DIATREME Resources

ASX ANNOUNCEMENT

QUARTERLY ACTIVITIES REPORT

FOR THE PERIOD ENDED 30 September 2019

31 October 2019

Quarterly Highlights

Galalar Silica Project, Qld

- Project Scoping Study shows project's potential to become a significant near-term, low-cost and premium-quality silica producer
- Separate MOU's signed for potential supply of up to 500,000 tonnes per annum of photovoltaic grade silica sand (sub 100ppm Fe_2O_3) with private Chinese groups, Anhui Fengsha Mining Group and Wan Zhong Investment Group
- Key regional stakeholders including Hopevale Congress, government and community representatives show support for new silica sand mine capable of supplying Asia's fast-growing solar panel market.

Cyclone Zircon Project, WA

- MOU signed with Hunan Rare Earth Industry Group (HRE) for potential life of mine offtake of heavy mineral concentrate (HMC) and potential project investment
- Expression of Interest received from MCC, part of China Minmetals Group, for provision of engineering, procurement and construction (EPC) services and assistance in sourcing project finance
- **Post-quarter**: Strategic rare metal hafnium identified within zircon component of Cyclone HMC, showing potential to generate further value from Cyclone project located in zircon-rich Eucla Basin.

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COMING DECEMBER (Q4) ACTIVITIES - 2019

Diatreme's operational focus for the fourth quarter 2019 comprises the following:

- **Galalar Silica Project**

  - Further regulatory and stakeholder engagement together with environmental studies completion to support planned lodgement of Mining Lease application;
  - Further bulk product testing and product development targeting high end premium silica products;
  - Transhipment and logistics enhancement studies targeting most economical options for project with minimal environmental impact;
  - Progression towards binding offtake agreements based on discussions with project partners.

- **Cyclone Zircon Project**

  - Further advance discussions with EPC, offtake and other potential partners towards binding agreements;
  - Determination of HMC concentrate's highest commercial potential, including potential extraction of hafnium from zircon component;
  - Assemble optimum mix of commercial parties to facilitate project's development, amid rising demand for zircon and constrained supply.

GALALAR SILICA PROJECT, QLD

Located around 200km north of Cairns and 20km north of the port of Cooktown, the Galalar Silica Project (EPM 17795) lies within the same sand dune system and in close proximity to the world's largest operating silica sand mine at Cape Flattery. The Cape Flattery silica sand product is recognised as a global benchmark for quality silica sand and is widely used for industrial purposes throughout Asia.

Bulk testing results have demonstrated the project's ability to produce premium-grade silica 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).

The Galalar project has a current total Mineral Resource Estimate of 30.2 Mt (at a cut-off of 99% Sio2) including an Indicated Resource of 21.50Mt (71% Indicated, 29% Inferred) (refer ASX announcement 14 May 2019 and 9 September 2019).

A Scoping Study (refer ASX announcement 9 September 2019) has highlighted the project's potential to become a significant near-term, low-cost and premium-quality silica producer for fast growing Asian markets.

To be developed in partnership with the traditional owners, Hopevale Congress (12.5% project interest), the Galalar project has the potential to generate high-value jobs for the local community, with a focus on maximising local employment and supplier opportunities. Estimated employment is around 30 to 40 jobs in the construction phase and around 60 (employees and contractors) in production, for an operation with a projected mine life of 15 years.

Significantly, the study's financial analysis demonstrates Galalar has the potential to be a highly profitable operation, with an estimated pre-tax nominal NPV of $231 million, an IRR of 150% and estimated capital payback within a year (eight months). Total estimated development capex is $24.4m, with annual operating costs estimated at $43.5m based on the currently planned logistics program that involves trucking product from the mine site to an area 63km away, for transhipment outside Cooktown.

In addition, Diatreme has identified potential improvements that offer further enhancements to project economics, including developing a purpose-built barge ramp closer to the mine site (approx. 4 km from proposed ML area) at a location called Nob Point (subject to various Queensland Government approvals), which could offer an estimated further AU$20-25 per tonne in cost savings on current Scoping Study operating costs.

A further improvement could come from developing as a secondary silica product stream an "ultra-low iron" silica sand sub 50ppm Fe_2O_3 product, which is currently trading at a significant price multiple to the sub 100ppm Fe_2O_3 product. This is being further evaluated following testing by a China-based industry specialist at an independent laboratory.

