Lithium development company Critical Resources Limited **ASX:CRR** ("Critical Resources" or "the Company") is pleased to announce a maiden JORC Code 2012 compliant Mineral Resource Estimate (MRE) for its 100%-owned Halls Peak Base Metals Project, in New South Wales, Australia. Halls Peak is a base and precious metal asset which formed part of Critical's mineral portfolio before its acquisition of the flagship Mavis Lake Lithium Project in Ontario, Canada.

Resource Overview
A maiden Inferred Mineral Resource of 840,000t grading 3.7% zinc, 1.5% lead, 0.4% copper, 30ppm silver and 0.1ppm gold has been estimated following recent drilling campaigns.

Modelling has shown that the mineralisation remains open along strike to the east/north-east and west/south-west, providing immediate potential to increase the MRE with follow-up drilling.

An Exploration Target has been prepared in accordance with the JORC Code (2012).

The Exploration Target of 500,000 to 1,000,000 tonnes at similar grades to the current Maiden MRE (2.7-3.7% zinc, 1.1-1.5% lead, 0.34-0.44% copper, 27-33ppm silver and 0.08-0.12ppm gold) has been defined based on modelling and interpretation of the current Resource.

The potential quantity and grade of the Exploration Target is conceptual in nature, there is currently insufficient exploration completed to estimate a mineral resource of this size, and it is uncertain whether further exploration will result in the estimation of an increased JORC Mineral Resource.

Requirements for Material Mining Projects
The following subheadings are provided to satisfy the requirements applicable to reports of Mineral Resources for material mining projects under ASX Listing Rule 5.8.

Geology and Geological Interpretation
The Halls Peak Project (Exploration License (EL) 4474) is located approximately 45km south-east of Armidale, New South Wales in the New England Fold Belt, an area well known for its mineral endowment and historical production. Halls Peak hosts a large polymetallic mineral system. Drilling campaigns within EL4474 have confirmed multiple stacked lodes of base (Zinc, Lead and Copper) and precious metals (Silver and Gold) mineralisation.

The Halls Peak massive sulphide deposits were discovered in 1896 where near surface mining extracted high-grade zinc, lead, copper and silver. Recent exploration drilling has yielded excellent, high-grade intersections of zinc, lead, copper and silver. Multiple geological and geophysical targets exist across the Halls Project which along with the resource modelling that underpins the MRE, form the basis for further exploration and growth of the known resource.

Halls Peak is considered to have potential to contain world class deposits similar to those already being mined in northern Australia. The project area comprises multiple historic mines and prospects including Gibsons, Sunnyside, Firefly, Faints, Khans Creek, Keys and Mickey Mouse.

All exploration activities completed by the Company are focused on EL4474 with primary effort around the Gibsons prospect where the Mineral Resource has been defined.

The vast majority of the lateral and vertical extent of the system has never been drill tested. SEDEX Zinc-Lead-Copper-Silver deposits are interpreted by the Company to be the dominant mineralisation style discovered at Halls Peak.

Sampling and Sub-Sampling Techniques
Refer to details provided in Appendix 1, JORC 2012 Table 1, Section 1: Sampling Techniques

Summary statistics for composites within the mineralised zone are presented in Table 1. All elements show moderate coefficients of variation (CV = SD/mean) indicating that there are some extreme values, indicated by the maximum grades, requiring special treatment during grade estimation. Ordinary Kriging ("OK") with grade cutting was utilised to deal with extreme values as an appropriate estimation method because of the moderate coefficients of variation.

Table 1: Summary of Composite Statistics for Mineralised Zone

Element	Samples	Min	Max	Mean	SD	CV
Zn %	3,830	0.005	49.2	1.345	4.067	3.02
Pb %	3,830	0.0002	22.6	0.614	2.147	3.50
Cu %	3,830	0.0004	6.94	0.202	0.608	3.00
Ag ppm	3,830	0.07	2,385	20.9	98.1	4.70
Au ppm	3,830	0.0005	4.42	0.066	0.192	2.91

Figure 1 is a histogram of zinc, which is typical of composite grades within the mineralised zone, showing multiple overlapping grade populations and a large spike (18% frequency) at 0.01% representing the inserted low default values.

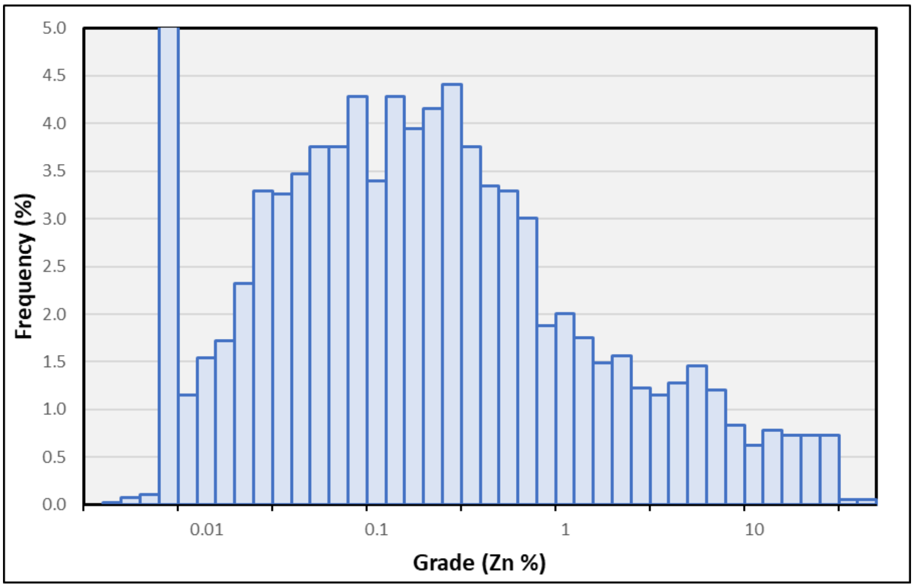

Figure 1: Histogram of Zinc Grades for Mineralised Zone

Density

Density values were derived from 50 samples with density measurements from five recent drill holes. Analysis was performed by ALS Method OA-GRA08, described as "Specific Gravity on solid object". This method determines specific gravity, rather than bulk density, by weighing a sample in air and in water, without wax coating.

