



**30 June 2014**

**ASX Code: WCN**

## **Significant Nickel in Soil Anomaly Identified at Merolia**

### **Highlights**

- **Additional high tenor nickel anomaly identified by geochemical soil sampling survey**
- **Follow up soil geochemical survey currently underway**

White Cliff Minerals Limited ("**White Cliff**" or "the **Company**") is pleased to announce that a new high tenor nickel in soil anomaly has been identified at the Merolia Nickel and Copper project in the Laverton region, WA.

Following the identification of a major nickel anomaly at the McKenna prospect (ASX Release 29<sup>th</sup> April) from analysis of the first 323 soil samples in the sampling program, PXRF (portable X-ray florescence spectroscopy) analysis of the remaining 1022 samples has revealed several additional areas with anomalous nickel in soil anomalies.

The strongest anomaly occurs on the eastern side of the Rotorua Ultramafic unit within a wedge of ultramafic rocks folded around the nose of a felsic intrusion (Figure 1). The nickel anomaly is approximately 1.5km long and 500 metres wide and is open to the north. Further infill and extensional geochemical sampling is currently being undertaken to identify the extents of the anomalism.

Managing Director, Todd Hibberd commented that, "The identification of additional nickel anomalies continues to improve the prospectivity of the Merolia project. The size and strength of the nickel anomaly is highly encouraging and warrants further follow up work to the north to define the extent of the anomalism. The Company has commenced an additional geochemical soil sampling program over this area. Further infill geochemical sampling will also be carried out around other defined anomalies with results are expected to be available in the coming weeks."

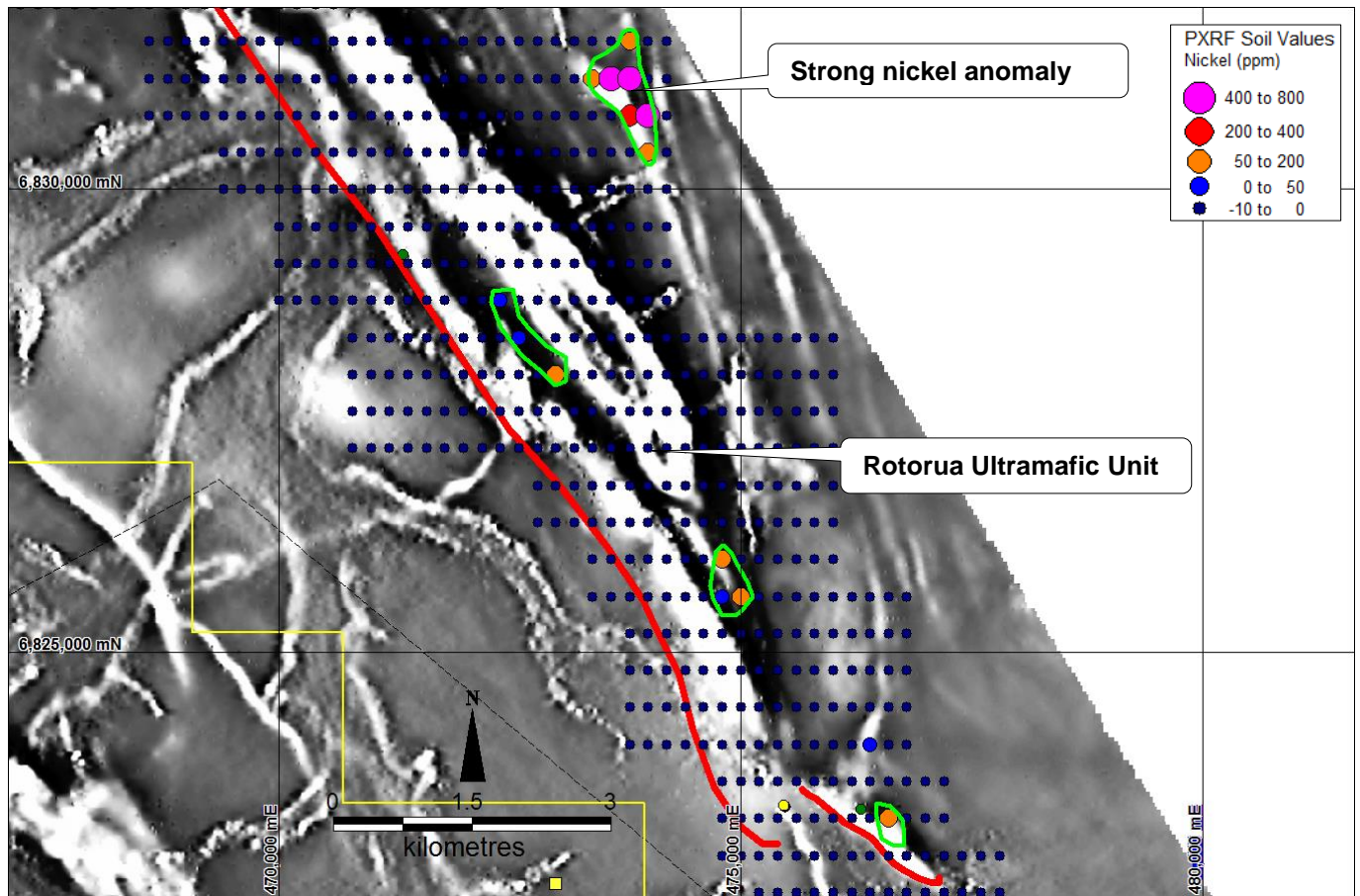
"It is astounding to realise that a major 10 kilometre by 2 kilometre ultramafic sequence in an region that hosts several major nickel mines has never been tested by drilling or geophysics. The Rotorua ultramafic is highly prospective for nickel sulphide deposition and represents an excellent exploration target."

