18 April 2019 **ASX Code: WCN**

Maiden Nickel-Cobalt Resource at Ghan Well

Highlights

- Maiden nickel and cobalt Inferred Mineral Resource of:
  - 1.3 million tonnes at 0.9% nickel and 0.07% cobalt above a cut-off grade of 0.8% nickel, containing 11,900 tonnes of nickel and 900 tonnes of cobalt.
- Mineralisation is open along strike and at depth.

White Cliff Minerals Limited ("**White Cliff**" or the "**Company**") is pleased to report a maiden Inferred Mineral Resource reported in accordance with the guidelines of the JORC Code, for the **Ghan Well nickel-cobalt** deposit.

The nickel and cobalt Inferred Mineral Resource, reported above a cut-off grade of 0.8% nickel, consists of **1.3 million** tonnes with an average grade of **0.9% nickel and 0.07% cobalt**, containing 11,900 tonnes of nickel and 900 tonnes of cobalt.

Table 1: Ghan Well – Inferred Mineral Resource April 2019 reported above a cut-off grade of 0.8% nickel

Resource category	Material type	Tonnes (Mt)	Grade		Contained metal	
			Ni (%)	Co (%)	Nickel (kt)	Cobalt (kt)
Inferred	Oxide	0.5	0.9	0.09	4.2	0.4
	Transitional	0.8	0.9	0.05	7.7	0.4
Total		**1.3**	**0.9**	**0.07**	**11.9**	**0.9**

The main zone of mineralisation extends over 700 metres north-south and 850 metres east-west and occurs as clays (oxide) to saprolitic ultramafic overlying fresh ultramafic rock. The overall shape of the mineralisation is a flat-lying, undulating body, separated into two main zones in the south which coalesce into a single zone to the north. The mineralisation is of variable thickness ranging from 1-2 m to 40 m.

The deposit has only been shallowly drilled in most areas and the potential for nickel and cobalt mineralisation remains open along strike for 3 kilometres to the north and 6 kilometres to the south. Immediately south of the new Inferred Resource the ultramafic host rock becomes significantly wider (increasing in width from 750 metres to 1,650 metres) providing substantial scope to increase the resource with further drilling.

The Company is examining options for adding value to the project which may include preliminary metallurgical test-work to establish metal recoveries and rock characteristics prior to further drilling. The proximity to processing infrastructure provides the potential for multiple development options if an Indicated Mineral Resource is defined.

Ghan Well is the second nickel-cobalt Inferred Mineral Resource identified by White Cliff Minerals in the same region and adds to the recently announced Inferred Mineral Resource identified at Coronation Dam consisting of 5.6Mt at 1.0% nickel and 0.08% cobalt (above a cut-off grade of 0.8% nickel) (ASX announcement 25 March 2019). Both deposits are within trucking distance of existing processing infrastructure.

