DIATREME Resources

ASX ANNOUNCEMENT

7 March 2019

Galalar Silica resource expanded by 22% to 26.4m Tonnes

- **Galalar Silica Project's Inferred Resource upgraded by 22% to an estimated 26.4 million tonnes (Mt) > 99% SiO_2 (silicon dioxide) following recent drilling and testing**
- **Independent analysis suggests resource capable of being further upgraded to 'Indicated' status following further bulk density sampling, providing increased confidence in quality and size of the resource**
- **Resource remains open for significant expansion to the north and east of currently defined resource area**
- **Result further boosts North Qld project amid continued demand for premium quality silica sand from growing Asian markets.**

Emerging mineral and silica sands miner Diatreme Resources Limited (ASX:DRX) announced today an expanded resource estimate for its Galalar Silica Project in North Queensland, further demonstrating the project's potential to become a source of premium quality silica sand for growing Asian markets.

Based on an independent assessment by Ausrocks Pty Ltd, the project's Inferred Mineral Resource estimate has been upgraded to **26.4 Mt > 99% SiO_2, up 22%** on the maiden resource estimate of 21.6 Mt >99% $Si0_2$ (refer ASX announcement 13 August 2018). The analysis also showed the potential for the resource to be further upgraded to 'Indicated' status, representing increased confidence in its quality, following further bulk density sampling.

Previous bulk testing results have demonstrated the project's ability to produce premium-grade silica (< 100 ppm Fe_2O_3) using standard processing techniques, meeting the requirements for high-end glass and solar panel manufacturing and capable of attracting premium prices (refer ASX announcement 9 January 2019). Excellent recovery rates were obtained for the final product, with the results also showing the potential for secondary, high-value heavy mineral sands, adding to the project's value.

Commenting on the latest results, Diatreme's CEO, Neil McIntyre said: "Our confidence in the Galalar Silica Project continues to increase and this analysis has further shown the project's potential to become a valuable source of premium-quality silica.

"Working closely with our traditional owner partners, Hopevale Congress, we aim to advance this project as quickly as possible to deliver much-needed new jobs and investment for North Queensland and increased wealth for shareholders."

Located around 200km north of Cairns, the Galalar project lies within the same sand dune system and in close proximity to the world's largest operating silica mine at Cape Flattery.

The global silica sand market is seen reaching nearly US$10 billion in annual revenues by 2022, with a compound annual average growth rate of 7.2% (source: IMARC Group).

Next Steps - Mining Scoping Study Expectations

Mining is expected to be a simple operation due to the small amount of overburden which can easily be removed, and the resource material is free digging sand dune above the water table.

An initial mining operation with annual production of 300,000 to 500,000 tonnes of high grade silica product is envisaged. Based on discussions with potential customers and the likely initial market penetration for the project this may be increased to 1m tonnes progressively.

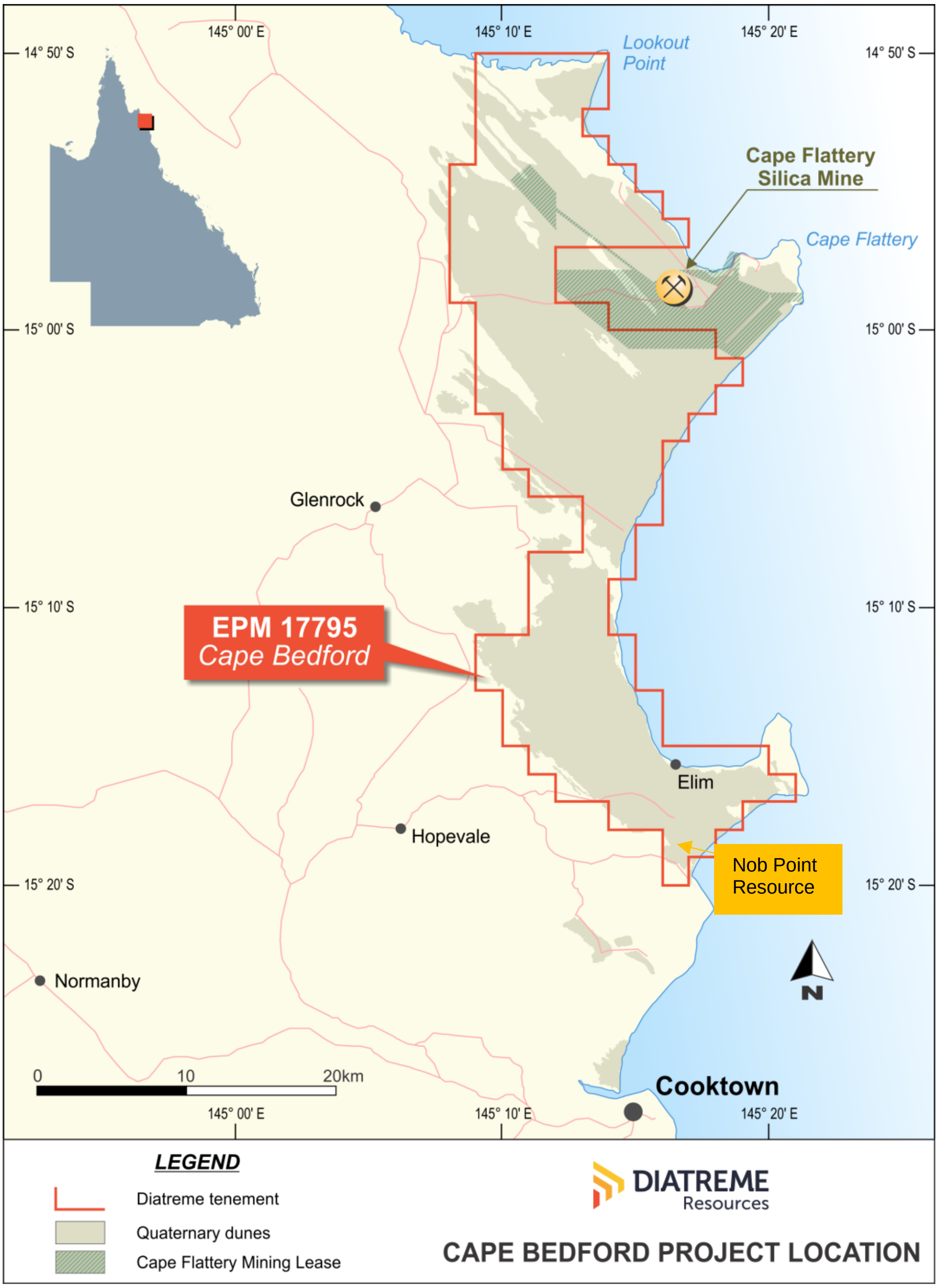
The Galalar project will initially be developed as a long-life operation of 20 plus years allowing exploration to expand further north and west in EPM17795, with the objective of identifying additional silica and heavy mineral resources.