"The geochemical surveys will be followed by low cost RAB drilling and geophysical surveys that are expected to generate multiple defined EM conductors that will be drilled in the latter part of 2014."

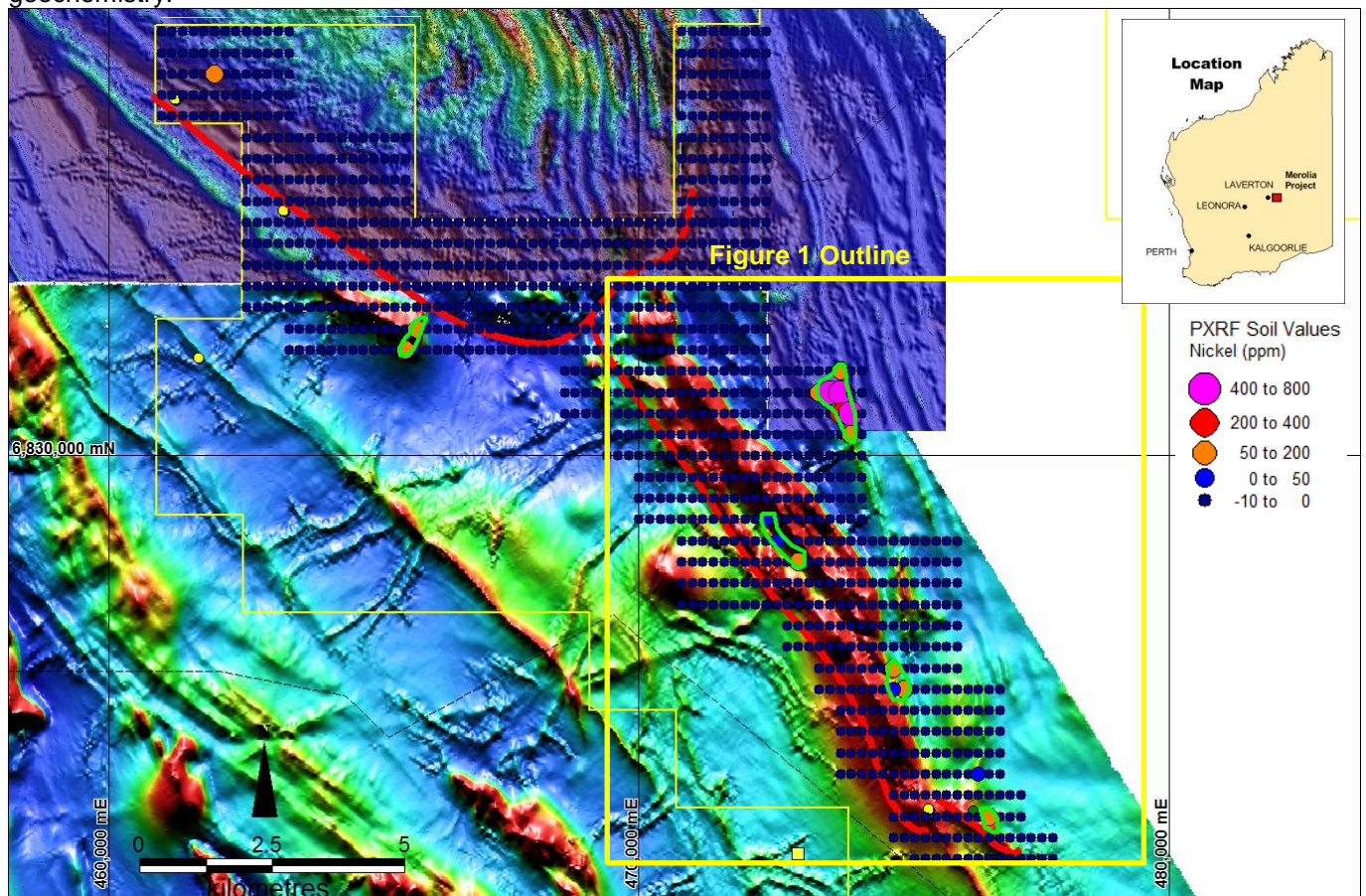
"We are highly encouraged by the initial results generated from the geochemical program at the Merolia project. The prospective parts of the Merolia project extend over 80 kilometres and are along strike from the Rosie and Camelwood nickel sulphide discoveries to the north and the Mulga Tank nickel discovery to the south providing confidence that further strong results will be delivered as exploration progresses" he added.