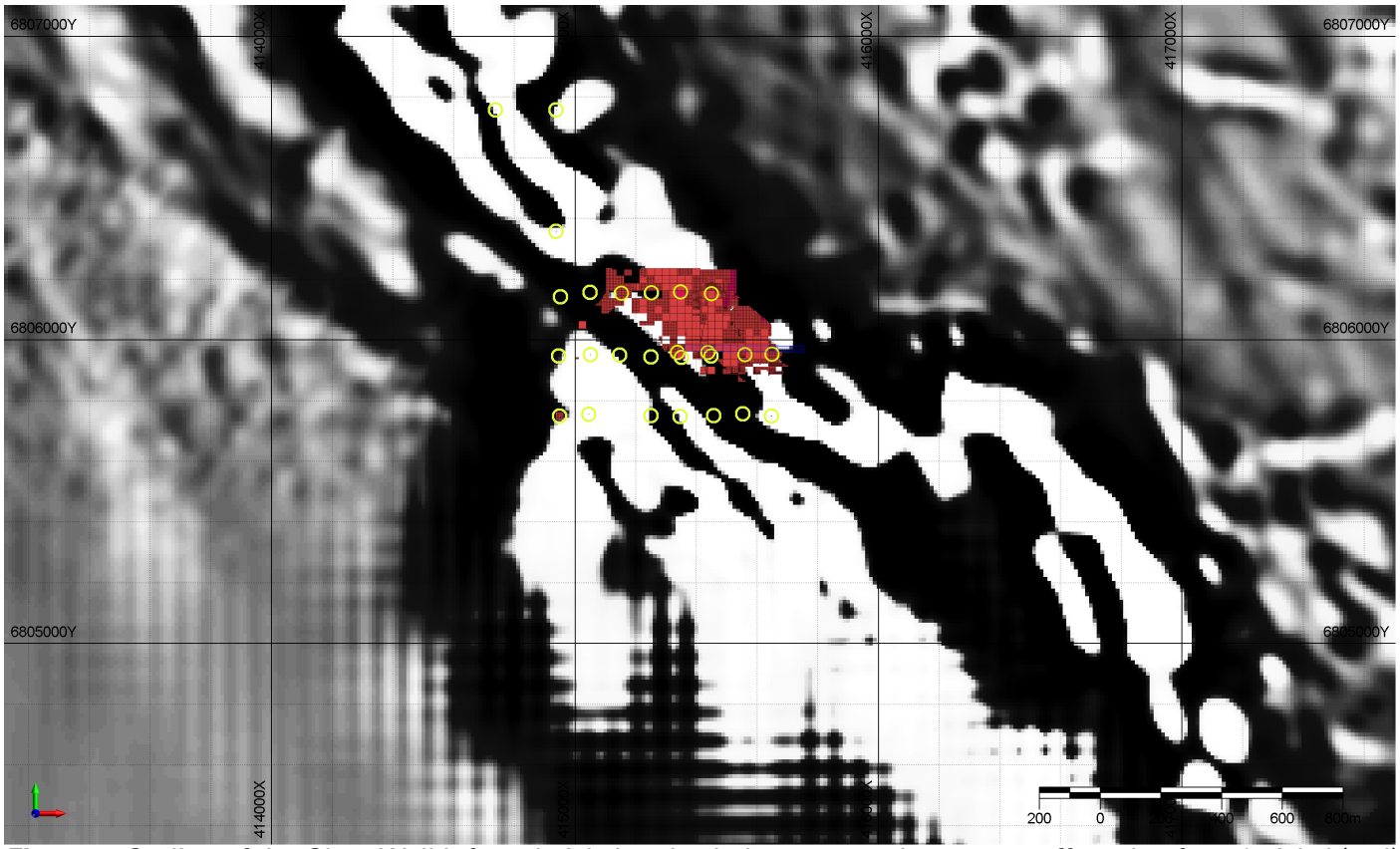


Figure 1: *Outline of the Ghan Well Inferred nickel and cobalt resource above a cut-off grade of 0.8% nickel (red) and interpreted ultramafic unit (white high magnetic zones) based on second vertical derivative magnetic image.*

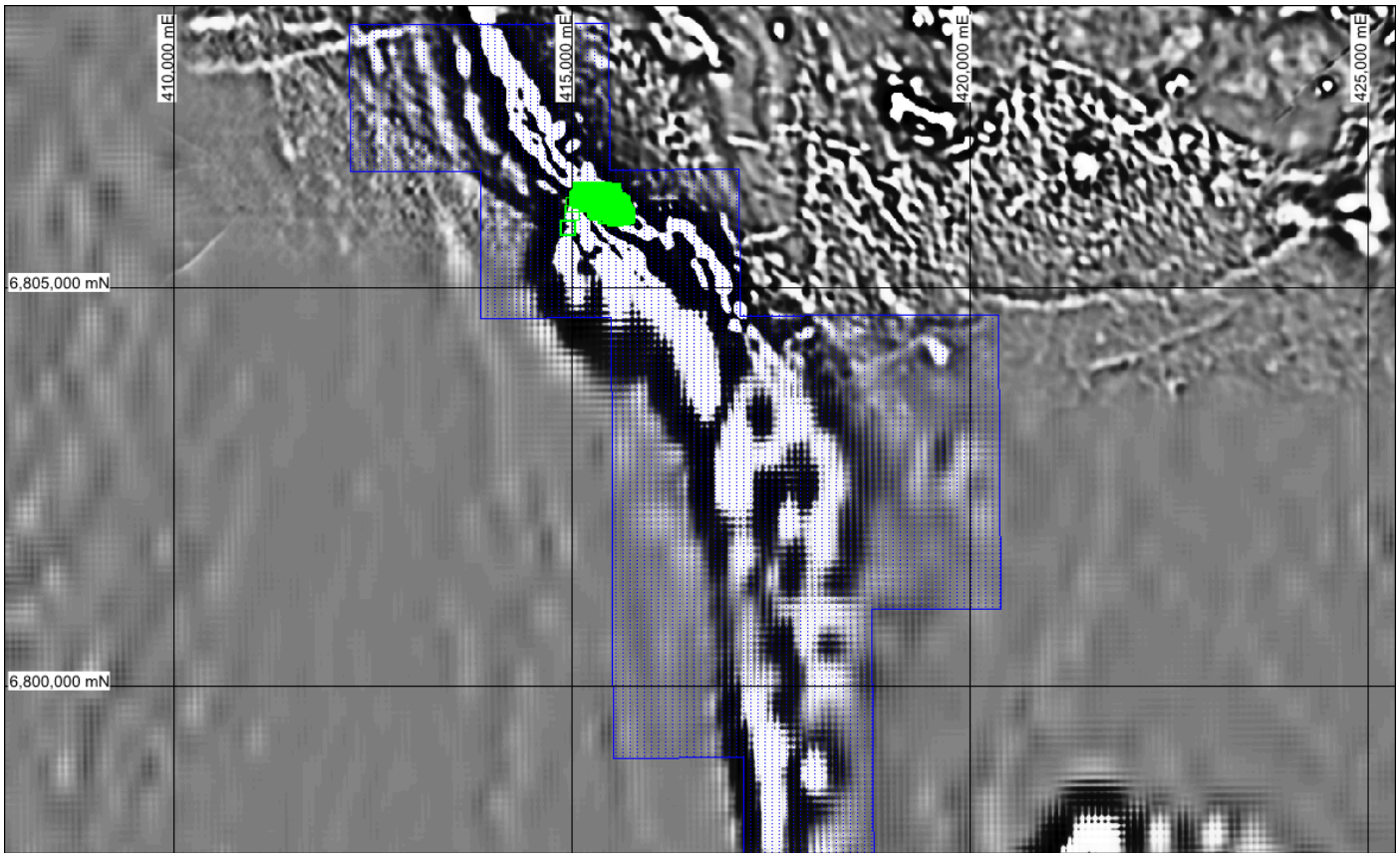


Figure 2: *Outline of the Ghan Well tenement (blue hatch) showing Inferred Resource (>0.8% Ni) in green and the extent of the host ultramafic unit (white, high magnetic zones).*