Desk top commercial assessments are underway with a focus on identifying key infrastructure requirements for the establishment of export and product loading facilities.

Discussions have commenced with key regulatory and permitting agencies to define the project scope, environmental impact and pathway to final permitting approvals. Ongoing advanced discussions with potential offtakers indicate a ready market into Asia for sub 100ppm Fe (Low iron) 99% plus SiO_2 Silica product.

Note: Any potential mining activity including its scope and size is conceptual only at this point as the Company is progressing through various internal and specialist consultant studies focusing on permitting and approvals, environmental and infrastructure assessments.

Fig 1. Cape Bedford Exploration Tenement and Resource Area



Excerpt - Galalar Silica Project – Updated Inferred Estimate
Prepared by Ausrocks Pty Ltd

1. Brief Introduction

Ausrocks Pty Ltd (Ausrocks) has been commissioned by Diatreme Resources Ltd (Diatreme) to complete an Updated Inferred Resource Estimate and a Maiden Indicated Resource Estimate for their Galalar Silica Project. Previously Ausrocks undertook an Inferred Resource Estimate for Diatreme with this memorandum being an update in this report prior to finalising the Indicated Resource estimate report.

2. Additional Data

Since the previous Inferred Resource Assessment, the following data has become available that was relevant for updating the resource model and reflect the changes in the estimate:

- 30 holes drilled in November 2018 which were logged and had geochemical analysis completed in 1m increments. Of these holes:
    - 12 were twinned to confirm the validity of the previous drilling programs that had logging and geochemical sample analysis completed in 3m increments. These are represented by the original drillhole that was twinned with an A afterwards. For example, CB044, when twinned was named CB044A.
    - 18 were completed as in-fill drilling to check the continuity and quality of the resource.
- Additional surface survey data:
    - Differential GPS survey data for hole collars, as completed by Veris Surveyors Cairns
    - Aerial survey using an Unmanned Aerial Vehicle (UAV) of the site, as completed by Ausrocks.
- 699 additional geochemical sample analyses as completed by ALS Ltd.

3. Updated Inferred Resource Estimate

The resource model was previously based on various drilling, logging and assaying campaigns which was updated with the 30 drillholes from November 2018 and the 699 corresponding SiO_2 values from geochemical testing.

From the 30 drillholes logged and sampled in 1m increments, 12 holes were twinned which were compared to the existing data to validate previous drilling campaigns that were sampled and assayed in 3m increments.

There was decent correlation between the holes were appropriate data was available as some of the original holes from previous campaigns twinned were logged only for sand colour with only cream and white coloured sand undergoing geochemical sample analysis. This was due to limits to the geochemical budget during the exploration phase, and the premise that lighter colour sand would be higher in SiO_2.

From the previous model any hole that was twinned was removed from the resource as it was deemed that the new twinned holes were more accurate for the following reasons:

- They were logged in 1m increments rather than 3m.
- Complete geochemical analysis of the material down the hole (i.e some previous holes were sampled for only light-coloured material).
- Collars of the twinned holes were surveyed using a Differential GPS.

Based on the removal of the original holes that were twinned and the inclusion of the new data Table 1 shows the drillholes that were used as the raw data to create the geological model. Drillholes that have been used to model the database have been shown in Table 1. All the holes are vertical downhole which results in an Azimuth of 0° and a Dip of -90°.