In addition to the anomaly, three smaller nickel anomalies with associated chrome, cobalt, zinc and copper have been identified at the southern end of the Rotorua ultramafic complex, occurring along a contact within the ultramafic units or at a contact between ultramafic and felsic units.

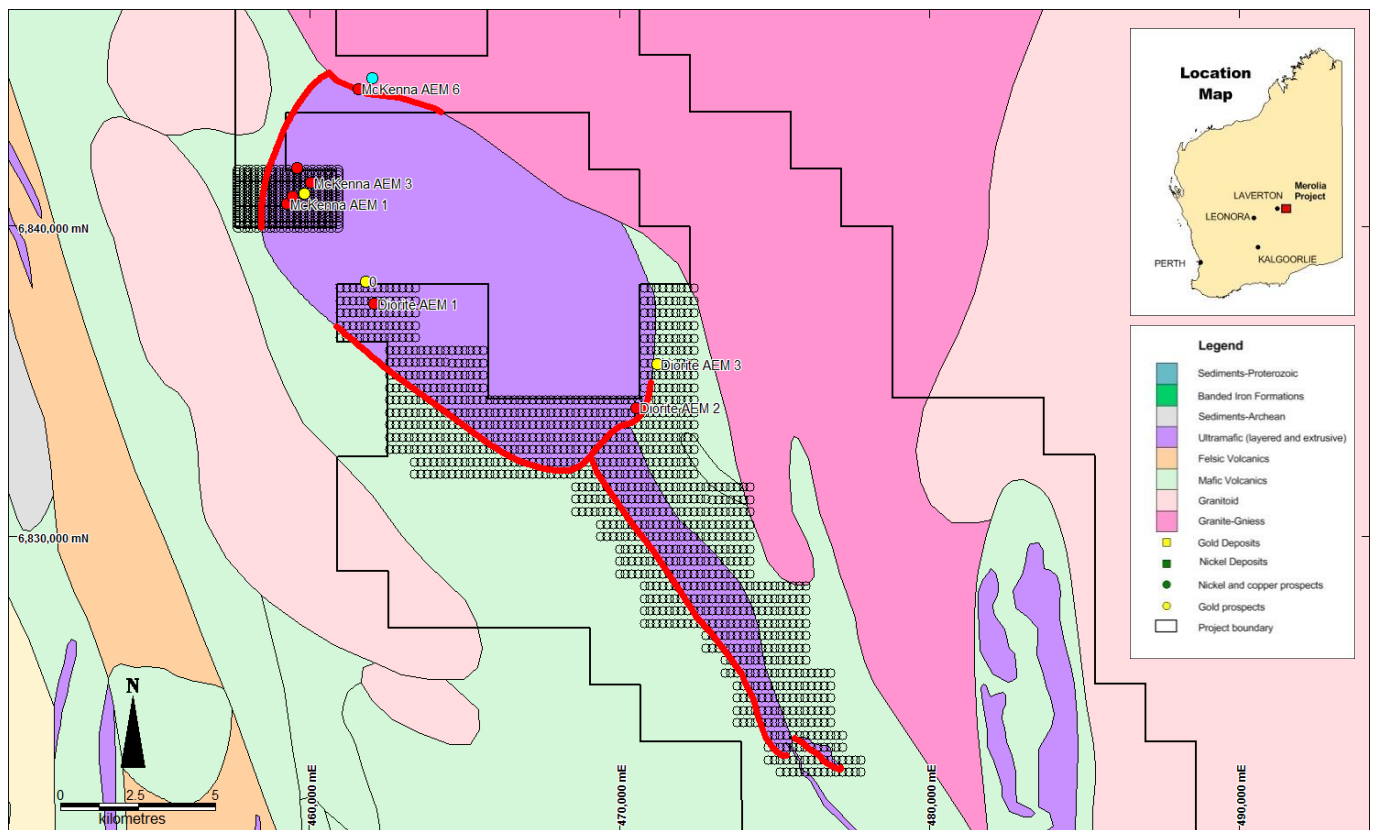
Detailed analysis of the sampling results has also revealed that a large proportion of the ultramafic rocks within the survey area have virtually no geochemical response (Figure 1). Several test pits excavated across this area indicate that transported Aeolian sands have filled in a shallow depression and covered a large proportion of the ultramafic stratigraphy. The transported cover has limited the effectiveness of the sampling method. The Company intends to test this area using low cost reverse air blast (RAB) or vacuum drilling to penetrate the cover.



**Figure 1** Nickel anomalies (green outline) showed over the first vertical derivative magnetic image. Note the lack of geochemical response over the Rotorua ultramafic unit that indicates transported cover is masking any bedrock geochemistry.



**Figure 2** Magnetic intensity map (Reduced to Poles) showing the Rotorua ultramafic intrusion and location of anomalous nickel geochemical responses.



**Figure 3** Geological map showing locations of anomalous EM responses and area covered by geochemical soil sampling survey.

