25 January 2019 **ASX Code: WCN**

Visible Gold Identified in Bulk Sampling Concentrates

Highlights

- Visible gold identified in 62 of 65 concentrate samples panned from alluvial bulk samples
- Sampling covered a 450 metre long section of the Chanach river gravel terraces
- Samples submitted to laboratory for analysis – results expected late February

White Cliff Minerals Limited ("**White Cliff**" or the "**Company**") is pleased to report that visible gold has been identified in bulk samples collected in December 2018.

The Company undertook a bulk sampling program along a 450 metre section of the Chanach river alluvial terraces 1 kilometre downstream from the Aucu Gold deposit to assess the placer gold potential of the 16km long river system. Visible gold was detected in 62 samples out of the 65 samples collected (Figures 1-8).

Two river sediment samples were also collected at the tenement boundary next to the existing alluvial mining operation occurring on the neighbouring lease. One of the two samples contained visible gold (Figure 9). The samples have been submitted to the laboratory for analysis with results expected in late February.

Figure 1: Gold particles identified in Pit18-01-01

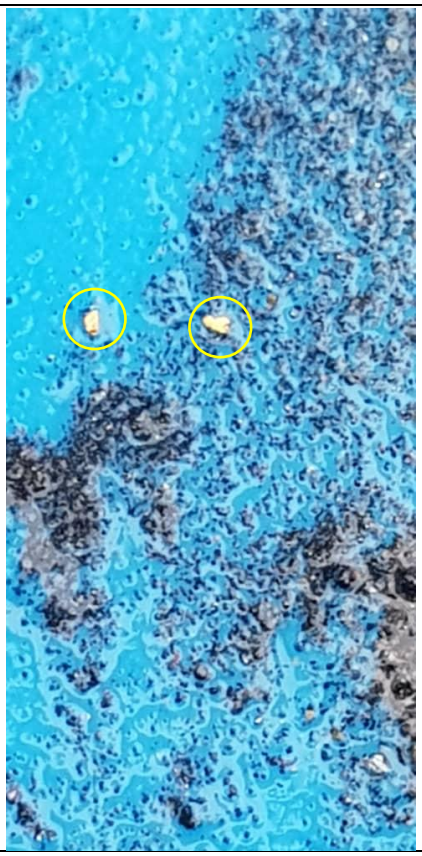

Figure 2: Gold particles identified in Pit18-01-02

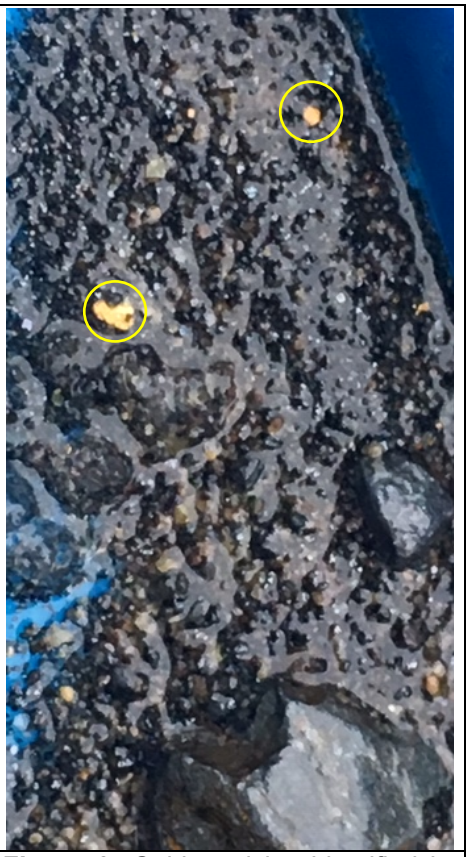

Figure 3: Gold particles identified in Pit18-01-04

Figure 4: Gold particles identified in Pit18-06-03

Figure 5: Gold particles identified in Pit18-07-01

Figure 6: Gold particles identified in Pit18-09-04

Figure 7: Gold particles identified in Pit18-10-03

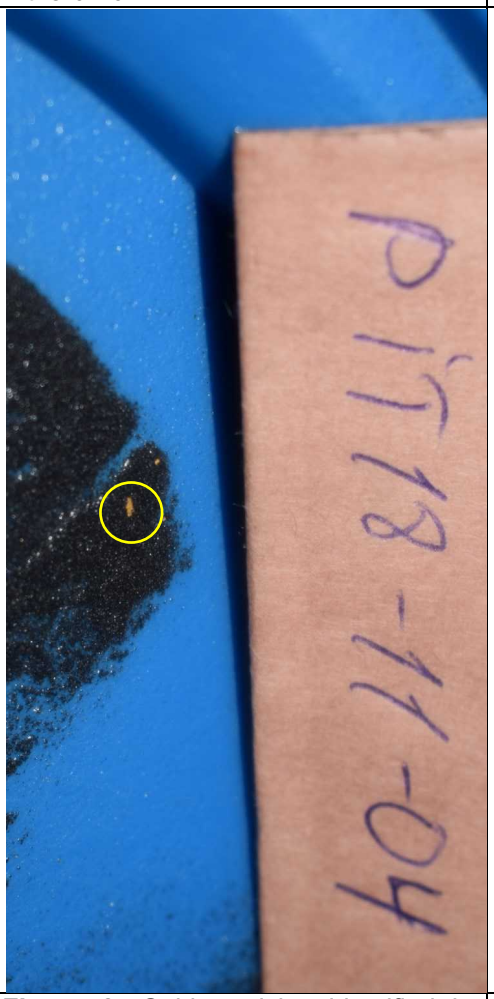

Figure 8: Gold particles identified in Pit18-11-04

Figure 9: Gold Panned from a 5kg river gravel sample near the western edge of the lease

Bulk Sampling

Bulk sampling was conducted using an excavator in preference to using drilling as it was more cost effective and provided a must larger sample that is statistically more representative of the gold distribution in the gravels.

Sampling was conducted 1km west of the Aucu gold deposit and covered an area 450 metres long and 90 metres wide (Figure xx). A Hyundai 30 tonne excavator completed 65 bulk samples consisting of 13 holes 5 metres depth extracting approximately 35 cubic metres from each hole.

