CARBINE TUNGSTEN

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Company Announcements Office
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CARBINE TO INTENSIFY GOLD EXPLORATION AT ITS HIGH-GRADE PROSPECTS.

Carbine Tungsten Limited (ASX:CNQ, "Carbine" or "the Company") is pleased to advise that exploration work is about to intensify at both the Company's 100% held gold prospects. A review of the highly encouraging sampling results is outlined below.

The Company holds two exploration licences covering old gold fields with numerous historical workings, Panama Hat EL8024 20km south east of Broken Hill in western NSW (Figure 1) and Crow King (Figure 2). Sampling of dumps associated with deeper historic workings in each tenement has revealed high grade gold values over large areas, in Panama Hat with samples ranging up to 83.2g/t, and at Crow King ranging up to 17.1g/t.

Panama Hat, EL8024

The Panama Hat EL8024 covers 80% of the historical gold workings in the Broken Hill district, about 30km south east of Broken Hill. The workings mostly date from 1931-1935, and occur along an arcuate line of quartz veining with associated iron oxides. Sericitic alteration of the host metamorphic rocks accompanies the quartz veining. The iron oxides are interpreted to result from weathering of sulphide mineralisation at depth. The quartz veining is not deformed and may represent a much younger mineralising event than that of Broken Hill to the north west.

Sampling has determined that the near surface is likely to be intensely leached of gold; however sampling of waste dumps associated with deeper historical workings has identified gold values locally of bonanza grade (Figure 3). Previous exploration has not tested the oxide gold potential along the whole line of lode at Panama Hat and a sampling and mapping program is about to commence to identify the most promising targets for shallow drilling which will be aimed at testing the oxide gold potential of this goldfield.

The results of the sampling are summarised in Table 1 below.

Panama Hat table of sample results

Sample no.	Easting	Southing	Au – AA25 g/t	Notes
PH 302	554114	6441046	5.29	Dense black limonite
PH 307	554043	6441156	31.5	Quartz with limonite
PH 309	554051	6441160	45.1	Quartz with limonite
PH 310	554057	6441167	17.6	Quartz with limonite
PH 311	554054	6441152	1.46	Black limonite fragments
PH 312	554089	644156	9.62	Black limonite fragments
PH 314	554175	6441164	83.2	Black limonite fragments
PH 316	554164	6441165	31.6	Quartz with limonite
PH 321	554421	6443416	1.67	Quartz with limonite
PH322	554432	6443424	2.14	Quartz with limonite
PH323	554418	6443422	2.19	Quartz with limonite
PH324	554420	6443429	4.61	Quartz with limonite
PH325	554412	6443434	5.43	Quartz with limonite
PH326	554397	6443465	3.79	Quartz with limonite
PH327	554401	6443472	1.24	Quartz with limonite
PH328	554401	6443472	1.29	Massive limonite
PH329	554417	6443478	3.35	Massive limonite
PH330	554414	6443465	1.54	Quartz with limonite
PH338	554475	6443739	2.28	Quartz with limonite
PH347	555877	6445784	1.67	Quartz with limonite
PH349	555738	6445720	3.31	Quartz with limonite
PH351	555630	6445679	63.4	Quartz with limonite
PH351a	556530	6445499	11.75	Quartz with limonite
PH357	559808	6448351	15.8	Quartz with limonite

Table 1. Summary of significant gold assays from sampling waste dumps associated with deeper historical workings, Panama Hat EL8024

Crow King EL6648

The Crow King licence comprises 9 sub-blocks that cover a historic gold field discovered in 1868, and worked up till about 1906. The deepest working at Crow King is reported to be 67m. In modern times several exploration groups including Carbine explored for gold in the area and the Crow King tenement formerly held by Carbine, was re-aquired in 2016 as part of the Company's strategy to diversify its activities from a single mine, single metal focus at the Mt Carbine tungsten deposit in Far North Queensland.