## Project Background

The Merolia project consists of 771 square kilometres of the Merolia Greenstone belt and contains extensive ultramafic sequences including the Diorite Hill layered ultramafic complex, the Rotorua ultramafic complex, the Coglia ultramafic complex and a 50 kilometre long zone of extrusive ultramafic lava's (Figure 3). The Intrusive complexes are prospective for nickel-copper sulphide accumulations possibly with platinum group elements, and the extrusive ultramafic rocks are prospective for nickel sulphide and nickel-cobalt accumulations. The project also contains extensive basalt sequences that are prospective for gold mineralisation including the Ironstone prospect where historical drilling has identified 24m at 8.6g/t gold.

For further information please contact:

[www.wcminerals.com.au](http://www.wcminerals.com.au)

Todd Hibberd  
Managing Director  
+61 8 9321 2233

## About White Cliff Minerals Limited

**White Cliff Minerals Limited** is a Western Australian based exploration company with the following projects:

**Merolia Project:** The project consists of 771 square kilometres of the Merolia Greenstone belt and contains extensive ultramafic sequences including the Diorite Hill layered ultramafic complex, the Rotorua ultramafic complex, the Coglia ultramafic complex and a 50 kilometre long zone of extrusive ultramafic lava's. The Intrusive complexes are prospective for nickel-copper sulphide accumulations possibly with platinum group elements, and the extrusive ultramafic rocks are prospective for nickel sulphide and nickel-cobalt accumulations. The project also contains extensive basalt sequences that are prospective for gold mineralisation including the Ironstone prospect where historical drilling has identified 24m at 8.6g/t gold.

