ASX ANNOUNCEMENT

29 November 2019

Galalar testing shows potential for product upgrade

- **Bench-scale metallurgical testwork in China indicates Galalar Silica Project's silica sand product's amenability for further upgrade to "ultra-low iron" (sub 50ppm Fe203) in addition to "low iron" (sub 100ppm Fe203) silica product**
- **All samples tested generated products that exceed specifications for photovoltaic (solar panel) glass production, with two samples exceeding specification for higher value photothermal glass(sub 50ppm Fe203) production suitable for specialist uses**
- **Results show potential for further increase in value of Galalar project with higher value product mix**
- **Mineral Resource being further reviewed to determine proportion of product capable of achieving suitable grade for higher value photothermal quality sand**
- **Positive results follow recent MOU's for "low iron" photovoltaic grade silica offtake signed with private Chinese companies, amid growing demand for silica sand from Asia's expanding solar panel market.**

Emerging silica sands explorer and developer, Diatreme Resources Limited (ASX:DRX) announced today a further boost for its Galalar Silica Project in North Queensland, with overseas (China) bench-scale process testing indicating the potential to further upgrade the planned silica product to attract ultra-premium prices.

The recently released scoping study (refer ASX release dated 9 September 2019) confirmed the Galalar project's potential to produce a high purity, low iron (sub 100ppm Fe203) silica product suitable for use as direct feed material in the manufacture of photovoltaic panels (solar panels), generally referred to in China as "photovoltaic grade" silica.

Following market feedback, and the silica's natural inherent amenability to upgrading, testing was conducted to determine the potential for the production of a higher grade, higher value product through use of a proprietary environmentally friendly, organic hot acid leach (pickling) process.

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The targeted silica product is high purity, "ultra-low iron" (sub 50ppm Fe203) suitable for further specialist uses including ultra-thin electronics, computer and mobile phone screens; a product generally referred to in China as "photothermal grade" silica. The value of this specialty "ultra-low" iron silica product is significantly higher than the "low iron" product, with market feedback indicating a significant pricing premium per tonne of product.

Testwork process

Diatreme engaged an industry recognised company called Qinfeng Mining Co. Ltd (QMCL), which owns a proprietary "environmentally friendly" hot acid leach (pickling) process, to complete processing testwork, including the pickling process, on samples from the Galalar project.

Based in China's Jiangxi Province, QMCL is well connected with silica suppliers and specialist glass producers and has designed and installed silica product upgrade plants in a number of major glass manufacturing and silica processing plants in China.

Following a review of the drill sample database, QMCL requested four samples of two kilograms each from three drill holes at varying depths contained within the Galalar project's Mineral Resource area. The samples were selected from different zones of the resource that have a suitable chemical analysis for upgrading using the pickling process.

The four as-drilled silica sand samples were analysed by independent laboratory ALS in Townsville, Australia using the standard exploration sample assay method. The relevant chemical components of interest for high end glass production are shown in the table below:

ALS TOWNSVILLE CHEMICAL ANALYSIS OF "RAW" DRILL HOLE SAMPLES

DRILL HOLE	CB047A	CB047A	CB107	CB108
SAMPLE NUMBER	D2794	D2795	D2716	D2885
SiO2 (%)	99.89	99.80	98.97	99.35
Fe2O3 (%)	0.03	0.02	0.04	0.03
TiO2 (%)	0.02	0.02	0.07	0.04
Al2O3 (%)	0.01	0.01	0.16	0.04

QMCL used these samples to prepare three samples of one kilogram each for processing testwork. The two samples from CB047A were combined into one composite sample and CB107 and CB108 were kept as separate samples.

All samples were processed using the same procedure which involved:

1. Initial washing using fresh water to remove fine particles and organic material;

2. Gravity separation by processing three times on a spiral sluice to remove heavy mineral particles;
3. Magnetic separation processing, twice at 1.3 tesla and once at 1.5 tesla;
4. Processing in a proprietary hot acid leach (pickling) process using industrial oxalic acid and additives for one hour at 100 degrees Celsius;
5. Neutralising the product using sodium hydroxide for 30 minutes then washing the product with fresh water.

