

#### **ASX Announcement**

#### 14 June 2018

### Acquisition of the Highly Prospective Cachi Mineral Project in Argentina

#### **Highlights:**

- Acquisition of the highly prospective Cachi Mineral Project in the Santa Cruz province of Argentina where there are a number of world class, multi-million-ounce gold deposits including Cerro Negro and Cerro Vanguadia owned by third parties. Dark Horse's Los Domos Gold Project is also in this region.
- > Cachi covers a large exploration area of 17,300 hectares.
- > Two significant primary mineral target areas: Morena and Vetas Cachi.
- ➤ Morena rock assay: 11.7 g/t Gold and 96 g/t Silver.
- Morena drillhole assay: 2.4m @ 17% Zinc, 1m @ 7.6% Lead, 0.5m @ 3.7 g/t Gold; 1m @ 164 g/t Silver.
- Vetas Cachi rock assay: 41.3 g/t Gold.

Dark Horse Resources Limited (ASX:DHR; "DHR" or "Company") is pleased to announce that it has entered into an Exploration and Option Agreement with Tres Cerros Exploraciones S.R.L. for the option to acquire up to **95%** of the Cachi Mineral Project in Argentina through a series of staged payments, earning equity progressively, totalling **USD2.55 million**. Should the Vendor not wish to fund their 5% share of a mine development, they can elect to dilute to a 2.0% Net Profit Interest (**NPI**).

The Cachi Mineral Project is a 17,300ha lease located in the central-western region of Santa Cruz Province, Argentina (**Figure 1**). The region is host to numerous multi-million-ounce, epithermal style gold-silver deposits within Santa Cruz Province including Cerro Vanguadia owned by AngloGold Ashanti, and Cerro Negro owned by Goldcorp (refer **Figure 1**).

Dark Horse Director **Neil Stuart** said "we are again very fortunate, having already secured the Los Domos Gold Project and the PROAR mineral portfolio of properties, to have been able to secure the Cachi Mineral Project in Santa Cruz for Dark Horse. I've always been optimistic in the potential for the discovery of medium to large scale gold-silver projects in this region of Argentina, as a result of my earlier involvement in the Cerro Negro gold project, which is a multi-million-ounce gold deposit and now an operating gold mine."



#### **Technical Information on Cachi Project Argentina**

The Cachi Mineral Project is located in the province of Santa Cruz, Argentina in the western region of the Deseado Massif, a plateau dominated by volcanic and volcaniclastic rocks of acid and basic compositions of Jurassic age, which hosts world class epithermal deposits of gold and silver including Cerro Vanguardia and Cerro Negro (Figure 1).

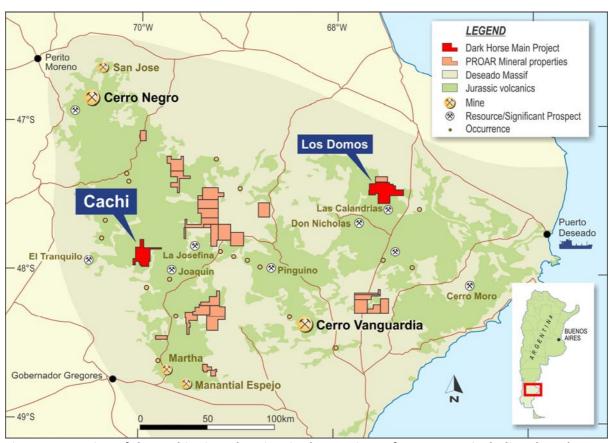


Figure 1: Location of the Cachi Mineral Project in the province of Santa Cruz, including the other Dark Horse properties of Los Domos and PROAR (orange coloured leases). The main epithermal deposits of Gold and Silver are housed in the Jurassic volcanics of the Chon Aike Formation (olive green colour).

The Cachi Project is bordered to the west by Circum Pacific's Sierra Morena Project and to the east by Goldcorp's Las Mellizas Project, and is close to Panamerican Silver's advanced Joaquín and Cose projects.

