Update on the Phase 1 Trial Mining Campaign at Gravelotte (Amended)

Phase 1 campaign delivers over 11,700 carats of emeralds to date, with test work results to assist with proposed re-establishment of commercial mining operations

Photo 1: Partially cleaned emeralds ranging from 3.5 to 41.5 carats in weight and 5-25mm is size

HIGHLIGHTS

- **Phase 1 of Trial Mining campaign at Gravelotte Emerald Project, South Africa, delivers to date:**
  - **11,774.8 carats of emeralds recovered from the treatment of 256 tonnes of dump material**
  - **Average recovered grade of 46 carats per tonne**
- **Conceptual plant design completed and being evaluated**
- **Investigation of optical sorting solutions underway with ongoing test work**

Magnum Mining Limited (ASX: MGU) is pleased to provide an update on its trial mining operation at the Gravelotte Emerald Project in South Africa, where the Company is targeting the re-establishment of commercial mining operations.

In late February, Magnum commenced Phase 1 of a trial mining programme which was to mine and crush 2,112 tonnes of material sourced from four historic low grade and waste rock dumps ("dumps") onsite.

Phase 1 of the trial mining programme was designed to provide critical data for the design of a trial mining processing plant which would then lead to the potential re-establishment of commercial mining operations at Gravelotte.

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The key objectives of phase 1 of the trial mining operation were therefore:

- Recover a sample of emeralds of a sufficient quantity to enable a commercial appraisal and valuation of Gravelotte emeralds to be made.
- Determine the optimum crushing methodologies to maximise the liberation of emeralds from the host rock, whilst minimising damage to the emeralds.
- Determine the optimum ore processing plant design to maximise recoveries of emeralds.
- Assess the relative viability of traditional hand sorting methods versus modern optical sorting alternatives for the recovery of emeralds from the processed ore.

Based on the results of the Phase 1 programme, the Company has made significant progress on assessing each of these key objectives, and to allow a final costing and timetable for the construction of a trial mining processing plant to commence.

Phase 2 of the trial mining programme which will be to treat to treat around 8,000 tonnes of hard rock material will commence once the processing plant has been constructed. A more precise timing will be provided once contracts have been let.

Phase 1 Trial Mining Programme – Results

Dump assessment results

To date, the Phase 1 of the trial mining programme has treated 256.6 tonnes of crushed dump material from four dumps and recovered 11,774.8 carats of emeralds. This is an average recovered grade of 46 carats per tonne.