EL6648 straddles the Peel Fault, a major geosuture that separates early Palaeozoic metasediments on the eastern side from Mid Devonian volcanic-derived sedimentary rocks on the west. The Peel Fault itself is famously characterised by a more or less continuous belt of serpentinised ultramafic rocks. Early Triassic quartz monzonite dykes and plugs locally intrude the Peel Fault and older rocks. The Company's recent exploration has shown that the majority of the historical workings are hosted by quartz veining in metasiltstone between the serpentinite and a prominent chert horizon east of the Fault. However, gold mineralisation has also been detected by drilling in the Fault itself and in brecciated, carbonate rich Devonian sedimentary rocks west of the Fault.

Fresh mapping and sampling by the Company and a review of previous exploration results provide the following exciting new insights into gold mineralisation in the licence:

- Gold has been leached from the surface meter or two by intense weathering in the past and surface sampling does not provide an adequate measure of gold distribution. Surface sampling showed anomalous gold but with values less than 0.05g/t gold.
- Sampling of mineralised rocks from dumps associated with a number of deeper (>2m) historical workings gave potentially economic gold assays over a wide area (Figure 4), ranging from 1.46 g/t to 17.1g/t gold (Table 2).
- There are indications that significant hydrothermal breccias occur untested in the EL concealed beneath Tertiary ironstone and gravel that may be related to brecciated, hydrothermally altered, gold-bearing quartz monzonite dykes intercepted in cored holes drilled through the main fault.
- The historic workings exploited gold in quartz veins of limited extent (1-4m laterally and up to 10m down plunge according to historical records) but often of bonanza grade. The quartz veins are interpreted as filling voids formed by shearing. Whereas in the past, individual high grade veins were mined on a small scale, the possibility of there being a large mineralised volume of quartz vein-bearing rock, of sufficient global average grade for a bulk mining operation, has not been tested.