The Cachi Project has not been explored comprehensively. IamGold carried out general reconnaissance exploration, and De Grey Mining carried out rock chip and lag sampling, geophysics and drilled several diamond holes in the vein breccia zone target of the adjacent Sierra Morena Project (refer **Figure 3**). From this earlier work and the work conducted by the current vendors Tres Cerros, two primary targets have been identified to date: Morena and Vetas Cachi; together with secondary targets at Vetas NW, Cachi Central, Los Bloques and Cachi Norte (refer **Figure 2**).



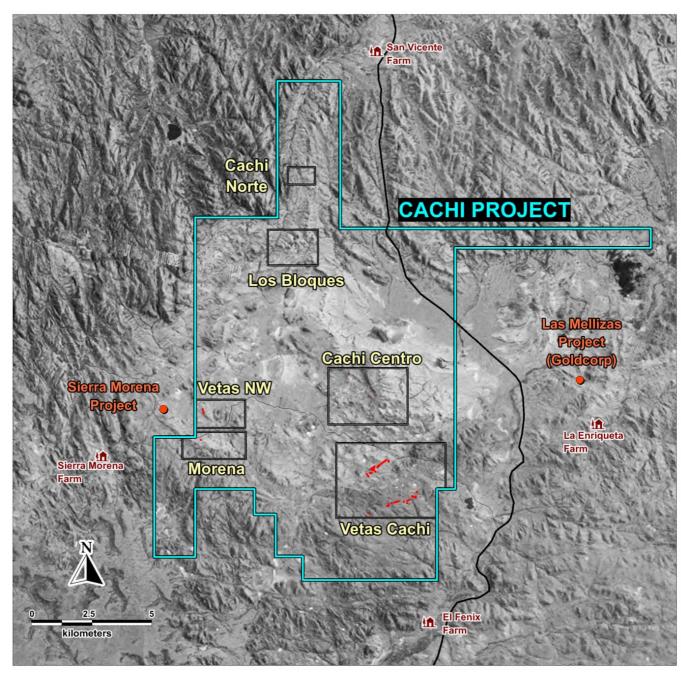


Figure 2: Cachi Project exploration licence, showing the target areas (yellow) and nearby projects held by other companies (orange).



#### **Morena Target**

The significant Morena target is located in the western part of the lease and is a southeast extension of the vein breccia zone target of the adjacent Sierra Morena Project held by Circum Pacific Pty Ltd (refer **Figures 2 & 3**). It consists of a dominant northwest oriented ridge composed of silicified volcaniclastic rocks of Jurassic age. The system has anomalous quartz veins with precious and base metals, with maximum values of 11.7 g/t Gold and 96 g/t Silver. Two shallow holes have been drilled in the Cachi Morena target (SM-13-14 and SM-13-16) sited to intersect a geophysical resistance anomaly (refer **Figure 4**). Silicified structures with quartz veinlets and hydrothermal vents were intercepted (refer **Photo Set 1**) with best mineral intercepts: 0.5m @ 3.7 g/t Gold; 1m @ 164 g/t Silver; 2.4m @ 17% Zinc (included 1m @ 30.2% Zinc) and 1m @ 7.6% Lead (all information from De Grey Mining Ltd 25 July 2012, 24 April 2013 and 4 July 2013 ASX releases).