Table 1 – Galalar Silica Project – Key Scoping Study Outcomes

TECHNICAL PARAMETERS	
ANNUAL MINING	950,000 TONNES
RECOVERY RATE	79%
ANNUAL PRODUCTION	750,000 TONNES
LIFE OF MINE (INITIAL)	15 YEARS
PAYBACK PERIOD	8 MONTHS

FINANCIAL PARAMETERS	
COMMODITY PRICE [12] (FOB)	US$75 (A$107) PER TONNE
CASH COST [3]	A$58.00 PER TONNE
START UP CAPITAL [4]	A$24.4 MILLION
LOM SUSTAINING CAPITAL	A$3.7 MILLION
NPV (PRE-TAX NOMINAL) [5]	A$231 MILLION
IRR (PRE-TAX NOMINAL) [7]	150%

Note: The study results in Table 1 should be read in the context of the "Material assumptions used in Scoping Study Outcomes" numbered below (1-15) , and the full report contained in the DRX ASX announcement dated 9 September 2019, and the cautionary statements set out in that release. .

Material assumptions used in Scoping Study Outcomes

1. Exchange rate assumption is AUD/USD FX 0.70.
2. Commodity Price is FOB – Assumes payment on delivery at vessel in Cooktown Port, buyer responsible for shipment costs.
3. Cash costs represent all direct cash operating costs produced divided by the amount of silica produced. Direct cash operating costs include all mining, processing, transport and transhipment costs.

4. Start-up capital costs represent pre-production requirements exclusive of working capital and sustaining capital.
5. NPV has been discounted using a discount rate of 10% and is a pre-tax nominal calculation. NPV and IRR are discounted from ramp up of start-up capital.
6. Contingencies of 25% on capital costs and 10% on operating costs have been built into the financial model.
7. Financial model is pre-tax based, as assumptions regarding level of debt (gearing levels) or associated financing costs are undefined within this level of study and the model assumes the project is fully equity funded.
8. Commodity price assumption of USD$75 per tonne FOB Cooktown Port for "low iron" silica sand suitable for photovoltaic manufacture requirements. However, no binding offtake agreements are in place at this time.
9. Revenue is constant based on current prices and ignores any projected growth in prices over time.
10. The Galalar project has a current total Mineral Resource Estimate of 30.2 Mt (cut-off- 99% Sio2) including an Indicated Resource of 21.50Mt (71% Indicated, 29% Inferred) (refer ASX announcement 14 May 2019 and 9 September 2019).
11. Recoveries of 79% to saleable product from primary feed material.
12. The production target is 15 years of mining at a rate of 950,000 tonnes per year for a total 14.25 million tonnes of sand mined, which is 66% of the Indicated Mineral Resource (21.5 million tonnes).
13. 100% of the proposed 15 year mining activity falls within the Indicated Mineral Resource category.
14. Financial model assumes Qld Government royalties at A$0.90 per tonne.
15. Note: This level of scoping study typically has a degree of accuracy of plus or minus 30-35%.

Pricing Expectations

The Scoping Study's silica product price assumption of USD$75 per metric tonne is based on the following:

- Current project product testing to date and expectations on final product quality that clearly exceed market quality requirements (refer specifications below);

- Gathered market intelligence from various silica product offtakers and China based glass manufacturers whose product price expectation for the " low iron" silica sand product are in the range of USD$65-$85 per tonne (FOB - Cooktown) dependent on final volumes delivered , contractual commercial negotiations and final delivered product specifications.

PARAMETER	CHINA REQUIRED SPECIFICATION	GALALAR EXPECTED QUALITY
Particle size distribution	109-700 microns (24-140 mesh)	109-700 microns 98% in range
SiO2	>99.5%	99.7%
Fe2O3	<100ppm	85ppm
TiO2	<400ppm	140ppm
Al2O3	<1000ppm	500ppm

Table 2: *Photovoltaic glass specification (China) and Galalar comparison*

Annual operating costs are based on the currently planned logistics program trucking product from mine site to a laydown area (63 km away) to be based at the Marton boat ramp on the Endeavour River west of Cooktown, followed by transshipping product along the river (10 km) for transhipment at a roadstead (subject to approval) just outside the Cooktown designated port area.

The study predicts an average mine production rate of 138 tph (950,000tpa) and final production rate of 110tph (750,000tpa), with an estimated recovery rate of 79% from raw (sand) product feed.

A Mining Lease application for project is currently in a pre-lodgment process with Queensland regulatory agencies in anticipation of formal submission. Preparation of external independent environmental surveys to be used for that submission is currently underway (wet season study completed in January 2019) with the dry season studies pending.

Given the highly positive results from the Scoping Study, the Company is moving forward actively with next step environmental studies and submissions, while also advancing the permitting and approvals processes.

The Company has also identified a further three potentially significant project enhancement options to the existing study which it intends to pursue actively to further potentially improve the project's fundamental economic returns, comprising:

(1) Logistics and Infrastructure

- **Development of a purpose-built barge ramp facility closer to mine site**

The Company has identified a site some 3km from the mine site at Nob Point. Recent bathymetric surveys undertaken (checking water depths) indicate this area would be suitable for the establishment of a low intrusion barge ramp loading facility. This option will require Queensland Government consent, specifically an exemption from the Sustainable Ports Development Act (2012).