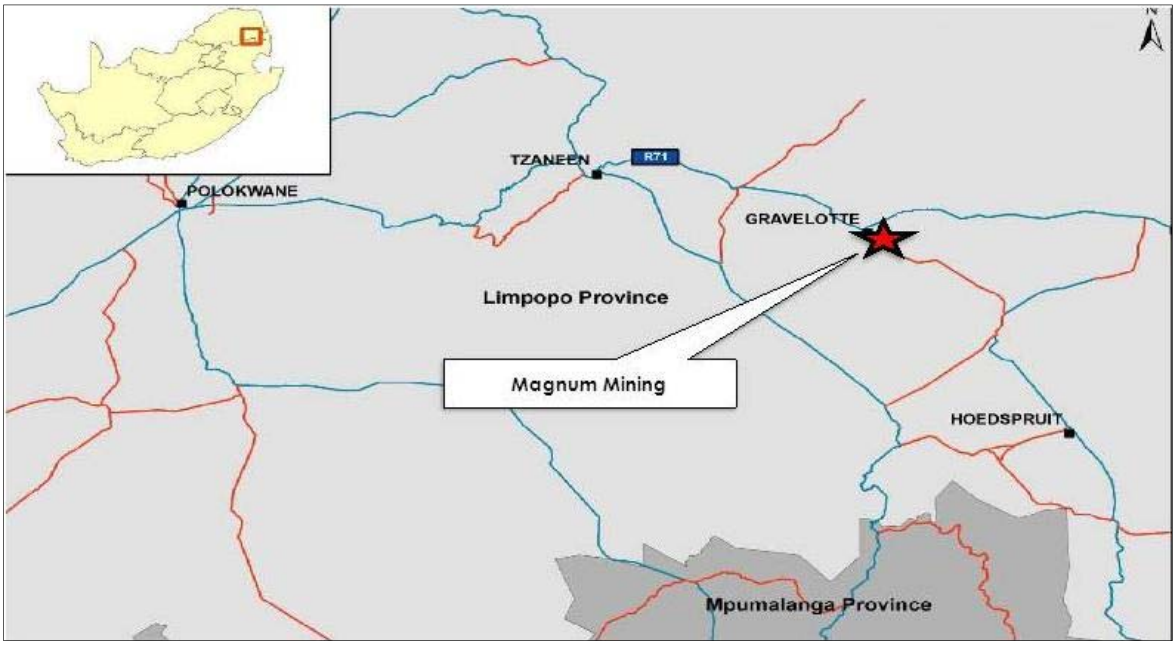

Figure 1: Gravelotte Location Map

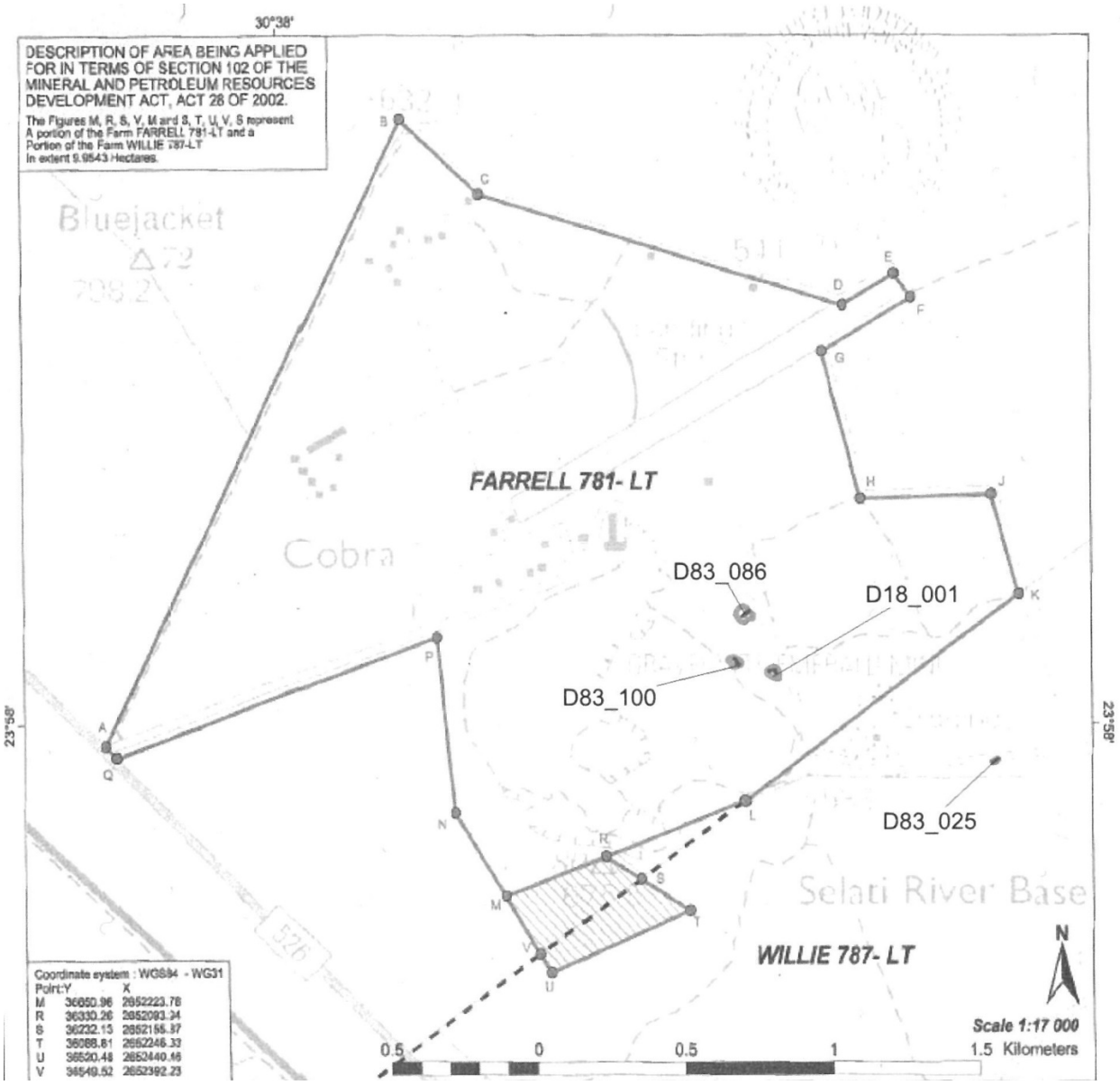

Figure 2: Location Plan of Dumps relative to Mining Lease Boundary

Dump No.	Dump (midpoint) Co-ordinates	
	Longitude	Latitude
001	30 deg 38' 53.37" E	23 deg 57' 56.70" S
25	30 deg 39' 18.31" E	23 deg 58' 05.34" S
86	30 deg 38' 50.06" E	23 deg 57' 50.51" S
100	30 deg 38' 50.54" E	23 deg 57' 56.18" S

There is limited grade information available on the various dumps onsite, and the dumps chosen to be mined were selected based on a combination of size, accessibility and being broadly representative of run-of-mine material.