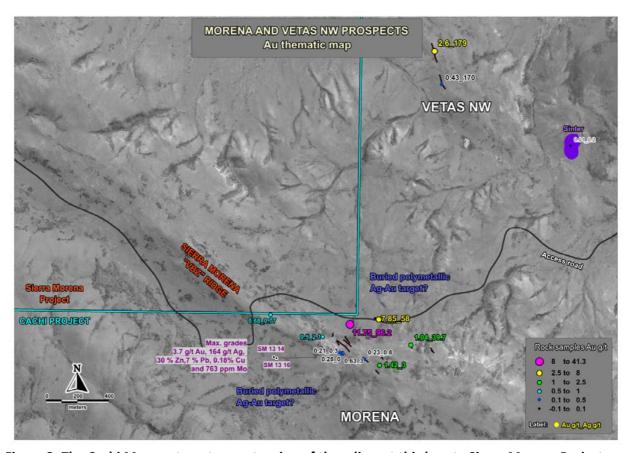


Figure 3: The Cachi Morena target, an extension of the adjacent third-party Sierra Morena Project. The diagram highlights the northwest oriented ridge vein breccia zone (VBZ) target of the Sierra Morena Project. Gold grade results of rock chip samples and drill holes are marked on the figure. Grade results of the Vetas NW target are also shown.



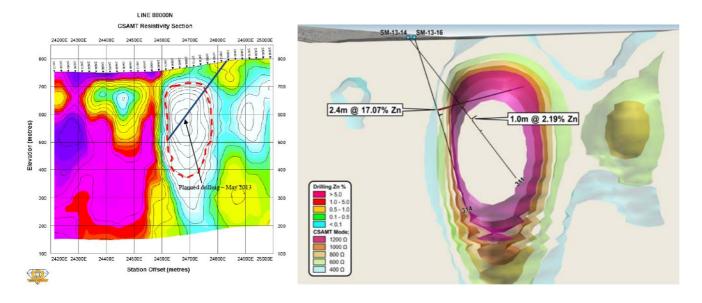


Figure 4: Resistivity geophysics over the Morena target, where a large geophysical resistor was identified. The two drill holes are shown in the right hand diagram with the best intercepts of Zinc (carried out by Quantec Geoscience for De Grey Mining Ltd, 4 July 2013 ASX release).



Photo Set 1: Drill core and rock showing mineralisation from the Morena Target.

#### **Vetas Cachi Target**

The other significant target at Cachi is Vetas Cachi, located in the southeast part of the lease (refer **Figure 2**). It encompasses an area of three by four kilometres with an important group of epithermal veins hosted in volcanics and volcaniclastic rocks. The veins can be traced on surface in a zone up to 700m long, with one vein having a maximum width of 6m (refer **Figure 5**). They consist of sacaroidal, crystalline and chalcedonic quartz with banded and bladed epithermal textures with fine sulphides observable. There are also sectors of hydrothermal breccias with grey silica. Representative rock sampling has been carried out with the majority of samples being anomalous in precious metals, the best value being 41.3 g/t Gold (De Grey Mining Ltd 25 July 2012 ASX release).



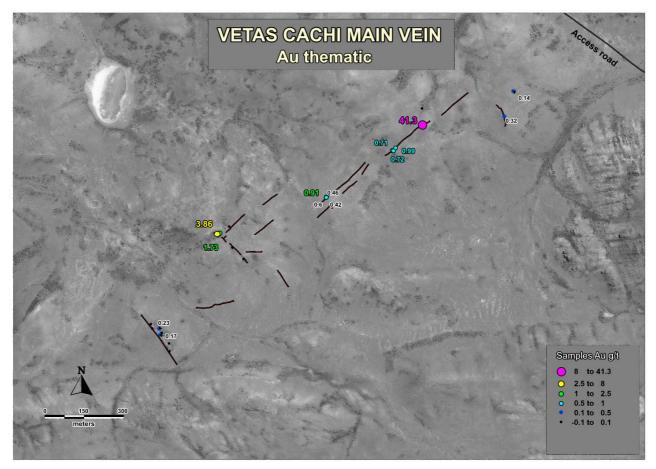


Figure 5: The main epithermal veins in Vetas Cachi vein system with Gold grades shown on a thematic map.



Photo Set 2: Outcropping epithermal vein and its mineralised rocks from the Vetas Cachi Target.

#### **Other Cachi Targets**

Other anomalous targets identified to date within the Cachi lease include Vetas NW, Cachi Central, Los Bloques and Cachi Norte (information from De Grey Mining Ltd 25 July 2012 and 4 July 2013 ASX releases).