Each metre in depth was sampled separately and assessed for alluvial gold, rock and clay particle size distribution. 30-60 kilogram sub-samples were collected and manually panned down to a concentrate.

The concentrates consist of heavy minerals including magnetite, iron sulphides, trace copper and gold. Gold occurs as discrete grains ranging from specks up to 2mm. The gold is generally sub angular indicating that it is close to the original hard rock source.

Assessment of the gold distribution highlighted a trend where the size of the gold particles decreased but gold particle abundance increased as the sampling moved westwards down the river. This is a common feature of alluvial gold deposits where the coarse (heavy) particles deposit first as the water slows down. Smaller and lighter gold particles are transported until as the water slows further and they also deposit on the river bed.

The samples have been submitted to the laboratory for analysis with results expected in late February.

Figure 10: Aerial photograph of the Chanach tenement showing the bulk sampling locations and the 16km extent of the river system (yellow line)

Current Exploration

Field exploration ceased in December due to heavy winter snows and sub-zero (minus 10-20 degree) temperatures. Access to the Chanach valley will reopen in March 2019 once the main roads reopen.

The exploration license application discussed in previous releases is ready to be submitted. Recent changes to the mining legislation (Sept 2018) and the subsequent updating of mining regulations which is still underway has delayed the submission due to the State department of Geology and resources declining to accept any applications until the regulations are finalised.

The Company expects to re-commence exploration activity in March.

Project Background: Aucu Gold Deposit

The Aucu gold deposit currently contains an Inferred Gold Mineral Resource above a cut-off grade of 1 g/t gold of **2.95 Million** tonnes grading **5.1 g/t gold** for **484,000 ounces** of contained gold. The new resource reported in May 2018 represented a 60% increase in contained gold over the previously reported April 2017 inferred gold resource.

The project also contains an Inferred Copper Mineral Resource of **17.2Mt at 0.36% copper** containing **64,000 tonnes** of copper.