The only available mine records reflect that, in the period from 1977 to 1982, an estimated 50,000t of dump material was processed for an average recovered grade of 12 carats per tonne.

Please note that the average grade in carats is a measure of the quantity of emeralds per tonne but does not necessairily represent the number of carats per tonne that have economic value. Emeralds, in common with other precious stones such as diamonds, rubies and sapphires for example, exhibit a broad range of characteristics peculiar to each stone. As a consequence the value of each stone can vary considerably. As previously reported a prime objective of the trial mining programme is to generate a sufficient parcel of emeralds that will allow the Company to market to a range of buyers to determine a ROM average value per carat for Gravelotte emeralds.

The Company mined 52.2 tonnes from Dump 25 and to date has treated 46.9 tonnes of ore from this dump for a recovery of 9,135.8 carats. This is an average recovery of 194.9 carats per tonne. This is considered to be an abnormally high-grade dump and approximately half of this small dump was mined in the Phase 1 trial mining programme.

Photo 4: Emeralds +4mm

A further 536.1 tonnes were mined from Dump 001, with 38.0 tonnes treated to date and 132.0 carats recovered. This is an average recovery of 3.5 carats per tonne.

At Dump 100, the Company mined 612.0 tonnes, treated 34.1 tonnes and recovered 170.3 carats. This is an average recovery of 5.0 carats per tonne.

At Dump 86, the Company mined 667.4 tonnes, treated 137.6 tonnes and recovered 2336.8 carats. This is an average recovery of 17.0 carats per tonne.

The grade variability between dumps, highlights that a detailed sampling programme will need to be undertaken as a pre-cursor to the commercial exploitation of these dumps.

The Trial Mining Plant will be available onsite to undertake this sampling programme.

Crushing work

Phase 1 of the trial mining programme tested both jaw and SAG crushing to determine the optimum method to maximise liberation of the emeralds, minimise damage to the emeralds, and provide a uniform ore fraction size for efficient recovery of the emeralds.

The ore material from the dumps was stockpiled before crushing using a mobile jaw crushing plant. The crusher's sizing gap was operated at different settings (25mm and 50mm) to test which aperture would produce the better particle size distribution for sorting and recovery.

Both crush sizes reported oversize material and tests have been undertaken to determine if the volume of oversize material can be easily reduced without increasing emerald breakages. Two studies were consequently completed onsite to simulate a SAG mill process to assess its suitability in achieving this aim. The results are currently being evaluated.

In addition, Magnum has also commenced an onsite small-scale crushing operation to evaluate different crush sizes and methods to re-crush the oversize material. This test work will look at oversize material that has been through the sorting process previously, but which requires a re-crush to see if additional emeralds can be recovered.

The data received from this ongoing test work will be used to finalise the crushing circuit for the trial plant.

Hand Sorting

The Company has trained eight employees to recover emeralds by hand washing and sorting the crushed material. The Company originally sorted over sorting tables with 1mm, 2mm and 3mm screens. All sorting tables have now been changed to 3mm screens.

Photo 5: Hand washing and sorting

The change to larger screens on all tables and natural improvement in methodology has led to a steady but slow increase in current daily throughput.

A review of operating performance has shown that hand sorting is significantly slower than anticipated, and our external consultants have recommended the evaluation of an optical sorter for emerald concentration.

Optical Sorting

Optical sorters have a history of use in the emerald industry and it is likely that the use of an optical sorter will significantly increase the efficiency of future operations at Gravelotte.

In this regard, Magnum's external consultants have highlighted the potential for optical sorting to significantly increase the processing rate, security and recovery rate of the recovery circuit, whilst reducing operating costs.

Phase 1 of the trial mining programme has allowed Magnum to provide freshly crushed and processed ore to optical sorter manufacturers for further detailed assessment.

The work has highlighted the need for additional testing to clarify issues around uniformity of particle size, moisture content and washing of material in order to maximise the recovery of both liberated and host rock-attached emeralds.

The optical sorting trials being undertaken will focus on the customisation of the sorter's various parameters to suit the Gravelotte Project requirements. This work is planned for late July, and once completed, the Company will be able to assess the merits of the various alternative optical sorting alternatives available.