Dry bulk density is the attribute required for resource estimation, but it is unclear if the method used here is significantly different. Samples were dried at 105°C in an oven for 7 hour 30 minutes, with a nominal sample size of 10cm long portions of quarter core. Measurement frequency is 10 samples per hole on average, which is equivalent to around one sample per 15m drilled. Density data was merged with assays for further analysis. The proportions of galena, sphalerite and chalcopyrite were calculated from Pb, Zn and Cu assays respectively and used to calculate a density value for each sample with a gangue density of 2.70. Summary data can be seen in Table 2

Table 2: Summary of Halls Peak Density Data

Item	Count	Min	Max	Mean	Median	SD
All Samples	50	2.34	4.26	2.95	2.82	0.42
Trimmed	48	2.59	4.26	2.97	2.83	0.41
SG_Calc2	50	2.70	4.41	2.95	2.81	0.36

Drilling Techniques

Refer to details provided in Appendix 1, JORC 2012 Table 1, Section 1: Drilling Technique, Drill Sample Recovery and Sampling Techniques

Resource Database

Table 3 shows a database summary of the relevant holes used in the MRE. All holes were drilled as diamond core and the Company drilling represents 47% of holes and 69% of total meterage. The All State NL holes were drilled in 1969 and 1970, while the Company holes were drilled in 2021 and 2022. Precious Metal Resources Limited (ASX:PMR) held the property between 2011 and 2014, and Sovereign Gold Company Limited (ASX:SOC) explored the property from 2014 until acquired by the Company.

The database also included nine tunnels represented as drill holes, however there was no geological logging or assays for these workings in the digital database.

Table 3: Resource Database Summary

	All State NL		Precious Metal		Sovereign Gold		Critical Resources		Total	
Item	Holes	Records	Holes	Records	Holes	Records	Holes	Records	Holes	Records
Collar	14	1,120m	5	382m	6	637m	22	4,782m	47	6,921m
Survey	14	28	5	10	6	12	22	157	47	207
Assay	14	432	5	275	6	366	22	2,090	47	3,163
Geology	14	331	4	188	6	324	22	1,970	46	2,813
Cu	14	432	5	273	6	365	22	1,848	47	2,918
Pb	14	432	5	273	6	365	22	1,848	47	2,918
Zn	14	432	5	273	6	365	22	1,848	47	2,918
Au	14	432	5	273	6	365	22	1,748	47	2,818
Ag	14	432	5	273	6	365	22	1,848	47	2,918
Fe	0	0	0	0	0	0	22	1,848	22	1,848
S	0	0	0	0	0	0	22	1,848	22	1,848
As	0	0	0	0	0	0	22	1,848	22	1,848
Sb	0	0	0	0	0	0	22	1,848	22	1,848
Lith	14	340	4	189	6	331	22	2,302	46	3,162
CoreRec	14	338	4	192	2	121	22	2,312	42	2,963
Density	0	0	0	0	0	0	5	50	5	50

Sample Analysis Method
Covered in detail in Appendix 1, JORC 2012 Table 1, Section 1: Sampling Techniques, Sub-sampling Techniques and Sample Preparation, Quality of Assay Data and Laboratory Tests and Verification of Sampling and Assaying

Mining and Metallurgy
Surface mining by open pit method is currently assumed for Halls Peak.

It is assumed that sulphide ore will be treated by conventional froth flotation to produce a bulk Zn-Pb-Cu sulphide concentrate. Gold may also be recovered by gravity concentration.

No metallurgical testwork has been undertaken in support of the MRE. Peer comparison values have been used to support the concept of economic extraction.

Estimation Methodology
The Resource Estimate was developed from the generation of a rotated block model, with blocks dipping 55°>330°, which is the general orientation of the higher-grade mineralisation in the central part of the deposit.

This orientation ensures optimal estimates for the best drilled section of the deposit. Table 4 gives the model extent and block size in MGA94 Zone 56 grid coordinates.

Table 4: 2023 Halls Peak Model Dimensions

MGA94 Zone 56	X	Y	Z
Origin	407,400	6,598,000	400
Maximum	407,800	6,598,400	1,000

Block Size	5	2	5
Number of blocks	80	200	120
Length	400	400	600

The small block size was chosen due to hole spacing in some areas being 10m or less, so a 5m block is justified in these areas, and in areas where the orientation of mineralisation is significantly different to 55°>330°, a small block size is required to give reasonable resolution. The 2m block dimension in Y reflects the shorter continuity perpendicular to the plane of mineralisation.

Blocks were trimmed to topography and within a boundary between 500-900m in Z (elevation) and 6,597,750-6,598,250m in Y (Northing).

Metal grades were estimated using OK with soft boundaries between the mineralisation and surrounding material. A dynamic search was implemented using the boundaries of the broad envelope of mineralisation defined by assays to assign dip and dip direction to each block. A three-pass search strategy was used, as outlined in Table 5, and estimates were discretised over 5x5x2 points within each block.

Table 5: Estimation Search Parameters

	Search Radii			Samples		
Pass	X	Y	Z	Min	Max	Min Oct
1	15	3	15	8	24	4
2	30	3	30	8	24	4
3	60	3	60	8	24	4

The minimum number of samples and octants (Min Oct) ensure that blocks are estimated by a minimum of two holes and avoids excessive extrapolation of grades.

A progressive grade cutting strategy was employed to limit the influence of extreme values, with the first pass top-cut to the 99^{th} percentile of each grade distribution, pass 2 to the 98^{th} percentile and pass 3 to the 95^{th} percentile. Table 6 gives top-cut grades used for each estimation pass.

Table 6: Progressive Grade Top-cuts

Percentile	Zn %	Pb %	Cu %	Ag ppm	Au ppm
99	24	14	3.5	360	0.69
98	18	8.5	2.5	235	0.44
95	7.35	3.2	1.27	75	0.24

Dry bulk density was assigned to the model using a formula based on estimated base metal grades. There is no allowance for potentially lower densities in weathered/oxidised rock.