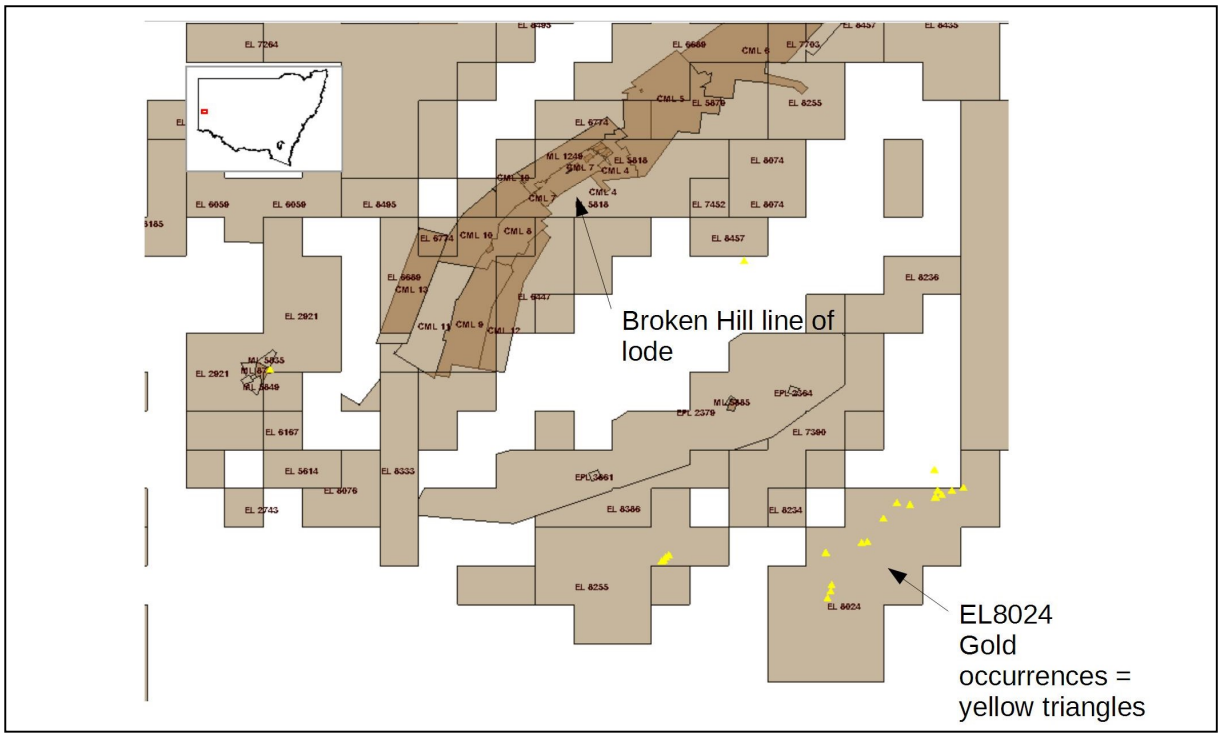

Figure 1. Location of Panama Hat EL8024, showing historical gold occurrences (Minview Map).

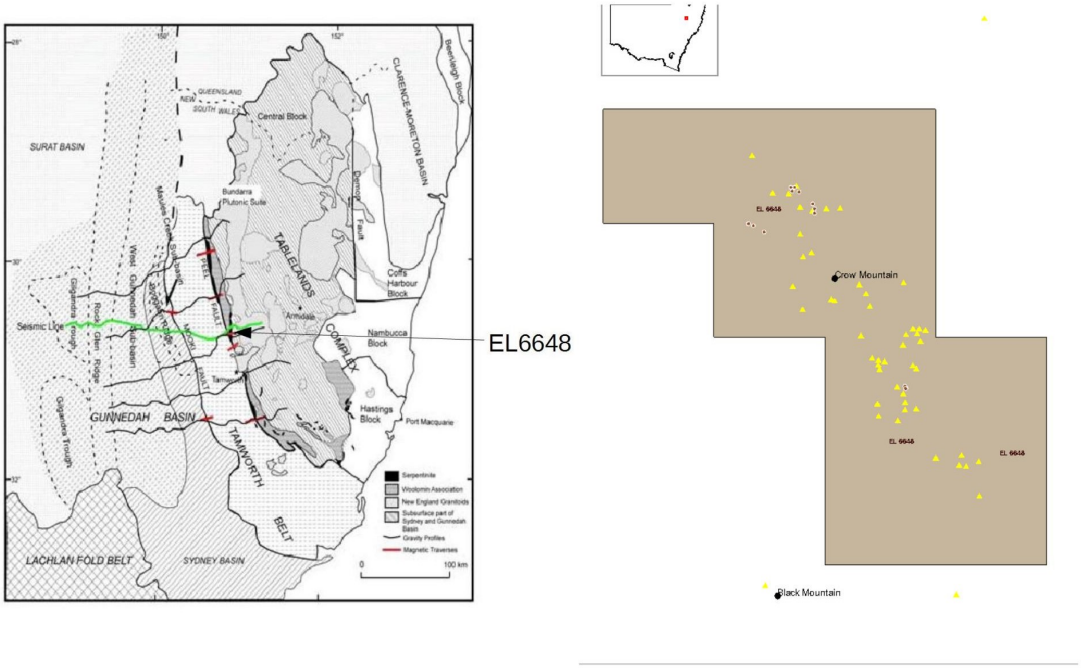

Figure 2. Location of EL6648 in New England Region NSW (left) and map of historical gold occurrences in EL6648 (right, yellow triangles: Minview Map)