Key project stakeholders Hopevale Congress are supporting the Company to actively pursue this option through pursuing engagement with the Queensland Government and relevant line ministers and see the facility (jointly used) as an important piece of community access infrastructure.

The use of a purpose-built facility close to mine site would save an estimated $20-25/t on operating costs (significantly less transport and transhipment costs). The Company plans to actively pursue this option whilst running in parallel with the current Scoping Study development scenario.

(2) Additional high-value silica "ultra-low iron" export product

The Company has currently underway a further testing program at an independent Chinese laboratory aimed at determining if a further "ultra-low iron" sub 50ppm Fe_2O_3 product can be produced from the project. If successful, this may result in a portion of the exported product being further processed in China under a suitably negotiated tolling or joint venture arrangement.

Current pricing for this "ultra-low iron" silica product, from gathered market intelligence and interactions with potential end users is at a significant premium to the "low-iron" product, subject to final determined specifications and offtake agreements.

Whilst this market is much smaller than the photovoltaic silica market in size, it has the potential to increase significantly the average price realised for exported product if testing proves successful and a suitable further processing relationship in China can be established.

(3) Additional resource potential

Diatreme has identified exploration targets relatively close (starting within 1 km) of the Galalar Mineral Resource with the potential for exploitation using the currently planned product logistics system through Cooktown port for ship loading.

These areas (refer **Figure 1**) are Elim Road North (exploration target 100-1B Tonnes) and Elim Road South (exploration target 20 – 100mt). These areas will be prioritised for resource drilling and exploration with a view to adding potential further silica tonnage to the existing known mineral resource and potentially additional mine life extensions.

Diatreme will provide further commercial scoping and feasibility study updates regarding these project enhancement initiatives as these options progress.

Cautionary Statement: The exploration target potential grade and quantity is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Note – Refer ASX release dated 20 June 2019 "**Boost for Galalar with sampling of regional exploration targets confirming continuity of high silica grades,"** for further information on both areas and regional exploration targets within the existing tenement.

