



# ASX ANNOUNCEMENT

ASX : CXO

21<sup>st</sup> January 2014

## Surveys reveal IOCG drill targets near Olympic Dam

### HIGHLIGHTS

- **Multiple high-priority IOCG drill targets identified from new and historic geophysical surveys on Core's Roxby project**
- **Core's Roxby project located 10km from BHP's Wirrda Well IOCG Project.**
- **Core's 100%-owned Roxby project covers 400km<sup>2</sup> near Olympic Dam**
- **Interest has been expressed in the project by a number of parties**
- **Core will provide updates to the market as discussions progress**

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Core Exploration Ltd's (ASX:CXO) advises that geophysical modelling and review of new and previous surveys has identified high priority drill targets which the Company considers are yet to be adequately defined and drill tested near Olympic Dam in South Australia.

Tenements in this highly sought after geological domain are receiving increased attention following the recent release of the Woomera \$2m gravity survey conducted by DMITRE and Geoscience Australia and also positive announcements by BHP Billiton of it's Wirrda Well IOCG project and OZ Minerals' Khamsin IOCG discovery in the surrounding area (Figure 1).

Core's neighbouring Roxby project covers a large prospective area only 10km from Wirrda Well and near BHP Billiton's Olympic Dam mine in northern South Australia. The Roxby South tenements are located approximately 40 kilometres south of the Olympic Dam copper gold uranium mine (Figure 1).

Core's 100%-owned Roxby project is one of the few independent projects covering the highly prospective geology between BHPB's Olympic Dam mine and its Wirrda Well project and Oz Minerals' Carrapateena project (Figure 1).



Core is considering plans for detailed gravity, magnetics and resistivity/IP geophysical surveys over these drill targets prior to drill testing.

Core is also in discussions with a number of Australian and International parties who have expressed interest in this highly prospective and sought-after Tier 1 IOCG terrain.

