

**SIRIUS RESOURCES NL**
**ASX:** SIR

**ABN:** 46 009 150 083

**Street address:**

253 Balcatta Road,  
Balcatta,  
Western Australia 6021

**Postal address:**

PO Box 1011,  
Balcatta,  
Western Australia 6914

**Tel:** +61 8 6241 4200

**Fax:** +61 8 6241 4299

**Email:**
[admin@siriusresources.com.au](mailto:admin@siriusresources.com.au)
**Web:**
[www.siriusresources.com.au](http://www.siriusresources.com.au)
**Projects:**
**Fraser Range** nickel-copper, gold

**Polar Bear** gold, nickel


## SEVERAL LARGE NICKEL-COPPER-COBALT SOIL ANOMALIES IDENTIFIED OVER NEW TARGET AT FRASER RANGE

- **Several strong multi-element soil anomalies identified**
- **Anomalies are located within an interpreted intrusion**
- **Similar strength to the original Nova soil anomaly**

Sirius Resources NL (**ASX:SIR**) ("**Sirius**" or "**the Company**") advises that it has identified several significant soil anomalies over one of its new nickel targets within the 70% owned Fraser Range Joint Venture. The prospect area is termed "Crux".

Each of the anomalies measures between 400 metres and 800 metres in length and peaks at over 1,000ppm nickel (up to 1980ppm), between 100ppm and 286ppm copper, and between 100ppm and 195ppm cobalt (*see Figure 1*). These soil anomalies are the strongest identified by Sirius since the discovery of the original Nova soil anomaly.

The Crux anomalies form a cluster within a magnetic low measuring approximately 5 kilometres long by 2 kilometres wide, which may represent an intrusion (*see Figure 2*) similar to that at the Eye.

The anomalies, and the interpreted intrusion, are located 70 kilometres southwest of the Nova deposit at the southern end of the gravity anomaly that defines the nickel prospective area of the geological belt known as the Fraser Complex (*see Figure 3*).

Further follow up soil sampling and ground electromagnetic (EM) surveys are planned to prioritise these significant new targets.