Further Exploration Potential

The drilling and subsequent resource modelling has identified a modest Inferred Mineral Resource of both nickel and cobalt. The drilling and resource modelling are within a 700 metre long section of the prospective ultramafic sequence which has an overall strike length of 11.6 kilometres along the Company's tenement.

Immediately south of the Inferred Mineral Resource, the prospective ultramafic unit extends for 6 kilometres which has not been tested for nickel and cobalt mineralisation and provides substantial scope to increase the identified resource.

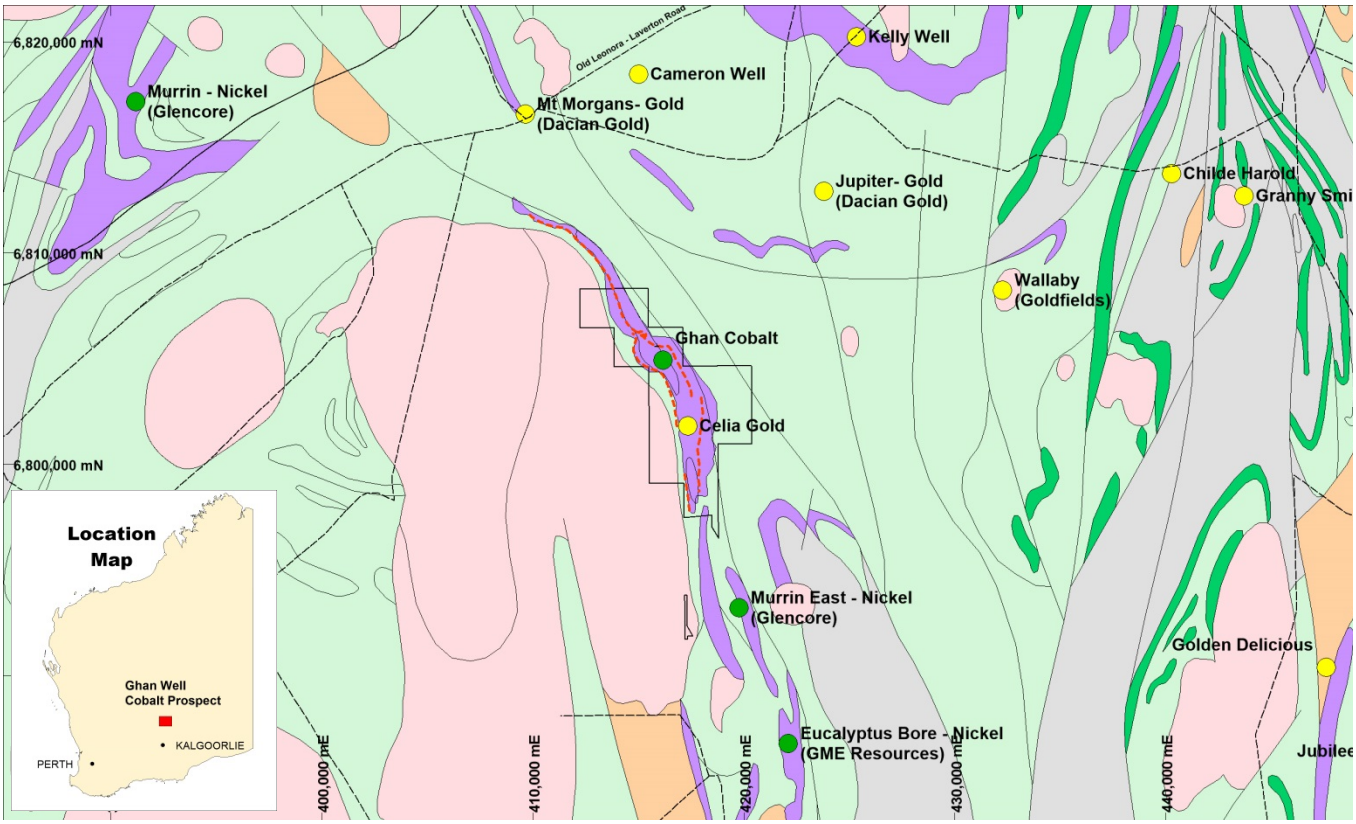


Figure 3: *Location map of the Ghan Well deposit, located 26 km southeast of Glencore's Murrin-Murrin processing facility in Western Australia.*

Maiden Resource Estimate: Ghan Well Nickel-Cobalt Deposit

The nickel and cobalt Inferred Mineral Resource, reported above a cut-off grade of 0.8% nickel, consists of **1.3 million tonnes** with an average grade of **0.9% nickel and 0.07% cobalt** containing 11,900 tonnes of nickel 900 tonnes of cobalt. Table 1 provides a breakdown of the resource estimate by material type.