All three samples were reported to have achieved 80% or higher product yield from the drill sample weight through processing to final product weight.

QMCL used an independent Chinese laboratory, Foshan Ceramics Research Institute Testing Co. Ltd (FCRITCL), for chemical analysis of the product samples. The chemical analysis of the product samples is provided in the following table:

FCRITCL CHEMICAL ANALYSIS OF THE PRODUCTS

SAMPLE ID	CB047A	CB107	CB108
SiO2 (%)	99.92	99.82	99.91
Fe2O3 (ppm)	43.76	86.57	38.27
TiO2 (ppm)	76.96	276.56	125.67
Al2O3 (ppm)	124.34	524.25	132.41
ZrO2 (ppm)	5.07	12.11	8.26

FCRITCL also completed a particle size analysis for CB047A and CB107 to allow QMCL to finalise an assessment of the product suitability for specialist glass applications.

QMCL assessed the suitability of the three product samples for high end glass applications and determined that:

- "The test results for sample CB047A proves the silica product fully complies with the requirements for photovoltaic glass and photothermal glass";
- "The test results for CB107 proves the silica product complies with the requirements for photovoltaic glass";
- "The test results for sample CB108 proves the silica product basically complies with the requirements for photovoltaic glass and photothermal glass".

Note: These results are from limited sampling designed as a first step to determine suitability of the silica product for further beneficiation to a higher value product.

Next steps

Following the successful indications from this initial small-scale testing, and the significant potential for further improvements in the project's economics, Diatreme will undertake further activities including:

1) Developing a greater understanding with the technology provider of the criteria for selecting suitable feedstock amenable to upgrading to the high value photothermal grade product;

2) Determination of what percentage within Galalar's targeted mining area of exportable product is amenable to further product upgrading;

3) Further bulk sampling and larger scale testing, including assessment by independent laboratories, to confirm reproducibility of results;

4) Entering into further discussions with China-based processing companies to examine a joint venture, tolling arrangement or product price differential on its exported product to fully unlock the value potential for the Company.

Diatreme will update the market as these further sample tests are undertaken and as discussions progress with potential China-based processors.

Significantly, the Galalar scoping study that showed the potential for high returns (estimated pre-tax nominal NPV of $231 million, IRR of 150% and estimated capital payback within eight months) was based on sales of photovoltaic silica sand product only (refer ASX announcement dated 9th September 2019).

Diatreme is also reviewing the project's Mineral Resource to determine the possible extent of sand suitable for upgrading to photothermal quality, which has the potential to significantly improve the project's value.

The latest results follow Diatreme's signing of MOU with private Chinese companies Wan Zhong Investment Group (refer ASX announcement 19 September 2019) and Fengsha Group (refer ASX announcement 16 July 2019) for the potential supply of photovoltaic grade silica sand (sub 100ppm Fe_2O_3) from the project.

Investor interest in the Galalar project has also strengthened, as seen with the securing of a new cornerstone investor, the family office of noted small-cap resources investor Brian Flannery, together with the support of existing and new shareholders in the recent $3.63 million placement (before costs) aimed at further progressing the project (refer ASX announcement 6 November 2019).

Welcoming the latest product results, Diatreme's CEO, Neil McIntyre said they could provide a further boost to the Galalar project's economics.

"The scoping study results showed the potential for a highly valuable project capable of generating strong returns for all stakeholders, including the traditional owners, Hopevale Congress," Mr McIntyre said.

"These latest results have only further increased our confidence in Galalar's ability to supply premium products to Asia's fast-growing solar panel market and other speciality glass applications, amid rising demand for such products and China's need for secure and reliable suppliers."

Mr McIntyre added: "Galalar is rapidly becoming an extremely attractive project which is attracting strong interest from potential project partners. Following these latest potential improvements, we look forward to advancing this project as quickly as possible, through next step permitting and approvals processes, to deliver further value for shareholders."

