ASX
ANNOUNCEMENT

2 October 2018

High-tech markets eyed for Cape Bedford silica

- **2,000m in-fill resource drilling program planned to commence during October at Cape Bedford Silica/Heavy Minerals Project, North Qld**
- **Drilling to target upgrade of maiden Inferred Mineral Resource for Nob Point Resource**
- **New offshore bulk testwork planned to confirm potential high-tech applications for high-grade silica sand**

Emerging mineral sands miner Diatreme Resources Limited (ASX:DRX) announced today plans for further exploration drilling at its Cape Bedford Silica/Heavy Minerals Project, along with additional testwork to be undertaken to identify potential high-tech applications for its high-quality silica sand.

This follows Diatreme's announcement of a maiden Inferred Mineral Resource for the project's Nob Point Prospect of an estimated **21.6 million tonnes at > 99% purity silica** (refer ASX announcement 13 August 2018) and bulk sample process testwork results confirming the project is capable of producing high-quality silica sand at **99.9% SiO_2** (refer ASX announcement 16 August 2018).

The Company is now planning to commence a further extensive drilling program at Nob Point in late October, which is being undertaken to potentially allow an upgrade of the initial resource from an inferred to an indicated or measured resource category, thereby increasing the level of confidence in the nature and size of the resource.

Diatreme's exploration drilling team are planning a program of some 100 additional air-core holes for a total target of approximately 2,000m drilling metres to be completed. This will be undertaken on a nominal 50 x 50m grid where topography allows and will potentially increase confidence in the lateral and vertical continuity of the high-grade silica sand.

The drilling program will be subject to further extensive sample testing to meet JORC code requirements for an upgrade and to allow further detailed planning for potential mining and permit application activity.

+61 7 3397 2222
Unit 8, 55–61 Holdsworth St
Coorparoo, Qld, 4151
diatreme.com.au

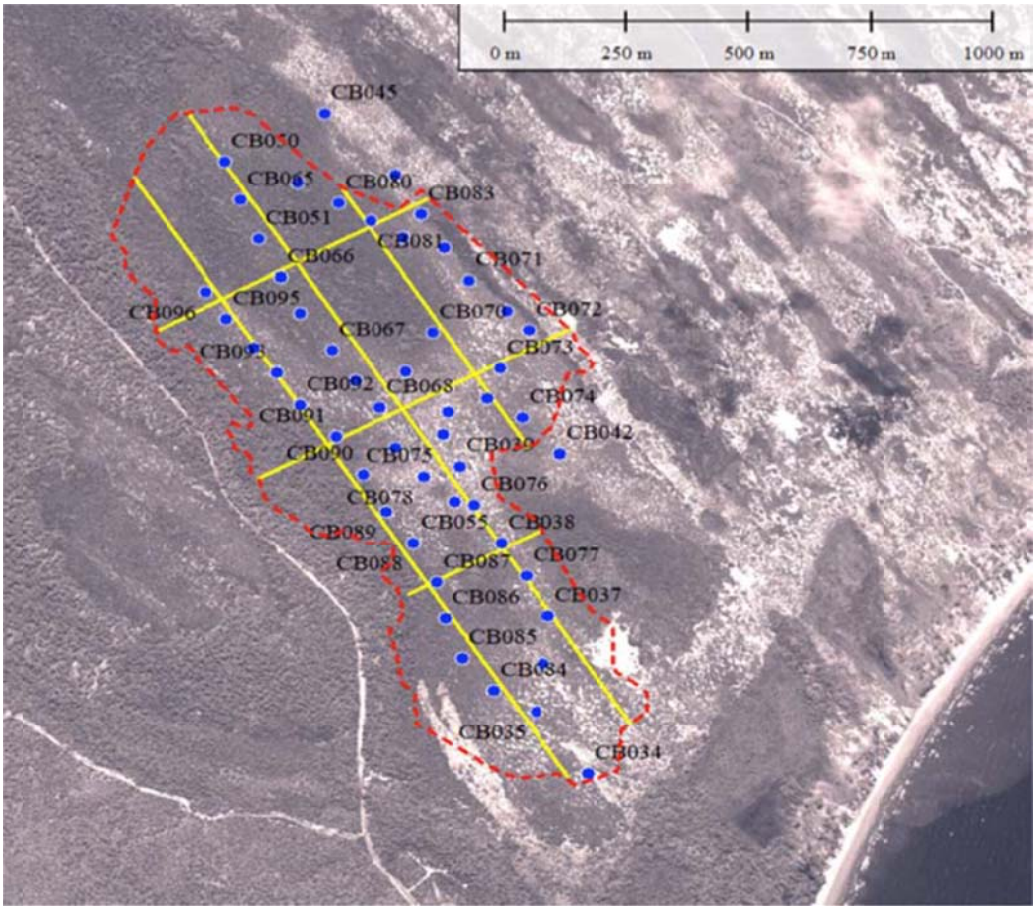

Fig 1 – Map showing drill hole locations and the Inferred Resource outline from the maiden resource (ASX release 13 August 2018)

Previous Bulk Sampling

During July 2018 (refer ASX release 16 August 2018) a 1.8 tonne representative bulk sample extracted from the Cape Bedford Inferred Mineral Resource using Diatreme's air core drill rig was submitted to IHC Robbins (IHCR) for testing, with 104 samples of an average weight of 17.3kg delivered to IHCR's process testwork facility. All material recovered from each 3m drill interval was included in the sample.