The drilling defining these resources has tested less than 5% of the identified mineralised structures and is currently open in all directions. The exploration carried out in this announcement has identified substantial additional potential over a large area on the eastern side of the project with rock chip samples of outcropping shear zones, veins and skarn alteration carrying gold grades of up to 6.7 g/t gold and 7.8% copper. As yet, no exploration has been conducted to the south or to the west of the main porphyry system.

In addition to the hard rock potential, the Company has identified visible gold in the alluvial river gravels that extend 16 kilometres from west to east across the Aucu project area.

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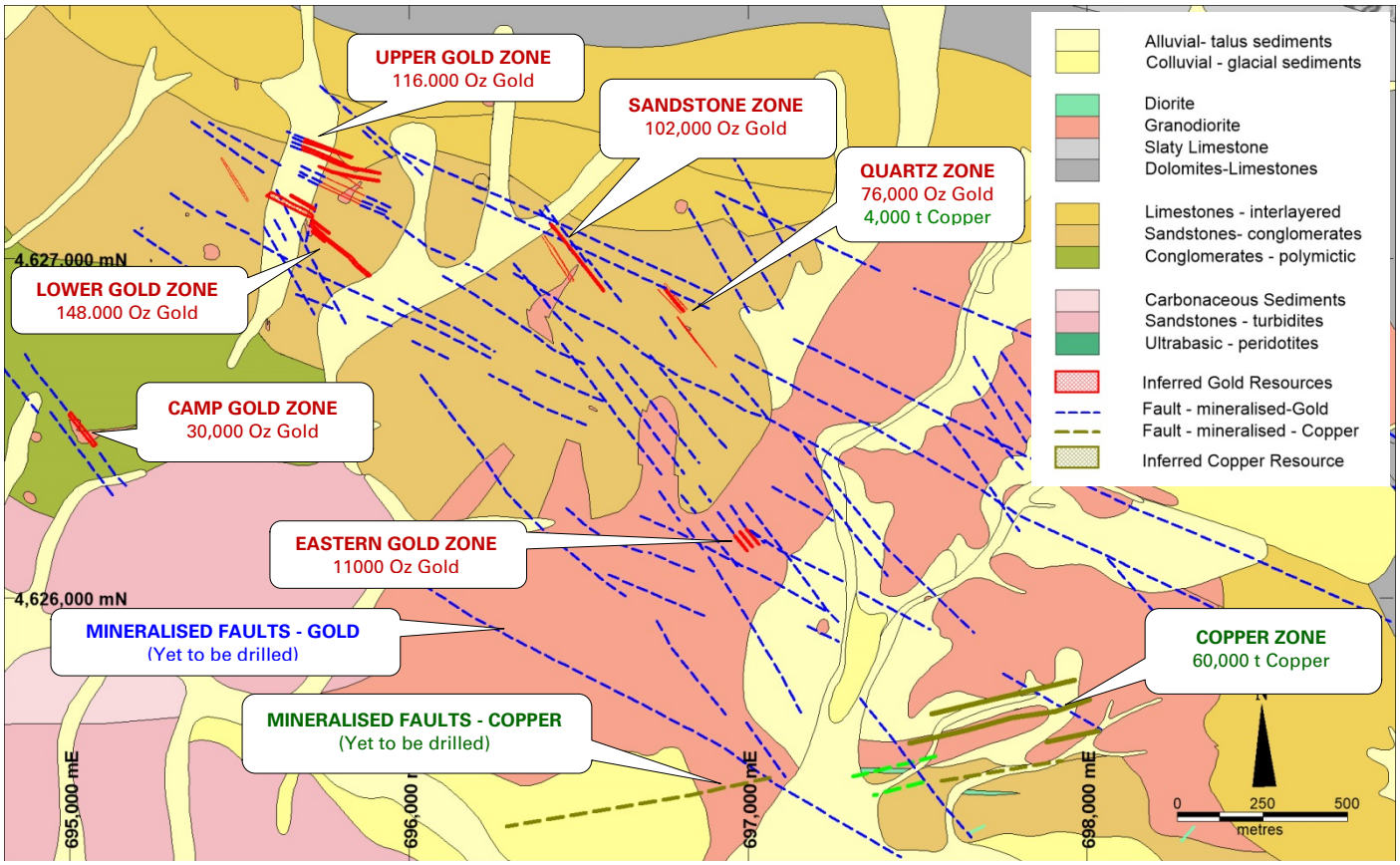
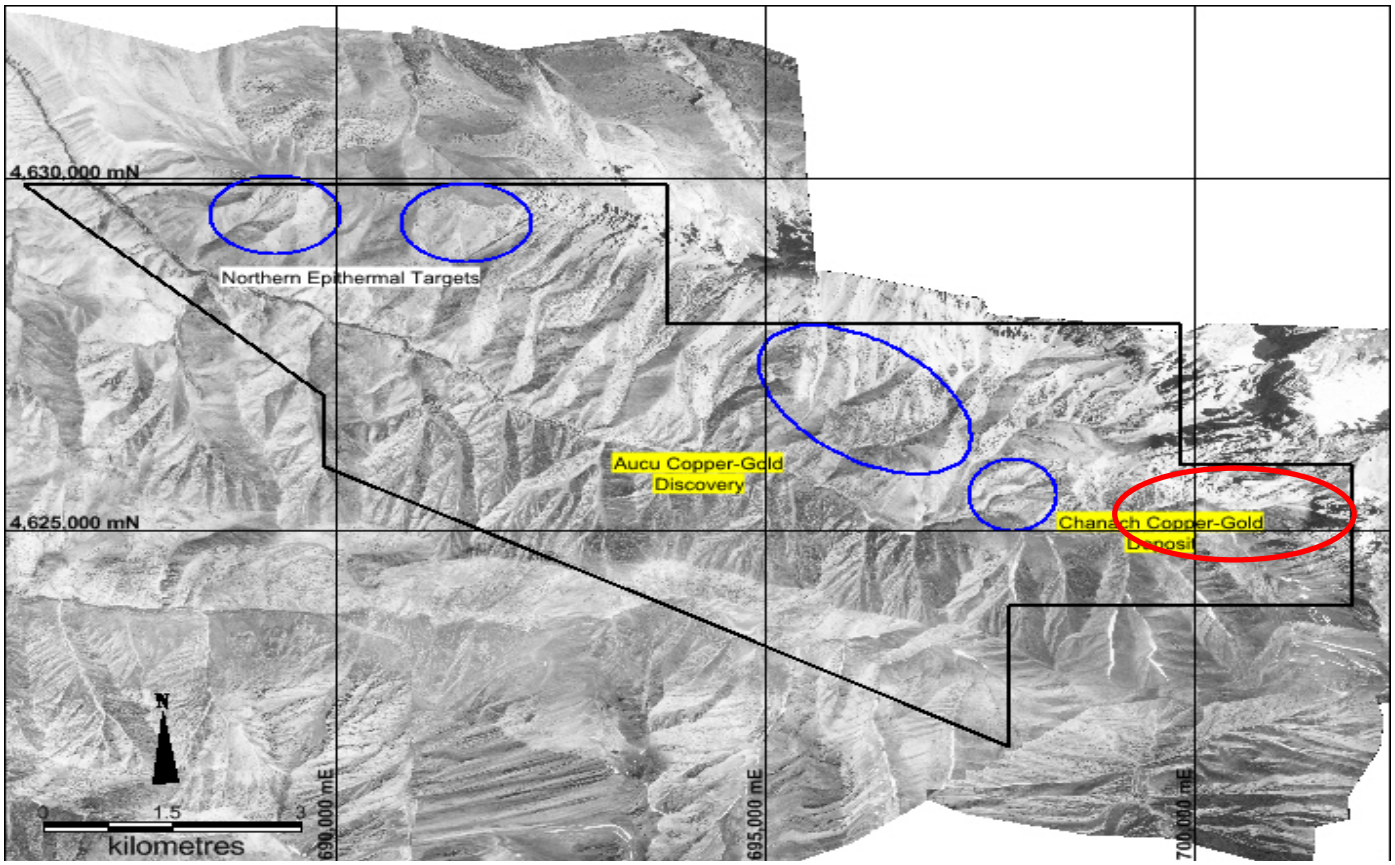