Table 1 – Drillholes used in Updated Resource Estimate

Drill ID	Easting (m)	Northing (m)	Collar RL (m) AHD	Intercept Top RL (m)	Intercept Bottom RL (m)	Thickness (m)	Hole Depth (m)
CB034	315,295	8,305,744	38.2	32.2	23.2	9	27
CB035	315,190	8,305,889	46.1	43.1	22.1	21	33
CB036	315,204	8,306,004	35.9	35.6	14.9	20.7	24
CB037	315,213	8,306,114	33.7	30.7	12.7	18	24
CB038A	315,115	8,306,281	35.5	35.2	17.5	17.7	18
CB039	315,036	8,306,465	41.7	41.4	20.7	20.7	30
CB040	315,011	8,306,592	43.4	43.1	10.4	32.7	36
CB041	315,089	8,306,624	45.7	45.4	9.7	35.7	36
CB042	315,239	8,306,495	46.1	45.8	25.1	20.7	27
CB044A	314,610	8,307,424	30.0	29.7	14.0	15.7	17
CB045A	314,759	8,307,295	29.4	29.1	12.4	16.69	18
CB046A	314,898	8,307,150	30.4	30.1	9.4	20.7	21
CB047A	315,001	8,306,972	36.7	36.4	9.7	26.7	27
CB048A	315,131	8,306,827	35.1	34.1	8.1	26	27
CB049A	315,237	8,306,696	34.0	33.7	10.0	23.7	24

CB050	314,554	8,307,180	44.8	44.5	11.8	32.7	36
CB051	314,623	8,306,997	34.4	34.1	10.4	23.7	27
CB052	314,707	8,306,824	31.1	30.8	10.1	20.7	24
CB053	314,820	8,306,666	33.1	32.8	9.1	23.7	24
CB054	314,904	8,306,507	29.3	29.0	17.3	11.7	18
CB055	315,024	8,306,383	34.3	34.0	22.3	11.7	24
CB065	314,587	8,307,091	37.2	36.9	10.2	26.7	27
CB066	314,668	8,306,909	32.2	31.9	9.2	22.7	23
CB067	314,774	8,306,736	31.3	31.0	10.3	20.7	21
CB068A	314,873	8,306,602	31.7	30.7	12.7	18	21
CB069A	314,920	8,306,684	26.4	25.4	7.4	18	19
CB070	314,979	8,306,780	20.7	20.4	8.7	11.7	12
CB071A	315,055	8,306,899	35.5	35.2	9.5	25.7	26
CB072	315,174	8,306,784	34.3	34.0	13.3	20.7	21
CB073	315,117	8,306,694	37.6	34.6	25.6	9	27
CB074	315,162	8,306,587	46.0	34.0	13.0	21	35
CB075	315,000	8,306,540	45.1	36.1	15.1	21	33
CB076A	315,062	8,306,375	36.0	35.7	17.0	18.7	26
CB077	315,168	8,306,208	35.1	34.8	17.1	17.7	21
CB078	314,961	8,306,442	33.4	33.1	18.4	14.7	17
CB079	314,703	8,307,129	32.2	31.9	11.2	20.7	21
CB080	314,788	8,307,083	31.6	31.3	10.6	20.7	21
CB081	314,853	8,307,040	30.8	30.5	6.8	23.7	24
CB082	314,920	8,307,001	34.4	34.1	10.4	23.7	24
CB083A	314,953	8,307,055	32.9	32.6	10.9	21.7	22
CB084	315,104	8,305,940	43.7	43.4	16.7	26.7	30
CB085	315,039	8,306,015	35.5	35.2	11.5	23.7	25
CB086	315,004	8,306,109	30.2	27.2	15.2	12	18
CB087	314,988	8,306,193	26.8	26.5	17.8	8.7	10
CB088	314,940	8,306,285	29.3	29.0	19.3	9.7	11
CB089	314,885	8,306,361	34.1	33.8	25.1	8.7	12
CB090	314,836	8,306,447	33.5	33.2	24.5	8.7	10
CB091	314,782	8,306,533	28.2	27.9	22.2	5.7	8
CB092	314,709	8,306,609	32.0	31.7	20.0	11.7	12
CB093	314,660	8,306,683	34.4	34.1	16.4	17.7	18
CB094	314,612	8,306,743	34.3	34.0	13.3	20.7	24