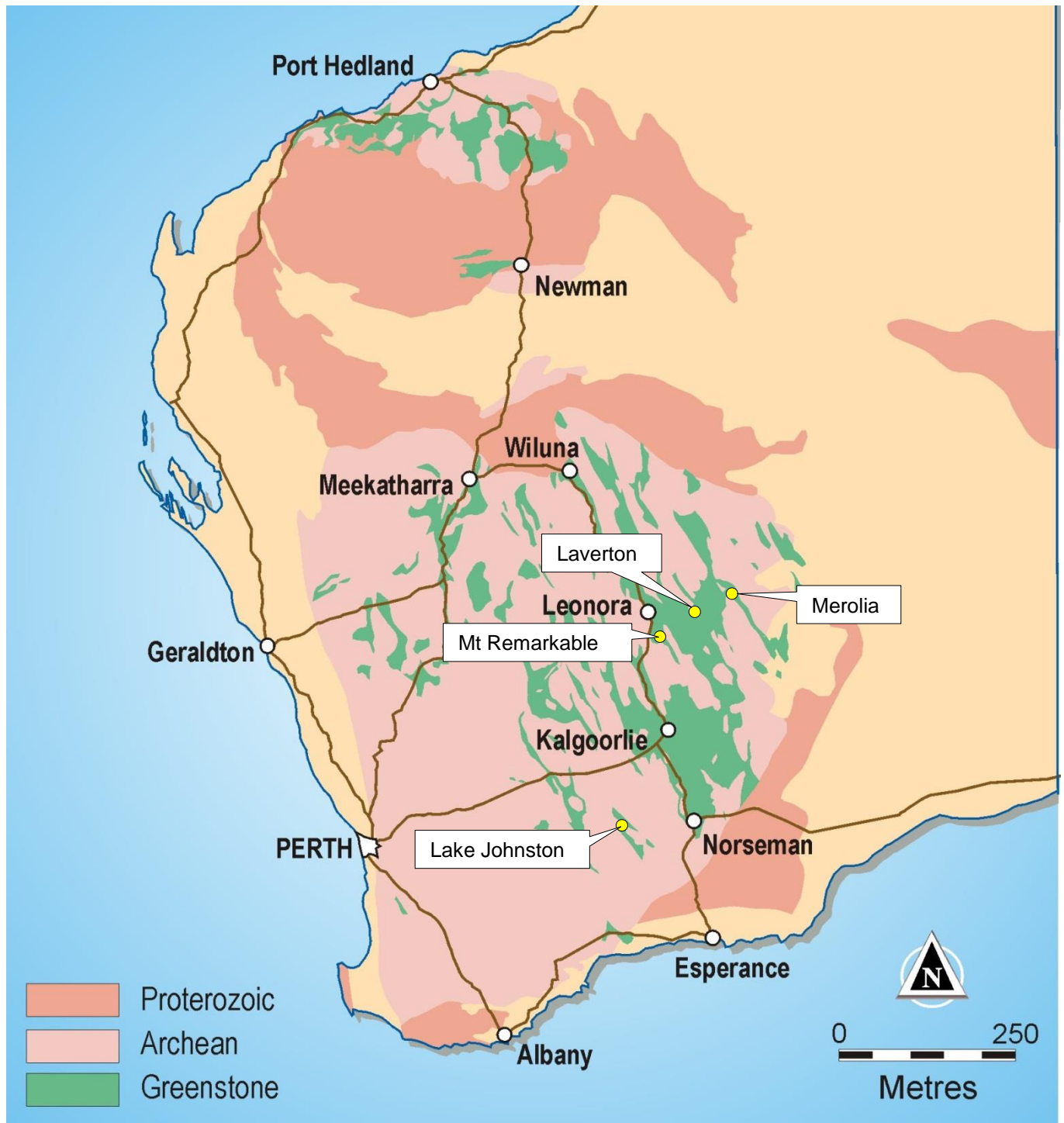
**Chanach Copper-Gold Project:** The project consists of 83 square kilometres and is located in the Kyrgyz Republic 350km west-southwest of the capital city of Bishkek. The Chanach project is located in the western part of the Tien Shan Belt, a highly mineralised zone that extending for over 2500 km, from western Uzbekistan, through Tajikistan, Kyrgyz Republic and southern Kazakhstan to western China. Mineralisation occurs as porphyry and epithermal systems developed within magmatic arcs, and orogenic type gold deposits that are structurally controlled. Major deposits located within 100km of Chanach contain up to 93 million ounces of gold and 25 million tonnes of copper. Initial work indicates that the project hosts porphyry and skarn style copper and gold mineralisation. Drilling has identified several areas containing up to 2.1% copper and 1-2 g/t gold while rock sampling has identified up to 5% copper and 40 g/t gold within a large mineralised area.