Resource Map: *Location map of drilling showing Inferred gold resources (red hatch) that represent less than 5% of the identified mineralised faults. 95% of the mineralised faults identified by rock chip sampling are still to be drilled (dashed blue and green lines)*

***Location Map**: Northwest Kyrgyz Republic, Central Asia*



***Project Map:** showing Chanach license outline and location of the new copper-gold discovery area, the Aucu gold deposit area and the Chanach copper deposit area*

About White Cliff Minerals Limited

Cobalt-Nickel Projects:

Coronation Dam Cobalt Project (100%): The project consists of one tenement (16km^2) in the Wiluna-Norseman greenstone belt 90km south of the Murrin Murrin nickel-cobalt HPAL plant. The tenement contains an extensive ultramafic unit that contains zones of cobalt mineralisation associated with nickel mineralisation. The cobalt grades range from 0.01% to 0.69% cobalt and occur within the regolith profile above the ultramafic units. Nickel grade range from 0.4% to 2.2% nickel

Coglia Well Cobalt Project (100%): The project consists of two tenements (166km^2) in the Merolia greenstone belt 50km south east of Laverton, WA. The tenements contain extensive ultramafic units that host zones of cobalt mineralisation associated with nickel mineralisation. Historical drilling has identified Cobalt grades including 16 metres at **0.16% cobalt** and 0.65% nickel.

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

Bremer Range Cobalt Project (100%): The project covers 127km^2 in the Lake Johnson Greenstone Belt prospective for shallow cobalt-nickel mineralisation. Historical drilling has identified extensive cobalt and nickel mineralisation associated with ultramafic rocks extending 15 kilometres in length and up to 1500 metres wide. The tenements are only 130 kilometres from the Ravensthorpe cobalt and nickel processing facility.

Gold Projects:

Kyrgyz Copper-Gold Project (90%): The Project contains extensive porphyry related gold and copper mineralisation starting at the surface and extending over 8 kilometres. The Aucu gold deposit currently contains an Inferred Gold Mineral Resource above a cut-off grade of 1 g/t gold of **2.95 Million** tonnes grading **5.1 g/t gold** for **484,000 ounces** of contained gold. The project also contains the Chanach copper deposit which has an Inferred Copper Mineral Resource of **17.2Mt at 0.36% copper** containing **64,000 tonnes** of copper.

Extensive mineralisation occurs around both deposits demonstrating significant expansion potential. The project is located in the Kyrgyz Republic, 350km west-southwest of the capital city of Bishkek and covers 57km^2. The Chanach copper and gold deposit 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.

Ironstone Gold Project (100%): The project consists of 191km^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 24m at 8.6g/t gold.

Laverton Gold Project (100%): The project consists of one granted tenement (22km^2) in the Laverton Greenstone belt. The Red Flag prospect is located 20km 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 kilometres northwest of the Wallaby Gold Mine (7 MOz).

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.

[1]The Information in this report that relates to Mineral Resources is based on information compiled by Mr Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Glacken is a full time employee of Optiro Pty Ltd. Mr Glacken 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 `Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Glacken consents to the inclusion of this information in the form and context in which it appears in this report.