CB095	314,557	8,306,811	34.1	33.8	16.1	17.7	20
CB096	314,514	8,306,873	28.2	25.2	13.2	12	19
CB097	315,268	8,305,832	41.9	40.9	35.9	5	24
CB098	315,223	8,305,930	40.3	40.0	11.3	28.7	30
CB099	315,209	8,306,060	35.4	35.1	11.4	23.7	21
CB100	315,183	8,306,161	34.6	34.3	10.6	23.7	25
CB101	315,142	8,306,249	33.4	33.1	17.4	15.7	17
CB102	315,066	8,306,635	45.6	45.3	9.6	35.7	36
CB103	315,162	8,306,717	36.1	35.1	9.1	26	27
CB104	315,202	8,306,745	33.8	32.8	10.8	22	23
CB105	315,262	8,306,652	33.5	33.2	9.5	23.7	24
CB106	314,691	8,307,372	32.3	32.0	10.3	21.7	22
CB107	314,826	8,307,222	32.0	31.7	11.0	20.7	21
CB108	315,035	8,306,619	43.2	42.9	9.2	33.7	34
CB109	315,012	8,306,501	43.9	43.6	14.9	28.7	30
CB110	314,954	8,306,734	23.0	22.7	11.0	11.7	12
CB111	314,896	8,306,646	29.5	29.2	8.5	20.7	21
CB112	314,839	8,306,641	33.0	32.7	10.0	22.7	23
CB113	314,794	8,306,702	32.2	31.9	11.2	20.7	21
CB114	314,740	8,306,780	30.9	30.6	9.9	20.7	21

The easting northing, elevation of the resource intercept top and base were input in Surpac Software 6.6.2 and modelled using inverse distance interpolation method. It should be noted that the resource was defined as the material that could be blended to create high value silica sand products (>99%).

Each of these surfaces were then turned into a Digital Elevation Model (DEM) which allowed volumes to be created between the two surfaces which were constrained by the resource boundary which was determined by:

- Distance from drillhole to the north and east, with evidence suggesting the resource is open in both directions.
- Intersection between base of resource and topography to the south.
- 50m offset from the creek to the west of the resource.

Geological work and interpretation for this assessment ascribes a deposit averaging 16.7m in thickness, up to 2,000m in length and 700m width with slightly undulating floor.

Figure 1 (below) shows the inferred resource boundary, drillholes and cross-section lines, with the cross-sections shown in Figures 2-10. Note that the naming convention for the cross-sections has been kept to align with the maiden inferred estimate lines and new cross-sections have been assigned in sequential order from the date produced**.**