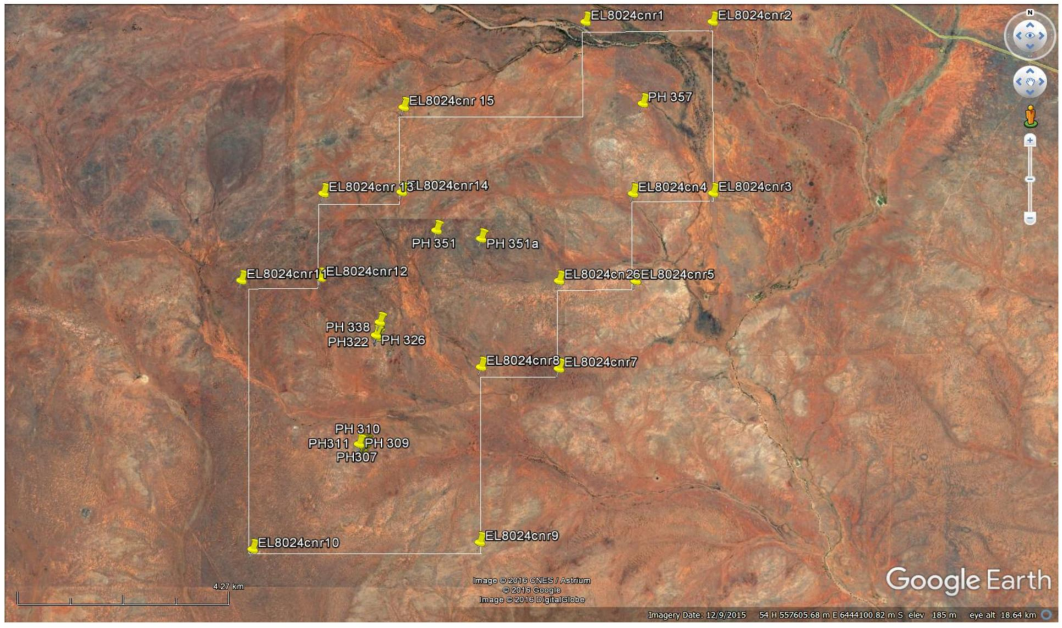

Figure 3. Panama Hat EL8024 on Google image showing location of samples from deeper historical workings.

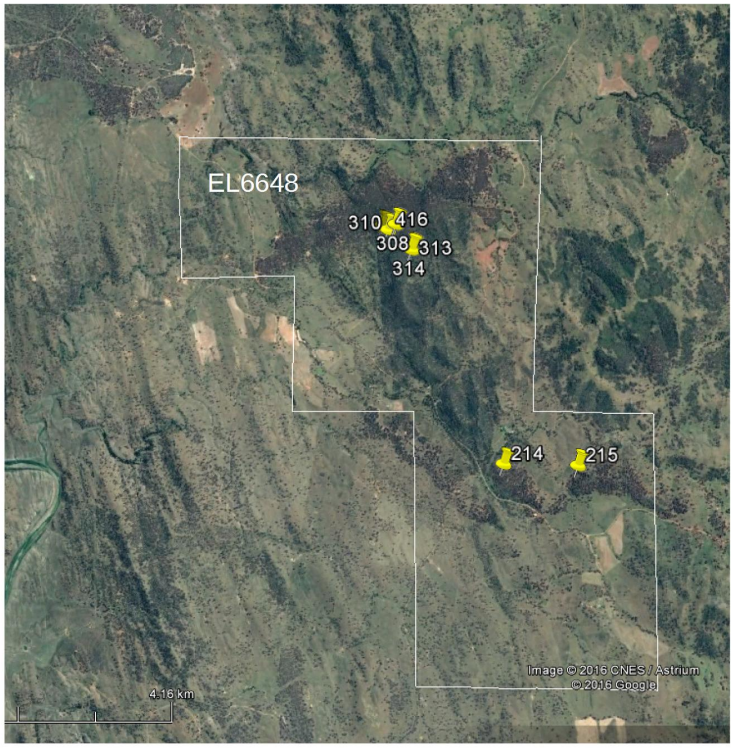

Figure 4. Location of samples from deeper historical workings – see Table 1 for results