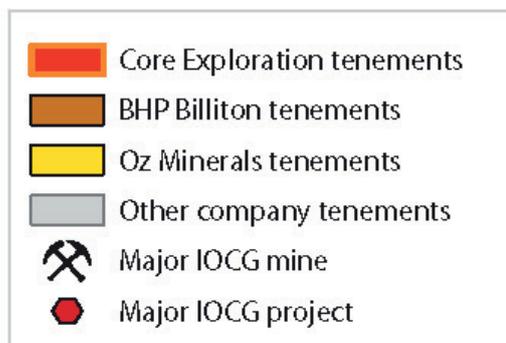
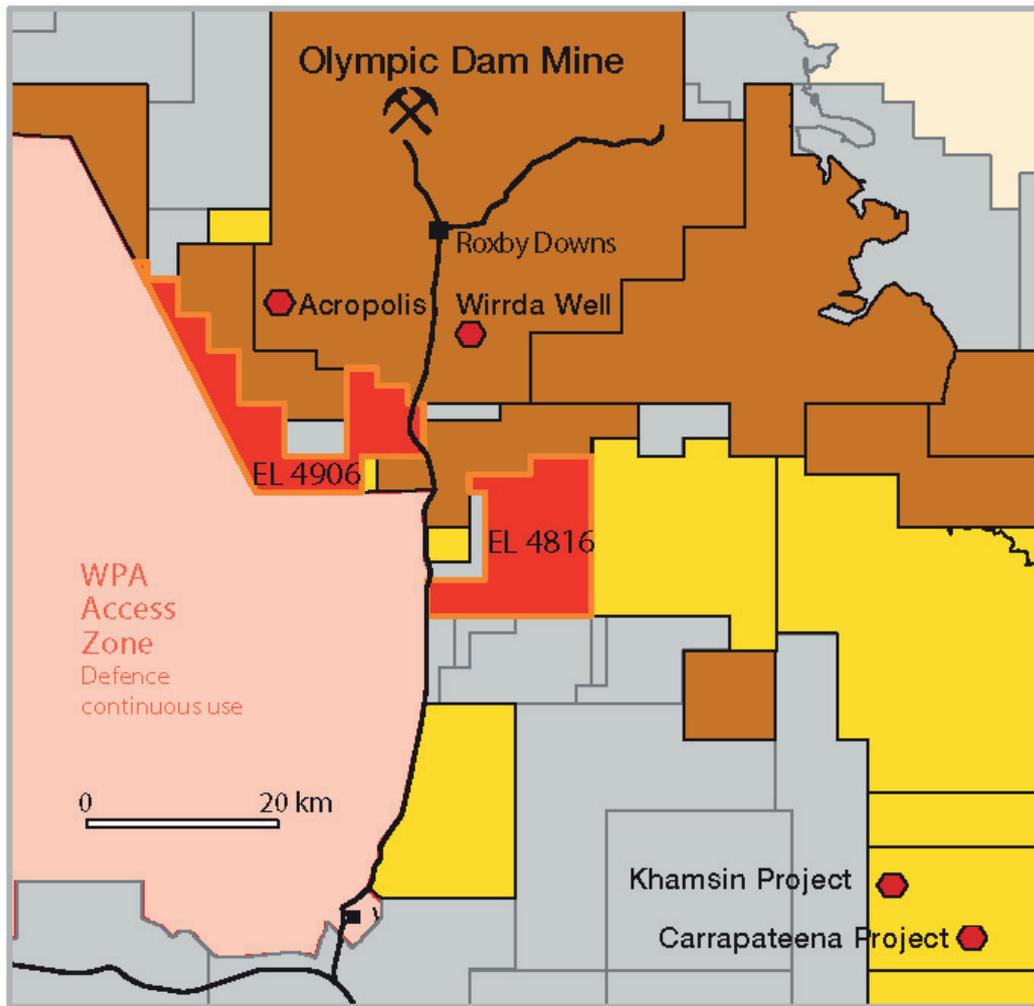
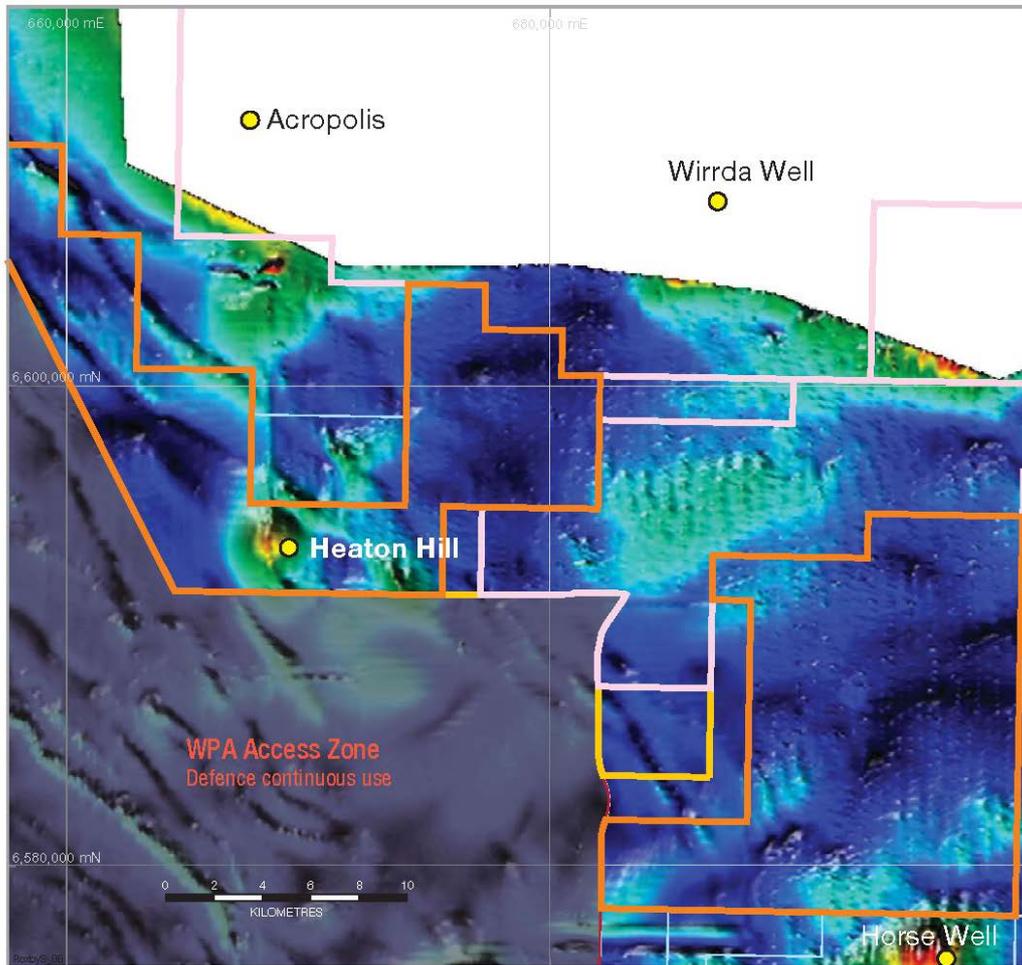