Model Validation

The model was validated in a number of ways – visual comparison of block and drill hole grades, statistical analysis and examination of grade-tonnage data.

Visual comparison of block and drill hole grades showed good agreement in all areas examined and minimal evidence of excessive smearing of high grade assays. A few examples are presented in Figure 2 and Figure 3, which show the strike and dip of mineralisation respectively.

The majority of blocks (62%) were estimates in pass 3, which used samples cut to the 95th percentile. Comparing average cut sample grades to the average block grades comparison can be seen in Table 7, and differences can mostly be attributed to sample clustering.

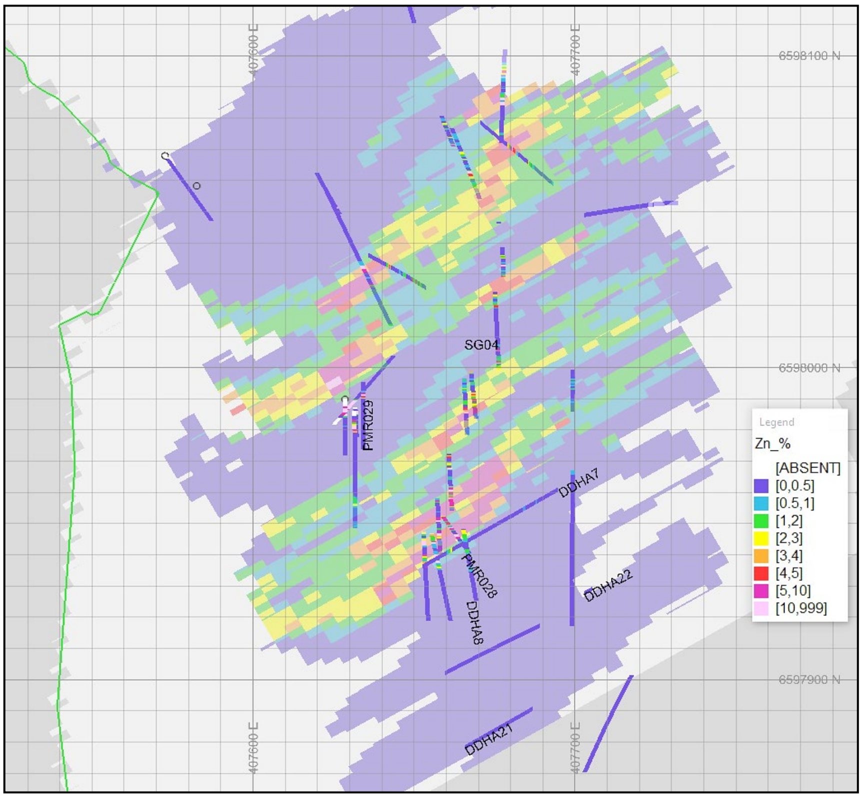

Figure 2: Plan @ 750mRL with 50m clipping

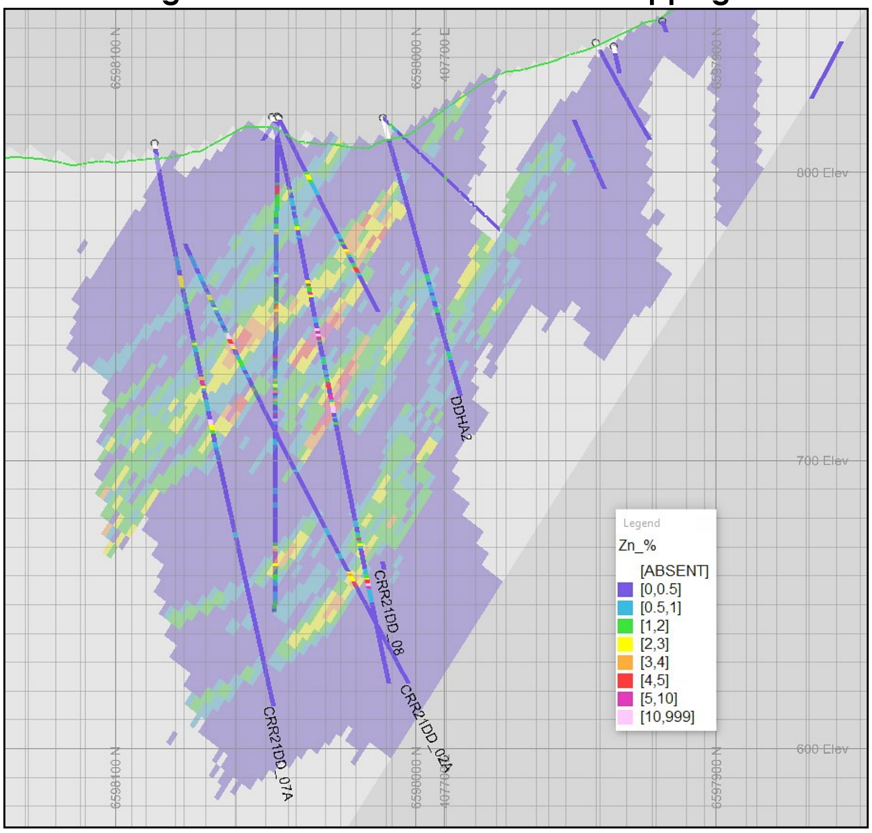

Figure 3: Section on DDHA2, azimuth 330 & 20m clipping

Table 7: Sample and Block Grade Comparison – Mineralised Zone (cut to 95th percentile)

	Samples (Cut)		Blocks		Blk/Sam
Element	**Number**	**Mean**	**Number**	**Mean**	**Mean**
Zn %	3,830	0.882	73,587	0.684	78%
Pb %	3,830	0.347	73,587	0.273	79%
Cu %	3,830	0.143	73,587	0.108	75%
Ag ppm	3,830	9.91	73,587	8.23	83%
Au ppm	3,830	0.048	73,587	0.037	78%

Figure 4 presents a grade-tonnage curve for the entire model at a range of zinc cut-off grades and shows a smooth and logical transition from one cut-off grade to the next, with no obviously anomalous kinks or plateaus that might be indicative of estimation problems, such as conditional bias.

