

# ASX ANNOUNCEMENT

11 April 2019

## Regional exploration identifies new silica targets, plus new heavy minerals discovery at Galalar

- **Results from March 2019 regional exploration program confirm target areas for resource extensions at Galalar Silica Project for high purity silica sand, as well as newly identified Heavy Mineral Sands (HMS)**
- **Sampling confirms Elim Road North Prospect and Elim Road South Prospect contain high-quality, high purity silica sands, with potential to add to existing Galalar Silica resource along the same dune system**
- **Exploration reveals HMS exploration target at Gubbins Range, containing significant TiO<sub>2</sub> levels (up to 1.17% TiO<sub>2</sub>), with the potential for a major new HMS discovery**

Prospects for a new silica mine in North Queensland continue to strengthen, with emerging silica sands explorer and developer, Diatreme Resources Limited (ASX: DRX) announcing today new exploration targets at its Galalar Silica Project, including both high-quality silica sands and potentially a major new Heavy Minerals Sands (HMS) discovery.

### Regional Exploration Results

In March 2019, Diatreme completed an initial helicopter sampling program of all the target sand dunes (refer Fig 1.). Sampling was completed using a sand auger to vertically drill test a nominal 1m sample interval below the identifiable topsoil layer. A 1m sample was deemed sufficient for a first pass program. Generally, at least 2 samples were collected at most sample locations, at least 100m apart to determine potential variation in the sand dune. Bagged samples were dispatched to independent laboratory ALS in Townsville for detailed analysis. Analysis is used to determine SiO<sub>2</sub>, heavy minerals, iron and for selective samples further particle size distribution analysis.

Test Results now received from the testing program confirm high purity silica sand in the priority target areas as well as highlighting significantly elevated TiO<sub>2</sub> within the Gubbins Range sand dune system. Key outcomes from the regional exploration/sampling program include:

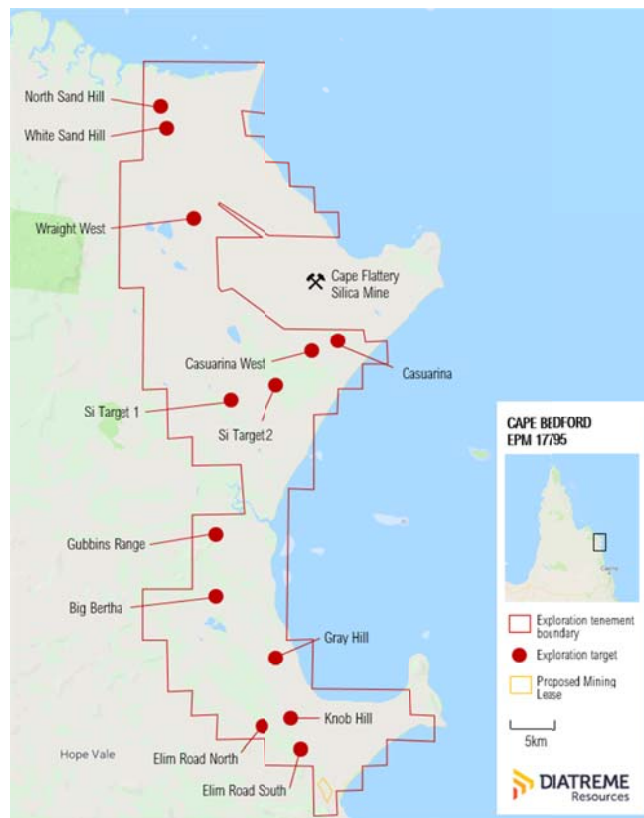
- **Potential Existing Resource Extensions - Elim Road North & South – High Purity Silica Sands:** Sampling of the sand dunes where accessible returned high SiO<sub>2</sub> results, including a high of 99.67% in situ purity and

averaging 98.95% SiO<sub>2</sub> over the whole sampling area. This confirms the aerially large dune system could potentially host a large and significant occurrence of high purity silica sand. These areas will continue to be prioritised for their potential to add significant additional high purity silica resource to the existing discovery.

- **Heavy Minerals - Gubbins Range HMS:** Sampling highlighted elevated TiO<sub>2</sub> within the dune system immediately east of the Gubbins Range. Gubbins Range is a large basement high which forms the western boundary to the sand dune system to the south of the Mclvor River (see Figure 2).