Figure 1. Core’s Roxby project, world-class IOCG projects and mines and surrounding tenements held by BHP and Oz Minerals, Gawler Craton, South Australia.



-  Core Exploration Licence
-  BHPB Exploration Licence
-  Oz Minerals Exploration Licence
-  Exploration Licence
-  Major mine
-  IOCG Prospect



SOUTH AUSTRALIA  
ROXBY PROJECT

**Magnetic image and  
IOCG deposits**

*Figure 2. Tenement scale magnetic (analytic signal) image with discussed drillhole and IOCG prospect locations, Roxby project, S.A.*

Review by Core of the new and past geophysical surveys and historic drilling confirms IOCG mineralisation has been intersected in basement at a number of prospects in the region and there appears to be a good relationship between the mineralisation in these holes and the observed analytic signal filtered magnetic highs (Figure 2).

WMC's 1980 drillhole (HHD1) at Heaton Hill prospect on Core's EL 4906 appears to have been sited approximately 1km east of the main magnetic target based on the analytic signal filtered magnetics (Figures 2 & 3).

HHD1 intersected hematite altered granites, but no magnetic rocks were intersected and therefore did not test the magnetic target. In addition, Core’s modelling interprets that the drillhole only tested the margin of the modelled gravity. A high priority drillhole (Drillhole B) is proposed to adequately test this and other strong magnetic and gravity targets (Figure 3).

Similarly, 2.5 km south of EL 4816, drillhole HWD1 at Horse Well Prospect by WMC (Figures 2 & 4) intersected basement at 861.2m and was logged as containing “altered felsic volcanic breccia” with a zone which contained copper sulphides (bornite + chalcocite + chalcopyrite) and pyrite in a strongly veined hematite zone typical of IOCG mineralogy from 900 - 920m.

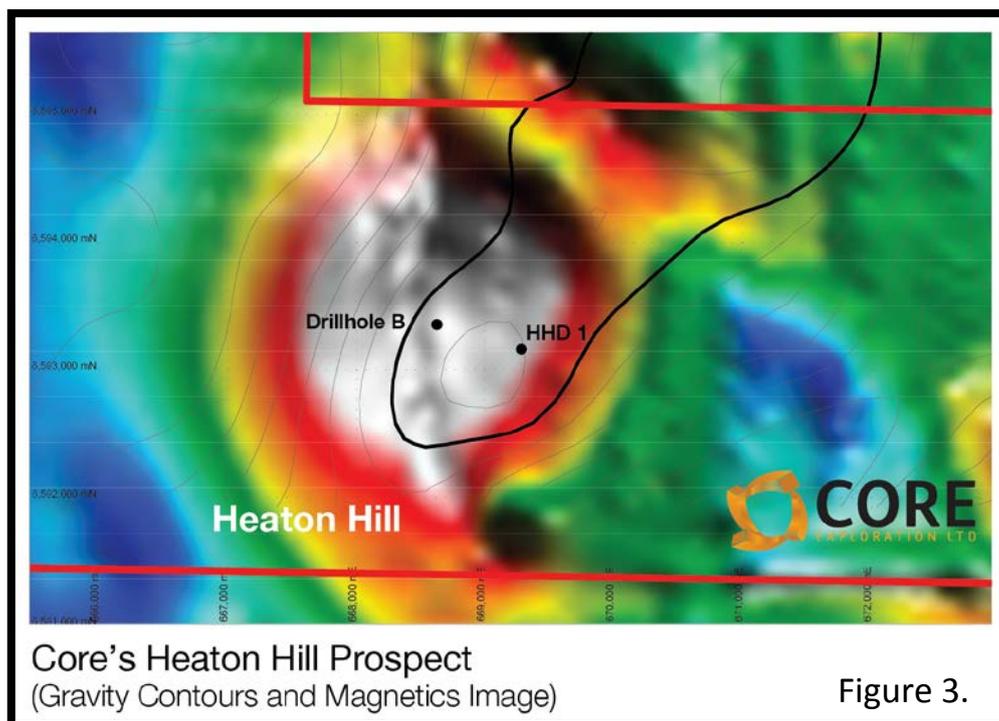


Figure 3.