Table 2: Ghan Well – Inferred Mineral Resource April 2019 reported above a cut-off grade of 0.8% nickel

Resource category	Material type	Tonnes (Mt)	Grade		Contained metal	
			Ni (%)	Co (%)	Nickel (kt)	Cobalt (kt)
Inferred	Oxide	0.5	0.9	0.09	4.2	0.4
	Transitional	0.8	0.9	0.05	7.7	0.4
Total		**1.3**	**0.9**	**0.07**	**11.9**	**0.9**

Table 2 provides a breakdown of the resource estimate reported above a range of cut-off grades.

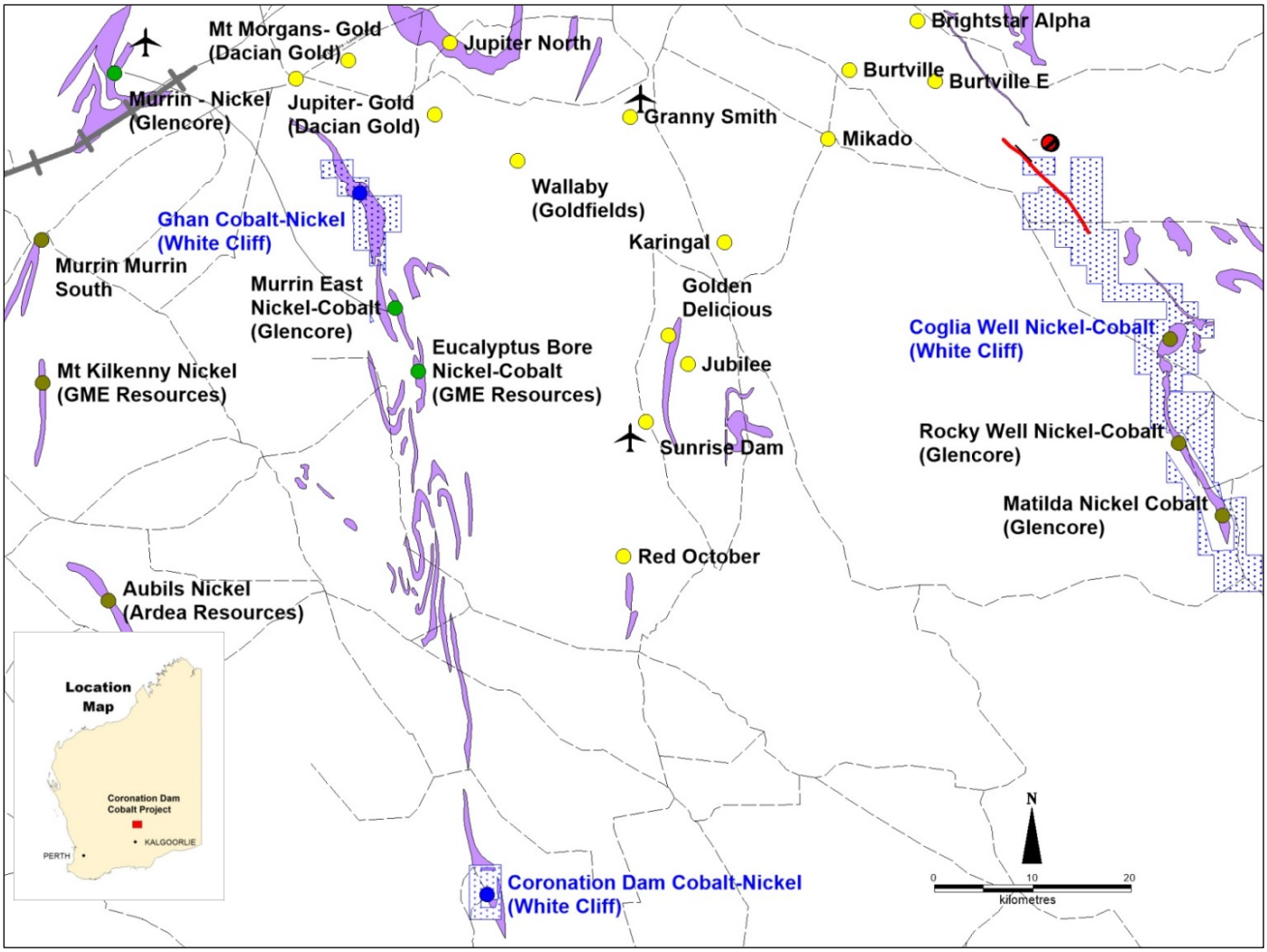
Table 3 : Ghan Well – Inferred Mineral Resource April 2019 reported above a range of nickel cut-off grades (COG)

Ni % COG	Tonnes	Grade		Contained Metal	
	Mt	Ni (%)	Co (%)	Ni (kt)	Cobalt (kt)
0.5	6.5	0.7	0.04	45.3	2.4
0.6	4.6	0.8	0.05	34.6	2.1
0.65	3.6	0.8	0.05	28.6	1.8
0.7	2.7	0.8	0.06	22.1	1.5
0.8	1.3	0.9	0.07	11.9	0.9
0.9	0.6	1.0	0.07	6.3	0.5
1.0	0.2	1.1	0.08	2.6	0.2

Summary of Information to comply with ASX listing rule 5.8.1

A summary of JORC Table 1 (included as Appendix 1) is provided below for compliance with the Mineral Resource and in-line with requirements of ASX listing rule 5.8.1.