Appendix 1

The following information is provided to comply with the JORC Code (2012) requirements for the reporting of the Exploration Results and Mineral Resources on tenement AP590.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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	**Bulk Sampling:** The prospect was sampled by excavator manual which collected approximately 6.5 cubic metres of gravel per metre of depth. The samples were sub sampled by shovel and a 30-60kg sample was collected from multiple locations around the pile. The samples were screened, washed and panned down to a concentrate that was submitted to the laboratory for analysis **Rock Sampling:** The prospect was sampled by manual rock chipping of outcropping shear zones and skarns. A total of 56 samples were collected consisting of 1-2kg of rock **Drill Sampling:** RC Drill samples were collected using a face sampling hammer with each metre of drilling deposited in a plastic bag that is fed through a three tier riffle splitter to obtain a 2.5-3kg sample. Diamond drill samples were collected by cutting NQ (50mm) core in half along its axis and sampling one half of the core. This collects approximately 2.5kg of core.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The sample 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 Sample bags were visually inspected for volume to ensure minimal size variation. Were variability was observed, sample bags were weighed. Sampling was carried out under standard industry protocols and QAQC procedures
	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.	Reverse circulation drilling to obtain one metre samples from which 3 kg was crushed to 1mm or Diamond drilling to obtain 1 metre core samples that are cut in half with one half sampled. The 2.5kg sample is crushed in a Jaw crusher to 80% passing a 1mm screen. A 300 gram subsample was extracted using a Jones Splitter and pulverized to 200 mesh (75 micron). For Soils, the entire sample is pulped and the following assay procedure applied A 30 gram sample is digested for gold analysis by Aqua Regia digest and Atomic Adsorption Spectrophotometry (AAS), and for copper analysis via pressed pellet X-ray florescence (XRF). A 0.2 gram sample is digested for multi-element analysis by Aqua-Regia digest and Inductive Coupled Plasma (ICP) using Mass Spectroscopy (MS) or Optical Emission Spectroscopy (OES)
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.).	Reverse Circulation Drilling, 900CFM/350PSI compressor, with 133mm (5.25 inch) diameter face sampling hammer bit. Industry standard processes for RC drilling Diamond drilling, NQ (50mm) diameter orientated core via Reflex ACT3
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	The calculated volume of 1m RC sample is 30kg based on rock density of 2.6 g/cm3. Sample bags were visually inspected for volume to ensure minimal size variation. Were variability was observed, sample bags were weighed. Sampling was carried out under standard industry protocols and QAQC procedures
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Visual inspection of sample size of 1 metre samples Diamond Core recovery calculations are based on recorded recovery measurements taken on core
	Whether a relationship exists between sample recovery	No studies have been carried out

Criteria	JORC Code Explanation	Commentary
	and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) Photography The total length and percentage of the relevant intersections logged.	Drill samples have been geologically logged and have been submitted for petrological studies. Samples have been retained and stored. The logging is considered sufficient for JORC compliant resource estimations Logging is considered qualitative All of the intersections have been logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples 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 Whether sample sizes are appropriate to the grain size of the material being sampled	NQ core is cut via a diamond saw and half core sampled Samples were riffle split from 30kg down to 3kg. Where samples were too wet to riffle split, samples were tube sampled. RC Samples were collected using a face sampling hammer which pulverises the rock to chips. 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 2.5-3kg sample for analysis. Industry standard protocols are used and deemed appropriate. Half NQ diamond core (2.5 kg) is sampled. At this stage of the exploration no sub sampling is undertaken during the collection stage The whole sample collected is crushed to 1mm and a 200g sub-sample pulverised. A 2-10 gram sub sample of the pulverised sample is analysed. Field duplicates for diamond core are not routinely collected. The sample sizes are considered to be appropriate to correctly represent the 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. 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. 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	The analytical techniques used Aqua Regia acid digest, Atomic adsorption Spectrophotometry for gold analysis and ICP MS or OES for multi-element analysis are considered suitable for the reconnaissance style sampling undertaken. Gold analysis was carried out using a Thermo Scientific Solar S2 AA-Spectrometer with Atom Trap STAT (Slotted Tube Atom Trap), gaseous hydride generation system (VP100 Continuous Flow Vapour System) Multi-element analysis was carried out by aqua regia digest with ICP MS and OES analysis using an iCAP 6300 ICP-instrument manufactured by Thermo-Scientific (USA-UK). All mineralised intervals have been re-assayed at Bureau Veritas laboratory In Perth by Fire assay and ICP-OES using 40g samples and reported for Au, Pt, Pd All mineralised multi-element intervals have been digested and refluxed with a mixture of Acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids. Cu and Zn have been determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry. Ag, As, Mo, Pb, and Sb have been determined by Inductively Coupled Plasma (ICP) Mass Spectrometry. Laboratory QAQC involves the use of internal lab 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. The use of twinned holes Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols	An executive director has visually verified significant intersections in rock samples from the Chanach project. Twinned holes have not been used 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