The Gubbins Range dune system consists predominantly of longitudinal sand dunes, all of which are approximately 6,000m in length and vary in height and size. The northern sand dune terminates into a large active elongate parabolic dune sometimes referred to as “Seagrens Dune” near the Mclvor River.

In all, 12 sand auger samples were collected from the Gubbins Range dune system at six locations on three of the sand dunes. TiO<sub>2</sub> percentages ranged from 0.32 to 1.17% and averaged 0.8%. This confirms historic sampling conducted in the dune system in 1981 by Essington Breen (exploration company).



**Figure 1. Galalar Exploration Tenement, Regional Targets and Existing Silica Resource Area**



## Next Steps

### Silica Resource Expansion

An exploration program is being developed to better test the Elim Road silica sand target areas as well as the Gubbins Range HMS target. This program will involve more thorough low impact coverage of target areas with sand augering testing to determine quality continuity and confirm first pass results.

Confirmation of targets will then lead to high impact targeted drilling to undertake a selective deeper sampling program to determine potential resources and testing of bulk sample mineralogy, with a particular focus on identifying the silica deposits that are capable of meeting the standards required for the high value product.

Further exploration activity is planned for early May with results, following drilling sample independent testing, to follow some weeks later.

### Heavy Minerals Strategy

The elevated TiO<sub>2</sub> (titanium minerals) and zircon minerals indicate the potential for mineable quantities of heavy minerals within the Gubbins Range dune system. Further sample metallurgical testing is immediately underway to determine the following:


- Mineral assemblage within the TiO<sub>2</sub> – to determine the potential value of the contained heavy minerals;
- More detailed metallurgical analysis to determine ease of separation of the contained mineral assemblage;
- Determine variation within the samples to examine grade and composition trends within the heavy mineral deposition at Gubbins Range deposit;
- Enable prioritisation within the Gubbins Range for further targeted exploration and drilling activity.

Results from this further minerals testing are anticipated within two to three weeks.

## Commentary

Mr McIntyre added: “Diatreme’s Galalar project is becoming a significant value driver for the Company, while our Cyclone Zircon Project in Western Australia, currently in a sale or joint venture process continues to attract investor attention amid a lack of high-quality zircon supply. The prospects for growth in shareholder value are positive in 2019 as we move to advance our key projects and becoming a leading Australian supplier of silica and mineral sands, in partnership with the projects’ traditional owners.”

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These follow from the recent upgrade of Galalar's Inferred Silica Mineral Resource estimate to 26.4 million tonnes (Mt) > 99% SiO<sub>2</sub> (silicon dioxide) (refer ASX announcement 7 March 2019). Bulk testing results have demonstrated an 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).

Located around 200km north of Cairns, the Galalar Silica Project lies within the same sand dune system and in close proximity to the world's largest operating silica mine at Cape Flattery (owned by Mitsubishi Corporation).

Diatreme's CEO, Neil McIntyre, said the new targets showed the project's potential to become a valuable source of high-quality silica along with potentially heavy minerals for fast-growing Asian markets.

"Galalar has already shown its capability to deliver a premium silica product to Asian markets, potentially for use in the manufacturing of solar photovoltaic panels, and these new exploration targets further add to its potential to become a world-class silica and heavy minerals exploration province," Mr McIntyre said.

"The new HMS target at Gubbins Range is also particularly interesting given the growing demand for heavy mineral sands and we look forward to investigating these further, for the benefit of all stakeholders."

Cape Flattery silica sand product is recognised as a global benchmark for quality silica sand and is widely used for industrial purposes throughout Asia and the world. 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).

Meanwhile, the global solar PV glass market is forecast to reach US\$48.2 billion by 2025, up from US\$3.3 billion in 2016, amid rising demand from across the Asia-Pacific along with North America and other regions, according to research by Bizwit Research & Consulting.

Diatreme announced on 25 March 2019 initial silica sands Exploration Target at Galalar, ranging from 210 million tonnes to 2.1 billion tonnes of silica (refer ASX announcement 25th March 2019).