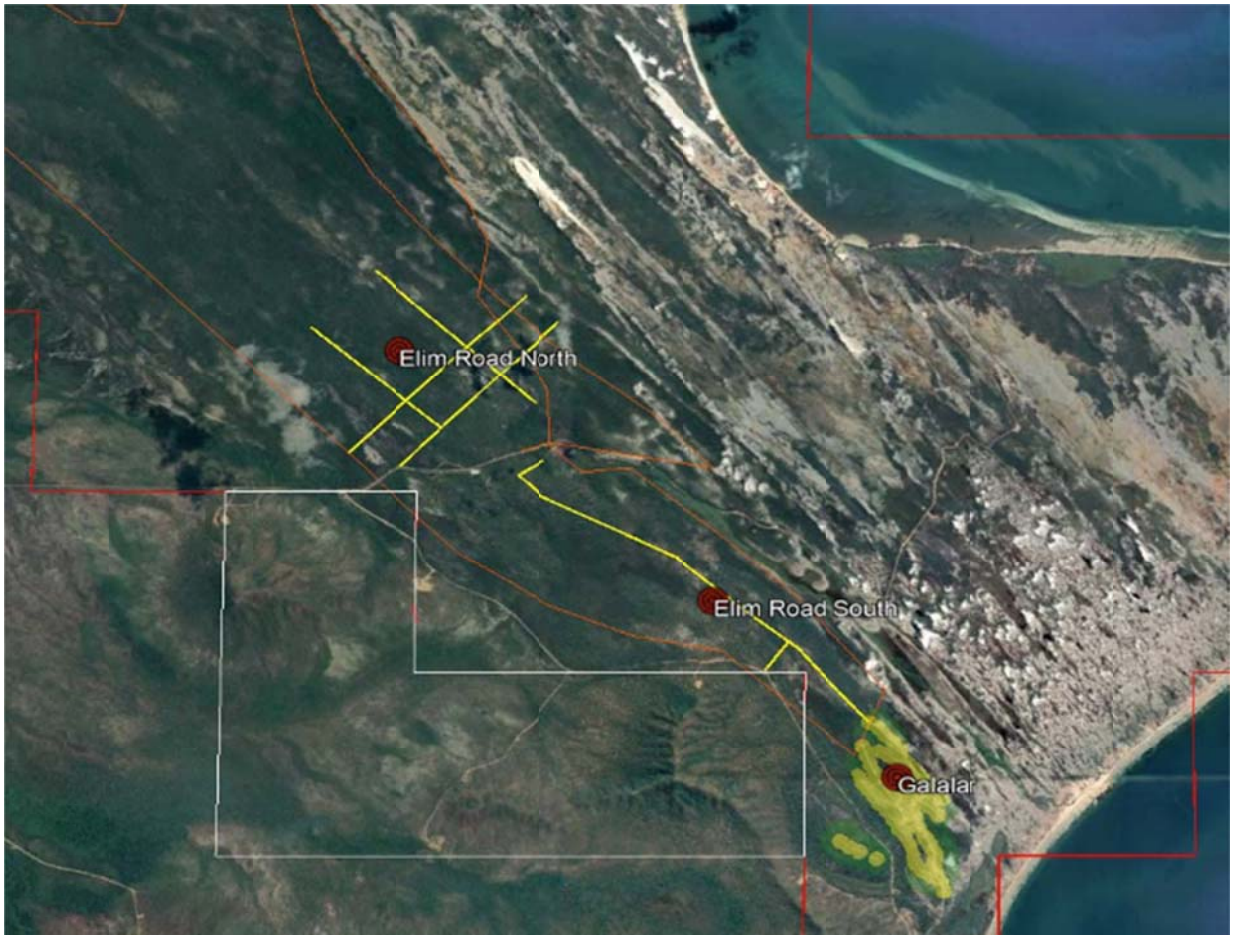

Figure 1: Elim Road North & Elim Road South showing future exploration target planned drill lines

MOU's Signed

Diatreme has signed Memorandum of Understanding (MOU) for potential project offtake with private Chinese groups Fengsha Group (refer ASX announcement 16 July 2019) and Wan Zhong Investment Group (refer ASX announcement 19 September 2019).

The agreement with Wan Zhong Investment Group is for the potential supply of up to 500,000 tonnes per annum of photovoltaic grade silica sand (sub 100ppm Fe_2O_3) to be produced on-site. This followed the signing of an MOU with Fengsha Group for the potential supply of up to 500,000 tonnes per annum of photovoltaic grade silica sand (sub 100ppm Fe_2O_3).

Both Fenghsha Group and Wan Zhong Group final offtake requirements (volumes) may be scaled appropriately to reflect targeted production outputs and are still subject to detailed negotiations and binding agreements as the project transitions through next steps (permitting and approvals) towards establishment of proposed mining activity.

Diatreme's commercial objective in entering into any early stage (pre-mining activity) non-binding offtake MOU's is as follows:

- Establish relationships with reputable parties regarding supply of its silica product;
- Access market intelligence on high end silica product specialist market requirements including product specifications;#
- Give the Company a higher degree of certainty regarding both current and expected product prices nearer production target timelines; #
- To spread offtake risk by aligning with a number of potential product offtake parties;#
- Create a competitive process for supply of product when moving to eventual production; #
- Give the Company some certainty that its potential production targets are underpinned by genuine market demand. #

While both MOU are non-binding at this stage, they set a framework for further co-operation, leading potentially to binding arrangements between the parties subject to final negotiations and the project's advancement through the next development steps. Final product pricing mechanisms will be agreed between the parties prior to signing any binding agreement.

The MOU terms are for 12 months, with the potential for mutually agreed extensions.

The Wan Zhong Group of Companies was founded in 1996 with its headquarters based in Hong Kong and its logistics, shipping and supply chain operation based in China within the Xiamen Special Economic Zone.

The Group's core business activities are in investment, warehousing, logistics and bulk materials shipping and commodity trading. Wan Zhong is a supplier and distributor to major glass manufacturers in China requiring photovoltaic (solar) grade silica (sub 100ppm Fe_2O_3) and other specialty high end silica sand specification products.

Concerning Fengsha Group, it is China's largest domestic supplier to major glass manufacturers of photovoltaic (solar) and other specialty high end silica sand products used in the manufacture of photo-electric glass, TFT glass and high end automotive paints.

Fengsha Group currently produces and markets more than 2.5 million tonnes of product. Following a recently completed plant expansion at its facility in Anhui Province and some regional acquisition activity, it is targeting production and sales to increase to more than 6m tonnes per year from 2020.

Significantly, Fengsha Group undertakes quartz hard rock extraction and processing from mining activity within the Anhiu Province, but is unable to meet the rapidly increasing demand of glass manufacturers for both higher volumes and specialty requirements. Diatreme's Galalar project is considered a potentially reliable long-term high quality supply source.

Additionally, Fengsha Group and Diatreme will undertake a further silica product testing program to examine the potential for Diatreme to supply an additional 250,000 tonnes per annum (in addition to the 500,000 tonnes) of photovoltaic quality sand for further specialised processing in the Group's state of the art facility to meet the exacting silica product (low iron) requirements of the sub 50ppm and sub 30ppm Fe_2O_3 categories used in further higher value applications.