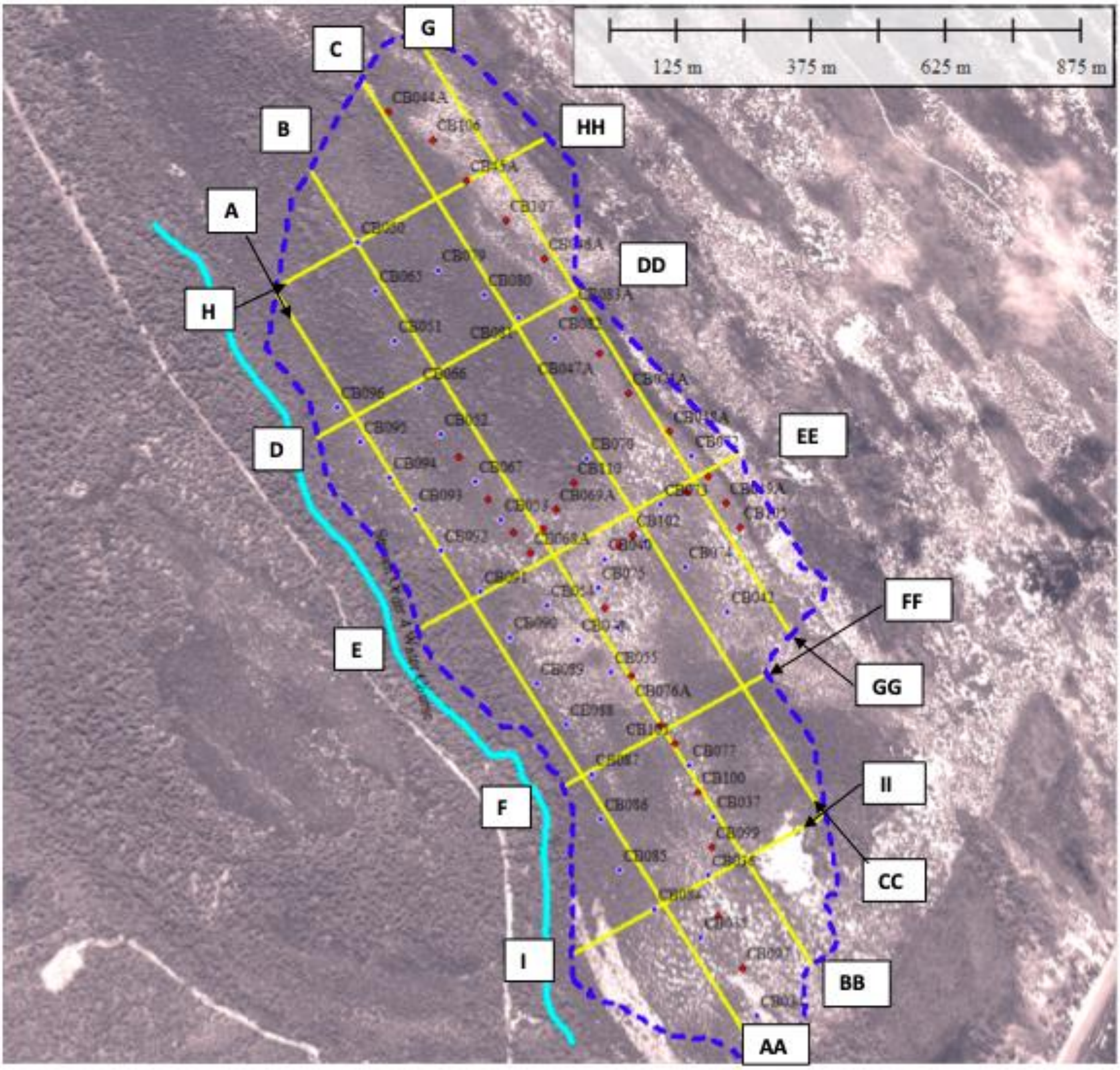


Figure 1 – Galalar Silica Project, Inferred Resource Estimate Boundary, Drillholes and Cross-Sections