**Cautionary Statement:** *An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.*





**Figure 2. Aerial view - Gubbins Range Dune System**

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Figure 3. Gubbins Range Dune System & Elevated HM (TiO<sub>2</sub>) test results sample sites

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**Neil McIntyre**

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## Regional Sample Testing Results

Sample ID	Easting MGA	Northing MGA	RL	From	To	Prospect	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	TiO <sub>2</sub> (%)	ZrO <sub>2</sub> (%)	LOI
190301	304477	8349156	69	0	1	Wraigh West	99.5	0.03	0.03	0.05	0.01	0.1
190302	307560	8358043	10	0	1	Lookout Point	99.47	0.04	0.02	0.03	<0.01	0.06
190303	302273	8356107	29	0	1	North Sand Hill	99.21	0.04	0.05	0.12	0.03	0.1
190304	302531	8355940	12	0	1	North Sand Hill	99.81	0.03	0.03	0.06	0.01	0.05
190305	316678	8338347	30	0	1	Casuarina Hill South	98.97	0.06	0.07	0.1	0.01	0.13
190306	316755	8338281	16	0	1	Casuarina Hill South	99.69	0.03	0.02	0.03	<0.01	0.08
190307	312706	8339766	54	0	1	Casuarina West	99.44	0.07	0.09	0.13	0.01	0.12
190308	312759	8339720	43	0	1	Casuarina West	99.34	0.04	0.04	0.06	<0.01	0.08
190309	314063	8308470	37	0.8	1.8	Elim Rd South	98.85	0.07	0.06	0.14	0.02	0.4
190310	314129	8308415	39	0.8	1.8	Elim Rd South	98.95	0.07	0.05	0.1	0.02	0.37
190311	314022	8308432	28	1	1.7	Elim Rd South	99.67	0.09	0.05	0.08	0.01	0.27
190312	310682	8312925	166	0.4	1.2	Elim Rd North	98.94	0.28	0.12	0.1	0.01	0.26
190313	310699	8312848	166	0.4	1.2	Elim Rd North	99.18	0.31	0.15	0.13	0.02	0.26
190314	311600	8315514	25	0	1	Grey Hill	99.46	0.08	0.1	0.22	0.02	0.08
190315	311497	8315609	37	0	1	Grey Hill	99.74	0.05	0.03	0.06	<0.01	0.09
190316	306188	8315223	51	0.6	1.4	Elim Rd North	98.9	0.06	0.06	0.11	0.02	0.47
190317	306183	8315157	55	0.7	1.4	Elim Rd North	98.72	0.07	0.06	0.09	0.01	0.61
190318	306354	8315328	41	0.5	1	Elim Rd North	99.25	0.05	0.04	0.1	0.02	0.67
190319	306253	8315359	44	0.7	1.2	Elim Rd North	99.39	0.04	0.04	0.08	0.02	0.45
190320	308258	8316686	88	0.7	1.3	Si Target 3	99.06	0.09	0.1	0.14	0.02	0.3
190321	308333	8316634	77	0.7	1.2	Si Target 3	99.19	0.05	0.05	0.09	0.01	0.32
190322	308224	8316765	90	0.5	1.2	Si Target 3	98.85	0.11	0.14	0.25	0.04	0.32
190323	308907	8322110	49	0.8	1.5	Gubbins Range	97.34	0.31	0.74	1.08	0.15	0.21
190324	308843	8322203	38	0.5	1	Gubbins Range	98.32	0.26	0.4	0.55	0.07	0.3
190325	308985	8322055	43	0.6	1	Gubbins Range	98.4	0.3	0.38	0.48	0.05	0.29
190326	308395	8332404	89	0	0.8	Si Target 1	99.25	0.17	0.21	0.26	0.04	0.13
190327	308567	8332420	88	0	0.8	Si Target 1	98.87	0.2	0.26	0.31	0.04	0.13
190328	312283	8335234	114	0	1	Si Target 2	99.06	0.17	0.23	0.28	0.03	0.14
190329	312357	8335153	111	0	1	Si Target 2	99.1	0.16	0.21	0.25	0.03	0.13
190330	305550	8335917	61	0	1	Si Target 1	96.54	0.26	1.03	1.58	0.2	0.12
190331	305928	8335944	62	0	1	Si Target 1	98.88	0.11	0.27	0.46	0.06	0.14