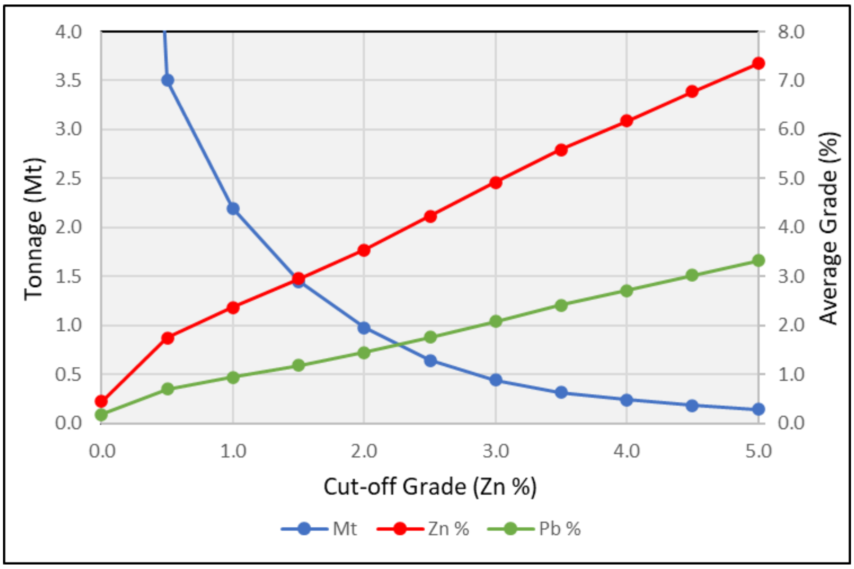

Figure 4: Grade-Tonnage Curve for Halls Peak

Cut-off Grade

A notional equivalent metal value has been derived to aid interpretation and to also assess the value contribution of each metal. Current nominal metal prices and metallurgical recoveries of 85% for all metals were assumed, and grade-tonnage analysis of the model on this basis showed that zinc was the major contributor of value, with almost half (~47%) of total metal value. Consequently, the model was evaluated using a zinc cut-off grade.

The cut-off grade of 2.0% Zn is considered potentially economic for open-pit mining and is comparable to cut-off grades used by peer companies with similar deposits.

Mineral Resource Estimate

The MRE has been reported in accordance with The JORC Code 2012.

The MRE has been trimmed to blocks within 100m of surface to generate the MRE and account for the JORC concept of "reasonable prospects for eventual economic extraction". It is assumed that the MRE would be extracted by open-pit mining.

The MRE has been classified in accordance with guidelines contained in the JORC Code. Key criteria that have been considered when classifying the Mineral Resource are detailed in JORC Table 1.

This classification is based upon assessment and understanding of the deposit style, geological and grade continuity, drillhole spacing, input data quality (including drill collar surveys and bulk density).

The Mineral Resource was classified as Inferred, accounting for the level of geological understanding of the deposit, quality of samples, density data, drillhole spacing and sampling, analytical and metallurgical processes. Material classified as Inferred was considered sufficiently informed by geological and sampling data to imply geological, grade and quality continuity between data points.

The classification reflects the level of data available for the estimate, including input drillhole data spacing, and high level of confidence in geological continuity for this particular style of deposit.

Mineral Resources are reported at a nominal 2% zinc cut-off grade, this gives a total metal value that is potentially economic for open-pit mining. The MRE incorporates the reasonable prospects for eventual economic extraction assumed for open-pit mining.

The Inferred MRE for the Halls Peak deposit is reported using a cut-off grade of 2.0% zinc and is shown in Table 8.

Table 8 – Halls Peak MRE summary table

JORC Classification	Zn cut-off grade (%)	Tonnage (Mt)	Zn (%)	Pb (%)	Cu (%)	Ag ppm	Au ppm	SG (calc)
Inferred	2.0	0.84	3.7	1.5	0.44	30	0.1	2.80
Total	**Inferred**	**0.84**	**3.7**	**1.5**	**0.44**	**30**	**0.1**	

Exploration Target

An Exploration Target has been defined and is summarised in Table 9. The Exploration Target assumes a 2.0% Zn cut-off grade, where the upper tonnage limit is based on the existing total mineralisation inventory and the lower limit is half this value.

The lower target has higher grades, based around existing resource grades, while the higher target has lower grades based around the difference between the resource and inventory grades.

The Exploration Target is in addition to the current MRE and affirm the potential to double the Resource with comparable grade.

Table 9 – Halls Peak Exploration Target at 2.0% Zn Cut-off Grade

Target	Mt	Zn %	Pb %	Cu %	Ag ppm	Au ppm
Lower	0.5	3.7	1.5	0.44	33	0.12
Upper	1.0	2.7	1.1	0.34	27	0.08

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

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For further information please contact

Alex Cheeseman
Managing Director
E: info@criticalresources.com.au
P: +61 (8) 9389 4499

ABOUT CRITICAL RESOURCES LIMITED

Critical Resources is advancing and developing critical metals projects for a decarbonised future. The Company holds a suite of lithium prospects across Ontario, Canada, including Mavis Lake, Graphic Lake, Plaid and Whiteloon Lake. The Company's other projects include the Block 4 and Block 5 copper project, located in Oman, and the Halls Peak Project in NSW, Australia, a high-quality base metals project with significant scale potential.

The Company's primary objective is the rapid development of its flagship Mavis Lake Lithium Project. Mavis Lake is an advanced exploration project with near-term development potential. The Company completed over 19,500m of drilling in 2022 and has commenced another significant drilling program in 2023. The Company has also commenced initial studies that will underpin the transition from explorer to developer.

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 Geoscientists (AIG) and the Australian Institute of Mining and Metallurgy (AusIMM) and a consultant of Critical Resources. 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 Announcement of the matters based on his information in the form and context in which it appears.