The Vetas NW target (refer **Figure 2 and 3**) is a group of structures with quartz veining oriented both north-west and north-south having several hundred meters in length and vein widths up to 2m in thickness. The best value obtained to date is 2.6ppm Gold and 180ppm Silver.(Results of Tres Cerros Exploracionces S.R.L.

Cachi Central is an area with some vein form structures, generally oriented in a northwest direction over a length of several hundred meters (refer **Figure 2**). They consist of sacaroidal to crystalline quartz, with some grey chalcedonic silica and iron oxides.

The Los Bloques target (refer **Figure 2**) has a sector containing outcrops and blocks of massive white silica with opaline areas, striking northeast. Another sector in the target area has silicified structures affecting ignimbrite rocks, with swarms of crystalline, drusy and opaline quartz veinlets, sometimes brecciated.

The Cachi Norte (refer **Figure 2**) consists of a main vein form structure trending north-northwest with several hundred meters of length and a few meters in width, and consisting of white, crystalline quartz.

### **About TresCerros Group**

Tres Cerros Exploraciones S.R.L. comprises five prominent Argentinian geologists who have worked collectively in the Deseado Massif region of Santa Cruz for many years. They have worked for some significant exploration and mining companies and been intimately involved in the discoveries of a number of significant projects including Exeter Resources (Cerro Moro project), Mirasol Resources (Virginia, Joaquin projects), Hochschild Mining, North Limited, De GreyMining, Yamana Gold, Minera Polimet, Hidefield Gold, Minera IRL, Hunt Mining (Cerro Cazador project) and Coeur Mining (Mina Martha Mine).

#### **Deal Terms and Future Activities**

The main commercial terms of the Exploration and Option Agreement to acquire the Cachi Project are:

Payment Scheme	Payments	DHR Equity Earn
Signing Fee	U\$10,000	
60 day DD and Contract execution	U\$15,000	
6 mths from start date	U\$25,000	
1 year from start date	U\$50,000	
2 years from start date	U\$75,000	
3 years from start date	U\$175,000	35%
4 years from start date	U\$275,000	51%
5 years from start date	U\$375,000	61%
6 years from start date	U\$550,000	75%
Extra payment for another 20%	U\$1,000,000	95%



Dark Horse has the discretion to pay 20% of the Year 1 through Year 6 payments in DHR shares rather than all cash. Should Tres Cerros not wish to fund their final 5% share to mine development, they can elect to dilute to a 2% NPI. Dark Horse has the right to buy this NPI out for a cash payment of U\$1,000,000 at any time. Dark Horse is also required to make a series of expenditure payments on the project totalling U\$3.25 million as follows:

Expenditure	Amount U\$
Year 1	\$0
Year 2	U\$500,000
Year 3	U\$400,000
Year 4	U\$600,000
Year 5	U\$750,000
Year 6	U\$1,000,000

Dark Horse has undertaken preliminary due diligence work on the Cachi Mineral Project which has allowed it to design an aggressive exploration program including mapping, sampling, trenching and geophysics to define drill targets and plans to commence this work in the Argentine spring (September 2018).

On behalf of the Board Mr Karl Schlobohm Company Secretary

#### For further information contact:

#### Mr David Mason

Managing Director, Dark Horse Resources Ltd Ph: 07 3303 0650

#### **Karl Schlobohm**

Company Secretary, Dark Horse Resources Ltd Ph: 07 3303 0661

#### **Competent Persons Statement**

The information herein that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Neil Stuart, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Neil Stuart is a Director of Dark Horse Resources Ltd.

Mr Stuart has more than five years experience which is relevant to the style of mineralisation and type of deposit being reported and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves' (the JORC Code). This public report is issued with the prior written consent of the Competent Person(s) as to the form and context in which it appears.



#### **About Dark Horse Resources**

Dark Horse Resources Ltd is an Australian, publicly listed mineral resource company (ASX: DHR), with a particular focus on Argentina, where it has invested in lithium and gold projects, with objectives to:

- > Control a provincial stake of lithium resources, mine spodumene and produce high grade Lithium Hydroxide for the domestic and international battery and electronic markets.
- > Discover and define several multimillion ounce gold deposits and the production of gold doré.

