

20 July 2021

Significant Massive Sulphide Targets Identified at Sunnyside

Highlights

- **Large scale SEDEX target at Sunnyside with no previous deep exploration**
- **3 drill holes to test Sunnyside prospect totalling 1,700m**
- **14 drill holes to test Gibson prospect totalling 2,500m to be completed simultaneously with Sunnyside program**
- **Coherent geophysical targets identified by reinterpretation of VTEM data**
- **Deeper holes to be surveyed by down hole electromagnetics to identify extensions to mineralisation at depth and plan future drilling**
- **Exploration program presents an exciting opportunity to further test the Halls Peak system**
- **Historical mining at both Sunnyside and the nearby Gibsons prospect has produced high-grade Zinc, Lead, Copper, Silver and Gold**

Critical Resources Limited (ASX:CRR) (“Critical Resources” or the “Company”), is excited to announce its upcoming drill program at its 100% owned Sunnyside prospect located on its Halls Peak Tenement EL 4474 in NSW.

A recent review of previous geophysical data (see ASX announcement 2nd June 2021) has provided additional clarity on an exploration strategy that will focus on the newly identified deeper targets and further define near surface mineralisation. The Sunnyside prospect is located adjacent to the Company’s Gibsons prospect where a clear exploration strategy has also been defined (see ASX announcement 8th July 2021). Drilling at Gibsons and Sunnyside will occur simultaneously.

A summary of geophysical targets at both Sunnyside and Gibsons are shown in Figure i and Figure ii, respectively. A more detailed description is provided later in the announcement.

Critical Resources Chief Executive Officer Alex Biggs said: “The newly generated targets for Sunnyside are compelling, coherent and present excellent exploration opportunities. The deeper exploration at Sunnyside provides the opportunity to begin understanding the larger Halls Peak system. Combined with the Gibsons drill program we expect to begin to delineate a significant base metal resource that will potentially prove transformational for the company and its shareholders.”