The information in this ASX Announcement that relates to Mineral Resource Estimate is based on information compiled by and fairly represents Mr Arnold van der Heyden a Competent Person and Chartered Professional (Geology) of the AusIMM. Mr van der Heyden is a full-time employee of H&S Consultants Pty Ltd. Mr van der Heyden 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 van der Heyden consents to the inclusion in this Announcement of the matters based on his information in the form and context in which it appears.

FORWARD LOOKING STATEMENTS

This announcement may contain certain forward-looking statements and projections. Such forward-looking statements/projections are estimates for discussion purposes only and should not be relied upon. Forward-looking statements/projections are inherently uncertain and may therefore differ materially from results ultimately achieved. Critical Resources Limited does not make any representations and provides no warranties concerning the accuracy of the projections and disclaims any obligation to update or revise any forward-looking statements/projects based on new information, future events or otherwise except to the extent required by applicable laws. While the information contained in this report has been prepared in good faith, neither Critical Resources Limited or any of its directors, officers, agents, employees or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement.

Appendix 1 – Halls Peak Mineral Resource Estimate JORC 2012 Table 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 (e.g., 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.*	**Allstate Exploration Diamond Drilling, 1969-1970** • Core stored by the Geological Survey of N.S.W. at WB Clarke Geoscience Centre Londonderry Core Library was re-sampled. • 1,120metres from 14 drill holes. • Complete core and half core were halved using a diamond saw, with a half core from complete core and quarter core from half core sent for assay and remainder core retained. **Precious Metal Resources Limited diamond drilling, 2014** • 382metres from 5 holes • Oriented HQ core was cut in half using a diamond saw, with a half core sent for assay and half core retained.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	**Sovereign Gold Limited diamond drilling, 2016** • 637metres from 6 holes • Oriented HQ core was cut in half using a diamond saw, with a half core sent for assay and half core retained. **Critical Resources Limited diamond drilling, 2021- 2022** • 4,782metres from 22 holes • Diamond Core drilling, NQ size, was used to recover core in a 3m length barrel. The core is placed in 1m core trays with the drillers' core blocks indicating depth measurement, drilled length and core recovered. Core trays are then marked up in 1 metre lengths based on the driller's blocks. • Oriented core was placed on a V-rail and fitted together; a consistent cut-line was drawn along the core to ensure cutting (halving) of representative samples. • Oriented core was cut in halves using a diamond saw; one half of the core was sent for assay and the other half retained. • Core sample intervals were based on geological logging and the occurrence of visible mineralisation. • High resolution scaled photographs were taken of the core as a physical record for later analysis. • No other measurement tools other than directional survey tools have been used in the holes at this stage. Samples were dispatched to an accredited laboratory (ALS) in Brisbane, Australia for sample preparation and analysis.
	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 (e.g., '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 (e.g., submarine nodules) may warrant disclosure of detailed information.	

Criteria	JORC-Code Explanation	Commentary
Drilling techniques	*Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).*	Diamond drill core was recovered in all drilling campaigns, refer to above. Critical Resources Limited diamond drilling, 2021- 2022 NQ2 diamond double tube coring by Sandvik DE710 rig was used throughout the program.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Lithological logging, photography 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.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Experienced driller contracted to carry out drilling. In broken ground the driller produced NQ core from short runs to maximise core recovery. Core was washed before placing in the core trays.
	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.	Core was assessed by eye before cutting to ensure representative sampling.
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.*	Core samples were not geotechnically logged. Core samples have been geologically logged 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 core logging was qualitative in nature, recording features such as lithology, structure, oxidation and alteration and sulphide mineralisation. The orientation of planar features such as bedding and cleavage was determined and recorded where possible.

Criteria	JORC-Code Explanation	Commentary
	The total length and percentage of the relevant intersections logged.	All core was photographed 100% of the relevant intersections were logged.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Oriented core was placed V-rail and a consistent cut-line drawn along core to ensure cutting (halving) of representative samples
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Oriented HQ or NQ core was cut in half using a diamond saw, with a half core sent for assay and half core retained.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Core sample intervals were based in logged mineralisation No duplicates or second half-sampling
	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.	
	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.*	Assays methods appropriate for style of mineralisation: ME-MS61 0.25g sample for 48 Elements and Gold by method Au-AA25 30g sample. Samples have been sent to accredited Australian Laboratory Services (ALS) ALS conducted appropriate quality assurance according to Australian Standards. ALS issued QC Certificates for each batch of samples assayed. This included control procedures adopted viz: standards, blanks and duplicate assays.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model,	Variations were within acceptable limits. Acceptable levels of accuracy and precision were confirmed.

Criteria	JORC-Code Explanation	Commentary
	reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., 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.	Hole CRR21DD_01 was drilled to twin hole SG_03. It confirmed the occurrence and tenor of the mineralisation encountered in SG_03.
	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.	Assay data presented in this report
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.*	The CRR hole collars were picked up by a registered surveyor at the completion of the drill program. Historical drill holes were located using old maps and/or tape and compass surveys. The collar elevation of these holes was derived by projecting them onto the current topographic surface. The accuracy of the old hole collars is estimated to be within 1-5m.
	Specification of the grid system used.	MGA94 (Zone 56)
	Quality and adequacy of topographic 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.	Core sample intervals were based in logged mineralisation and no sample compositing applied. Reporting of final results includes many weighted average- compositing of assay data.

Criteria	JORC-Code Explanation	Commentary
	Whether sample compositing has been applied.	
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. It is uncertain whether sampling bias has been introduced, or whether the thickness drilled is a true thickness.
	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.	
Sample security	*The measures taken to ensure sample security.*	Core samples were stored at the Gibsons 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.*	No independent audits or reviews have been undertaken on this Mineral Resource Estimate

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.*	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^2. There are no known impediments to operate on the tenements
	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

Criteria	JORC-Code Explanation	Commentary
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.
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. The key metals in relative order of abundance are Cu, Pb, Zn, Ag and Au.