Dark Horse also has a power generation subsidiary, Dark Horse Energy and a substantial holding (33%) in Australian-based and ASX-listed oil and gas exploration company Lakes Oil NL (ASX:LKO).

Company website: www.darkhorseresources.com.au

Follow us on Twitter: @ASX\_DHR



# **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	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Results in this release (<i>not covered by previous ASX releases</i>) relate to rock photographs from the Morena Target and geochemical assays of rock chip samples from the Vetas NW Target.</li> <li>The rock chip samples were the work of Tres Cerros Exploraciones S.R.L.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	No drilling undertaken
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	No drilling undertaken
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	A description of rock chip characteristics was recorded.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <li>The total length and percentage of the relevant intersections logged.</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Samples as described above were submitted to the analytical laboratory without subsampling.</li> <li>Rock chip samples were taken over previous reported epithermal veins.</li> <li>Samples were bagged and sent to the independent laboratory for assaying.</li> <li>Samples were prepared in the laboratory to normal international standards and subject to Multi-Element Analysis.</li> <li>The samples are considered appropriate for reconnaissance and checking assessment for this style of mineralization</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The samples were analyzed by an Independent Industry Laboratory and are considered appropriate for this style of mineralization.</li> <li>Industry standard quality control procedures were applied to the assay work.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Sampling was carried out under the supervision of the Company Senior Geologist.</li> <li>The analytical data has been reviewed by Dark Horse CP.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All sample locations were collected using a handheld GPS and are accurate ± 5m.</li> <li>Reference system used was Gaus Kruger Zone 2 – Campo Inchauspe (Argentina reference coordinates)</li> </ul>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Samples were not taken on any systematic grid basis. Sampling was selective and carried out on observable prospective veins.</li> <li>Sampling is of insufficient density to determine a resource estimate. Additional detailed follow-up sampling is recommended to qualify and quantity the anomalous areas in greater detail prior to drill testing if warranted.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	Structural relationships is unknown at this stage of the work.
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were collected under Company supervision.</li> <li>Samples were sent via Transportation Company direct to ther laboratory.</li> </ul>
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	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Sampling carried out on Tenements:</li> <li>(a) CACHICACHI, Expediente N° 431.870/CL/15</li> <li>(b) CACHI NORTE, Expediente N° 437.209/TCE/17</li> <li>(c) MINA SIERRA MORENA SUR, Expediente N° 401.671/MSD/07</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Previous exploration carried out by De Grey Mining Limited. Refer ASX releases 25 July 2012, 24 April 2013 and 4 July 2013.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Mineralization model corresponds to an epithermal vein system.</li> <li>The project is located in the west-central part of the Deseado Massif, 60,000km² rigid crustal block in southern Argentina that host numerous low-sulphidation, epithermal, precious-metal quartz vein and vein-breccia deposits that appear to have closely followed the Jurassic acid volcanism</li> <li>Mineralization style corresponds to banded epithermal veins, epithermal breccias and in less proportion dissemination.</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	No drilling undertaken
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Samples relate to chip rock samples from which material is expected to be sourced from the immediate vicinity.</li> <li>No lower or upper cuts, aggregate intervals or metal equivalents are reported.</li> </ul>
Relationship between mineralisati on widths and	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there</li> </ul>	Unknown at this stage

Criteria	JORC Code explanation	Commentary
intercept lengths	should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	<ul> <li>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.</li> </ul>	
Balanced reporting	<ul> <li>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.</li> </ul>	The release includes defined levels of anomalous results however further sampling is required to validate the tenor of results
Other substantive exploration data	<ul> <li>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.</li> </ul>	
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Mapping, sampling and trenching over anomalous areas is planned.