Figure i – Proposed Sunnyside drill holes on section 406400mE

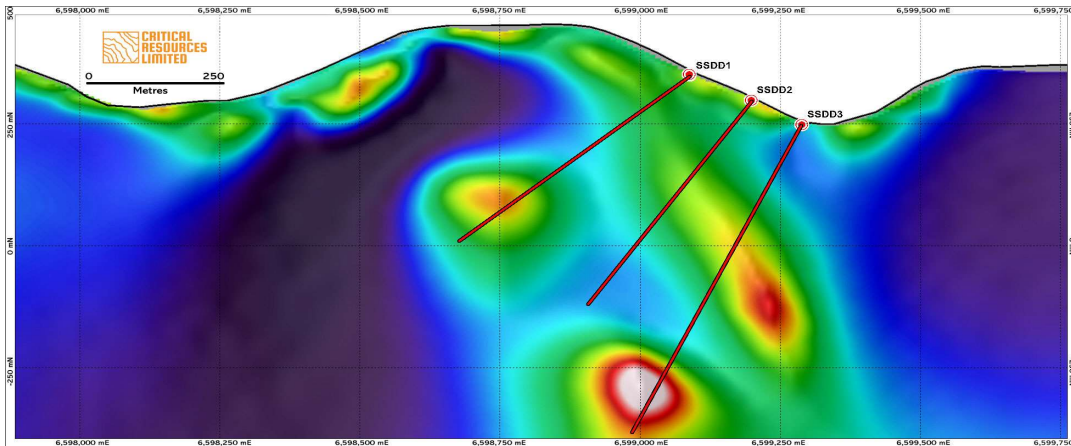
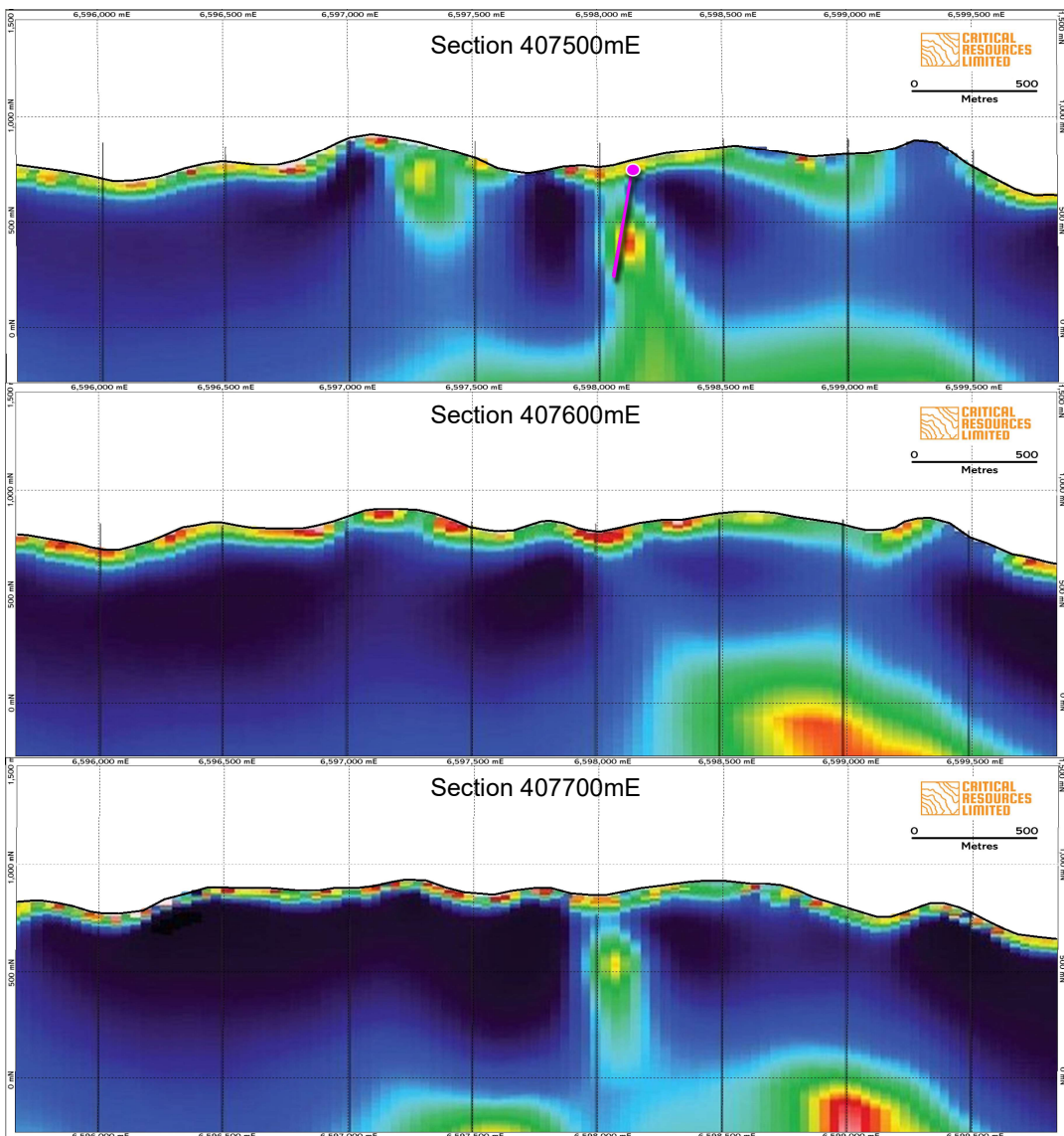


Figure ii - Gibsons geophysical targets demonstrating three sections at 100m intervals