**Mark Bennett, Managing Director and CEO**

**Please direct enquiries to Anna Neuling, Director Corporate and Commercial**

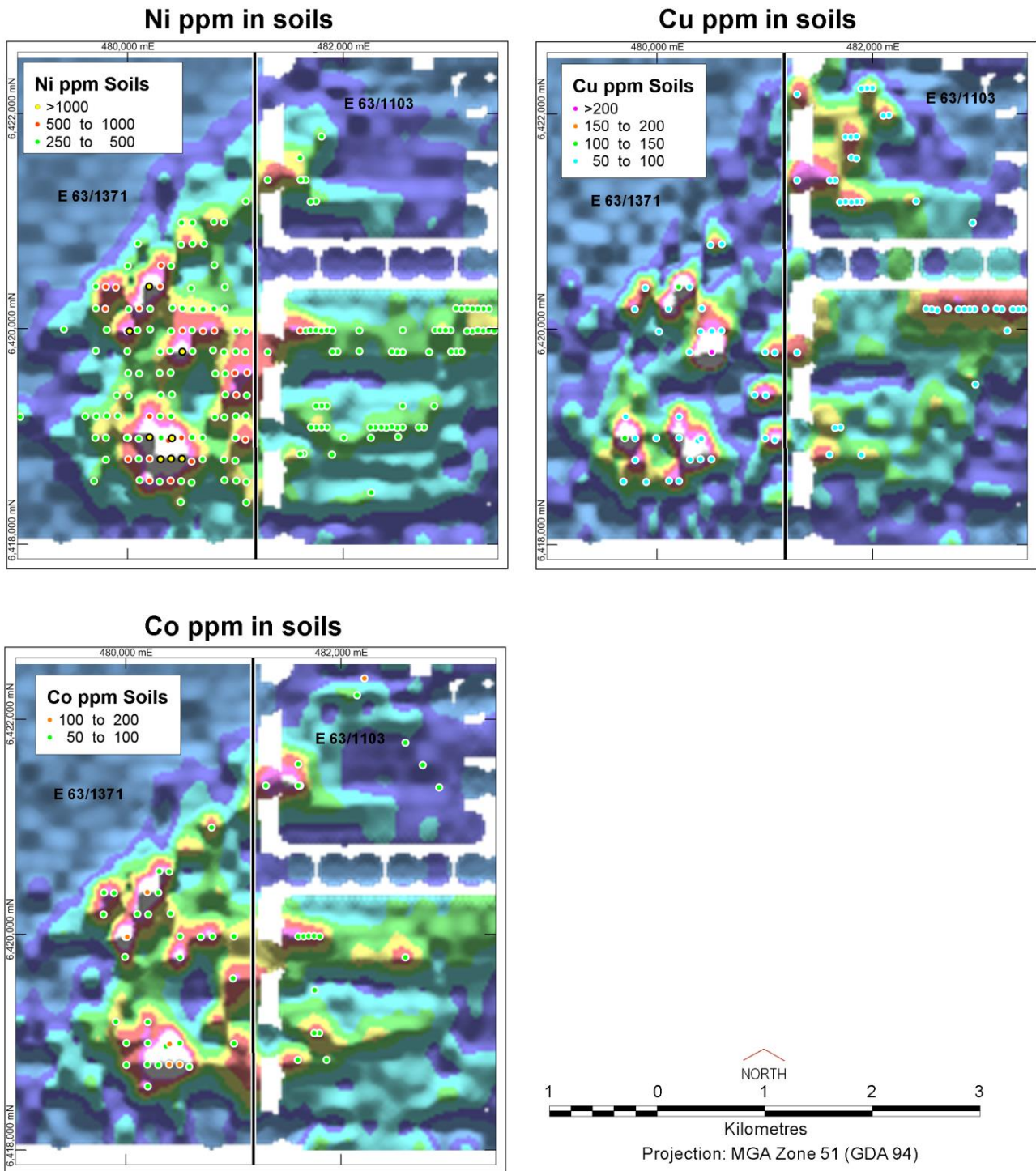


Figure 1. Map of Crux area soil anomalies, with nickel (top left), copper (top right) and cobalt (bottom left).