Neil McIntyre
Chief Executive Officer

Greg Starr
Chairman

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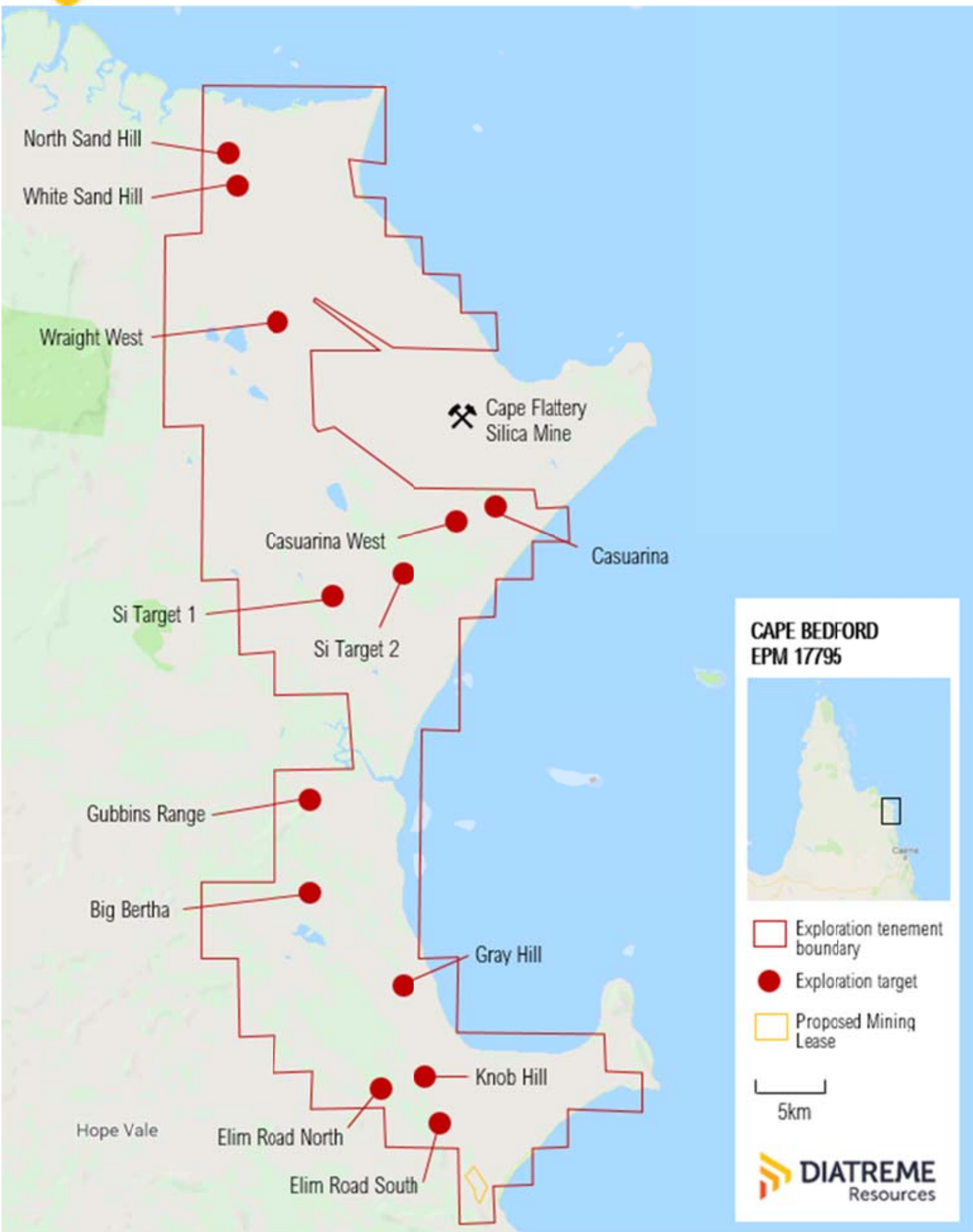