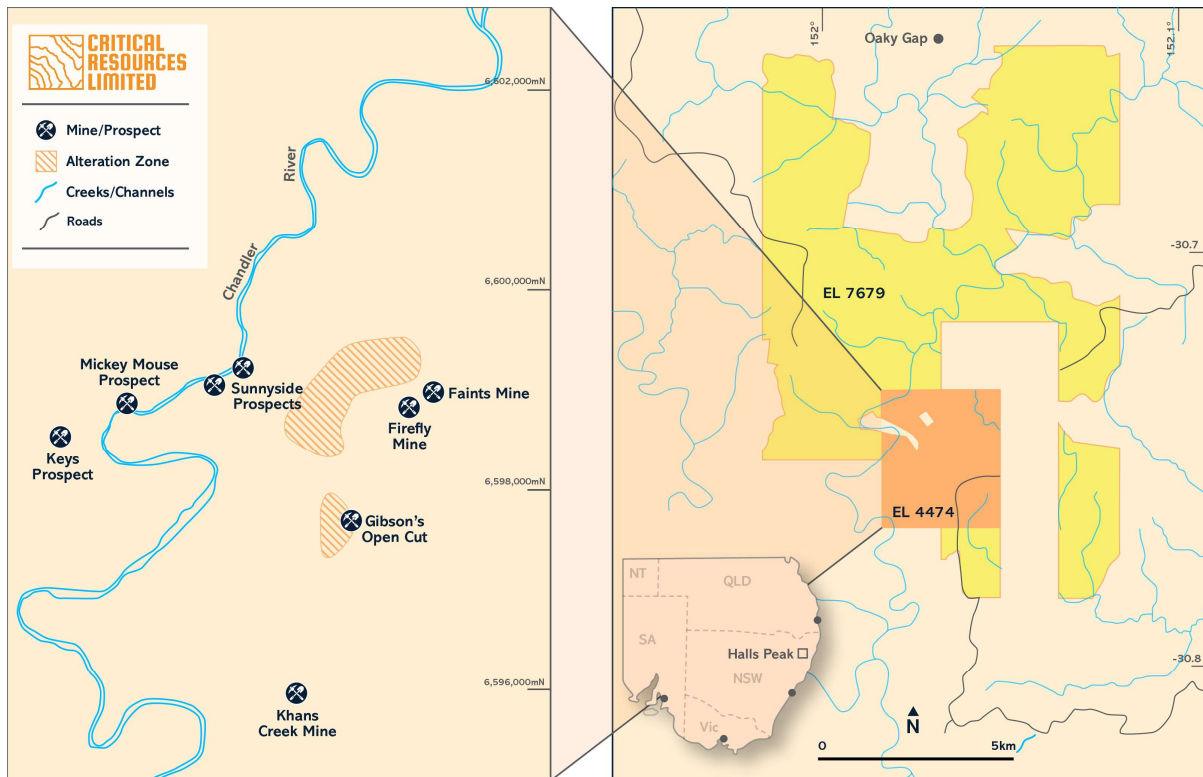


Halls Peak Project Description

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.

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 1.

Figure 1 - Halls Peak project location



Drilling Strategy and New Targets

New geophysical targets have been recently developed at Sunnyside through reinterpretation and analysis of data collected in a 2012 Versatile Time Domain Electromagnetic (“VTEM”) survey (see ASX announcement 2nd June 2021). Further analysis has been conducted in recent weeks with clear targets defined which form the basis of the upcoming drill program.

All drilling will be diamond core, JORC QAQC compliant and act as infrastructure to allow for downhole electromagnetic surveying and imaging of the mineralised zones. This surveying will then aid in refining the next drill targets for the next stage of drilling.

The Company is of the opinion that this staged approach to exploration will enable more accurate, lower risk, target development and more efficient placement of future holes and further exploration of the down dip and down plunge extensions to known mineralisation.

Proposed drill holes are shown in Figure 2, based on section 406400mE. Figure 3 shows three sections: 406300mE, 406400mE and 406500mE. Each section is a 100m interval from the next demonstrating continuity of potential mineralisation along strike as well as at depth.

Figure 2 – Proposed Sunnyside drill holes on section 406400mE (see highlighted section in Figure 3)