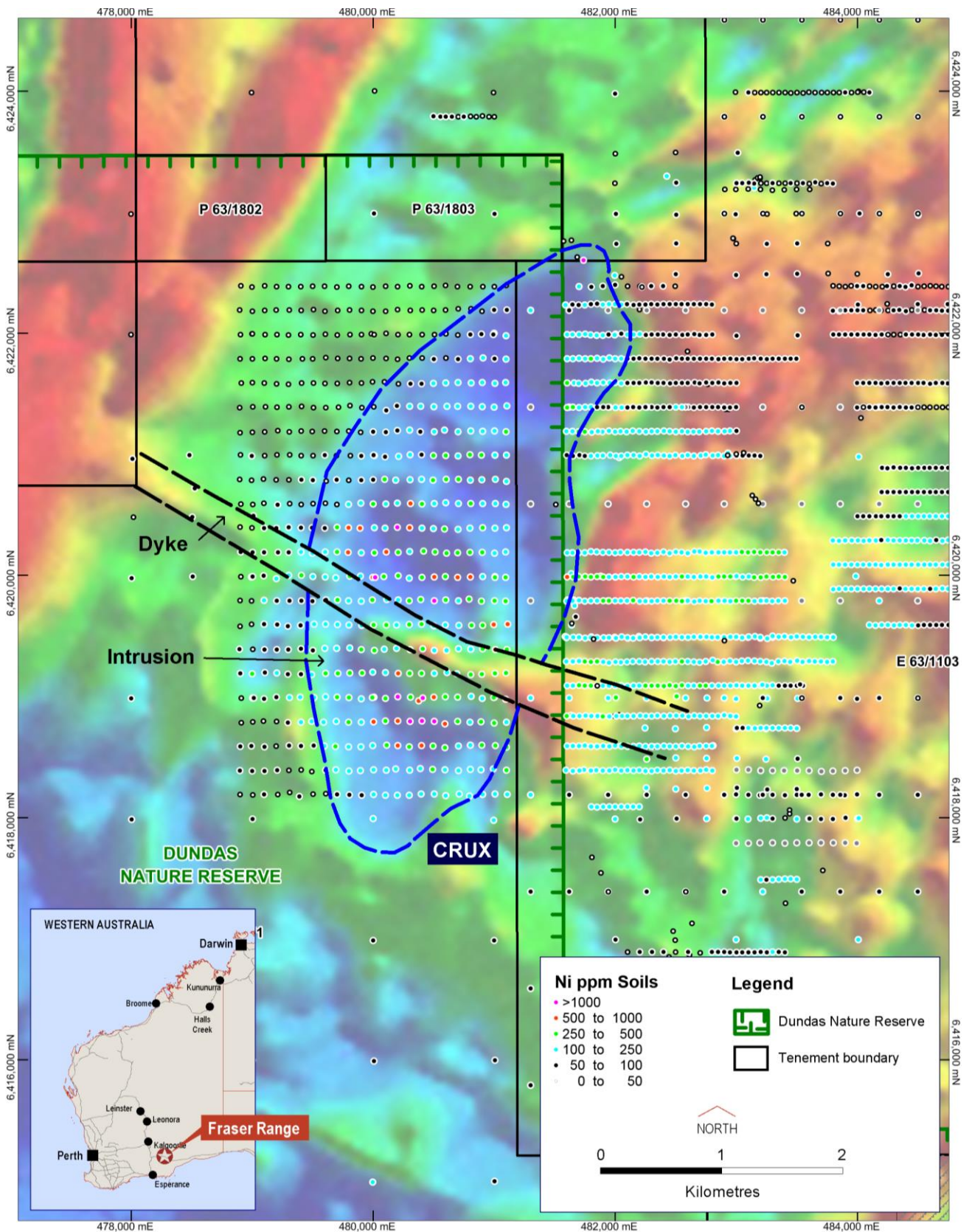


Figure 2. Map showing Crux area soil anomalies superimposed on colour magnetic image which highlights their location within the interpreted intrusion and a later crosscutting dyke.