Geology and geological interpretation	The geological setting includes Archaean mafic and ultramafic sequences intruded by mafic to felsic porphyries and granitoids. The nickel and cobalt mineralisation is mostly within the regolith profile of the ultramafic units. The rocks are strongly talc-carbonate altered. Metamorphism is mid-upper green schist facies. Mineralisation forms a sub-horizontal layer starting just below the surface and continuing down to depths of over 60 m. The overall shape of the mineralisation is a flat-lying, undulating body, separated into two main zones in the south which coalesce into a single zone to the north. The mineralised zone ranges from 5 m to 40 m thick and is made up of silicified ultramafic caprock, oxidised saprolite and smectite clays grading into partially weathered bedrock. Local variation in the thickness of the mineralisation is attributed to localised changes in the weathering profile due to geological structures such as faults and jointing.
Drilling techniques	Air core drilling was conducted with a 1100CFM/500PSI compressor with 115 mm (4.25 inch) diameter face sampling hammer bit using industry standard processes.
Sampling and sub-sampling techniques	Drill chips were collected over sample intervals of 1 metre. The 15-20 kg drill sample was split using a cone splitter that reduces the sample to 2-3 kg for laboratory analysis. The remnant sample was stored for metallurgical test work if required.
The criteria used for classification, including drill and data spacing and distribution	The Mineral Resource is classified as Inferred on the basis of confidence in geological and grade continuity, taking into account the data quality (including QAQC data and sampling methods), data density and confidence in estimation of the nickel and cobalt content (using the modelled grade continuity and conditional bias measures, slope of the regression and kriging efficiency, as criteria). The Inferred Mineral Resource is defined within the main nickel and cobalt mineralisation domains which are geological consistent over two or more drill lines and between drillholes. Drill spacing over the resource is between 100 -200 m by 100 m. QAQC data exists for the 1 m sample data used to support the estimate. No density data is available and has been assumed on the proxy of geologically similar deposits in the adjacent area.
Estimation methodology	The resource is constrained within mineralisation wireframes defined using minimum grades of 0.25% (low grade) and 0.5% (high grade) nickel and 0.03% for cobalt. This incorporates a maximum of 2 metres internal dilution. Grade estimation was by ordinary kriging (OK) techniques into a parent block of 25 mE by 25 mN by 2 mRL. Appropriate top-cuts were applied and variogram analyses were undertaken to determine the grade continuity and the kriging estimation parameters used for the OK estimate.
Sample analysis method	The 2-3 kg sample submitted to the laboratory was dried and pulverised to 75 µm in a ring mill and a 200 g sub-sample was collected. A 0.66 g sub-sample of the pulverised sample was analysed. The samples have been cast using a 12:22 flux with added sodium nitrate, to form a glass bead which has been analysed by XRF. Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si, Cl have been determined by X-Ray Fluorescence Spectrometry.
Cut-off grades	The Mineral Resource is reported above a 0.8% nickel cut-off grade to reflect current commodity prices and open pit mining methods.
Mining and metallurgical methods and parameters, and other material modifying factors considered to date	The nickel and cobalt mineralisation extends from surface, is largely shallowly dipping and would be suitable for open-pit mining. No metallurgical test work has been conducted to date.



Location and infrastructure map: *Coronation Dam, Ghan Well and Coglia Well cobalt and nickel projects. The area is serviced by rail, roads, towns, airports and Glencore's nickel processing facility at Murrin Murrin*

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About White Cliff Minerals Limited

Cobalt-Nickel Projects:

Coronation Dam Cobalt Project (100%): The project consists of one tenement (16 km^2) in the Wiluna-Norseman greenstone belt 90 km south of the Murrin Murrin nickel-cobalt HPAL plant. The tenement contains an Inferred Mineral Resource of **5.7 million tonnes at 1.0% nickel and 0.08% cobalt** containing 56,700 tonnes of nickel and 4,300 tonnes of cobalt (ASX release 25 March 2019). Mineralisation is open along strike within an extensive ultramafic unit that contains zones of cobalt mineralisation associated with nickel mineralisation.

Ghan Well Cobalt Project (100%): The project consists of one tenement (39 km^2) in the Wiluna-Norseman greenstone belt 25km southeast of the Murrin Murrin nickel-cobalt HPAL plant. The tenement contains an extensive ultramafic unit with zones of cobalt mineralisation associated with nickel mineralisation. The cobalt grades range from 0.01% to 0.75% and occur within a zone of manganiferous oxides within the regolith profile.

Coglia Well Cobalt Project (100%): The project consists of two tenements (238 km^2) in the Merolia greenstone belt 50 km south east of Laverton, Western Australia. The tenements contain extensive ultramafic units that host zones of cobalt mineralisation associated with nickel mineralisation. Recent drilling has identified extensive nickel and cobalt grades including 17 metres at 0.11% cobalt and 1.0% nickel (ASX release 18 June 2018).