<table>
<tr><th>Criteria</th><th>JORC-Code Explanation</th><th>Commentary</th></tr>
<tr><td rowspan="7">Drill hole Information</td><td>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:</td><td rowspan="7">
<table>
<tr><th>HoleID</th><th>Easting</th><th>Northing</th><th>RL</th><th>Azimuth</th><th>Dip</th><th>TotDepth</th></tr>
<tr><td>DDHA1</td><td>407699.27</td><td>6598011.03</td><td>819.00</td><td>180.00</td><td>45.00</td><td>139.29</td></tr>
<tr><td>DDHA2</td><td>407699.27</td><td>6598011.03</td><td>819.00</td><td>180.00</td><td>75.00</td><td>99.97</td></tr>
<tr><td>DDHA3</td><td>407667.25</td><td>6597927.14</td><td>813.00</td><td>59.50</td><td>36.00</td><td>30.48</td></tr>
<tr><td>DDHA4</td><td>407667.25</td><td>6597927.14</td><td>813.00</td><td>59.50</td><td>50.00</td><td>44.20</td></tr>
<tr><td>DDHA5</td><td>407666.39</td><td>6597919.41</td><td>816.00</td><td>90.00</td><td>36.00</td><td>45.72</td></tr>
<tr><td>DDHA6</td><td>407655.02</td><td>6597920.03</td><td>812.60</td><td>59.50</td><td>37.00</td><td>35.97</td></tr>
<tr><td>DDHA7</td><td>407629.68</td><td>6597922.78</td><td>801.80</td><td>59.50</td><td>45.00</td><td>106.68</td></tr>
<tr><td>DDHA8</td><td>407660.97</td><td>6597973.07</td><td>794.00</td><td>170.00</td><td>37.00</td><td>60.96</td></tr>
<tr><td>DDHA9</td><td>407710.74</td><td>6597899.84</td><td>848.30</td><td>239.50</td><td>45.00</td><td>58.52</td></tr>
<tr><td>DDHA10</td><td>407699.40</td><td>6597923.68</td><td>834.00</td><td>239.50</td><td>50.00</td><td>55.17</td></tr>
<tr><td>DDHA21</td><td>407733.45</td><td>6597917.98</td><td>852.50</td><td>239.50</td><td>55.00</td><td>137.16</td></tr>
<tr><td>DDHA22</td><td>407761.39</td><td>6597961.93</td><td>852.50</td><td>239.50</td><td>50.00</td><td>106.07</td></tr>
<tr><td>DDHA23</td><td>407708.24</td><td>6597837.72</td><td>870.50</td><td>239.50</td><td>50.00</td><td>108.51</td></tr>
<tr><td>DDHA24</td><td>407733.76</td><td>6597840.06</td><td>881.50</td><td>59.50</td><td>45.00</td><td>91.44</td></tr>
<tr><td>PMR026</td><td>407653.07</td><td>6597958.13</td><td>794.80</td><td>168.00</td><td>60.00</td><td>81.40</td></tr>
<tr><td>PMR027</td><td>407656.88</td><td>6597965.08</td><td>794.50</td><td>177.00</td><td>70.00</td><td>78.40</td></tr>
<tr><td>PMR028</td><td>407654.81</td><td>6597958.19</td><td>794.80</td><td>145.00</td><td>70.00</td><td>63.40</td></tr>
<tr><td>PMR029</td><td>407634.22</td><td>6597995.83</td><td>775.80</td><td>180.00</td><td>60.00</td><td>44.50</td></tr>
<tr><td>PMR030</td><td>407582.55</td><td>6598058.24</td><td>754.00</td><td>0.00</td><td>90.00</td><td>114.60</td></tr>
<tr><td>SG01</td><td>407652.34</td><td>6597958.94</td><td>794.80</td><td>177.00</td><td>60.00</td><td>140.60</td></tr>
<tr><td>SG02</td><td>407660.45</td><td>6597979.04</td><td>793.50</td><td>177.00</td><td>70.00</td><td>110.70</td></tr>
<tr><td>SG03</td><td>407665.25</td><td>6598002.27</td><td>791.00</td><td>177.00</td><td>70.00</td><td>106.70</td></tr>
<tr><td>SG04</td><td>407665.82</td><td>6598008.95</td><td>790.30</td><td>0.00</td><td>90.00</td><td>58.50</td></tr>
<tr><td>SG05</td><td>407628.57</td><td>6597989.88</td><td>774.90</td><td>180.00</td><td>70.00</td><td>115.30</td></tr>
<tr><td>SG06</td><td>407625.16</td><td>6597981.78</td><td>775.20</td><td>40.00</td><td>60.00</td><td>105.20</td></tr>
<tr><td>CRR21DD_01</td><td>407667.20</td><td>6598003.50</td><td>791.30</td><td>174.10</td><td>73.20</td><td>141.60</td></tr>
<tr><td>CRR21DD_02</td><td>407674.30</td><td>6598045.70</td><td>819.10</td><td>180.00</td><td>65.00</td><td>225.60</td></tr>
<tr><td>CRR21DD_04</td><td>407677.00</td><td>6598047.90</td><td>819.30</td><td>180.00</td><td>75.00</td><td>231.60</td></tr>
<tr><td>CRR21DD_05</td><td>407631.50</td><td>6597986.20</td><td>775.20</td><td>179.40</td><td>53.20</td><td>87.20</td></tr>
<tr><td>CRR21DD_06</td><td>407631.80</td><td>6597987.40</td><td>775.30</td><td>177.60</td><td>79.20</td><td>105.70</td></tr>
<tr><td>CRR21DD_08</td><td>407632.70</td><td>6598037.80</td><td>783.80</td><td>119.00</td><td>67.80</td><td>132.60</td></tr>
<tr><td>CRR21DD_09</td><td>407617.50</td><td>6598068.00</td><td>787.20</td><td>155.00</td><td>46.20</td><td>258.00</td></tr>
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<tr><td>CRR21DD_11A</td><td>407510.00</td><td>6598088.50</td><td>737.10</td><td>329.40</td><td>75.00</td><td>550.60</td></tr>
<tr><td>CRR21DD_11B</td><td>407506.30</td><td>6598098.70</td><td>737.80</td><td>0.00</td><td>90.00</td><td>375.90</td></tr>
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<tr><td>CRRDD_14</td><td>407676.60</td><td>6598046.10</td><td>819.40</td><td>1.10</td><td>60.00</td><td>300.30</td></tr>
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<tr><td>CRRDD_18</td><td>407676.40</td><td>6598046.30</td><td>819.40</td><td>0.00</td><td>90.00</td><td>225.30</td></tr>
<tr><td>CRRDD_19</td><td>407526.50</td><td>6598172.80</td><td>776.20</td><td>15.00</td><td>70.00</td><td>78.80</td></tr>
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</table>
</td></tr>
<tr><td>Easting and northing of the drill hole collar</td></tr>
<tr><td>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</td></tr>
<tr><td>Dip and azimuth of the hole</td></tr>
<tr><td>down hole length and interception depth</td></tr>
<tr><td>hole length.</td></tr>
<tr><td>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.</td></tr>
<tr><td rowspan="2">Data aggregation methods</td><td>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</td><td rowspan="2">Exploration results are not being reported</td></tr>
<tr><td>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results,</td></tr>
</table>