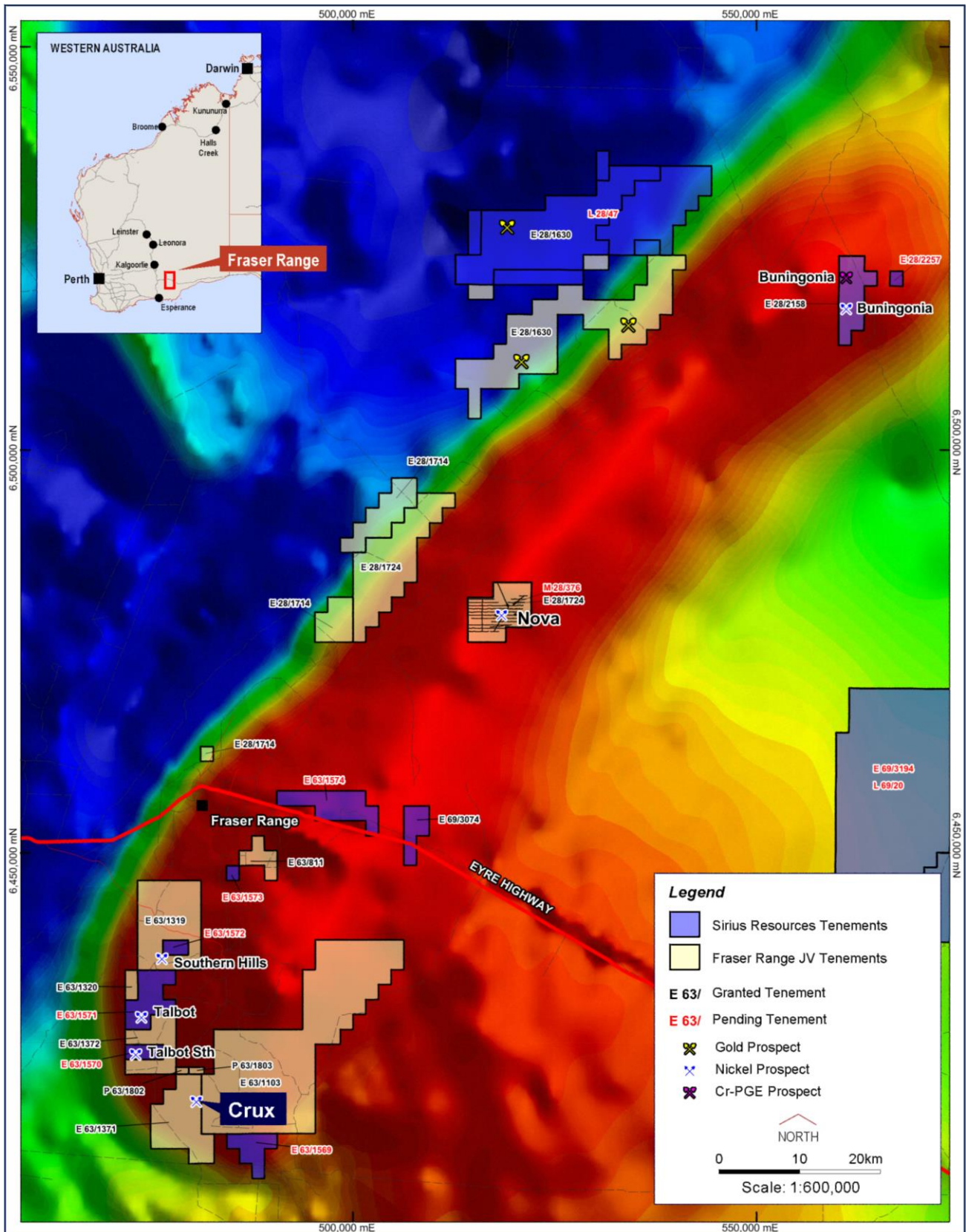


Figure 3. Map showing location of the Crux area soil anomalies superimposed on colour gravity image which highlights the location of Sirius' targets and tenements within the gravity high that represents the nickel prospective part of the Fraser Complex.

The following Table and Sections are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of exploration results.

**Table 1 - Section 1: Sampling Techniques and Data – Crux**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>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.</i>	The prospect is sampled by auger soil sample on a nominal 200m x 100m grid spacing. A total of 590 auger holes have been drilled to an average depth of 3m, all holes are drilled vertical.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i>	The auger collar locations are picked up by handheld GPS. Auger samples were logged for landform, and sample contamination. Sampling was carried out under Sirius protocols and QAQC procedures as per industry best practice.
	<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 (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</i>	All auger samples are sieved through 177 µ (-80#) in order to reduce the natural inhomogeneity. Samples were sieved, dried and pulverised (total prep) to produce a representative 10g sub sample for analysis by Aqua Regia with ICP-OES finish. The following elements are included Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Te, Ti, Tl, V, W, Zn
Drilling techniques	<i>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).</i>	Drilling to date has been a combination of auger and hand soil samples.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed</i>	Overall recoveries are good and there are no significant sample recovery problems.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples</i>	Samples are collected by sieving the bottom of hole spoil directly of the rig-mounted auger unit.
	<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>	Insufficient drilling and geochemical data is available at the present stage to evaluate potential sample bias. However Sirius protocols and QAQC procedures are followed to preclude any issue of sample bias due to material loss or gain.
Logging	<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>	The auger soil technique does not produce chips suitable for lithological or geotechnical logging.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Not applicable as all samples are sieved soil fine fractions.
	<i>The total length and percentage of the relevant intersections logged</i>	
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No core drilling techniques used at present.