Bremer Range Cobalt Project (100%): The project covers 127 km^2 in the Lake Johnson Greenstone Belt that is prospective for shallow cobalt-nickel mineralisation. Historical drilling has identified extensive cobalt and nickel mineralisation associated with ultramafic rocks extending over a strike length of 15 kilometres and up to 1,500 metres wide. The tenements are only 130 km from the Ravensthorpe cobalt and nickel processing facility.

Merolia Nickel Project (100%): The project consists of 325 km^2 of the Merolia Greenstone belt and contains the Rotorua ultramafic complex, the Curara ultramafic complex and a 51 km long zone of extrusive ultramafic lavas. 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.

Gold Projects:

Kyrgyz Copper-Gold Project (90%): The Project contains extensive porphyry related gold and copper mineralisation starting at the surface and extending over several kilometres. Drilling during 2014-8 has defined a **gold deposit** currently containing an Inferred Mineral Resource of 2.95 Mt at 5.1 g/t containing 484,000 ounces of gold and 700,000 tonnes at 0.51% copper containing 4,000 tonnes of copper (ASX announcement 30 May 2018). Drilling has also defined a significant **copper deposit** at surface consisting of 16.5 Mt at 0.36% copper containing 60,000 tonnes of copper.

Extensive mineralisation occurs around both deposits demonstrating significant expansion potential. The project is located in the Kyrgyz Republic, 350 km west-southwest of the capital city of Bishkek and covers 57 km^2. The Chanach project is located in the western part of the Tien Shan Belt, a highly mineralised zone that extending for over 2,500km, from western Uzbekistan, through Tajikistan, Kyrgyz Republic and southern Kazakhstan to western China.

Ironstone Gold Project (100%): The project consists of 175 km^2 of the Merolia Greenstone belt consisting of the Ironstone, Comet Well and Burtville prospects. The project contains extensive basalt sequences that are prospective for gold mineralisation, including the Ironstone prospect where historical drilling has identified 24 m at 8.6 g/t gold.

Laverton Gold Project (100%): The project consists of one granted tenement (22 km^2) in the Laverton Greenstone belt. The Red Flag prospect is located 20 km southwest of Laverton in the core of the structurally complex Laverton Tectonic zone immediately north of the Mt Morgan's Gold Mine (3.5 Moz) and 7 km northwest of the Wallaby Gold Mine (7 Moz).

The Information in this report that relates to exploration results, mineral resources 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 consultant 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.

[1]The Information in this report that relates to Mineral Resources defined at Ghan Well is based on information compiled by Ms Naomi Fogden and reviewed by Ms Christine Standing, who are Members of the Australasian Institute of Mining and Metallurgy. Ms Fogden and Ms Standing are full time employees of Optiro Pty Ltd. Ms Standing has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity that she is undertaking 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' (the JORC Code). Ms Standing consents to the inclusion of this information in the form and context in which it appears in this report.

Appendix 1

The table below summaries the assessment and reporting criteria used for the Ghan Well Mineral Resource estimate and reflects the guidelines of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	Aircore (AC) sampling: all samples from the AC drilling were initially taken as 4 m composite samples. Where mineralisation was detected, the 1 metre AC chip samples were collected and analysed. Samples were sent to Bureau Veritas Laboratories in Perth, Western Australia for assaying. QAQC samples (a single CRM standard and in-house blank) were inserted into the sample sequence at a rate of 1:25 samples. Field duplicates were collected during drilling at a rate of 1:50. 1 m samples were collected using cone or riffle splitter. 4 m composite samples were collected by spear sampling each individual 1 m AC sample from the 15-20 kg reject material (stored in green plastic bags). Two spear samples were taken from each bag and combined into a composite sample representing 4 m and weighing around 1.5-2 kg. Geological logging of AC chips is completed at site with representative chips being stored in drill chip trays.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	The sample collar locations were recorded with a Garmin GPS62map GPS accurate to +/-5 m.
	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	All samples are analysed for base metals by X-Ray Fluorescence (XRF) Spectrometry at the Bureau Veritas laboratory in Perth, Australia.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	AC drilling was conducted with a 1100CFM/500PSI compressor with 115 mm (4.25 inch) diameter face sampling hammer bit using industry standard processes.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed*	Calculated volume of 1 m AC sample is 15-22.5 kg based on rock densities of 2.0 and 2.6 g/cm^3. Sample bags were visually inspected for volume to estimate size variation and the volume recorded. Sampling was carried out under standard industry protocols and QAQC procedures.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Sample collection was supervised by site geologist who ensured sample were representative and recovery was acceptable for resource estimation samples.
	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.	No studies have been carried out.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	Drill samples have been geologically logged and have been submitted for petrological studies. Samples have been retained and stored. Logging is suitable such that interpretations of grade and deposit geology can be used to support the Mineral Resource estimation procedure and classification applied.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is considered qualitative and has been conducted on the AC drill chips.
	The total length and percentage of the relevant intersections logged	Every 1 m sample of the hole has been geologically logged.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Not applicable - no core drilling was carried out.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Samples were cone split from 15-22.5 kg down to 2-3 kg. Where samples were too wet to cone split, samples were spear sampled.

Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were collected using a face sampling hammer. The chips are transported up the inside of the drill rod to the surface cyclone where they are collected in one metre intervals. The one metres sample is riffle split to provide a 2.5-3 kg sample for analysis. Industry standard protocols are used and deemed appropriate.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	1 m samples were collected using cone or riffle splitter. Results from the 1 m samples were used for resource estimation. 4 m composite samples were collected by spear sampling each individual 1 m RC sample.
	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.	The whole sample collected was dried and pulverised to 75 µm in a ring mill and a 200 g sub-sample is collected. A 0.66 g sub-sample of the pulverised sample is analysed. Field duplicates were collected every 50 samples.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered to be appropriate to correctly represent the sought-after mineralisation style.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	The samples have been cast using a 12:22 flux with added sodium nitrate, to form a glass bead which has been analysed by XRF. Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si, Cl have been determined by X-Ray Fluorescence Spectrometry (XRF).
	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.	Not applicable.
	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.	QAQC practices were carried out by WCM including the insertion of a CRM standard and blank material as well as field duplicates, totalling 32 QAQC samples. Laboratory QAQC involves the use of internal laboratory standards using certified reference material, blanks, splits and replicates as part of the in-house procedures.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intersections in drill samples have been verified by an executive director of the Company.
	The use of twinned holes.	There are two historical RC holes drilled by Anaconda which are within 20 m of the White Cliff AC holes. Analysis of the twinned intervals demonstrates a positive bias in the RC samples.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	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.
	Discuss any adjustment to assay data.	No adjustments or calibrations were made to any assay data used in this report.
Location of data points	*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.*	Drill holes locations were recorded via a Garmin 62 map GPS. Sample locations down each hole were calculated using Micromine software based on hole collars and AC sampling depths. Elevation values were in AHD RL and values recorded within the database. Expected accuracy is +/– 5 m for easting, northing and elevation coordinates. No down hole surveying techniques were used due to the shallow depth and vertical nature of the drilling
	Specification of the grid system used.	The grid system is MGA_GDA94 (zone 51).
	Quality and adequacy of topographic control.	The topographic surface was surveyed using a Garmin 62 map GPS accurate to 5 m along each drill line which is adequate at the current stage of the project.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The nominal drill sample spacing is 1 m down hole. Drilling was conducted on a broad 200 m by 100 m staggered spacing on an east-west grid covering a 600 m long by 800 m wide area.
	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.	The mineralised domains have 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.
	Whether sample compositing has been applied.	Not applicable.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Sampling has been conducted each metre on vertical AC drill holes which are spaced on a 200 m by 100 m staggered grid.

Criteria	JORC Code explanation	Commentary
	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.	All drilling is vertical making it normal to the horizontal orientation of geology and mineralisation.
Sample security	*The measures taken to ensure sample security.*	Sample security is managed by the Company.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	The Company carries out its own internal data audits. No problems have been detected.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The sample positions occur is located within Exploration Licenses E39/1479 which is 100% owned by White Cliff Minerals Limited or a subsidiary.
	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 tenements are in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Extensive historical exploration for platinum, gold and nickel mineralisation has been carried out by Anaconda, Anglogold and their predecessors. Occurrences of nickel laterite mineralisation were identified but were deemed uneconomic at the time.
Geology	Deposit type, geological setting and style of mineralisation.	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 green schist facies. The target mineralisation has yet to be identified but is analogous to a typical nickel laterite style of deposit.
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.	Not relevant as the Mineral Resource has been defined.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	Not relevant – Mineral Resource is defined.
	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.
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 (e.g. 'down hole length, true width not known').	The sampling technique used defines nickel and cobalt mineralisation which is approximately true width as the drilling is perpendicular to the layer of mineralisation. The mineralisation in each hole has been modelled in 3D in Micromine software to derive spatial nature and distribution of the mineralisation.
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 figures in the announcement.
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 information considered material to the reader's understanding of the database, estimation procedure and classification of the Mineral Resource has been reported.