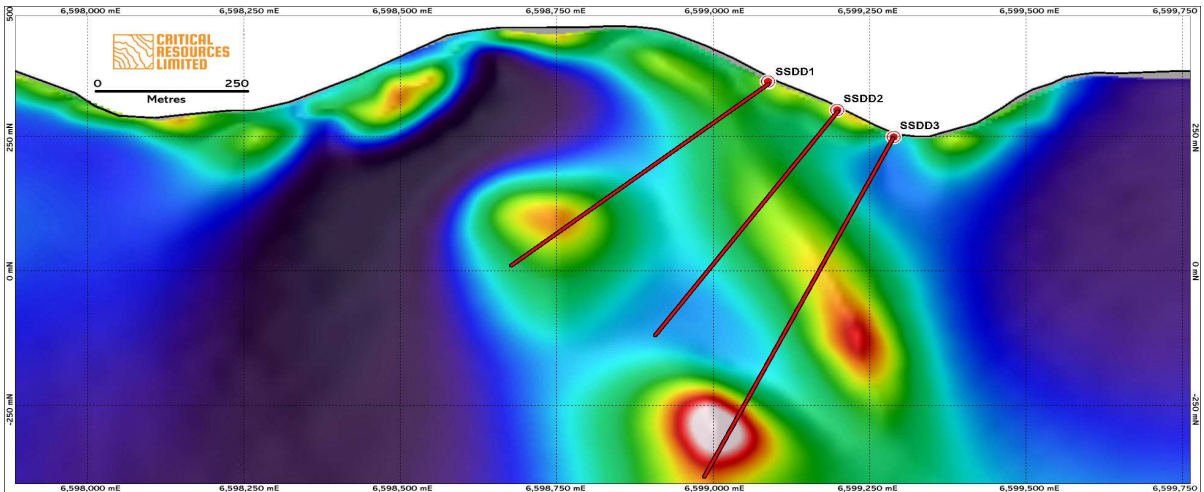
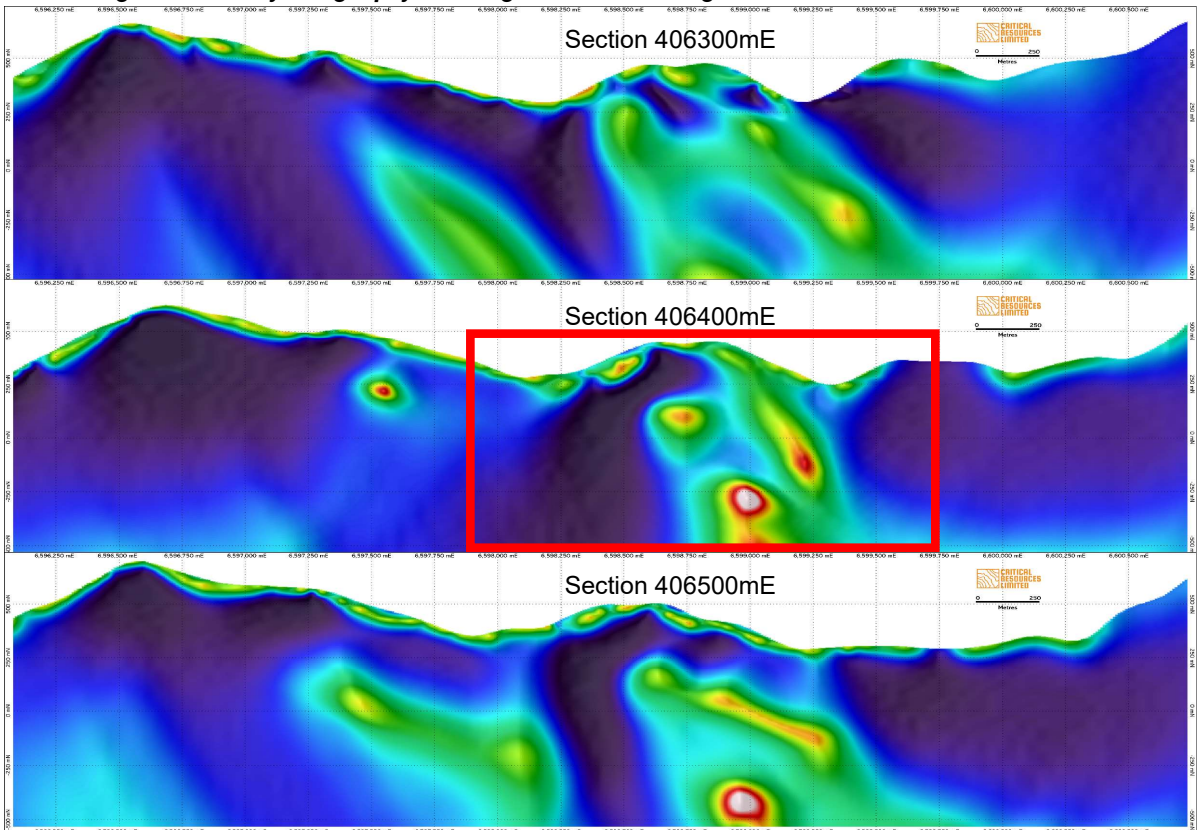