Criteria	JORC Code Explanation	Commentary
		manager for validation and compilation into an Access database. Assay data is received in digital and hard copy directly from the laboratory and imported into the 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 drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Sample locations were recorded using handheld Garmin GPS60s. 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. All holes are downhole surveyed to provide accurate 3D drill trace
	Specification of the grid system used.	The grid system is WGS84 UTM (zone 42 north)
	Quality and adequacy of topographic control.	Topographic surface uses handheld GPS elevation data, which is adequate at the current stage of the project.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The nominal sample spacing is 1 metre intervals down the hole.
	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. Whether sample compositing has been applied.	In the opinion of the Competent Persons the mineralization has demonstrated sufficient continuity to be classified as a Mineral Resource under the guidelines of the JORC Code (2012). Samples have not been composited
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.	The sampling orientation for drilling is designed to be as perpendicular as possible to the known orientation of the structure
	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	No orientation based sampling bias has been identified in the data at this point.
Sample security	The measures taken to ensure sample security.	Sample security is managed by the Company. Samples are collected by Company employees and transported by Company vehicles to the Laboratory in Kara Balta. The sample processing facility has Security Officers on duty 24 hours per day. The Company stores all mineralised intervals and all laboratory samples in a secured steel vault within the secured processing facility.
Audits of 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 listed in the preceding section also apply to this section.)

Criteria	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 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 mineralisation is located within Exploration License AP590 which is a Joint Venture between White Cliff Minerals Limited (90%) and BW3 Pty Ltd (10%) There are no other material issues The tenement is in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No other exploration has been carried out
Geology	Deposit type, geological setting and style of mineralisation.	The geological setting is of Cambrian to Permian aged intrusive porphyry systems, bounded by overlying basaltic, and sedimentary rocks. Mineralisation is mostly situated within granitic porphyry units as broad alteration containing copper sulphides and within narrow quartz veins and faults.
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	This data is provided in the body of the main text and has been provided in previous announcements.

Criteria	Explanation	Commentary
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. 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 in reporting of the intersections. 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 (e.g. 'down hole length, true width not known').	The length of mineralised intercepts in the drill holes will be longer than the true width of the mineralised zones due to the angle between the orientation of the structure and the drill hole. In general the length relationship between true width and down hole length is 0.5
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 body of text and to previous announcements of exploration results.
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 within the mineralised zones have been 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.	None carried out.
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.	Ongoing reverse circulation and diamond drilling will be used to further define the nature and extent of the geochemical anomalism, and to gain lithological information.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in the preceding section also apply to this section.)

Criteria	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. Data validation procedures used.	Assay data digitally received directly from the laboratory and electronically transferred into an access database. Geological and survey data is received in excel spreadsheets and imported electronically into the database. Once in the database, the data is exported to a Map-info drill hole file where it Is validated for consistency. The drill-holes are displayed in sections and the geology visually validated for consistency
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.	The Competent Person for Exploration results has been with White Cliff for 9 years and has managed the Chanach project since acquisition in 2009. He is intimately involved in the Chanach and Aucu deposits, with 18 site visits being undertaken including managing drilling programs on site, field mapping, drill hole logging and geological interpretation. A Competent Person from Optiro Pty Ltd the consulting company that carried out the mineral resource estimate visited the site in July 2017 and confirmed all material aspects of the drilling programs, assay laboratory and qaqc.
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	There is a moderate level of confidence in the geological interpretation due to the presence of outcropping mineralisation at surface. Wireframes used to constrain the estimation are based on drill hole intercepts and geological boundaries. All wireframes at the Chanach deposit have been constructed to 0.25% Cu cut-off grade and at the Aucu deposit have been constructed to a 0.3 ppm Au cut-off grade for shape consistency. The mineralisation is generally quite consistent and drill intercepts clearly define the shape of the mineralised zones with limited options for large scale alternate interpretations. The controls on and interpretation of mineralisation are