The MOU contemplates for this additional 250,000 tonnes of product the use of the Group's existing facilities for a further chemical de-ironization process, colloquially referred to in China as "chemical pickling," a process that further removes contained iron levels and some other contaminants.

Further testing will now be undertaken to determine the existing silica product's amenability to this further beneficiation. If successful, bringing the Fe_2O_3 levels down to these lower levels has a significant multiplier effect on product sales prices. Final commercial arrangements on the further processing are subject to successful testing results, but may include a product tolling or end price profit sharing arrangement for the services provided by the Group, subject to further negotiation.

The Fengsha Group will also assist Diatreme with more detailed China market logistics planning, further product specification development, mine development and other technical assistance. Both parties will also discuss the potential for the Group to directly invest into the Galalar project.

Regional Support

Regional stakeholders including traditional owners and project partner, Hopevale Congress have shown strong support for the project's development, with its ability to deliver new jobs, investment and other economic benefits for the community of Far North Queensland.

During the quarter (refer ASX announcement 7 August 2019) Diatreme conducted stakeholder meetings in Cairns with a range of representatives, including from Queensland Government agencies, Office of Indigenous Affairs, Department of the Prime Minister and Cabinet, Northern Australia Infrastructure Fund (NAIF), Hope Vale Aboriginal Shire Council and Cook Shire Council.

An important outcome from these meetings is more direct engagement with key Queensland Government agencies and their Ministers that will allow Hopevale Congress and Diatreme as project proponents to facilitate a more focused permitting and regulatory pathway to project development.

This more direct engagement may allow Galalar a highly cost- effective development pathway and consents for project infrastructure approvals.

In further positive news for the project's environmental credentials, Diatreme has been advised by its potential offtake partner, Fengsha Group that all of Galalar's supplied project would likely be used domestically in China as part

of the Chinese Government's active program to reduce dependence on coal-fired power. This is particularly focused in regions where air quality has become a serious health issue.

Subject to appropriate independent certification, the positive environmental credits accrued from the silica product's end use in China will further validate the project's small carbon footprint. Diatreme plans to undertake further studies to determine the project's life cycle emissions and its potential to be net 'carbon neutral'.