Figure 3 – Sunnyside geophysical targets demonstrating three sections at 100m intervals



Geophysics Background

Historically, exploration has trialled numerous geophysical methodologies, including Induced Polarisation (IP), Electromagnetic (EM) and Mise a la Masse, all with some degree of success.

The most recent and expansive survey, completed in 2012, was an aerial electromagnetic survey (VTEM). The purpose of the survey was to measure the conductance of the rock mass with the aim of delineating an economic massive sulphide deposit.

A significant recent review of previous geophysical data has been completed with a view to developing a new thesis and generate new, higher confidence drilling targets. Previous modelling of data utilised rudimentary algorithms that envisage flat lying conductors. More recent modelling employed complex algorithms that better model vertical conductors. The company has engaged geophysical modelling specialists to assist in the review of previous data and has diligently been undertaking a first principles analysis and review.

Sunnyside represents an expansive target interpreted as a likely SEDEX type deposit showing a moderate conductance which is typical of a zinc rich ore body.

Deposit Type and Exploration Thesis

Historical evaluations and interpretations of the Halls Peak project suggest that it is a SEDEX style mineral system. Halls Peak has been recognised as a SEDEX province since the 2000s with experts concluding that Halls Peak is a classic SEDEX massive sulphide system with mineralisation in a large Sedimentary Exhalative System over 30 sq. km.

SEDEX base metal deposits are formed when fluids carrying high-grade concentrations of Zn-Pb-Ag-Cu flow up fractures and faults and deposit metals on the side of these fractures and as fine crystals within the sea water. These crystals then settle on the sea floor as metal-rich beds referred to as bedded sulphides. They are typically conductive and can be detected by surveying techniques such as VTEM.

The VTEM survey in 2012 recorded conductive zones at depths of approximately 400m extending beneath 14km² of the Halls Peak project. These conductors may be produced by similar highly mineralised Zn-Pb-Ag-Cu ore bodies as those experienced in typical Australian SEDEX type deposits such as Mt Isa, McArthur River and Cannington.

Due to the shallow extent of historical drilling and mining across the Halls Peak project, the deeper extent of mineralisation remains untested. The new interpretation of the VTEM data has now presented coherent, viable targets which potentially host large scale massive sulphide mineralisation.