Galalar Exploration Tenement and Resource Area

Competent Person Statements - Silica

The information in this report that relates to Exploration Results and Exploration Targets from the Cape Bedford Project is based on information reviewed and compiled by Mr. Neil Mackenzie-Forbes, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr. Mackenzie-Forbes is a director of Sebrof Projects Pty Ltd (a consultant geologist to Diatreme Resources Limited). Mr. Mackenzie-Forbes has sufficient experience which 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Mackenzie-Forbes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Silica Mineral Resources is based on information compiled by Brice Mutton from Ausrocks Pty Ltd who has significant experience in Industrial Minerals and Quarry Resource assessments. Brice Mutton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for 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, Mineral Resources and Ore Reserves (The JORC Code). Brice Mutton consents to the inclusion in the report on the matters based on their information in the form and context in which it appears.

The information in this report that relates to processing of samples from the Galalar Silica Project is based on information provided by Qinfeng Mining Co. Ltd (QMCL), a Chinese technology provider, and reviewed by Mr. Craig Brown, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Brown is a director of Resources Engineering & Management Pty Ltd (consultant metallurgist to Diatreme Resources Limited). Mr Brown has sufficient experience which 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Brown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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JORC Code, 2012 Edition – Table 1 Report – Galalar Silica Project Indicated and Updated Inferred Resource Estimate.

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.*	• Drilling samples range from 1m-3m down hole intervals of air-core drill cuttings collected from cyclone mounted rotary splitter, approximately 3-4kg (representing approximately 20% of drill material returned via the cyclone is sampled). • Sample was submitted to commercial laboratory for drying, splitting (if required), pulverization in tungsten carbide bowl, and XRF analysis. • Sampling techniques are mineral sands "industry standard" for dry beach sands with low levels of induration and slime. • As the targeted mineralization is silica sand, geological logging of the drill material is a primary method for identifying mineralization • Metallurgical samples are composited intervals of white and cream sands logged in drilling with collection of the entire volume of air-core drill cuttings from the cyclone in to large plastic samples bags.
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).*	• Vertical NQ air-core drilling utlising blade bit, initially 3m runs were used for drilling campaigns in (September 2017, October 2017, April 2018 and June 2018) which was decreased to 1m increments the most recent drilling campaign (November/December 2018). Within the resource estimate there is 75 drillholes of which (1m increment 30 holes, 3m increment 45 holes). • Holes were terminated in a clay layer or when the water table was intersected.
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*	• Visual assessment and logging of sample recovery and sample quality. • Reaming of hole and clearance of drill string after every 3m rod. • Sample chute cleaned between samples and regular cleaning of cyclone to prevent sample contamination.

Criteria	JORC Code explanation	Commentary
	and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• No sample bias occurred between sample recovery and grade.
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.*	• Geological logging of the total hole by field geologist, with retention of sample in chip trays to allow subsequent re-interpretation of data if required. • The total hole is logged initially at 3m intervals which was decreased to 1m; logging includes qualitative descriptions of colour, grain size, sorting, induration and estimates of HM, slimes and oversize utlising panning. • Logging has been captured through field drill log sheets and transferred through to an excel spreadsheet with daily update of field database and regular update of master database.
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.*	• Drilling samples rotary split on site (Approximately 20% subsample), resulting in approximately 3 – 4kg of dry sample. • Sample was coned and quartered to generate a 1-2kg sample for submission to the laboratory, with surplus retained as a reference sample. • Sample size (3kg - 4kg) is considered appropriate for the grain size of material, average grain size (87% material by weight between 0.125mm and 0.5mm).
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.*	• Drilling samples were submitted to ALS Townsville, where they were dried, weighed and split. • Analysis was undertaken by ALS Brisbane utilising a Tungsten Carbide pulverization, ME-XRF26 (whole rock by Fusion/XRF) and ME-GRA05 (H_2O/LOI by TGA furnace). • Samples were assayed for SiO_2 and a range of heavy and other elements. • Analysis undertaken determined by a sample code which correlates to drill logs to ensure no sample bias. • Metallurgical samples were submitted to IHC Robbins for characterization testwork (screening, de-sliming, sizing, HLS and XRF analysis) and wet-tabling (two stage). • Testing undertaken by Qinfeng Mining Co Ltd (QMCL) in China, on