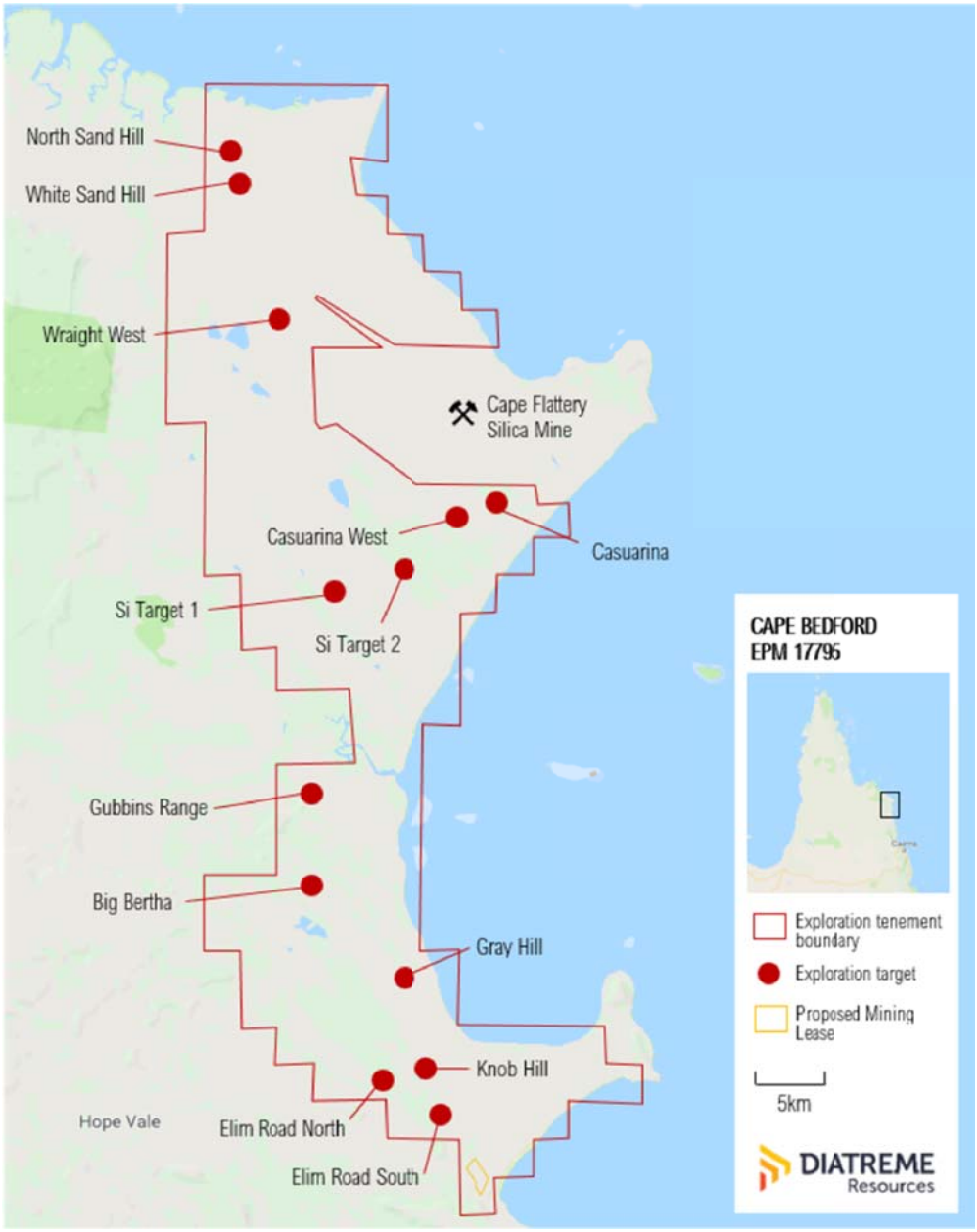

Figure 2: Galalar exploration tenement and resource area

CYCLONE ZIRCON PROJECT, WA

Discovered in 2007, the Cyclone Zircon deposit is located along the Barton shoreline within the Wanna Lakes area of the northern Eucla Basin, 25 kilometres from Western Australia's state border with South Australia and 220 kilometres north of the transcontinental railway.

In November 2014, Western Australia's Department of Mines and Petroleum granted a Mining Lease (M69/141) for the project, which followed the signing of a Project Agreement with the traditional owners, the Spinifex People. In January 2017, the project received final ministerial consent allowing for the development of a mineral sands mine and associated infrastructure.

A Definitive Feasibility Study was completed in November 2018 by China ENFI Engineering Corp., part of the leading China Minmetals group, reaffirming Cyclone's potential as the largest undeveloped zircon dominant heavy minerals project in the world-class Eucla Basin (refer map below).

During the September quarter 2019, Diatreme announced new proposed agreements for Cyclone, with demand heating up for its high grade zircon-dominant HMC product (refer ASX announcement 5 August 2019).

The agreements follow January's appointment of independent corporate advisers Blackbird Partners (refer ASX announcement 23 January 2019) with the aim of extracting maximum value for shareholders from Cyclone, one of only a handful of major zircon-rich discoveries over the past decade.

Diatreme continues to engage in detailed discussions with a range of other potential project participants in addition to these identified parties. Amid strong interest in Cyclone, the Company can advise the following non-binding agreements concerning the Western Australian project:

(1) MOU with China's Hunan Rare Earth Industry Group Ltd (HRE)

HRE, whose parent holding company is Hunan Gold Corporation Ltd (see below) has executed a non-binding MOU with particular interest in HMC product offtake. Key terms include an immediate progression to more binding agreements, and examination of the potential for direct project participation (investment).

Specifically during the current negotiation process, HRE expressed its interest in acquiring 100% of available HMC for the life of the mine (LOM), which is under further consideration by Diatreme.

(2) Expression of interest (EOI) from MCC International Corporation Ltd (MCC)

MCC, part of the China Minmetals Group has expressed interest in providing engineering, procurement and construction (EPC) services to Cyclone, in addition to assisting in sourcing suitable (Chinese banks and lending institutions) project finance to facilitate development. Key terms include both parties advancing towards more binding agreements, subject to suitable negotiations.

MCC has a representative office in Perth, has undertaken EPC contracts for a range of resource projects in Western Australia and hence is familiar with Australian standards and requirements of the resource sector.

Additionally, China Minmetals group company, China ENFI Engineering undertook Cyclone's definitive feasibility study (refer ASX announcement 15 November 2018), making it well immersed in the project.

Cautionary Note: *The Company notes both the MOU and EOI are non-binding at this stage and whilst both parties have agreed to move forward in good faith, there is a material uncertainty as to whether these will lead to more binding agreements.*

Next steps for Cyclone

Diatreme is focused on achieving the following goals for Cyclone:

- Advancing discussions to potentially binding agreements with both HRE and MCC, providing suitable final terms are agreed;
- Progressing discussions with other interested parties;
- Assembling the final commercial mix of parties into binding agreements that will facilitate commercial development of Cyclone;
- Achieving the best possible commercial outcome for Diatreme, which may include a significant interest in a fully developed project generating ongoing revenues for the Company.