Figure 2 - Cross Section A-AA

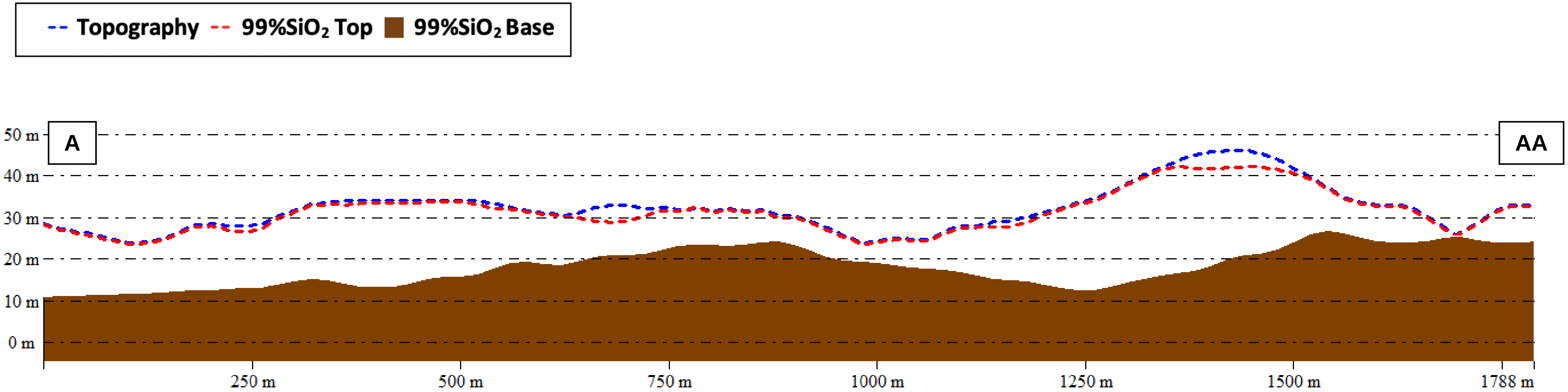


Figure 3 - Cross-Section B-BB

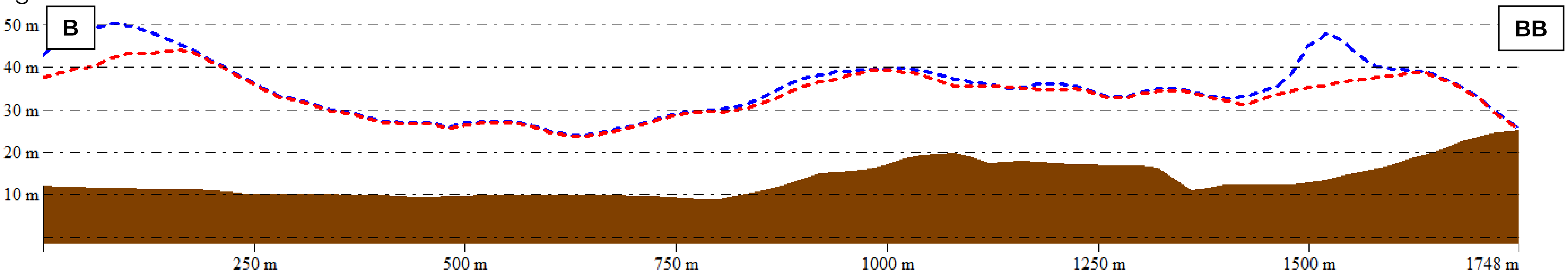


Figure 4 - Cross-Section C-CC

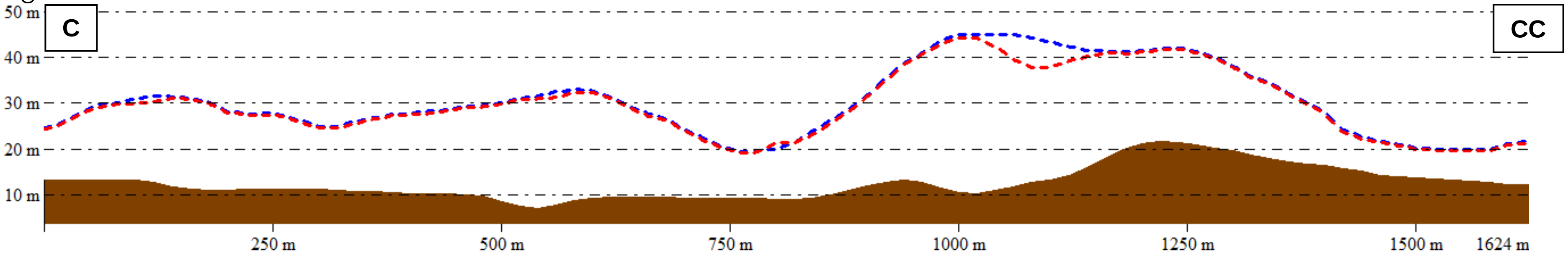


Figure 5- Cross-Section G-GG

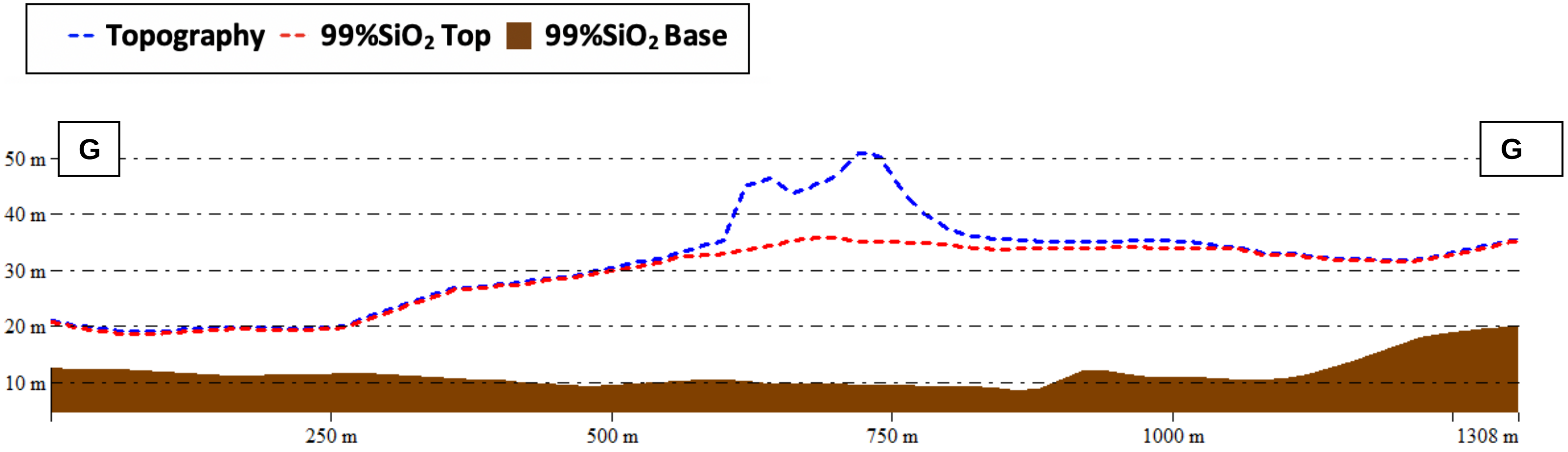


Figure 6 - Cross-Section H-HH

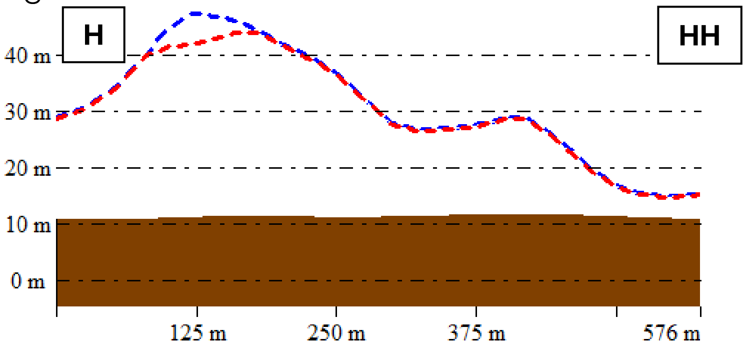


Figure 7- Cross-Section D-DD

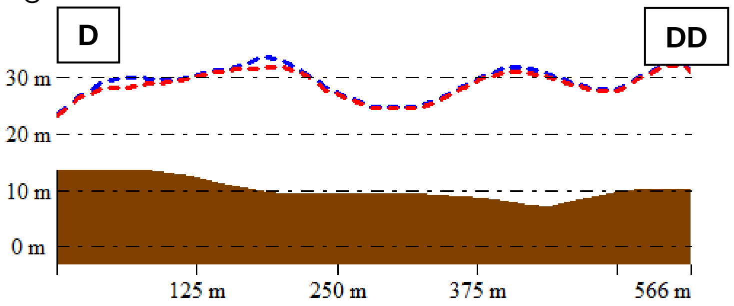
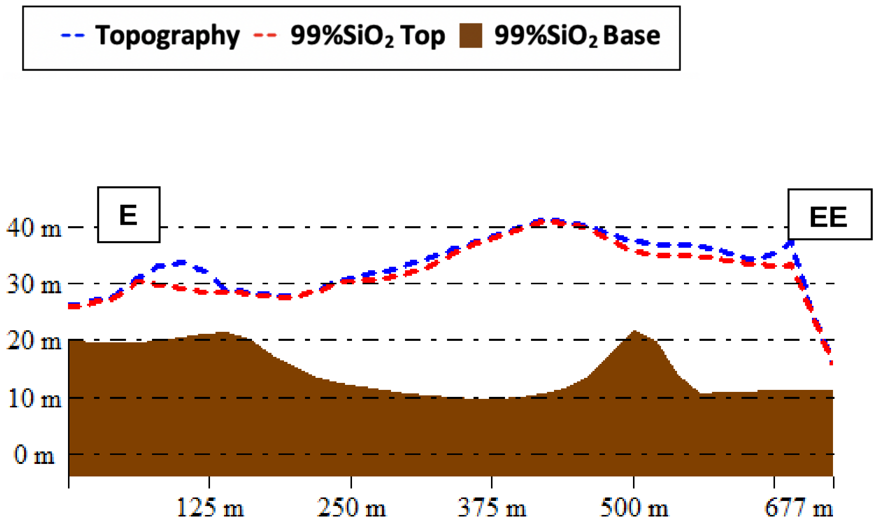
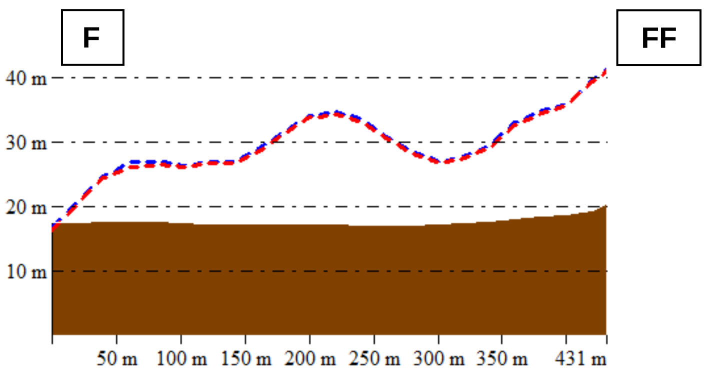


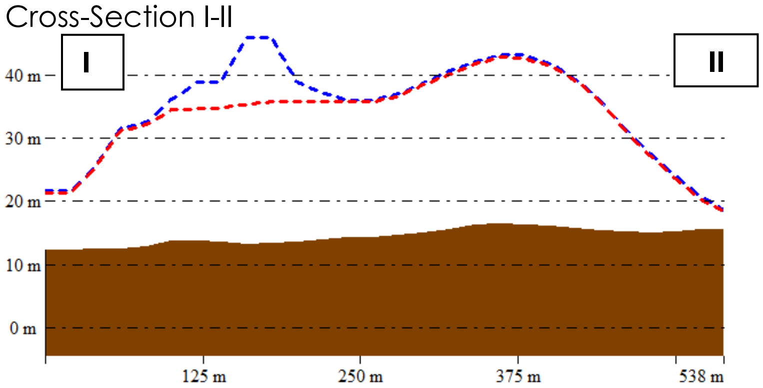
Figure 8 Cross-Section E-EE



Cross-Section F-FF



Cross-Section I-II



Cross-sections show that the top of the resource predominantly follows the topography surface with an overburden thickness ranging from 0.3m to 12m with an average overall thickness of 1.2m. The base of the resource has been modelled to the drill depth of the holes. This forms an undulating surface which varies in elevation approximately 29m over the strike length of 2,000m.

The generated surfaces were used to estimate the volume of materials between surfaces and within the Resource boundary string as shown in Figure 2. Due to there being no density testing material with a similar silica content, particle size distribution, age and colour was used for the estimate. The total in situ Resource was estimated as shown in Table 2.

Table 2 - Estimated In-Situ Volumes of JORC Compliant Inferred Resource @>99%SiO_2

	Silica Sand (Mm3)	Resource Area (Mm2)	Average Thickness (m)	Density (t/m3)	Silica Sand (Mt)
Total	16.5	0.99	16.7	1.6	26.4

The updated Inferred Resource figure of 26.4 Mt >99%SiO_2 represents an increase of 22% from the initial Inferred Resource Estimate of 21.6 Mt.

It is anticipated that due to the nature of the assessment all of the 99% silica sand volume will be used as product and therefore will be included in the Resource assessment. As such, the estimated in situ volumes are equivalent to “Mineral Resources” as defined by the JORC Code (2012).

In accordance with the JORC Code (2012) the classification of mineral resources is a function of the level of geological knowledge and confidence. With increasing level of geological knowledge and confidence the mineral resources are classified as “Inferred”, “Indicated” and “Measured Mineral Resources”. Both the geological knowledge and the level of confidence are a function of the complexity of the mineral resource and the amount of exploration/investigation carried out.