Criteria	JORC Code explanation	Commentary
		selected samples, followed their established commercial practice, and were reported to a format provided by Diatreme for review and interpretation.
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.*	• Significant intersections validated against geological logging and local geology/ geological model. • 12 holes were twinned with sampling and logging undertaken in 1m increments which were used to validate the 3m sample and drill increments that have been previously completed. • All data captured and stored in both hard copy and electronic format. • No assay data had to be adjusted.
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.*	• All holes initially located using handheld GPS with an accuracy of 5m for X, Y. • UTM coordinates, Zone 55L, GDA94 datum. • Contract registered surveyor from Veris Ltd used a differential GPS to pick up drillhole Easting, Northing and Elevation values for holes within the resource area. • Topographic surface generated from processing Stereo WorldView -3 satellite imagery and DGPS control points, collar RL's leveled against this surface to ensure consistency in the database.
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.*	• Drill lines were completed at approximately 100m spacing along the prepared access tracks, with holes drilled at approximately 75m along the lines. • Drill spacing, and distribution is sufficient to allow valid interpretation of geological and grade continuity for an Inferred Mineral Resource and an Indicated Mineral Resource where specified.
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.*	• The dune field has ridges dominantly trending 320° - 330°. • The drill access tracks typically run along or sub-parallel to dune ridges which suggest unbiased sampling, some cross-dune tracks linking the ridges were also drilled. • Silica deposition occurs as windblown with angle of rest approximately 35° (Nob Point East). Drilling orientation is appropriate for the nature of deposition.
Sample security	• *The measures taken to ensure sample security.*	• Sample collection and transport from the field was undertaken by company personnel following company procedures. • Samples were put into plastic bags, which were labelled and put into canvas sample bags and sealed prior to being sent off to ALS

Criteria	JORC Code explanation	Commentary
		Townsville. • Samples were delivered direct to ALS in Townsville.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The updated Inferred Resource Estimate is based on updated geological and geochemical data which were used to validate and audit the original Inferred Resource Estimate. • Reviews were conducted internally by Diatreme Ltd and third-party consultants Ausrocks Pty Ltd. And they were found to be consistent.

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 Galalar Silica Project occurs within EPM17795 in Queensland and is held by Diatreme Resources Ltd. It should be noted that previously this project has been referred to as Cape Bedford Silica Project. The name of the project was changed to reflect the land owner agreement with the Hopevale Congress Aboriginal Corporation in 2018. • The tenement is in good standing. • A compensation and conduct agreement along with a cultural heritage agreement is in place with the landholder and native title party (Hopevale Congress).
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration has been carried out in the area during the 1970's by Ocean Mining and 1980's by Breen Organisation. • The historical exploration data is of limited use since it comprises shallow hand auger drilling and is typically not accurately located.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The geology comprises variably re-worked aeolian sand dune deposits associated with Quaternary age sand-dune complex. • Mineralisation occurs within aeolian dune sands.
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* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*	• A tabulation of the material drill holes is attached to this JORC Table 1, as required by the Table 3.1.

Criteria	JORC Code explanation	Commentary
	o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• Downhole compositing of samples using weighed averages of Silica content and interval length to determine floor and ceiling of material that exceeded 99% SiO_2 content. • No minimum or maximum grade truncations have been used. • The grade is highly consistent, and the aggregate intercepts use a simple arithmetic average.
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').*	• As the mineralisation is associated with aeolian dune sands the majority sub-horizontal, some variability will be apparent on dune edges and faces.
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.*	• A map of the drill collar locations is incorporated with the main body of the report. Representative cross-sections have been attached within the main body of this report.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All relevant exploration assay results have been reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Geological observations are consistent with aeolian dune mineralisation. • Groundwater was intersected during drilling at the base of holes, as expected given the dune complex is an aquifer and drilling was undertaken to considerable depth. • The mineralisation is unconsolidated sand. • IHC Robins completed a bulk (1.8t) laboratory sample to determine viability of product through a one stage of Mineral Technologies