Criteria	JORC Code explanation	Commentary
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Samples were collected directly from the auger unit. Samples taken were dry.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	The sample preparation of drill chip samples follows industry best practice in sample preparation involving oven drying, coarse crush, sieve -177um (-80#) sufficient for duplicate 10g aqua regia digestion.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	At this stage of the project field QC procedures involve the review of laboratory supplied certified reference material and in house controls, blanks, splits and replicates are analysed with each batch of samples. These quality control results are reported along with the sample values in the final analysis report. Selected samples are also re-analysed to confirm anomalous results.
	<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>	No field duplicates have been taken. Samples are selected to weigh less than 3kg to ensure total preparation at the pulverisation stage.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample sizes are considered to be appropriate to correctly represent the sought after mineralisation style
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The analytical techniques used Aqua Regia digest multi element suite with ICP/OES finish, suitable for the reconnaissance style drilling undertaken.
	<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>	No geophysical tools were used to determine any element concentrations at this stage.
	<i>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.</i>	Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in house procedures.
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	The Sirius Exploration Manager has visually verified significant intersections in soil samples from the Crux prospect.
	<i>The use of twinned holes.</i>	No holes have been drilled at Crux.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Primary data was collected using a set of standard Excel templates on paper and re-entered into laptop computers. The information was sent to Sirius' in-house database manager for validation and compilation into a SQL database server.
	<i>Discuss any adjustment to assay data.</i>	No adjustments or calibrations were made to any assay data used in this report.
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Drill hole collar locations were recorded using handheld Garmin GPS. Elevation values were in AHD RL and values recorded within the database. Expected accuracy is + or - 5 m for easting, northing and 10m for elevation coordinates. No downhole surveying techniques were used due to the drilling methods used.
	<i>Specification of the grid system used.</i>	The grid system is MGA_GDA94 (zone 51), local easting and northing are in MGA.
	<i>Quality and adequacy of topographic control.</i>	Topographic surface uses handheld GPS elevation data, which is adequate at the current stage of the project.
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	The nominal drillhole spacing is 200 m (northing) by 100 m (easting).

Criteria	JORC Code explanation	Commentary
	<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>	The mineralised domains have not yet demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource and Reserves, and the classifications applied under the 2012 JORC Code.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has been applied.
<b>Orientation of data in relation to geological structure</b>	<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>	The auger method is used to provide a surface sample only.
	<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>	No orientation based sampling bias has been identified in the data at this point.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Chain of custody is managed by Sirius. Samples are stored and collected from site by Centurion transport and delivered to Perth, then to the assay laboratory. Whilst in storage, they are kept on a locked yard. Tracking sheets have been set up to track the progress of batches of samples.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No review of the data management system has been carried out.

**Table 1 - Section 2: Reporting of Exploration Results – Crux**

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	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.	Crux prospect is located wholly within Exploration Licence E63/1371 and E63/1103. The tenement is part of the Fraser Range JV between Sirius Gold Pty Ltd, a wholly owned subsidiary of Sirius Resources NL, and Lake Rivers Gold Pty Ltd. Sirius has a 70% interest in the tenement. The tenement sits within the Ngadju Native Title Claim (WC99/002). E63/1371 and a small portion of E63/1103 are within the 'B' class Dundas Nature Reserve.
	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.	The tenement is in good standing and no known impediments exist.
<b>Exploration done by other parties</b>	Acknowledgment and appraisal of exploration by other parties.	Newmont Pty Ltd carried out exploratory activities between 1960's and 1970's through the western regions of the Fraser Range Complex. To the best of Sirius' knowledge no known historical drilling has occurred over the Crux prospect. Multiple generations of historical soil/calcrete sampling on various grid spacings occur through the tenements. The locations and results cannot be verified, and are not included in the results.
<b>Geology</b>	Deposit type, geological setting and style of mineralisation.	The global geological setting is a Proterozoic aged gabbroic intrusion(s) within metasediments situated in the Albany Fraser mobile belt. It is a high grade metamorphic terrane. The deposit style sought after is analogous to the recent Nova Ni-Cu-Co mafic hosted nickel-copper deposits.