There are a number of examples in the Olympic Dam domain, famously at the Prominent Hill mine and most recently at Oz Minerals Khamsin project (Figure 1), where a major IOCG discovery has been made by drilling a few hundred meters from previous drilled holes in areas which contain high priority geophysical targets.

At Khamsin, initial vertical drillholes intersected basement comprising hematite and chlorite altered granite. Oz Minerals then drilled a much deeper, angled hole targeting both the Khamsin gravity and magnetic anomalies. The discovery drillhole at Khamsin intersected 440m of IOCG style mineralisation comprising hematite, chlorite and magnetite granite breccia with disseminated chalcopyrite and pyrite (refer ASX:OZL 28/11/2013).

Core believes there is similar opportunity presented by the geophysical targets on Core’s Roxby project (Figures 3 and 4).

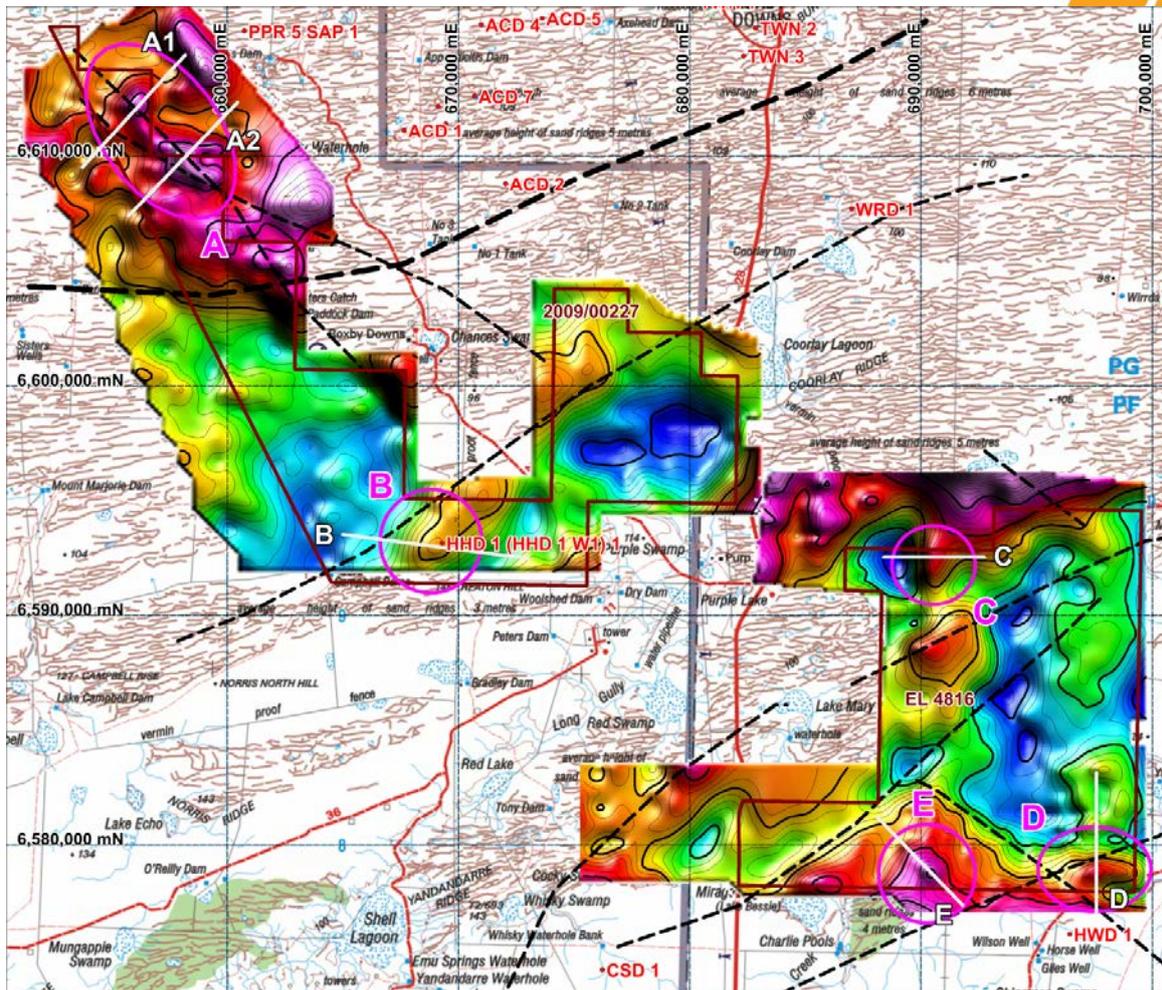


Figure 4. IOCG targets identified and modelled by Core overlain on residual gravity image, Roxby project, S.A.

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The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Stephen Biggins (BSc(Hons)Geol, MBA) as Managing Director of Core Exploration Ltd who is a member of the Australasian Institute of Mining and Metallurgy and is bound by and follows the Institute's codes and recommended practices. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities 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. Biggins consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken by Core</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></li> </ul>	<ul style="list-style-type: none"> <li>Core is yet to undertake any drilling within EL 4816 or EL 4906. Any drilling results discussed in this release are those of other company’s holes from within and off the tenement.</li> <li>Drillhole HHD1 and HWD1 were NQ diamond cored by Western Mining Corporation (WMC) in 1980 through the basement lithologies and are publicly available for inspection through the South Australian Core library.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Location of drillholes discussed in this release have been rectified into the SARIG database and re-projected as GDA 94 for diagrams.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Data spacings are controlled by the locations of existing drillhole, data is too coarse to extrapolate information between holes.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling has been undertaken</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have been undertaken.</li> </ul>



## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary																		
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>EL 4816 (236 km<sup>2</sup>) and EL 4906 (192 km<sup>2</sup>) are both held by Sturt Exploration which is a wholly owned subsidiary of Core Exploration Ltd.</li> </ul>																		