Fig 2**. Process test results for MG12 spiral separator **(silica product highlighted)

MG12	Wt	Wt %	TiO2 %	Fe2O3 %	SiO2 %	Al2O3 %	Cr2O3 %	MgO %	MnO %	ZrO2 %	P2O5 %	U XRF ppm	Th XRF ppm
Conc	2.14	3.5	1.39	0.57	97.3	0.44	0.01	0.05	0.03	0.23	0.01	0	0
Mid	5.01	8.2	0.06	0.05	99.4	0.12	0.00	0.02	0.00	0.00	0.00	0	0
Tail (Prod)	53.94	88.3	0.03	0.02	99.9	0.07	0.00	0.01	0.00	0.00	0.01	0	0
Feed	61.09	100.0	0.08	0.04	99.7	0.08	0.00	0.01	0.00	0.01	0.01	0	0

Testing Outcomes

- During testing, one pass of Mineral Technologies MG12 spiral produced a high quality (99.9% SiO2) silica product with a recovery of 88% from the Nob Point Resource

- The bulk sample testwork also demonstrated that the processing plant is likely to be relatively simple due to negligible oversize, minimal heavy minerals (0.19%), low level of slimes (3%), and excellent removal of heavy minerals on spiral separators.

Further Priority Bulk Testing

Diatreme has identified potential high-tech applications for the Nob Point silica resource following recent meetings in China with a number of high purity silica sand end users and product sales agents.

The manufacture of photovoltaic panels (solar panels) requires certain specific product characteristics which include a minimum silica content of 99.9 % and a low Fe (iron) content which gives the glass the high transparency needed for efficient operation of the panels.

Diatreme's previous bulk sample testing (as per Fig 2.) showed a Fe level of 0.02 % (200 ppm) on its primary tails product. These characteristics already meet and exceed requirements for high end float, container and automotive glass production. However further lowering of the silica's Fe level under 200ppm has the potential to attract a significant price premium as the products market usage can then expand to include solar panels , LCD and optical glass production.

Diatreme has identified a specialist independent testing lab in China that certifies a significant portion of the low Fe silica product coming into China. It has assisted a number of large international silica sand producers to access this lucrative market by providing specialist testing, certification and process design assistance.

A 350kg sample for bulk testing by this facility is currently being prepared and will be sent to China for testing and assistance in process flow sheet design to see if the Nob Point silica product's Fe levels can be reduced to a level that enables production of a low Fe high purity silica sand product.

The testing undertaken on the initial bulk sample was undertaken on a single pass spiral. However, Diatreme considers that increasing the spiral passes may further reduce the Fe content, particularly if it is determined by testing the Fe is "bound" within the heavy mineral component of the sand. The Company therefore is optimistic of achieving positive results on the new tests.

Results are expected in mid to late November, subject to the offshore testing lab's existing work programs, and Diatreme will keep the market fully informed as it progresses further.

Located 200km north of Cairns and near the world's largest silica sand mine at Cape Flattery, the Cape Bedford project has the potential to supply the fast-growing Asian markets with high-grade silica sand used in high-end glass manufacturing within the automotive, construction, electronics and other sectors. The global silica sand market is seen reaching nearly US$10 billion in revenues by 2022, with a healthy compound annual growth rate of 7.2% (source: IMARC Group).

Diatreme's CEO, Neil McIntyre said: "Cape Bedford continues to show excellent prospects as a potential source of jobs and investment for the local community and at the appropriate stage a potential revenue stream for Diatreme.

"Together with our flagship Cyclone Zircon Project, where we are currently advancing a definitive feasibility study, we intend to position Diatreme to become a new producer of silica and mineral sands products amid a favourable pricing environment of rising demand and constrained supply."