## **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	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	Not Applicable
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Not Applicable
Geological interpretatio n	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
Dimensions	<ul> <li>estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below</li> </ul>	Not Applicable
Estimation and modelling techniques	<ul> <li>surface to the upper and lower limits of the Mineral Resource.</li> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if</li> </ul>	Not Applicable
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	Not Applicable
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Not Applicable

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	<ul> <li>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.</li> </ul>	Not Applicable
Metallurgica l 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.	Not Applicable
Environmen- tal factors or assumptions	<ul> <li>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.</li> </ul>	Not Applicable
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
Classificatio n	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	Not Applicable
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Not Applicable
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	Not Applicable

## **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	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Not Applicable
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>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 mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	Not Applicable
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Not Applicable
Mining factors or assumptions	<ul> <li>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).</li> <li>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.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	Not Applicable
Metallurgica l factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
	<ul> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	
Environmen- tal	<ul> <li>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.</li> </ul>	Not Applicable
Infrastructur e	<ul> <li>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.</li> </ul>	Not Applicable
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	Not Applicable
Revenue factors	<ul> <li>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.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	Not Applicable
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
	acceptance requirements prior to a supply contract.	
Economic	<ul> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	Not Applicable
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Not Applicable
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	Not Applicable
Classificatio n	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	Not Applicable
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Not Applicable
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>The statement should specify whether it relates to global or local</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
	<ul> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	

## **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	<ul> <li>Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.</li> </ul>	Not Applicable
Source of diamonds	<ul> <li>Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the rock type and geological environment.</li> </ul>	Not Applicable
Sample collection	<ul> <li>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).</li> <li>Sample size, distribution and representivity.</li> </ul>	Not Applicable
Sample treatment	<ul> <li>Type of facility, treatment rate, and accreditation.</li> <li>Sample size reduction. Bottom screen size, top screen size and recrush.</li> <li>Processes (dense media separation, grease, X-ray, hand-sorting, etc).</li> <li>Process efficiency, tailings auditing and granulometry.</li> <li>Laboratory used, type of process for micro diamonds and accreditation.</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
Carat	• One fifth (0.2) of a gram (often defined as a metric carat or MC).	Not Applicable
Sample grade	<ul> <li>Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.</li> <li>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.</li> <li>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).</li> </ul>	Not Applicable
Reporting of Exploration Results	<ul> <li>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.</li> <li>Sample density determination.</li> <li>Per cent concentrate and undersize per sample.</li> <li>Sample grade with change in bottom cut-off screen size.</li> <li>Adjustments made to size distribution for sample plant performance and performance on a commercial scale.</li> <li>If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.</li> <li>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.</li> </ul>	Not Applicable
Grade estimation for reporting Mineral Resources and Ore Reserves	<ul> <li>Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.</li> <li>The sample crush size and its relationship to that achievable in a commercial treatment plant.</li> <li>Total number of diamonds greater than the specified and reported lower cut-off sieve size.</li> <li>Total weight of diamonds greater than the specified and reported lower cut-off sieve size.</li> <li>The sample grade above the specified lower cut-off sieve size.</li> </ul>	Not Applicable

Criteria	JORC Code explanation	Commentary
Value estimation	<ul> <li>Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.</li> <li>To the extent that such information is not deemed commercially sensitive, Public Reports should include:         <ul> <li>diamonds quantities by appropriate screen size per facies or depth.</li> <li>details of parcel valued.</li> <li>number of stones, carats, lower size cut-off per facies or depth.</li> </ul> </li> <li>The average \$/carat and \$/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value.</li> <li>The basis for the price (eg dealer buying price, dealer selling price, etc).</li> <li>An assessment of diamond breakage.</li> </ul>	Not Applicable
Security and integrity	<ul> <li>Accredited process audit.</li> <li>Whether samples were sealed after excavation.</li> <li>Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.</li> <li>Core samples washed prior to treatment for micro diamonds.</li> <li>Audit samples treated at alternative facility.</li> <li>Results of tailings checks.</li> <li>Recovery of tracer monitors used in sampling and treatment.</li> <li>Geophysical (logged) density and particle density.</li> <li>Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.</li> </ul>	Not Applicable
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.	Not Applicable