Criteria	JORC Code explanation	Commentary
		MG12 spiral, which yielded 99.9% SiO_2 at 88% recovery. • (CNBM) Bengbu Design & Research Institute for Glass Industry Co., Ltd December 2018 completed bulk (0.35t) laboratory sample to determine the viability of the product as high value glass product which resulted in 78% recovery of a >99% SiO^2 raw sample to 99.9% SiO^2. • There are no known deleterious substances. • 1100 %SiO_2 assays were completed on downhole composites over various drilling programs. • Qinfeng Mining Co Ltd (QMCL) have conducted initial small-scale evaluations that demonstrated the suitability of some of the raw sand to be processed by additional chemical treatment to produce an upgraded, low iron, high value product.
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.*	• The areas of possible extensions are to the north and east of the existing resource boundary which is constrained based on drilling data. Area's to the west (west of Alligator Creek) have shown potential. • Additional drillholes that have been detailed in the conclusion of the report should be completed as part of the next campaign of drilling. • Scoping of areas of resource that may be suitable for production of higher value products.

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.*	• The database was originally constructed by Diatreme Resources and provided to Ausrocks in various file formats. Ausrocks reformatted these databases into appropriate file formats checking that assay results matched the documents provided from the respective laboratories and the logs aligned with the chip tray samples.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• No site visits have been undertaken by the Competent Person, but Ausrocks Pty Ltd representative (Mining Engineer/SURPAC Modeller) has visited the site as a quality assurance/quality control exercise. • Each drillhole was logged, sampled, photographed and kept in chip trays. The photographs and chip trays were investigated by the

Criteria	JORC Code explanation	Commentary
		competent person to verify the previous logs.
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.*	• The Indicated and Inferred Resource Estimate was calculated for a bulk mining operation where all material between two surfaces will be extracted and processed. The current drill hole spacing with the currently available analytical testing is sufficient to identify a large volume of sand which could be processed to produce a high-grade silica sand product.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The resource boundary that has been formed is approximately 2.0km in length and 700m at its widest point at East Nob Point and 650m in length and 400m at it's widest point at West Nob Point. • Nob Point East the top of the resource predominantly following the topography, the top of the resource at its highest point is 45.8 mRL to the lowest at 20.4mRL. Depths to the resource depth range from 0.3m to 12m with an average depth of 1.1m. Nob Point West also had the top of the resource follow the topography the resource at its highest point is 48m with a low of 19.3m. • The base of the resource at East Nob Point ranges from 35.9mRL to 6.8mRL. The surface is relatively flat with a variation of 29.1m over 2,000m of strike. West Nob Point the base ranges from 38mRL to 17.5mRL, which has a 20.5m change in elevation over the 650m strike. • Average thickness of the resource within the boundary is 16.7m at East Nob Point and 12.7m at West Nob Point.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg Sulphur for acid mine drainage characterisation).*	• The resource layers were determined using an inverse distance analysis to the power of 2. With a 50m by 20m grid spacing with the major axis aligning with the dune orientation at 330°. Minimum amount of holes that influenced interpolation were 3 with a distance of interpolation set to 250m. To determine the resource boundary, the top and bottom layers were intersected with the topography surface. • Check estimate completed through changing of grid orientation and spacing when modelling the deposit. • No deleterious elements were detected during the testing which was compiled. • No block modelling was completed as part of this resource estimate. • Grade cutting or capping was not applicable as no SiO_2 values exceeded 100%.