Development timeline

Diatreme is working towards a detailed understanding on which parties will be participating in various aspects of project development, followed by formal binding agreements being put in place.

The Company will keep the market informed as these negotiations progress, together with any potential entry of other participants.

The agreements show the potential for Cyclone to become a profitable new mine for Western Australia, providing new jobs and investment for the benefit of the community, including the traditional owners.

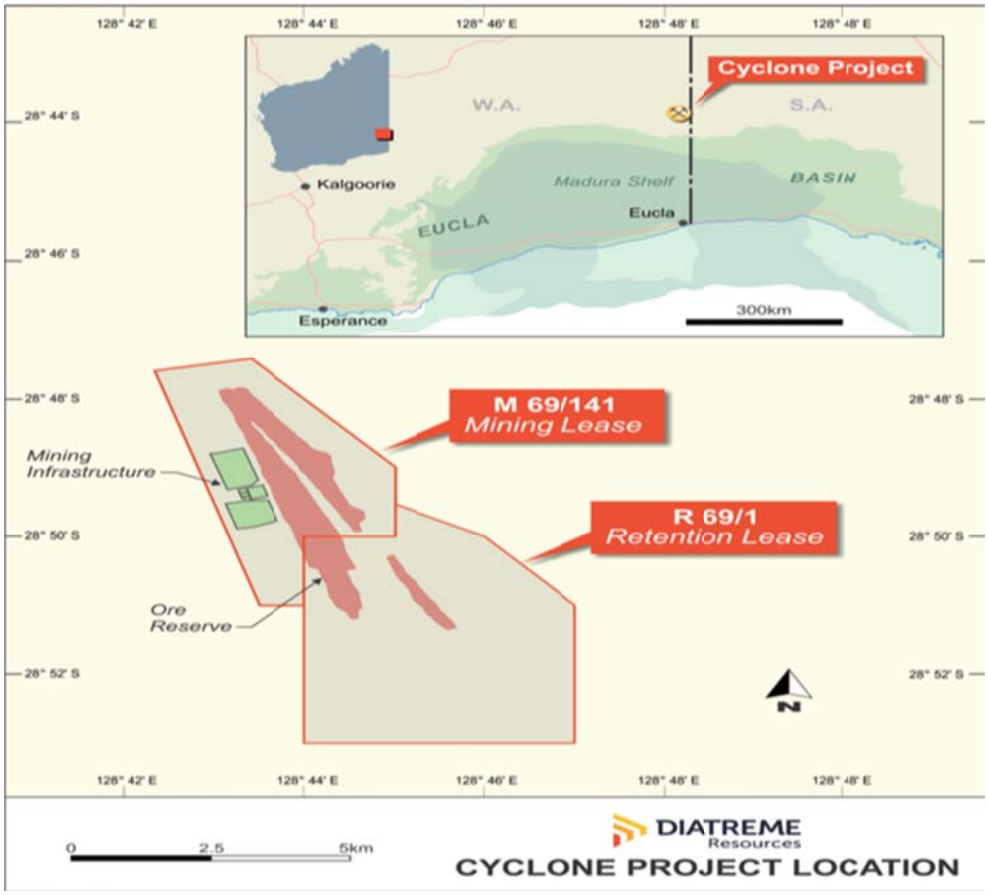

Figure 3: Cyclone project location

Strategic Metal Potential

Subsequent to quarter-end, Diatreme announced the identification by Hunan Rare Earth Industry Group of strategic rare metal hafnium (HfO2) within the zircon component of Cyclone's HMC (refer ASX announcement 10 October 2019).

Global demand for hafnium is on the rise due to its specialty usage in aerospace and industrial alloys, including for nuclear control rods, semiconductors and submarines. Yet with supply constrained following Japan's post-Fukushima nuclear plant shutdowns, prices have risen from around US$500 in 2014 to more than US$1,500 per kilogram, with further demand growth expected.

Analysts Mordor Intelligence have forecast a compound annual growth rate for hafnium demand of 7.08% from 2019-2024, driven by increasing demand from the aerospace, semiconductor and submarine industries. The United States accounts for the largest market share, consuming around 27% of the global market in 2018, largely from nuclear reactors (source: https://www.mordorintelligence.com/industry-reports/hafnium-market).

The identification of this potential opportunity occurred during detailed project offtake discussions by both HRE and DRX of the independent metallurgy reports and bulk sampling undertaken during the original prefeasibility study (PFS) and subsequent definitive feasibility study (DFS).

Diatreme is working closely with HRE to examine the establishment of specialist processing facilities to be operated by HRE in China, enabling the full exploitation of all valuable components of Cyclone's HMC.

Ultimately, the Company seeks to assemble an optimum mix of commercial parties into binding agreements that will facilitate the project's development and unlock value for shareholders.