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Nil.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	Further RC and diamond core drilling will be used to further define the nature and extent of the cobalt and nickel mineralisation and to gain lithological information. The mineralisation appears to be open to the north and south.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Primary data was captured in the field into standard logging templates on paper and then entered in Excel spreadsheet format by the supervising geologist. Data was subsequently sent to the Database Manager and imported into the Access Database.
	Data validation procedures used.	Additional validation by Optiro included checking for missing, overlapping and duplicate intervals, out of range assay values and absent records. Any errors were fixed prior to commencement of the estimate.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	No site visit has been undertaken by Mrs C Standing. Multiple site visits have been conducted by Mr T Hibberd who is responsible for the exploration results used in this report
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.* *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	Confidence in the geological interpretation is moderate. A 3D geological interpretation has been derived of downhole logging of AC chips into distinct lithological units. Geological interpretation was completed on a sectional basis, from which geological surfaces were interpolated for the dominant lithologies and the top and base of the mineralised horizons. These interpretations were used to constrain the estimation. Mineralisation is hosted within the regolith profile. The target horizon is a laterite clay zone and ultramafic saprolite which is laterally extensive throughout the target area. Nickel and cobalt mineralisation is moderately consistent and coincident. Mineralisation interpretations were based on a 0.25% nickel cut-off representing the low-grade mineralisation, a 0.5% nickel cut-off for the high-grade mineralisation and a 200 ppm cobalt cut-off which sits higher in the regolith profile and is more laterally extensive. Nickel and cobalt have a moderate correlation of 0.54 across the entire deposit. Mineralisation forms a sub-horizontal layer starting just below the surface and continuing down to depths of over 60 m. The overall shape of the mineralisation is a flat-lying, undulating body, separated into two main zones in the south which coalesce into a single zone to the north. The mineralised zone ranges for 5 m to 40 m thick and is made up of silicified ultramafic caprock, oxidised saprolite and smectite clays grading into partially weathered bedrock. Local variation in the thickness of the mineralisation is attributed to localised changes in the weathering profile due to geological structures such as faults and jointing. The geological confidence has been considered for the classification of the Mineral Resource.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource*	The main zone of mineralisation extends over 700 m north-south and 850 m east-west. The mineralisation is of variable thickness ranging from 5 m to 40 m extending to a depth of over 60 m below surface.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	The Mineral Resource was finalised in April 2019. The estimation was completed using Datamine RM software for the main economic elements, Ni (%), Co (ppm), as well as minor elements, Fe (%), Mg (%), Al (%) and Cl (ppm). Drill hole sample data was flagged using the mineralisation and geological interpretations. Data within the mineralised envelopes was composited to 1 m intervals. Outside of the interpretation samples were a mix of 1 m, 2 m and 4 m intervals and were composited to 2 m downhole length. Nickel and cobalt data have a low coefficient of variation. Data populations for each element were assessed (analysis of histograms, log probability plots and population disintegration) and high-grade outliers were top-cut. A top-cut of 0.6% and 1.5% nickel were applied to the low-grade and high-grade nickel domains and 3,500 ppm cobalt was applied to the cobalt domain. Grade continuity was modelled in Supervisor V8 from variogram analysis. Nickel mineralisation in the high-grade domain was interpreted to have a horizontal continuity range of 465 m (south-west) by 220 m (south-east). Mineralisation in the low-grade domains was interpreted to have a horizontal continuity range of 405 m (north-west) by 228 m (south-west). Cobalt mineralisation has a horizontal continuity range of 283 m (south) by 228 m (west). Grade estimation using ordinary kriging was into parent blocks of 25 mE by 25 mN by 2 mRL. Block size was selected based on kriging neighbourhood analysis. The search ellipse was oriented within the plane of the mineralisation, locally optimised with the use of Datamine software's dynamic anisotropy process. Three search passes were used; the first and second searches were based upon the variogram ranges, with the perpendicular range shortened to 10 m. The first search used a minimum of 10 samples and a max of 24. In the second search this was reduced to 6. The third search pass was enlarged by a factor of 5, using a minimum of 4 samples. For nickel 91% of the blocks were estimated in the first pass, 7% in the second pass and 2% in the third pass. For cobalt 95% was estimated in the first pass, 4.7% in the second and 0.2% in the third. No blocks within the main domains were un-estimated. Hard boundaries were used between the mineralised domains for Ni and Co grade estimation. Minor domains with less than 10 samples and based on single drillhole intercepts were not estimated in the model. Instead they were assigned the mean top-cut grade of the domain samples. Minor domains that were estimated used the variogram ranges of the main domain, with un-estimated blocks assigned the mean input grade. Estimation of the minor elements was completed using 2 m composites, coded using the lithology and regolith interpretations. Soft boundaries were used between the domains except for the fresh and laterite domains where a hard boundary was applied. Search ranges were based on the variogram of each element. Ranges of greater than 650 m where reduced if deemed appropriate. Three search passes were used with the same approach as per the primary elements. Estimated grades were visually validated against the input drillhole data by northing, easting and elevation. Global comparisons between the block model grade and the declustered, top-cut input data for each element were also completed. Profile plots in easting, northing and elevation were also assessed.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnes have been estimated on a dry basis. Moisture content has not been qualitatively tested.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied*	The Mineral Resource is reported above a 0.8% nickel cut-off grade to reflect current commodity prices and mining methods. This cut-off has been selected by White Cliff Minerals.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	Planned extraction is by open pit mining. Mining factors of dilution and ore loss have not been applied.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	No metallurgical test work has been completed at Ghan Well. Minor elements such as Cl, Fe, Mg and Al have been estimated as they are assumed to have important metallurgical implications for processing. No other metallurgical assumptions have been built into the resource model.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made*	No assumptions have been made regarding waste and process residue.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit,* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	No density information is available for Ghan Well. All densities used in the estimate have been assumed based on similar geological units of adjacent deposits (Murrin Murrin). Density has been applied based on the geological units.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories* *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Mineral Resources have been classified on the basis of confidence in geological and grade continuity, taking into account the data quality (including QAQC data and sampling methods), data density, confidence in estimation of the nickel and cobalt content (using the modelled grade continuity and conditional bias measures, slope of the regression and kriging efficiency, as criteria). No Measured or Indicated Mineral Resources have been defined. Inferred Mineral Resource have been defined for the main nickel and cobalt domains and minor domains which are geological consistent over two or more drill lines and between drill holes. Drill spacing over the resource is a staggered 200 m by 100 m grid. No density data is available and has been assumed on the proxy of geologically similar deposits in the adjacent area. The classification considered all available data and quality of the estimate and reflects the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The resource estimate has been peer reviewed by Optiro staff.

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available*	The assigned classification of Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.