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	• *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.*	• There was an assumption that an increase in AlO_2 levels and moisture content indicated that the base material was clay, which indicated that this is the bottom of the hole and this was excluded from the resource estimate. • The base and the top of the resource we determined by the silica assays completed on the 3m intervals originally and from the most recent drilling program this is in 1m intervals. The maximum amount of material was classified as product that could be blended to ensure the grade was in excess of 99% silica. These heights were loaded into SURPAC 6.6.1 and modelled using an inverse distance interpolation technique.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Moisture content testing has been conducted on 8 holes which were logged in 1m intervals with samples sealed within plastic bags and then placed in canvas sample bags and were sent to ALS Townsville.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A cut-off grade of 99% silica was used to classify the Indicated and Inferred Resource Estimate.
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.*	• It is expected that a truck/shovel or dozer push to conveyor mining method would be selected subject to additional reviews which the deposit size does not constrain either of these methods. The resource was also limited to above the water table to make both of these mining methods plausible. • Dilution was not considered in the resource estimate. In some holes there was additional resource below the >99% silica floor which is slightly lower grade material and would only marginally dilute the product. • Based on the sample assays and geological logs, the top 0.3m of the deposit has been excluded from the resource estimate as it is assumed that this would be a soil and vegetation layer and would be scalped when mining the deposit.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Down hole sample compositing was undertaken to generate a single bulk sample for holes CB037, CB038, CBO047, CB048, CB053 and CB054 was completed as part of the exploration target with infill drilling and samples on downhole composites completed for the Inferred Resource. • It is assumed that the feed material for the proposed processing plant be in excess to 99% SiO_2. IHC Robins completed a bulk (1.8t) laboratory sample to determine viability of product through a one

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		stage of Mineral Technologies MG12 spiral, which yielded 99.9% SiO_2 at 88% recovery. • (CNBM) Bengbu Design & Research Institute for Glass Industry Co., Ltd December 2018 completed another bulk (0.35t) laboratory sample to determine the viability of the product as high value glass product which resulted in 78% recovery of a >99% SiO_2 raw sample to 99.9% SiO_2. • Qinfeng Mining Co Ltd (QMCL) demonstrated in small-scale the potential to increase the value of final product through additional chemical processing. • As this is an Inferred Resource estimate no metallurgical factors were considered in the resource calculation, with the bulk testing showing that >99% SiO_2 raw feed material is a suitable cut-off grade to produce a 99.9% SiO_2 processed material.
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.*	• Due to the high-grade nature of the deposit it is expected that there will be minimal tailings produced through processing and thus minimal disposal. • Environmentally sensitive areas have been excluded from the resource area. • There is a 50m offset either side of Alligator Creek which bisects East Nob Point and West Nob Point.
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.*	• 55 density samples have been undertaken on site using a Dormer Push Tube. The in-situ density of 1.62 t/m^3 was an average of the samples across the deposit and was used to calculated the Indicated and Inferred Resource estimate. Both are reported as in-situ densities with the natural moisture profile not yet determined, with further testing required to determine the dry density if/when the resource is taken to a JORC compliant reserve. Bulk Density sampling procedure and data can be found in Appendix D of this report.
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*	• The deposit has an Inferred Resource Estimate of 8.7Mt and an Indicated Estimate of 21.5Mt. • The most recent drilling campaign using 1m increments for logging and sampling through the continuity of the twinned holes to those

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	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.*	previously drilled in 3m increments shows an appropriate correlation. Over 1,100 geochemistry samples have been taken to accurately show correlation between drillholes. • The result accurately reflects the competent person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• This updated Inferred Resource Estimate and a maiden Indicated Resource Estimate. The Inferred Resource Estimate, which has been completed by separate competent persons and reviewed internally by Ausrocks Pty Ltd.
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.*	• It is the opinion of the competent person that the relative accuracy and confidence level in both the Inferred and Indicated Resource Estimate is adequate, given the drill density and continuity of geochemical samples. • The Inferred and Indicated Resource boundary is tightly constrained based on the drill density. • No production data is available at present as this is a Greenfields project. However Cape Flattery Silica Mine lies in the same adjoining coastal dunes immediately to the North, suggesting potential viability.