Neil McIntyre
Chief Executive Officer

Greg Starr
Chairman

Contact – Mr Neil McIntyre - Ph – 07 33972222

Website - diatreme.com.au

E-mail - manager@diatreme.com.au

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About Cape Bedford

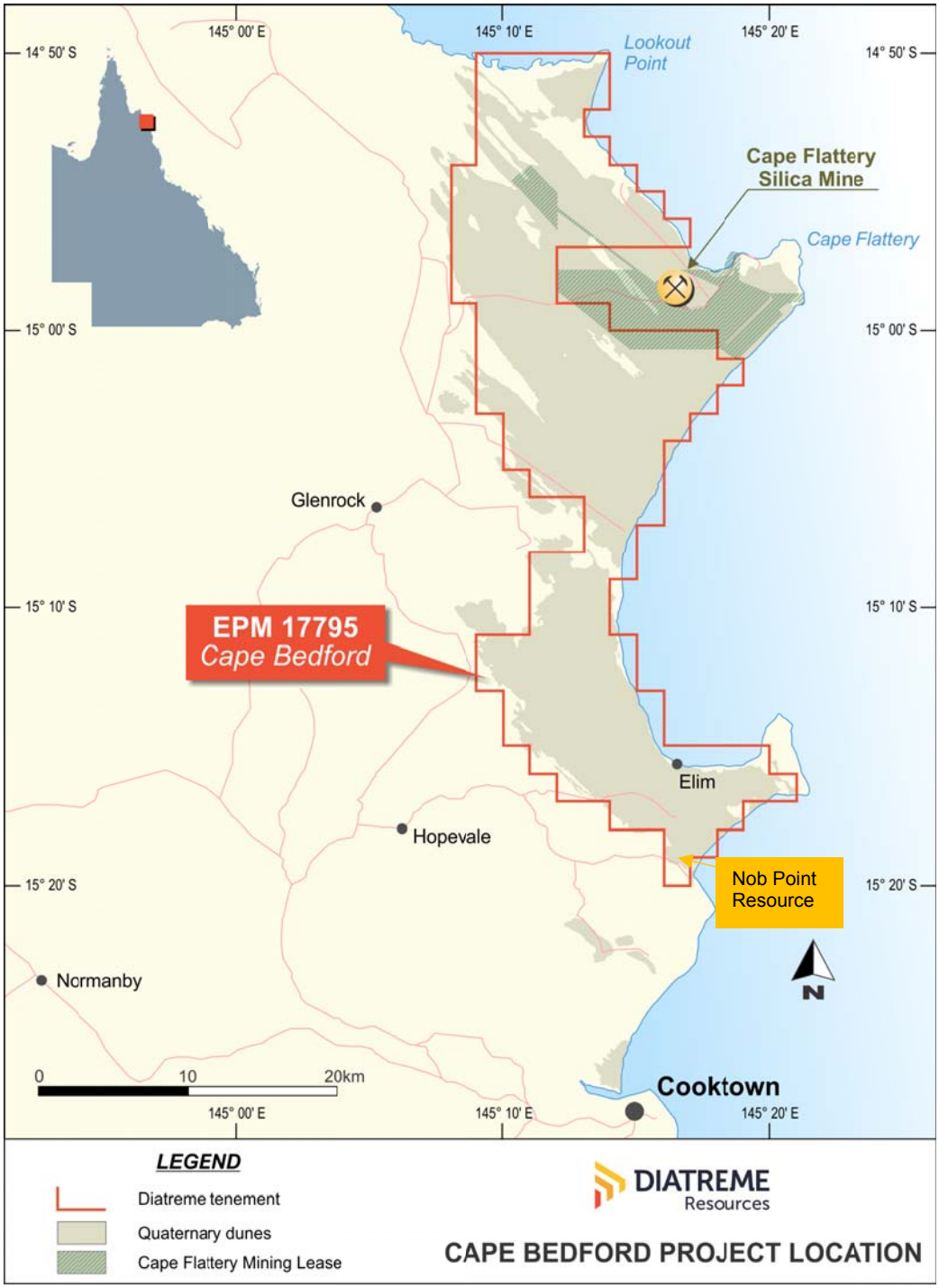
The Cape Bedford EPM17795 is located approximately 200km north of Cairns in North Queensland, and covers the extent of a large Quaternary sand dune field, part of which is currently being mined by Cape Flattery Silica Mines Pty Ltd (CFSM), a wholly owned subsidiary of Mitsubishi Corporation. Cape Flattery has operated since 1967 and is the world's largest silica sand mining operation.

The Cape Bedford/Cape Flattery region of north Queensland is dominated by an extensive Quaternary sand mass and dune field that stretches inland from the present coast for approximately 10km and extends 50km from north to south.

Historical exploration has focused on the Cape Flattery area, within the Mining Leases of CFSM, but reconnaissance exploration has been carried out over the entire dune field in the late 1960's and again in the early 1980's. This exploration confirmed the presence of both silica sand and heavy mineral sands, and Diatreme intends to build on the existing data and initially target those areas (e.g. Nob Point) where prospective silica sand dunes have been identified and access is readily available.

Following the signing in 2017 of a Conduct and Compensation Agreement and a Cultural Heritage Agreement with the traditional owners, Hope Vale Congress, Diatreme has worked closely with Hope Vale Congress to maximise the economic benefits for the local community.

In August 2018, Diatreme defined a maiden Inferred Mineral Resource for the project's Nob Point Silica Sand Prospect located in the southern area of the tenement (refer ASX announcement released 13 August 2018).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Lookout Point
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Cape Flattery
Glenrock
EPM 17795
Cape Bedford
Elim
Hopevale
Nob Point Resource
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