Sample	Easting	Northing	Description	Au – AA25,gm/t
214	286738	6624693	Silicified, quartz veined with breccia texture rock – minor limonite	2.43
215	286738	6624693	ditto	1.46
308	285230	6627872	altered/bleached silicified rock with some limonite	6.03
310	285226	6627868	ditto, high limonite content	17.1
312a	285200	6627852	ditto, moderat black limonite	4.08
312	285450	6627531	Ditto	5.75
313	285450	6627531	ditto	2.32
314	285456	6627541	ditto some thick quartz veins	1.57
413	285037	6627833	pale cream altered rock with quartz vein and minor black oxide	1.9
414	285061	6627823	pale altered rock with large quartz fragments and red-brown oxide	3.78
416	285127	6627792		6.78

Table 2. Gold assays from samples of dumps associated with deeper historical workings in EL 6648

Jim Morgan
Chief Executive Officer & Managing Director
Carbine Tungsten Limited

COMPETENT PERSON'S STATEMENT

The information in this report that relates to Exploration Results and Mineral Resources and Ore Reserves is based on information compiled by Dr Andrew White, who is a Fellow of the Australian Institute of Geoscientists and a consultant to Carbine. Dr White has sufficient experience relevant to the style of mineralisation, mining and processing the type of deposit under consideration 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". Dr White consents to the inclusion of the matters based on his information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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.*	• Waste dumps of historical workings were sampled, with care to take non-selective, unbiased samples generally 2kg per sample. Samples were photographed and location determined by GPS.
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).*	•
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the 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.*	•

Criteria	JORC Code explanation	Commentary
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.*	•
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.*	•
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Samples were crushed and pulverized by the laboratory, and a 30g split analysed by ICPMS. Where gold values exceeded 1ppm, the sample was analysed for gold by fire assay with AAS finish. The laboratory used internal standards for check assays. Where high gold values were obtained the analysis was repeated.
Verification of sampling and	• *The verification of significant intersections by either independent or alternative company personnel.*	•

Criteria	JORC Code explanation	Commentary
assaying	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Sample locations were determined by GPS (Garmin 60).
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.*	•
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.* • *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.*	•
Sample security	• *The measures taken to ensure sample security.*	•
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	•

Section 2 Reporting of Exploration Results

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

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 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 sampled were EL6648 (Crow King) and EL8024 (Panama Hat) each owned 100% by Carbine Tungsten Limited.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Extensive reviews of exploration by previous tenement holders was completed prior to the sampling reported herein.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Panama Hat: Quartz vein hosted but gold associated with sulphides in the quartz and the potential for oxide gold in the weathered zone not tested. Crow King: quartz vein hosted but gold also associated with mineralization of carbonate-rich sediments and altered quartz monzonite intrusives.

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 Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		•

Data	• *In reporting Exploration Results, weighting averaging techniques,*	• Sampling appears to have determined that in each tenement there is

Criteria	JORC Code explanation	Commentary
aggregation methods	*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.*	intensive leaching of gold at the surface and perhaps to a depth ~ 2m but this has to be confirmed by shallow drilling. Low grade gold values from surface sampling have not been reported.
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').*	• Insufficient data yet to determine mineralization widths.
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.*	•
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.*	•
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.*	• Extensive geophysical surveying has been completed by previous explorers at each tenement, and this data has been taken into account in the reviews of previous work. In each case it is considered that the geophysical anomalies have not been tested by subsequent work.
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,*	• Detailed geological mapping and sampling is planned, to be followed by shallow drilling.