Processing Plant design

The current treatment methodology employed on site is for the ore to be washed over a 3mm screen to remove the minus 3mm material and clean up the ore for hand sorting and recovery.

In a positive implication for the potential commercial operation the testing to date indicates that a significant percentage of the crushed ore reports to the minus 3mm fraction which, even when emerald bearing, has little to no commercial value.

This has highlighted the importance of a Trommel to wash the ore to remove the fine material and hence the volume of ore to be sorted which in turn will maximise the utilisation and efficiency of an optical sorter.

The Phase 2 trial mining plant ("Processing Plant") will be designed to recover and re-use all water used in the Trommel washing operation.

The Processing Plant will also require sizing of various ore fractions to accommodate maximum efficiency parameters of the optical sorter.

Assuming a single shift operation on a 5 day week, the Processing Plant is being designed to be able to treat 2,000 tonnes of ROM ("Run of Mine") per month.

This Processing Plant has now been conceptually designed and plant specifications have been completed. The Company is currently assessing the design and specifications to ensure they are appropriate for a trial mining plant. The Company is currently scoping various service providers for indicative pricing and timing.

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*The information in this announcement that relates to Exploration Results and Mineral Resources complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Mr Howard Dawson, Non-Executive Director of Magnum Mining and Exploration Limited. Mr Dawson is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Dawson consents to the inclusion in this announcement 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.*	• The dumps were sampled using a front end loader and an excavator to take a whole cut across the centre of the dump. • The excavations were supervised by a geologist to ensure that only dump material was sourced. • 100% of the material excavated was then sent to a stockpile for processing.
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).*	• Not applicable
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.*	• Not applicable
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*	• The samples were not logged.

Criteria	JORC Code explanation	Commentary
	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.*	• 100% of the excavated material was stockpiled according to dump number. • 100% of the material was then weighed and then 100% of the material was then processed by dump number. • Processing was by crushing and then washing 100% of the crushed sample and then wet screening through a 3mm mesh of 100% of the crushed sample. The remaining sample was then hand sorted for visual determination and recovery of any emeralds.
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.*	• No assays were carried out. • For emerald count the sample was crushed, washed, screened and then hand sorted. • For quality control all sorters underwent at least 20 hours of training and were supervised whilst sorting.
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.* • *Discuss any adjustment to assay data.*	• The excavations were supervised by a Geologist.
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 are the midpoint of the dumps and were recorded in latitudes and longitudes by GPS and plotted on base maps at site.

Criteria	JORC Code explanation	Commentary
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.*	• Not applicable, this programme was simply to source material to test crushing, screening and processing (hand sorting) techniques.
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.*	• Not applicable.
Sample security	• *The measures taken to ensure sample security.*	• All processing was supervised by the onsite Geologist or senior site manager.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Not applicable.

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.*	• Mining Right, Portion 7 of the Farm Farrell 781LT, LP30/5/1/2/2/0153MR, located 2km from Gravelotte in the Phalaborwa magisterial district of South Africa. The Company has a 74% ownership of the project with the remaining portion owned by Black Economic Empowered ("BEE") shareholders to ensure compliance with South African BEE ownership requirements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Much of the historic exploration and production results by previous mine owners cannot be located. Magnum has engaged consultants to assemble and digitize as much data as can be sourced.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Hydrothermal breccia.
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:* o *easting and northing of the drill hole collar*	• Magnum is not using or reliant on previous exploration as historic data base is too incomplete.

Criteria	JORC Code explanation	Commentary
	○ *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 aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable.
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').*	• Not applicable.
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.*	• Not applicable.
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.*	• Not applicable.
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.*	• Not applicable.

Criteria	JORC Code explanation	Commentary
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Not applicable.

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.*	• Not applicable.
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 rock type and geological environment.*	• Emeralds, introduction into breccia of Cr rich solutions through hydrothermal activity
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.*	• Historic waste and low grade ore dumps. • Dumps cannot be considered representative.
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.*	• On site treatment facilities, supervised onsite geologist and senior management personnel. • Crushing, washing, screening, hand sorting.
Carat	• *One fifth (0.2) of a gram (often defined as a metric carat or MC).*	• 1 gram = 5 carats
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*	• Determined by weight of emeralds recovered from each sample.

Criteria	JORC Code explanation	Commentary
	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.* • *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.*	• Only emeralds 3mm or greater reported.
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.*	• Not applicable
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:* o *diamonds quantities by appropriate screen size per facies or depth.*	• Not applicable

Criteria	JORC Code explanation	Commentary
	o *details of parcel valued.* o *number of stones, carats, lower size cut-off per facies or depth.* • *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.* • *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.*	• On site security provided by senior on site management.
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.