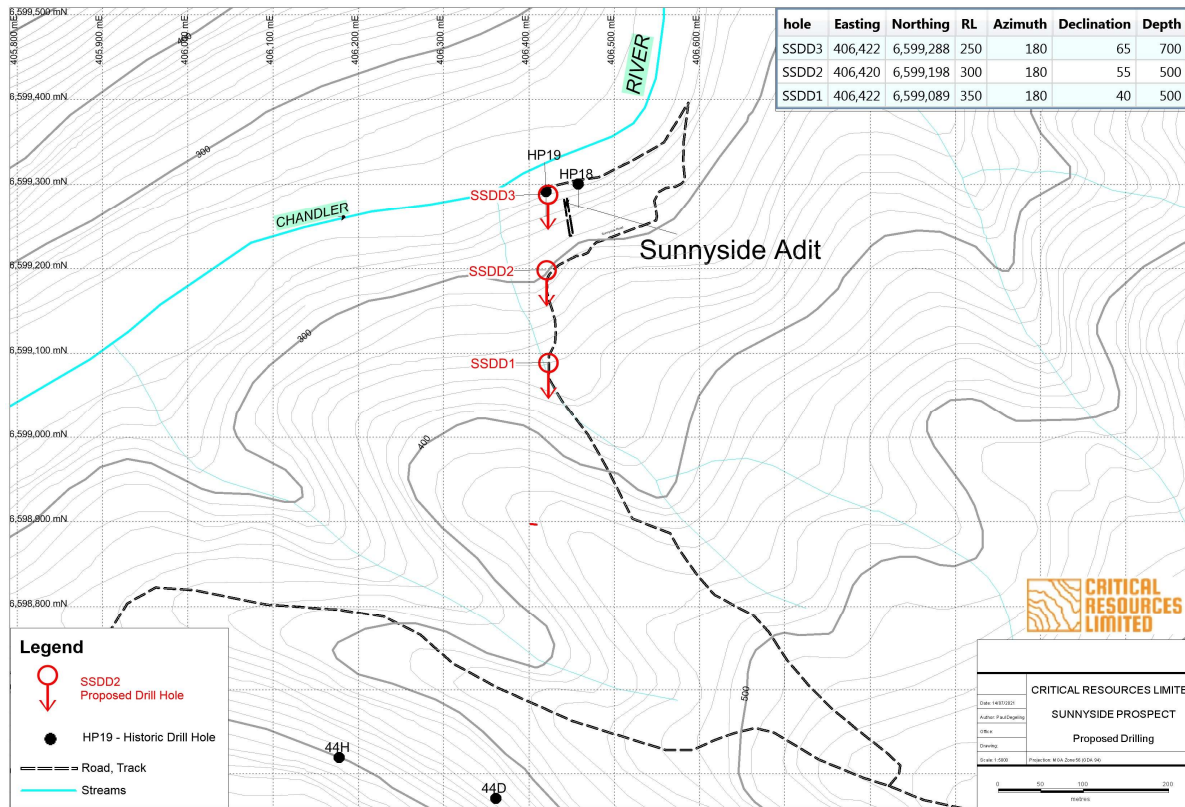
Near surface, high-grade mineralisation across the Halls Peak project is possibly related to the location of the projects on or near major faults which suggests the mineralised fluids were vented through the faults from depth. At McArthur River the base metals originate from a main vent zone located on the intersection of two major faults. At Halls Peak the conductors deepen towards the Sunnyside area, consistent with a similar vent on the intersection of mineralising faults.

Gibsons and Sunnyside high-grade near surface mineralisation are likely surface expressions of a deeper, larger system.

Drilling - Sunnyside

A total of 3 drill holes have been designed for a total of 1,700m. All holes will be completed via diamond drilling and assayed at an appropriate laboratory with the intention of data being valid for a JORC compliant Resource estimate in the future. A plan of the proposed Sunnyside drill holes is shown in Figure 4.