**Laverton Gold Project:** The project consists of four prospects, the Celia, Shepherds Well, Barnicoat and Mt Goose gold prospects. The core prospects are located 25km south of Laverton in the core of the structurally complex Laverton Tectonic zone immediately south of the Granny Smith Gold Mine (3 MOz) and 10 kilometres east of the Wallaby Gold Mine (7MOz).

**Lake Johnston Project:** This project covers approximately 650 square kilometres in the Lake Johnson Greenstone Belt. This Greenstone Belt contains Norilsk's Emily Ann and Maggie Hayes nickel sulphide mines which combined have a total resource of approximately 140,000 tonnes of contained nickel. Much of the project area was previously held by LionOre and is highly prospective for both komatiite associated nickel sulphides and amphibolite facies high-grade gold mineralisation. The area contains little outcrop, with the bedrock geology concealed by transported cover. Recent geophysical surveys have identified multiple new nickel sulphide targets that require drill testing.

**Mount Remarkable Project:** The project located approximately 170 km N-NE of Kalgoorlie and about 25 km SE of Kookynie in the Northern Goldfields. Included in the project area are the historic mining centres of Mt Remarkable and Yerilla which consists of several old workings. Major gold mines in the surrounding area include Sons of Gwalia, Tarmoola, Carosue Dam, Granny Smith, Wallaby and Sunrise Dam.

The Information in this report that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr Todd Hibberd, who is a member of the Australian Institute of Mining and Metallurgy. Mr Hibberd is a full time employee of the company. Mr Hibberd has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (the JORC Code)'. Mr Hibberd consents to the inclusion of this information in the form and context in which it appears in this report.



**Tenement Map - Australia.** A regional geology and location plan of White Cliff Minerals Limited exploration projects in the Yilgarn Craton, Western Australia

## Appendix 1

The following information is provided to comply with the JORC Code (2012) requirements for the reporting of the Exploration results over the Merolia nickel and copper project.

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	<p>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</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>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.</p>	<p>The prospect was sampled by manual scoop sampling on nominal 200m x 100m grid spacing at the McKenna prospect and at nominal 200m by 400m grid for the balance of the survey. A total of 1350 samples were collected consisting of 100-200 grams of soil. The samples were analysed by hand held x-ray diffraction spectroscopy (XRF) for multiple elements.</p> <p>The sample collar locations are picked up by handheld GPS. Soil samples were logged for landform, and sample contamination. Sampling was carried out under standard industry protocols and QAQC procedures</p> <p>All samples were analyzed by XRF for multiple elements</p>
Drilling Techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling was carried out
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>Not Applicable- No drilling was carried out</p> <p>Not Applicable- No drilling was carried out</p> <p>Not Applicable- No drilling was carried out</p>
Logging	<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) Photography</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>The soil sampling technique does not produce chips suitable for lithological or geotechnical logging.</p> <p>Not Applicable- no logging was carried out</p> <p>Not Applicable- no logging was carried out</p>
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples</p> <p>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</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled</p>	<p>Not Applicable- no drilling was carried out</p> <p>Samples were collected directly from the soil. Samples taken were dry.</p> <p>Samples were collected directly from the land surface. The first 1cm of soil is removed and a 100-200 gram soil sample is scooped from 2-5cm depth and sieved to remove organic matter (roots, leaves etc). At this stage of the exploration no sub sampling is undertaken</p> <p>The whole sample collected is analysed. Field duplicates are not routinely collected at the soil sampling stage of exploration</p> <p>The sample sizes are considered to be appropriate to correctly represent the sought after mineralisation style</p>
Quality of assay data and laboratory tests	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading</p>	<p>The analytical techniques used Aqua Regia digest multi element suite with ICP/OES finish, suitable for the reconnaissance style sampling undertaken.</p> <p>Samples were analysed with a Innovex portable XRF instrument using a 60 second analysis time. Calibration checks were carried out against a nickel standard every</p>