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>EL 4816 and EL 4906 have both been previously explored by numerous companies whilst undertaking more regional IOCG targeting. Western Mining Corporation (WMC) are the only company to have drilled within the two tenements with drillhole HHD1 which was drilled in 1980. The remaining exploration within the tenements have involved the collection of magnetic and gravity datasets.</li> </ul>																		
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation style discussed in this release is Iron-oxide copper gold ± uranium (IOCG(U)). The closest example of this type of IOCG deposit is BHPB's Olympic Dam Mine (40km to the north) and Wirrda Well project (10km to the north). In short they are iron rich hydrothermal alteration systems that brecciate host lithologies and introduce a range of metals including copper, gold, uranium and REE's. They are generally dense due to the introduction of iron as hematite (high gravity response) and can also be magnetic (when the iron is magnetite).</li> </ul>																		
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> </ul> </li> </ul>	<table border="1"> <thead> <tr> <th>Drillhole</th> <th>Max Depth</th> <th>RL</th> <th>Dip</th> <th>Az.</th> <th>Cored Length</th> <th>Basement Depth</th> <th>East</th> <th>North</th> </tr> </thead> <tbody> <tr> <td>HHD 1</td> <td>1186.2</td> <td>-</td> <td>90</td> <td>-</td> <td>906.2</td> <td>1132</td> <td>669283</td> <td>6593152</td> </tr> </tbody> </table>	Drillhole	Max Depth	RL	Dip	Az.	Cored Length	Basement Depth	East	North	HHD 1	1186.2	-	90	-	906.2	1132	669283	6593152
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Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>o down hole length and interception depth</li> <li>o hole length.</li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no drilling has been undertaken</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralised intersections discussed in this release reflect downhole intersections as not enough information is available to determine the geometries of any mineralized body.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• See figures in release</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as results discuss the limited data available that has intersected basement in the immediate tenement area.</li> </ul>
<b>Other substantive</b>	<ul style="list-style-type: none"> <li>• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to the release - No other exploration data is applicable.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>exploration data</b>	<i>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>	
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Core will look at infilling gravity data over specific target areas and have it modeled before final drill targeting.</li> </ul>