Figure 4 - Plan of proposed Sunnyside drill holes



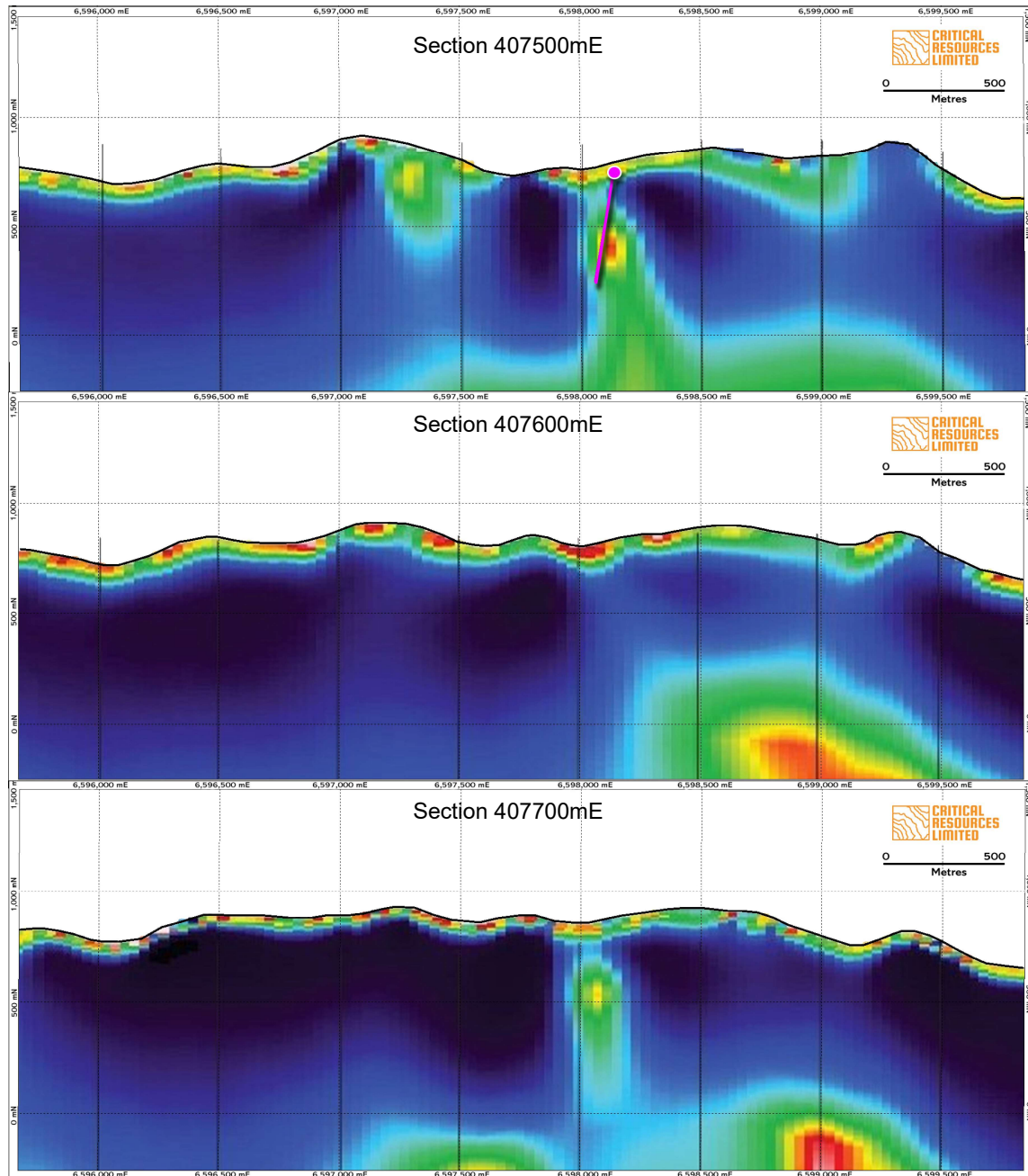
Drilling - Gibsons

The planned drilling program at Gibsons will comprise of 14 holes for a total of 2,500m. Drilling will occur simultaneously with the proposed Sunnyside drilling.

Reinterpretation of geophysical data has also yielded excellent targets at Gibsons as outlined in Figure 5. Targets at Gibsons are slightly shallower as conductors appear to deepen towards the Sunnyside prospect. Near surface historic mining and drilling has yielded high-grade intersections as outlined in ASX announcement dated 8th July 2021.

The Gibsons prospect is located approximately 2km south-east of the Sunnyside prospect. Drilling at both deposits simultaneously will allow for a significant increase in knowledge of the deposit at depth and allow the Company to further develop a thesis on deposit formation, type and scale. It is believed that all the Halls Peak prospects are part of the same mineralised system and present significant depth and scale potential.

Figure 5 - Gibsons geophysical targets demonstrating three sections at 100m intervals



Permitting and Stakeholder Engagement

The Company has engaged Austwide Mining Title Management Pty (“Austwide”) to manage the Company’s tenement portfolio and assist in expediting the permitting process for upcoming drilling at the Halls Peak project, specifically at Gibsons and Sunnyside. Austwide has a strong reputation in the Australian resources industry and the Company believes engaging a group with such credibility will reduce risk and assist in streamlining application processes as much as is possible.

At the date of this announcement the permitting process has begun. The company will keep the market updated on progress in due course.

Key stakeholder engagement meetings have occurred in New South Wales over recent weeks with the aim of building relationships that facilitate the furthering of exploration activities at Halls Peak.

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

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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.

About Critical Resources

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 newly acquired Copper assets in Oman.