Criteria	JORC Code explanation	Commentary
	provided this information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.* • *Data validation procedures used.*	•
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.*	•
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.*	•
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.*	•
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*	•

Criteria	JORC Code explanation	Commentary
	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 (eg 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 drill hole data, and use of reconciliation data if available.*	
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	•
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	•
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.*	•
Metallurgical factors or	• *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*	•

Criteria	JORC Code explanation	Commentary
assumptions	*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.*	
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.*	•
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.*	•
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie 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.*	•
Audits or	• *The results of any audits or reviews of Mineral Resource estimates.*	•

Criteria	JORC Code explanation	Commentary
reviews		
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.*	•

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• Insert your commentary here…
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.*	•
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a*	•

Criteria	JORC Code explanation	Commentary
	mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	•
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	•
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the*	•

Criteria	JORC Code explanation	Commentary
	orebody as a whole. • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	
Environmen-tal	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	•
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	•
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	•
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	•
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand*	•

Criteria	JORC Code explanation	Commentary
	into the future. • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	•
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	•
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	•
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	•

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	•
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	•

Section 5 Estimation and Reporting of Diamonds and Other Gemstones

(Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum.)

Criteria	JORC Code explanation	Commentary
Indicator minerals	• *Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.*	• Insert your commentary here…
Source of diamonds	• *Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the*	•

Criteria	JORC Code explanation	Commentary
	rock type and geological environment.	
Sample collection	• *Type of sample, whether outcrop, boulders, drill core, reverse circulation drill cuttings, gravel, stream sediment or soil, and purpose (eg large diameter drilling to establish stones per unit of volume or bulk samples to establish stone size distribution).* • *Sample size, distribution and representivity.*	•
Sample treatment	• *Type of facility, treatment rate, and accreditation.* • *Sample size reduction. Bottom screen size, top screen size and re-crush.* • *Processes (dense media separation, grease, X-ray, hand-sorting, etc).* • *Process efficiency, tailings auditing and granulometry.* • *Laboratory used, type of process for micro diamonds and accreditation.*	•
Carat	• *One fifth (0.2) of a gram (often defined as a metric carat or MC).*	•
Sample grade	• *Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.* • *The sample grade above the specified lower cut-off sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For alluvial deposits, sample grades quoted in carats per square metre or carats per cubic metre are acceptable if accompanied by a volume to weight basis for calculation.* • *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive sample grade (carats per tonne).*	•
Reporting of Exploration Results	• *Complete set of sieve data using a standard progression of sieve sizes per facies. Bulk sampling results, global sample grade per facies. Spatial structure analysis and grade distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.*	•

Criteria	JORC Code explanation	Commentary
	• *Sample density determination.* • *Per cent concentrate and undersize per sample.* • *Sample grade with change in bottom cut-off screen size.* • *Adjustments made to size distribution for sample plant performance and performance on a commercial scale.* • *If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.* • *The weight of diamonds may only be omitted from the report when the diamonds are considered too small to be of commercial significance. This lower cut-off size should be stated.*	
Grade estimation for reporting Mineral Resources and Ore Reserves	• *Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.* • *The sample crush size and its relationship to that achievable in a commercial treatment plant.* • *Total number of diamonds greater than the specified and reported lower cut-off sieve size.* • *Total weight of diamonds greater than the specified and reported lower cut-off sieve size.* • *The sample grade above the specified lower cut-off sieve size.*	•

Value estimation	• *Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.*
	• *To the extent that such information is not deemed commercially sensitive, Public Reports should include:*
	  ○ *diamonds quantities by appropriate screen size per facies or depth.*
	  ○ *details of parcel valued.*
	  ○ *number of stones, carats, lower size cut-off per facies or depth.*
	• *The average $/carat and $/tonne value at the selected bottom cut-off*
		•

Criteria	JORC Code explanation	Commentary
	should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value. • *The basis for the price (eg dealer buying price, dealer selling price, etc).* • *An assessment of diamond breakage.*	
Security and integrity	• *Accredited process audit.* • *Whether samples were sealed after excavation.* • *Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.* • *Core samples washed prior to treatment for micro diamonds.* • *Audit samples treated at alternative facility.* • *Results of tailings checks.* • *Recovery of tracer monitors used in sampling and treatment.* • *Geophysical (logged) density and particle density.* • *Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.*	•
Classification	• *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive grade (carats per tonne). The elements of uncertainty in these estimates should be considered, and classification developed accordingly.*	•