Criteria	Explanation	Commentary
	Mineral Resource estimation.	relatively straightforward and no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries.
	The factors affecting continuity both of grade and geology.	Wireframes are constructed to a 0.3 ppm Au cut-off grade at Aucu and a 0.25% Cu cut-off grade at Chanach for shape consistency.
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 mineral resource at AuCu comprises four main zones, LGZ, UGZ, SSZ and QZ which have a strike length of 300 m and extend vertically for approximately 150 m below surface. along with three minor zones Chanach has one zone with a total strike length of 600 m and which extends vertically for approximately 350 m below surface.
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.	Grade estimation using Ordinary Kriging (OK) was completed using Datamine software for Au and Cu at Aucu deposit and Cu at the Chanach deposit. Drill grid spacing at Aucu approximates 50 m and 100 m at Chanach. Variogram orientations were largely controlled by the strike of mineralization and downhole variography. Variograms for estimation purposes were determined for each deposit. Other estimation parameters, such as search distance, minimum and maximum sample numbers were derived from KNA. Search distances varied depending on the element being estimated and the domain.
	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 new estimate compares closely with the previous estimate at the LGZ and the UGZ. There is no previous estimation at the SSZ or the QZ hence no comparisons are available. There has been no production at Aucu or Chanach.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	No deleterious elements were estimated and none are known to exist.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The block model dimensions and parameters were based on the geological boundaries and average drill grid spacing. Sub-blocks were used to ensure that the block model honoured the domain geometries and volume. Block estimates were controlled by the original parent block dimensions. The individual parent block dimensions were 25 mE by 5 mN by 25 mRL, with sub-blocking allowed. Estimation into parent blocks used a discretisation of 10 (X points) by 5 (Y points) by 10 (Z points) to better represent estimated block volumes.
	Any assumptions behind modelling of selective mining units.	No selective mining units were modelled in this estimate due to the wide drill spacing. It is assumed that the SMU is equal to the block model parent cell or smaller.
	Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates.	There were only two elements estimated per deposit. Drill hole sample data was flagged using domain codes generated from three dimensional mineralisation domains. RC sampling was at 1 m intervals and diamond drilling was composited to 1 m. Mineralisation domains were treated as hard boundaries in the estimation process.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were established by investigating univariate statistics and histograms of sample values. A top cut level was selected if it affected outliers, reduced the sample variance and did not materially change the mean value. Top cuts vary by domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Model validation was carried out using visual comparisons between composites and estimated blocks, checks for negative or absent grades, and statistical comparison against the input drill hole data and graphical profile (swath) plots.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if	No minimum mining assumptions were made for Chanach deposit during the resource wire framing or estimation

Criteria	Explanation	Commentary
	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.	process. The wire framing at AuCu required a minimum of 2 samples to be included in the wireframe. Mining parameters, including minimum width assumptions, will be applied during the conversion to Ore Reserves.
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 factors or assumptions are made during the resource estimation process as this will be addressed during conversion to Ore Reserve.
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 environmental factors or assumptions are made during the resource estimation process.
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.	Bulk Densities were collected across the Aucu gold project in the mineralised intervals from both RC and diamond drill holes. The average bulk density was calculated as 2.54 t/m3 based on 125 samples. Bulk density was measured using the wax encapsulation and weight in water displacement analytical method A bulk density of 2.74 was used for the fresh material in the Chanach deposit and 2.50 for the oxide material. These measurements were based on the host rock types and experience from similar deposits.
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.	Classification of the resource models is based primarily on drill density and geological understanding, in conjunction with extensive QAQC data and bulk density measurements. The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity. The classification reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No external audits or reviews have been carried out. The resource estimate has been internally peer reviewed.
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 relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. The statement relates to global estimates of tonnes and grade.
	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	The estimate is considered to be relevant to a global report of tonnage and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	There has been no production.