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Sample ID	Easting MGA	Northing MGA	RL	From	To	Prospect	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	TiO <sub>2</sub> (%)	ZrO <sub>2</sub> (%)	LOI
190332	316907	8339423	29	0	1	Casuarina Hill East	99.22	0.07	0.09	0.15	0.01	0.12
190333	314708	8338584	46	0	1	Casuarina Hill	99.56	0.04	0.03	0.04	<0.01	0.13
190334	306423	8326460	70	0	1	Gubbins Range	99.18	0.14	0.2	0.32	0.04	0.16
190335	306519	8326378	67	0	1	Gubbins Range	97.38	0.17	0.69	1.16	0.17	0.16
190336	306219	8325216	83	0	1	Gubbins Range	98.65	0.20	0.35	0.50	0.06	0.18
190337	305858	8320336	155	0	1	Big Bertha	99.52	0.08	0.08	0.12	0.02	0.09
190338	306056	8320297	145	0	1	Big Bertha	98.69	0.13	0.21	0.39	0.08	0.32
190339	307217	8324005	83	0	1	Gubbins Range	97.82	0.24	0.51	0.74	0.11	0.24
190340	307147	8324091	82	0	1	Gubbins Range	97.92	0.24	0.53	0.74	0.10	0.18
190341	307296	8323916	80	0	1	Gubbins Range	97.9	0.28	0.53	0.77	0.12	0.24
190342	308456	8334279	66	0	1	Si Target 1	98.95	0.29	0.16	0.15	0.01	0.14
190343	308430	8334347	73	0	1	Si Target 1	98.57	0.29	0.36	0.45	0.06	0.16
190344	307157	8340045	47	0	1	Si Target 2	99.24	0.15	0.08	0.13	0.01	0.13
190345	307091	8340026	51	0	1	Si Target 2	99.4	0.07	0.09	0.17	0.01	0.08
190346	302806	8344182	47	0	1		99.64	0.06	0.12	0.2	0.02	0.07
190347	302928	8344256	47	0	1		99.71	0.03	0.02	0.03	<0.01	0.08
190348	308151	8323747	79	0.4	1.2	Gubbins Range	97.58	0.20	0.63	1.08	0.16	0.47
190349	308229	8323652	80	0	1	Gubbins Range	97.37	0.20	0.66	1.17	0.18	0.16
190350	308081	8323818	75	0.5	1.3	Gubbins Range	97.44	0.20	0.57	0.98	0.12	0.41
190351	306720	8319681	58	0.3	0.8	Big Bertha	99.82	0.04	0.02	0.04	<0.01	0.11
190352	311262	8313137	155	0	1	Knob Hill	99.5	0.20	0.08	0.06	0.01	0.17
190353	311343	8313070	155	0	1	Knob Hill	99.25	0.20	0.09	0.09	0.01	0.11
190354	312609	8311652	107	0	1	Knob Hill	99.73	0.19	0.06	0.05	0.01	0.17
190355	308521	8310537	55	0.5	1	Elim North	99.48	0.05	0.04	0.12	0.04	0.25
190356	308467	8310558	58	0.5	1	Elim North	99.45	0.05	0.04	0.11	0.03	0.45
190357	314497	8307503	27	1	1.6	Elim South	99.41	0.08	0.06	0.14	0.03	0.29
190358	313767	8308022	54	1	1.6	Elim South	99.25	0.10	0.13	0.26	0.05	0.21
190359	313650	8308156	59	0.8	1.6	Elim South	98.67	0.44	0.32	0.16	0.02	0.59
190360	313555	8308188	64	1	1.8	Elim South	96.16	1.79	0.76	0.23	0.02	1.09

## Note

- **Gubbins Range** - high in situ HM levels

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## Competent Person Statement

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### Competent Person Statements - Silica

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

The information in this report that relates to Silica Mineral Resources is based on information compiled by Brice Mutton from Ausrocks Pty Ltd who has significant experience in Industrial Minerals and Quarry Resource assessments. Brice Mutton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code).

Brice Mutton consents to the inclusion in the report on the matters based on their information in the form and context in which it appears.

**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 Diatrema, Diatrema’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