Criteria	JORC Code Explanation	Commentary
	<p>times, calibrations factors applied and their derivation, etc.</p> <p>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</p>	<p>50 samples. Samples were tested three times and the average reading recorded. The standard deviation of the three reading has been recorded</p> <p>A selection the samples have had the XRF results repeated a second time to verify and elevated samples will be checked against Laboratory analysis. The Laboratory will analyse the samples via Aqua Regia with ICP-OES finish.</p> <p>Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in house procedures.</p>
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols</p> <p>Discuss any adjustment to assay data</p>	<p>Significant intersections in soil samples have been verified by an executive director of the Company</p> <p>Not Applicable</p> <p>Primary data was collected using a set of standard Excel templates on paper and re-entered into laptop computers. The information was sent to WCN in-house database manager for validation and compilation into an Access database.</p> <p>No adjustments or calibrations were made to any assay data used in this report.</p>
Location of data points	<p>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.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<p>Sample 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.</p> <p>No down hole surveying techniques were used due to the sampling methods used.</p> <p>The grid system is MGA_GDA94 (zone 51)</p> <p>Topographic surface uses handheld GPS elevation data, which is adequate at the current stage of the project.</p>
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<p>The nominal sample spacing is 200 m (northing) by 100 m (easting) at the McKenna prospect and 200m by 400m for The Diorite and Rotorua prospects.</p> <p>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.</p> <p>Not applicable</p>
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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</p>	<p>The soil sampling method is used to provide a surface sample only.</p> <p>No orientation based sampling bias has been identified in the data at this point.</p>
Sample security	<p>The measures taken to ensure sample security.</p>	<p>Sample security is managed by the Company. Since at this stage these are field analyses, no sample transit security has been necessary.</p>
Audits of reviews	<p>The results of any audits or reviews of sampling techniques and data.</p>	<p>The Company carries out its own internal data audits. No problems have been detected.</p>

## Section 2 Reporting of Exploration Results

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

Criteria	Explanation	Commentary
Mineral tenement and land tenure status	<p>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.</p> <p>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.</p>	<p>The sample positions occur is located within Exploration Licenses E38/2727, E38/2690 and E38/2758 which are 100% owned by White Cliff Minerals Limited or a subsidiary</p> <p>The tenements are in good standing and no known impediments exist.</p>
Exploration done by other parties	<p>Acknowledgment and appraisal of exploration by other parties.</p>	<p>Extensive historical exploration for platinum, gold and nickel mineralisation has been carried out by Placer Dome, WMC, Comet resources and their predecessors. Occurrences of nickel laterite mineralisation were</p>

Criteria	Explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	identified but was deemed uneconomic The geological setting is of Archaean aged mafic and ultramafic sequences intruded by mafic to felsic porphyries and granitoids. Mineralisation is mostly situated within the regolith profile of the ultramafic units. The rocks are strongly talc-carbonate altered. Metamorphism is mid-upper Greenschist facies. The target mineralisation has yet to be identified but is analogous to Kambalda or Sally Malay style or nickel sulphide deposits.
Drill Hole Information	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: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not	No drilling was carried out
Data Aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated	No length weighting has been applied due to the nature of the sampling technique. No top-cuts have been applied.  Not applicable for the sampling methods used.  No metal equivalent values are used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	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').	The sampling technique used defines a surficial geochemical expression. No information is attainable relating to the geometry of any mineralisation based on these results.
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 figs. in the 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	All results are reported.
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.	NIL
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.	RAB/AC drilling will be used to further define the nature and extent of the geochemical anomalism, and to gain lithological information.