Available exploration data for the Galalar Silica Project indicates that the sand mass has a relatively uniform lithological composition and its extent and volume can be relatively easily estimated using readily available topographic data sets. Based on available subsurface information and the reliability of the geological model, the calculated mineral resources, as shown in Table 5.1 above, are considered as an in situ “Inferred Mineral Resource”.

A significant portion of the Inferred Mineral Resource has been completed on a confirmatory drilling density and would be suitable to be upgraded to an Indicated Mineral Resource estimate when bulk density sampling is made available.

End – Ausrocks P/L – Resource Report Excerpt

Diatreme's Mr McIntyre added: "Galalar's resource upgrade has added to the positive momentum for Diatreme following the positive definitive feasibility study announced late last year for our Cyclone Zircon Project (refer ASX announcement 15 November 2018).

"With demand rising for premium-grade silica and high-grade zircon and amid constrained supply, new projects will be essential to fill the supply gap and that's exactly what we plan to deliver."

Neil McIntyre
Chief Executive Officer

Greg Starr
Chairman

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Competent Person Statement

The information in this report that relates to 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 corresponding JORC 2012 Table 1 is attached to this report.

Forward looking statements: This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position and performance are also forward-looking statements. The forward-looking statements in this presentation are based on current interpretations, expectations, estimates, assumptions, forecasts and projections about Diatreme, Diatreme's projects and assets and the industry in which it operates as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made. The forward-looking statements are subject to technical, business, economic, competitive, political and social uncertainties and contingencies and may involve known and unknown risks and uncertainties. The forward-looking statements may prove to be incorrect. Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results expressed or implied by any forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements.

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JORC CODE, 2012 EDITION – TABLE 1 REPORT – GALALAR SILICA PROJECT

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).
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.*	• 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. • No relationship is evident 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.

Criteria	JORC Code explanation	Commentary
		• 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% recovery), 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). • 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).
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.*	• 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

Criteria	JORC Code explanation	Commentary
	• *Quality and adequacy of topographic control.*	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 estimation. • 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.
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 320º - 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 35º. 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 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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• A tabulation of the material drill holes is attached to this JORC Table 1, as required by the Table 1.

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*	• 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 relatively consistent, and the aggregate intercepts use a

Criteria	JORC Code explanation	Commentary
	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.*	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 will be essentially 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. • A bulk sample has been sent to IHC Robins for metallurgical bulk testing to assess the validity of raw product feed. • A second bulk sample was undertaken by the Bengbu Design & Research Institute for Glass Industry Co to determine whether the product met the specifications for high silica, high value products.
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. • No bulk density measurements have been undertaken. • 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 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

Criteria	JORC Code explanation	Commentary
		various drilling programs.
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. • A few additional drillholes within hard to access areas i.e low-lying water filled areas are planned in the next campaign of drilling. • In-situ density testing is planned to be undertaken, which will upgrade a significant portion of the Inferred Resource to an Indicated Resource.

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 a representative from Ausrocks Pty Ltd 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 competent person to verify the previous logs.
Geological interpretatio n	• *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 Inferred Resource 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. As no product specifications have been supplied, no bulk density determinations it was not considered necessary to undertake a detailed assessment of the modelling methodology.
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. • 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

Criteria	JORC Code explanation	Commentary
		20.4mRL. Depths to the resource depth range from 0.3m to 12m with an average depth of 1.1m. • The base of the resource ranges from 35.9mRL to 6.8mRL. The surface is relatively flat with a variation of 29.1m over 2,000m of strike. • Average thickness of the resource within the boundary is 16.7m.
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).* • *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.*	• 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%. • 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 Inferred Resource Estimate.
Mining factors or	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining*	• It is expected that a truck/shovel or dozer push to conveyor mining method would be selected subject to additional reviews which the

Criteria	JORC Code explanation	Commentary
assumptions	*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.*	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.*	• 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 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. • 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 from Alligator Creek to the west of the resource boundary.
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.*	• There have been no bulk density tests completed. A density of 1.6 t/m^3 in-situ density was used for converting the resource volume into tonnages, based on density tests completed on similar material by Ausrocks Pty Ltd and comparison with similar deposits. This remains

Criteria	JORC Code explanation	Commentary
	• *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.*	consistent with the assumed density for the exploration target and the initial Inferred Resource Estimate. Bulk density testing is to be completed prior to increasing the geological confidence to an Indicated Resource Estimate.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The deposit has been classified solely as an Inferred Resource. • The most recent drilling campaign using 1m increments for logging and sampling through the continuity of the twinned holes to those 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 is the second Inferred Resource Estimate, which has been completed by separate competent persons and 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 the Inferred Resource Estimate is adequate, given the drill density and continuity of geochemical samples. • The Inferred Resource boundary is tightly constrained based on the drill density. • This resource estimate is only a local estimate relative to the defined bounds of the deposit. It is expected that with additional drilling and bulk density calculations the resource can be readily increased in geological confidence and be subject to relevant technical and economic evaluation. • 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.