### SECTION 1 SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Hand Auger samples of ~1m down hole intervals were collected below the interpreted topsoil horizon on sand dune..</li> <li>Sample was submitted to commercial laboratory for drying, splitting (if required), pulverisation in a tungsten carbide bowl, and XRF analysis</li> <li>Sampling techniques are mineral sands ‘industry standard’ for dry beach sands with low levels of induration and slime.</li> <li>As the targeted mineralisation is silica sand, geological logging of the auger material is a primary method for identifying mineralisation</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Sampling utilized a hand held sand auger of 50mm diameter to collect samples below the topsoil horizon</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Sand augering was used to collect a fresh sample below the soil horizon and sand samples was retrieved from the sand auger by spilling onto clean plastic sheet</li> <li>The sampling is preliminary and sampling bias was not considered and expected to be negligible.</li> <li>At this preliminary stage, no relationship is evident between sample recovery and grade</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul style="list-style-type: none"> <li>Geological logging of the total hole by field geologist,</li> <li>The total auger hole is logged; logging includes colour, grain size, sorting, induration and estimates of HM,</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Logging is captured in Excel spreadsheets, with daily update of field database and regular update of master database.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>No sub-sampling was completed, all samples were submitted for sample preparation whole.</li> <li>Sample size is considered appropriate for the material sampled.</li> <li>Where topsoil was present, it was discarded for this program as it wasn't representative of the material below in the sand dune</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling samples were submitted to ALS Townsville, where they were dried, weighed and split.</li> <li>Analysis will be undertaken by ALS Brisbane utilizing a Tungsten Carbide pulverization, ME-XRF26 (whole rock by Fusion/XRF) and ME-GRA05 (H<sub>2</sub>O/LOI by TGA furnace)</li> <li>Particle Size Distribution (PSD) analysis for grading purposes on a sub-set of samples.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Significant intersections validated against geological logging and local geology / geological model.</li> <li>Sampling is preliminary and the results are used to confirm the existence of silica sand and used to design an exploration program to better quantify silica sand quantity and quality.</li> <li>All data captured and stored in both hard copy and electronic format</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All sample were located using handheld GPS with an accuracy of 5m for X,Y.</li> <li>UTM coordinates, Zone 55L, GDA94 datum.</li> <li>Topographic surface generated from processing Stereo WorldView-3 satellite imagery and DGPS control points, collar RL's levelled against this surface to ensure consistency in the database.</li> </ul>
Data spacing	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is</li> </ul>	<ul style="list-style-type: none"> <li>Preliminary sampling pattern was designed to test the Target area generated using aerial</li> </ul>

Criteria	JORC Code explanation	Commentary
and distribution	<p>sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	<p>photography.</p> <ul style="list-style-type: none"> <li>All Target areas were tested in at least one location.</li> <li>Additional sampling was completed across the tenement where access was available.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>The dune field has ridges dominantly trending 320° - 330°.</li> <li>The drill access tracks typically run along or sub-parallel to dune ridges which suggests unbiased sampling, some cross dune tracks linking the ridges were also drilled.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Sample collection and transport from the field was undertaken by company personnel following company procedures.</li> <li>Samples were delivered direct to ALS in Townsville by DRX personnel.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>There has been no audit or review of sampling techniques and data at this time.</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Cape Bedford Project occurs within EPM17795 in Queensland and is held by Diatreme Resources.</li> <li>The tenement is in good standing</li> <li>A Compensation and Conduct Agreement, and a Cultural Heritage Agreement is in place with the landholder and native title party (Hopevale Congress)</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Previous exploration has been carried out in the area during the 1970's by Ocean Mining and 1980's by Breen Organisation.</li> <li>The historical exploration data is of limited use since it comprises shallow hand auger drilling and is typically not accurately located.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The geology comprises variably re-worked aeolian sand dune deposits associated with a Quaternary age sand dune complex.</li> <li>Mineralisation occurs within aeolian dune sands.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>A tabulation of the sand auger sample sites is presented in the main body of this report.</li> <li>All auger holes were drilled vertically (-90°)</li> <li>No topsoil was sampled</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>The assay data is presented.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• All drilling is vertical; hence the drill intersection is essentially equivalent to the true width of mineralisation.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A map of the drill collar locations is incorporated with the main body of the announcement.</li> <li>• No sections have been generated as all data is limited to near surface.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All exploration assay results have been reported at this time.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Geological observations are consistent with aeolian dune mineralisation</li> <li>• No bulk density measurements have been undertaken</li> <li>• The mineralisation is unconsolidated sand</li> <li>• There are no known deleterious substances at this time.</li> <li>• There are no known deleterious substances at this time.</li> <li>• No metallurgical test work is planned at this preliminary stage</li> <li>• Metallurgical test results from the Nob Hill Deposit nearby in the same geological units demonstrate the existence of a high-quality glass grade silica sand.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Further work is being planned and will be based on results.</li> <li>• Exploration will initially be limited to additional sand auger work to further test priority sand dunes for both sand quality and depth.</li> <li>• Positive results will result in track clearing and Air-core drilling.</li> <li>• The areas of possible extensions are considered to be potentially politically and culturally sensitive, and not appropriate for publishing at this time.</li> </ul>