Appendix 1: JORC Table 1

1.1 Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC-Code Explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	<ul style="list-style-type: none"> • <i>Geotech Limited (“Geotech”) was contracted by Sovereign Gold Company Limited (“Sovereign”) to conduct a helicopter-borne versatile time domain electromagnetic (VTEM) survey over Halls Peak located 34 kilometres southeast of Armidale, New South Wales, Australia. The survey was completed with a total of 1,221 line kilometres of geophysical data acquired.</i> • <i>The survey utilised a high-power 26m diameter transmitter loop suspended beneath a helicopter in a tent shaped array. The inner part of the array contains a smaller diameter receiving coil, which measures the period of time it takes for an induced electro-magnetic field to dissipate through the ground.</i> • <i>VTEM survey design, supervision, data acquisition, processing and modelling was conducted by geophysical consultants, Southern Geoscience Consultants</i> • <i>Remodelling reinterpretation and analysis of existing geophysical and geological data has been completed by Southern Geoscience Consultants</i>
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	
	<i>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.</i>	
Drilling techniques	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	• <i>Not applicable, no new drilling results are being announced.</i>
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	• <i>Not applicable, no new drilling results are being announced.</i>

Criteria	JORC-Code Explanation	Commentary
	<p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	
Logging	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>No mineral resources have been estimated.</i>
Sub-sampling techniques and sample preparation	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p> <p><i>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.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i>
Quality of assay data and laboratory tests	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p>	

Criteria	JORC-Code Explanation	Commentary
	<p><i>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.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>Survey data quality was subject to quality control during the survey and subsequent processing by Southern Geoscience Consultants.</i>
Verification of sampling and assaying	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i>
Location of data points	<p><i>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.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>Ancillary equipment included a GPS navigation system and a radar altimeter for survey and topographic control in MGA Zone 56</i>
Data spacing and distribution	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>The survey was conducted oriented north south with lines being 100m metres apart, readings were taken at a rate of 10 samples per second.</i> • <i>The geophysical results being presented are in no way sufficient to determine mineral resources.</i>
Orientation of data in relation to geological structure	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>The survey was designed with the stratigraphy and mineralisation to ensure as best as possible that the survey lines were perpendicular.</i>

Criteria	JORC-Code Explanation	Commentary
Sample security	<i>The measures taken to ensure sample security.</i>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i>
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	<ul style="list-style-type: none"> • <i>Not applicable, no new drilling results are being announced.</i> • <i>Survey data was reviewed by Southern Geoscience Consultants during its acquisition.</i>

1.2 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	<i>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.</i>	<ul style="list-style-type: none"> • <i>The Halls Peak Project comprises granted Exploration Licenses EL 4474 and EL 7679, located in north-eastern NSW and covering an area of about 84km².</i> • <i>There are no known impediments to operate on the tenements.</i>
	<i>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.</i>	
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<ul style="list-style-type: none"> • <i>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.</i>

Criteria	JORC-Code Explanation	Commentary
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	<ul style="list-style-type: none"> 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, volcanoclastic 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 Information	<p><i>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:</i></p> <p><i>easting and northing of the drill hole collar</i></p> <p><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></p> <p><i>dip and azimuth of the hole</i></p> <p><i>down hole length and interception depth</i></p> <p><i>hole length.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> Not applicable, no new drilling results are being announced.
Data aggregation methods	<p><i>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.</i></p> <p><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<ul style="list-style-type: none"> Not applicable, no new drilling results are being announced.
Relationship between mineralisation widths and intercept lengths	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p>	<ul style="list-style-type: none"> Not applicable, no new drilling results are being announced.

Criteria	JORC-Code Explanation	Commentary
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i>	
Diagrams	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	<ul style="list-style-type: none"> • An appropriate map and section are included in the Report.
Balanced reporting	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	<ul style="list-style-type: none"> • Not applicable, no new drilling results are being announced
Other substantive exploration data	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	<ul style="list-style-type: none"> • Targets shown in the attached plans and sections have been defined by the VTEM survey and the interpretation of results from that survey, with consideration for the understanding of the local geology due to historical works. While some mining has occurred at Halls Peak the project is still at an early stage and as such no bulk density, geotechnical, hydrogeological and metallurgical work has been completed.
Further work	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<ul style="list-style-type: none"> • Drill program of 14 holes for a total of 2500m entering permitting stage to both verify historical drilling at Halls Peak but also to test deeper VTEM targets.