Criteria	JORC Code explanation	Commentary
<b>Drill hole information</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• easting and northing of the drill hole collar</li> <li>• elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>• dip and azimuth of the hole</li> <li>• down hole length and interception depth</li> <li>• hole length.</li> </ul>	Refer to figs. 1 – 3 in the body of text.
<b>Data aggregation methods</b>	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.	No length weighting has been applied due to the nature of the sampling technique. No top-cuts have been applied.
	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.	Not applicable for the sampling methods used.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used for reporting exploration results.
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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’).</p>	The sampling technique used defines a surficial geochemical expression. No information is attainable relating to the geometry of any mineralisation based on these results.
<b>Diagrams</b>	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 figs. 1 – 3 in the body of text.
<b>Balanced reporting</b>	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.	All results are reported.
<b>Other substantive exploration data</b>	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.	



Criteria	JORC Code explanation	Commentary
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	Future work at Crux will include re-submitting a selection of sample pulps for Au, Pt, Pd by Fire Assay analysis. Moving Loop Electromagnetics will then be used over the main geochemical anomaly to identify any potential bedrock conductive sources that may be related to mineralisation. RAB/AC drilling will be used to further define the nature and extent of the geochemical anomalism, and to gain lithological information.

### Competent Persons statement

The information in this report that relates to Exploration Results is based on information compiled by Jeffrey Foster and John Bartlett who are employees of the company and fairly represents this information. Mr Foster and Mr Bartlett are members of the Australasian Institute of Mining and Metallurgy. Mr Foster and Mr Bartlett have sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Foster and Mr Bartlett consent to the inclusion in this report of the matters based on information in the form and context in which it appears. Exploration results are based on standard industry practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures. Reverse circulation (RC), aircore (AC) and rotary air blast (RAB) drilling samples are collected as composite samples of 4 or 2 metres and as 1 metre splits (stated in results). Mineralised intersections derived from composite samples are subsequently re-split to 1 metre samples to better define grade distribution. Core samples are taken as half NQ core or quarter HQ core and sampled to geological boundaries where appropriate. The quality of RC drilling samples is optimised by the use of riffle and/or cone splitters, dust collectors, logging of various criteria designed to record sample size, recovery and contamination, and use of field duplicates to measure sample representivity. For soil samples, PGM and gold assays are based on an aqua regia digest with Inductively Coupled Plasma (ICP) finish and base metal assays may be based on aqua regia or four acid digest with inductively coupled plasma optical emission spectrometry (ICPOES) or atomic absorption spectrometry (AAS) finish. In the case of reconnaissance RAB, AC, RC or rock chip samples, PGM and gold assays are based on lead or nickel sulphide collection fire assay digests with an ICP finish, base metal assays are based on a four acid digest and inductively coupled plasma optical emission spectrometry (ICPOES) and atomic absorption spectrometry (AAS) finish, and where appropriate, oxide metal elements such as Fe, Ti and Cr are based on a lithium borate fusion digest and X-ray fluorescence (XRF) finish. In the case of strongly mineralised samples, base metal assays are based on a special high precision four acid digest (a four acid digest using a larger volume of material) and an AAS finish using a dedicated calibration considered more accurate for higher concentrations. Sample preparation and analysis is undertaken at Minanalytical, Genalysis Intertek and Ultratrace laboratories in Perth, Western Australia. The quality of analytical results is monitored by the use of internal laboratory procedures and standards together with certified standards, duplicates and blanks and statistical analysis where appropriate to ensure that results are representative and within acceptable ranges of accuracy and precision. Where quoted, nickel-copper intersections are based on a minimum threshold grade of 0.5% Ni and/or Cu, and gold intersections are based on a minimum gold threshold grade of 0.1g/t Au unless otherwise stated. Intersections are length and density weighted where appropriate as per standard industry practice. All sample and drill hole co-ordinates are based on the GDA/MGA grid and datum unless otherwise stated. Exploration results obtained by other companies and quoted by Sirius have not necessarily been obtained using the same methods or subjected to the same QAQC protocols. These results may not have been independently verified because original samples and/or data may no longer be available.

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