CLERMONT COPPER PROJECT, QLD

Diatreme management and external consultants continue to review the Clermont Copper Project, particularly the Rosevale Porphyry Corridor, to determine its potential for further exploration or disposal.

EVENTS POST REPORTING DATE

Diatreme notes the mining lease tenement transfers (ML's 7094, 7096 and 7097) following sale of the Tick Hill Gold asset to Carnaby Resources Limited were confirmed complete by the Qld Department of Natural Resources Mines and Energy on the 14th of October, 2019.

Associated tenement bond of $336,844 secured by cash deposit was refunded to Diatreme account on 15th October 2019

CORPORATE

The Company's cash and liquids positions as at 30 September 2019 totaled $1,449,575*

*Note: This total comprises cash of $31,000 (Appendix 5B), security bond cash refund received in October 2019 of $336,844 and CNB shares of $1,081,731 (based on 30 September 2019 closing price).

Neil J McIntyre
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MINERAL SANDS AND SILICA - COMPETENT PERSON STATEMENTS

The information in this report that relates to Mineral Resources at the Cape Bedford Project is based on information compiled by John Siemon from Ausrocks Pty Ltd who has significant experience in Industrial Minerals and Quarry Resource assessments. John Siemon 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). John Siemon 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 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, insofar as it relates to Mineral Resources at the Cyclone Project is based on information compiled by Mr Ian Reudavey, who was a full time employee of Diatreme Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Reudavey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has 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 Reudavey consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report, insofar as it relates to Ore Reserves at the Cyclone Project is based on information compiled by Mr Phil McMurtrie, who is a director of Tisana Pty Ltd (a consultant to Diatreme Resources Limited), and a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has 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 McMurtrie consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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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APPENDIX 1

Appendix 1 provides information required under ASX listing rule 5.3.3 for mineral exploration entities.

Interest in mining tenements at end of quarter

State	Tenement Name	Tenement ID	Status	Location	Interest	Holder
WA	Cyclone	M69/141	Granted	Eucla Basin	100%	LSPL
WA	Cyclone Extended	R69/1	Granted	Eucla Basin	100%	DRX
QLD	Clermont	EPM17968	Granted	Clermont	100%	CHAL
QLD	Cape Bedford	EPM17795	Granted	Hopevale	100%	DRX
QLD	Cape Bedford	EPM27212 EPM27265	Applications	Hopevale	-	-
QLD	Tick Hill	ML7094	Granted	Duchess	100%	DRX*
QLD	Tick Hill	ML7096	Granted	Duchess	100%	DRX*
QLD	Tick Hill	ML7097	Granted	Duchess	100%	DRX*

Beneficial percentage interests held in farm-in or farm-out agreements at end of quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter	Comments
WA	Cyclone Zircon Project	Farm-out Heads of Agreement	LSPL and Perpetual Mining Holding Limited	94%	HoA announced Jan 2014, initial 6% farm-out completed 18 Sept 2014
QLD	Tick Hill Gold Project	Sale of tenements (ML 7094, 7096, 7097)	DRX and Carnaby Resources Limited (CNB)	100%	Sale to CNB completed 23 April 2019. Note - Final regulatory transfer of ML's completed on 14th October 2019
		Farm-out and Joint Venture Agreement	DRX and Superior Resources Limited (SPQ)	0%	Agreement between DRX and SPQ terminated 11 Mar 2019

* Diatreme notes final tenement transfers effected by regulator post reporting period on the 14th October, 2019.

Abbreviations:

M	Western Australia	Mining Lease	DRX - Diatreme Resources Limited
R	Western Australia	Retention Licence	CHAL – Chalcophile Resources Pty Ltd
EPM	Queensland	Exploration Permit for Minerals	LSPL – Lost Sands Pty Ltd
ML	Queensland	Mining Lease	

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).

Criteria	JORC Code explanation	Commentary
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 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 (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 Townsville. • Samples were delivered direct to ALS in Townsville.
Audits or	• *The results of any audits or reviews of sampling techniques and data.*	• The updated Inferred Resource Estimate is based on updated

Criteria	JORC Code explanation	Commentary
reviews		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* 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*	• 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
	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 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

Criteria	JORC Code explanation	Commentary
		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.
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.

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 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.

Criteria	JORC Code explanation	Commentary
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).* • *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*	• 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

Criteria	JORC Code explanation	Commentary
	available.	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 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

Criteria	JORC Code explanation	Commentary
		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 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 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 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	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach*	• It is the opinion of the competent person that the relative accuracy and confidence level in both the Inferred and Indicated Resource

Criteria	JORC Code explanation	Commentary
accuracy/ confidence	*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.*	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.