Criteria	JORC-Code Explanation	Commentary
	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.	
Relationship between mineralisation widths and intercept lengths	*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.
	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 (e.g., '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.*	Refer to diagrams in body of text.
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.*	Exploration results are not being reported.

Criteria	JORC-Code Explanation	Commentary
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.*	Overview of exploration data leading to selection of drill targets provided. There were no deleterious elements identified. There were no bulk density or specific gravity measurements for the Allstate NL, Precious Metal Resources Limited and Sovereign Gold Company Limited drilling Campaigns HSC compiled 50 samples with density measurements from 6 CRR holes, which were performed by ALS Method OA-GRA08, described as "Specific Gravity on solid object". This method determines specific gravity, rather than bulk density, presumably by weighing a sample in air and in water, without wax coating. Dry bulk density is the attribute required for resource estimation, but it is unclear if the method used here is significantly different. Density data was merged with assays for further analysis. HSC has substantial experience in deriving density estimates from assays for base metal deposits, so this methodology was applied to the Halls Peak data set. The proportions of galena, sphalerite and chalcopyrite were calculated from Pb, Zn and Cu assays respectively and used to calculate a density value for each sample with a gangue density of 2.70.
Further work	*The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Drill programs have been designed to mineralisation that is still open along strike to the ENE and WSW.

Section 3: Estimation and Reporting Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	• *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.* • *Data validation procedures used.*	All geological data for Halls Peak is managed on behalf of CRR by Mr Paul Degeling of PRD Geological Consulting Services (PRD). H&S Consultants (HSC) performed basic checks on the data provided prior to this Mineral Resource Estimate (MRE) to ensure data consistency, including checks for FROM_TO interval errors, missing or duplicate collar surveys, excessive down hole deviation, and extreme or unusual assay values. HSC identified a small number of issues that were resolved in consultation with PDR.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been*	The Competent Person for the MRE has not visited site because this project is at an early stage of exploration.

Criteria	JORC Code explanation	Commentary
	undertaken indicate why this is the case.	
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	CRR personnel/consultants have produced an interpretation that delineates a broad mineralisation envelope based on available geological logging and chemical assays, but the internal architecture of individual mineralised lenses has not been well defined. CRR personnel/consultants have a reasonable understanding of the broad geological setting of the Halls Peak deposit but need to generate a detailed and coherent three dimensional (3D) geological model for the deposit, which could form the framework for future MREs. HSC developed a 3D interpretation of the broad mineralisation envelope based on assays and available plans and cross-sections. The existing geological logging is inconsistent between drilling programs and not currently in a format that can be readily used for digital geological interpretation. Weathering/oxidation was crudely modelled based on depths extracted by HSC from descriptions in the geological logging. Depth of weathering/oxidation varied from zero to 20.73m and averaged 5.2m down-hole in the holes with logging. A wireframe surface was generated from this data, which was used to flag the block model. There is significant uncertainty in the depth and degree of weathering/oxidation, and a substantial proportion has been removed by open-cut mining in some areas. There is scope for alternative geological interpretations of the deposit, particularly in the orientation of individual mineralised lenses, which may not necessarily be reflected in the attitude of the broad mineralisation envelope. While this could affect estimates locally, it appears unlikely to have substantial impact on the global MRE. Geology guides and controls the MRE through the 3D orientation of the broad mineralisation envelope. The continuity of geology at Halls Peak is primarily controlled by stratigraphy, as mineralisation is broadly stratabound. Continuity of grade has some level of stratigraphic control, but mineralisation appears less continuous than stratigraphy and higher grade lenses have quite limited continuity. Faulting may also have an impact on geology and grade, at least locally.
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 Halls Peak open-pit MRE at 2.0% Zn cut-off grade has an approximate extent of: • 190m along strike (SW-NE) • 170m in plan width (NW-SE), • From surface to 100m below surface.
Estimation and	• *The nature and appropriateness of the estimation technique(s)*	Samples were composited to nominal 1.0m intervals, separately within and outside of the broad mineralisation envelope, for data analysis and resource estimation.

Criteria	JORC Code explanation	Commentary
modelling techniques	*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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. Sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.*	This interval was selected because 63.4% of samples in the mineralised zone are 1.5m of less. A rotated block model was generated, with blocks dipping 55°>330°, which is the general orientation of the higher-grade mineralisation in the central part of the deposit. A block size of 5x2x5m was chosen for a number of reasons: hole spacing in some areas is 10m or less, so a 5m block is justified in these areas, and in areas where the orientation of mineralisation is significantly different to 55°>330°, a small block size is required to give reasonable resolution. The 2m block dimension in Y reflects the shorter continuity perpendicular to the plane of mineralisation. No sub-blocks were used, and the block size is effectively the selective mining unit (SMU). The resource model uses the MGA94 grid, zone 56. All metal grades were estimated by Ordinary Kriging (OK), including Pb, Zn, Cu, Ag and Au. OK with grade cutting was considered appropriate because the coefficients of variation (CV=SD/mean) are moderate (<5.0), and the grades are reasonably well structured spatially. OK estimates were produced in Datamine software while variography was performed using GS3 geostatistical software. A dynamic search was used, reflecting the local orientation of the broad mineralisation envelope. Estimates were effectively unconstrained, with a soft boundaries between the broad mineralisation envelope and surrounding material. A three pass search strategy was used for the OK grade estimates; all passes used a minimum of 8 and maximum of 24 samples, with a minimum of 4 octants informed. Search radii were: 1. 15 x 3.0 x 15m search 2. 30 x 3.0 x 30m search 3. 60 x 3.0 x 60m search A progressive grade cutting strategy was employed to limit the influence of extreme values, with the first pass top-cut to the 99th percentile of each metal grade distribution, pass 2 to the 98th percentile and pass 3 to the 95th percentile. The oxide zone was not estimated separately from the primary mineralisation because of the significant uncertainty in the depth and degree of weathering/oxidation. The maximum extrapolation distance will be somewhat less than the maximum search radius due to the octant constraints requiring at least 2 drill holes. Maximum extrapolation distance is around 50m. It is assumed that a bulk sulphide concentrate will be produced. All elements have been estimated independently. No assumptions were made regarding the correlation of variables during estimation because each element was estimated independently. Some elements do show moderate to strong correlation in the drill hole samples,

Criteria	JORC Code explanation	Commentary
	• *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	and the similarity in variogram models effectively guarantees that this correlation will be preserved in the estimates. No potentially deleterious elements have been estimated. Dry bulk density was estimated from block metal grades using a normative mineralogy approach because the number of density measurements is limited. The proportions of galena, sphalerite and chalcopyrite were calculated from Pb, Zn and Cu estimates respectively and used to calculate a density value for each block with a gangue density of 2.70. The geological interpretation controls the MRE through the use of the orientation of the boundaries of the broad mineralisation envelope, which were used as soft boundaries during estimation. The new model was validated in a number of ways – visual comparison of block and drill hole grades, statistical analysis and examination of grade-tonnage data. All the validation checks indicate that the grade estimates are reasonable when compared to the composite grades, allowing for data clustering. There are no known previous estimates of the deposit for comparison and deposit remains effectively unmined so there is no reconciliation data.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry weight basis and moisture content was not reported by the laboratory.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	A zinc cut-off grade was chosen based on a notional metal equivalent formula which showed that almost half the total metal value can be attributed to this metal. The cut-off grade of 2.0% Zn is considered potentially economic for open-pit mining and is comparable to cut-off grades used by peers with similar deposits.
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*	Surface mining by open pit method is currently assumed for Halls Peak. The OK estimation method implicitly incorporates internal mining dilution at the scale of the assumed SMU. No specific assumptions were made about external mining dilution in the MRE.

Criteria	JORC Code explanation	Commentary
	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.	
Metallurgical factors or assumptions	• *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 the basis of the metallurgical assumptions made.*	It is assumed that sulphide ore will be treated by conventional froth flotation to produce a bulk sulphide concentrate. Gold and Silver may also be recovered by gravity concentration. No metallurgical test-work has been undertaken as part of the recent exploration effort.
Environmental factors or assumptions	• *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*	It is assumed that all process residue and waste rock disposal will take place on site in purpose built and licensed facilities. All waste rock and process residue disposal will be done in a responsible manner and in accordance with any mining license conditions.

Criteria	JORC Code explanation	Commentary
	should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	• *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.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vughs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	There are 50 specific gravity measurements in five recent drill holes for Halls Peak. Specific gravity was measured by ALS using method OA-GRA08 - Specific Gravity on solid objects, where: **OA-GRA08**: $\text{Specific Gravity} = \frac{\text{Weight of sample (g)}}{\text{Weight in air (g)} - \text{Weight in water (g)}}$ The samples were dried at 105°C in an oven for 7 hours 30 minutes, with a nominal sample size of 10cm long portions of quarter core. Measurement frequency is 10 samples per hole on average, which is equivalent to around one sample per 15m drilled. Dry bulk density is the attribute required for resource estimation, but it is unclear if the method used here is significantly different. Specific gravity measurements appear to be representative of fresh rock and mineralisation, but there do not appear to be any for weathered or oxidised rock, which are likely to be significantly lower than fresh rock.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *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).* • *Whether the result appropriately reflects the Competent Person's*	The entire Halls Peak MRE has been classified as an Inferred Mineral Resource for the following reasons: • Uncertainty in the collar locations for older holes, • Uncertainty in grid divergence applied to convert survey azimuths to grid north, • Potentially excessive down-hole deviation in some holes, • Database not independently validated, • No independent review of QAQC data or information about the amount of data available, • Irregular and erratic drill hole spacing, • Poor orientation of some holes for estimation, including holes drilled down dip, • Lack of coherent geological model, • Significant uncertainty in the depth and degree of weathering/oxidation, • Lack of density measurements for weathered or oxidised rock, • No allowance for potentially lower densities in weathered/oxidised rock in model, • Limited continuity indicated by variography,

Criteria	JORC Code explanation	Commentary
	view of the deposit.	• Unknown impact of historical mining. This scheme is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data. The classification appropriately reflects the Competent Person's view of the deposit.
Audits or reviews.	• *The results of any audits or reviews of Mineral Resource estimates.*	This MRE has been reviewed by CRR and HSC personnel and no material issues were identified.

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• *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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource categories. This has been determined on a qualitative, rather than quantitative, basis, and is based on the estimator's experience with similar deposits elsewhere. The main factor that affects the relative accuracy and confidence of the Mineral Resource estimate is the uncertainty in the quality of data underpinning the estimates. The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis would be those classified as Measured and Indicated Mineral Resources, which in this case are absent. No significant production data is available because there has been no substantial previous mining of this deposit. McClatchie 1965 records that "Since its discovery in 1913 the field has been worked intermittently for the moderate return of 4,715 tons of both oxidised and primary ore having a recovered grade of 20 oz. Ag and 26 per cent Pb per ton (all figures approximate)." There has been some subsequent unquantified mining by both open-pit and underground. The current topographic surface effectively accounts for material removed by open-pit mining, which mostly occurred after 1965. The amount of material removed from underground is not considered to be material to the current MRE