Diatreme Resources Limited
ABN: 33 061 267 061

ASX

ANNOUNCEMENT

ASX:DRX

CAPE BEDFORD TO TAP INTO ASIAN SILICA SUPPLY DEFICIT

Diatreme Resources Limited is an Australian based diversified mineral explorer with significant projects in WA and QLD.

The Board and senior personnel exhibit wide experience, ranging through the exploration, development and financing phases of resource project management.

Australian Securities Exchange Codes: DRX

Board of Directors Non-Executive
William Wang - Chairman
Gregory Starr
Andrew Tsang
Daniel Zhuang

Executive:
Neil McIntyre – Chief Executive

Key Projects:
• Cyclone Zircon Project
• Tick Hill Gold Project
• Cape Bedford Silica/HMS Project
• Clermont Copper Project

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Link Market Services Limited
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30 November 2017

- **Initial reconnaissance drilling completed over southern area of Diatreme's Cape Bedford Silica/Heavy Minerals Project, Qld**
- **World-class silica sand province targeted, with potential for heavy minerals also assessed amid emerging Asian silica sand supply deficit**
- **Plans for additional drilling on high-value targets, at project located near world's biggest silica sand mine**

Targeting a world-class silica province, mineral sands explorer Diatreme Resources Limited (ASX: DRX) announced today the latest drilling and project update on its Cape Bedford Silica/Heavy Minerals Project.

Situated near the world's largest silica sands mine in North Queensland, Cape Bedford could help satisfy an emerging Asian silica sand supply deficit, with high-purity silica sand becoming an increasingly strategic resource due to its usage in photovoltaic panels and other applications.

Similarly, increasing demand from Asia's infrastructure and automotive sectors for mineral sands has added to the positive outlook for the project, which is favourably positioned to access these growing markets.

Following the successful conclusion of a Conduct and Compensation Agreement (CCA) with the traditional owners, the Hopevale Congress, Diatreme has conducted an initial reconnaissance exploration program, with the results highlighting the potential for large-scale sand extraction.

Diatreme's CEO, Neil McIntyre, said: "Cape Bedford is fast emerging as a new supply source of high-quality silica sand and other heavy minerals. We are working closely with the Hopevale Congress, government and other stakeholders to maximise the value of this exciting new project for the benefit of all stakeholders."

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Cape Bedford Project Summary

*** One of the largest high purity silica exploration land packages in Australia, covering an area of 542 sq km in Queensland's Eastern Cape York region, around 200km north of Cairns**

*** Cape Bedford EPM17795 covers a large Quaternary sand dune field, part of which is currently being mined by Mitsubishi Corporation subsidiary, Cape Flattery Silica Mines Pty Ltd and is the world's largest silica sand mining operation**

*** Closest proximity high-grade undeveloped project to the world's largest silica markets in China, Japan, South Korea and Taiwan**

*** High-grade silica used in glass manufacture, foundry casting, electronics, ceramics and construction – industries in demand and growing in developing Asia, with the market expected to expand at a compound annual growth rate of 7.2% through to 2022, reaching revenues of US$9.6 billion (source: IMARC Group)**

MARKET METRICS – SILICA SAND

Silica sand is currently enjoying healthy growth, with a CAGR of nearly 8.7% in value terms from 2009 to 2016 and a market value of US$6.3 billion (source: IMARC Group). This has been fuelled by its applications across a range of industries, including glass making, foundry casting, water fibration, chemicals and metals, along with the hydraulic fracturing process. IMARC expects the demand for silica sand to exhibit a CAGR of 7.2% through to 2022, reaching revenues of US$9.6 billion.

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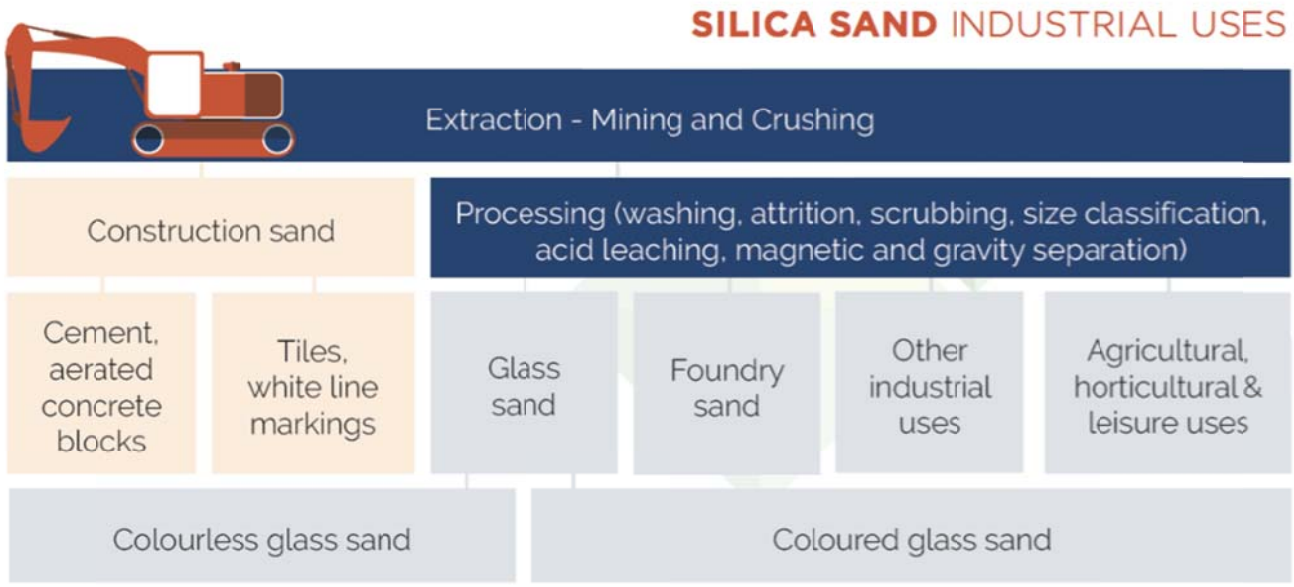
As one of the major consumers of high purity silica, the global glass market has recently realised significant growth due to increased demand from the construction and automotive markets, along with expanding per capita income and technological advancements.

Currently there are no direct substitutes for silica sand in the majority of its applications. As a result, the threat of competitor products remains low.

Expanded growth is being enjoyed in the Asian market, especially China, which is seeing rising glass manufacturing in line with construction and infrastructure growth.

Emerging economies in the Asia-Pacific region also require specialised plate glass for double glazing, with the aim of reducing energy needs. In the Asia-Pacific region alone, demand for silica sand is seen reaching 138 million metric tonnes in 2018, constituting some 47% of global demand, ahead of North America's 20% and Western Europe's 16%.



The end uses of silica sand include five major markets comprising glass, foundry, hydraulic fracturing, filtration and abrasives, as shown by the graph below:

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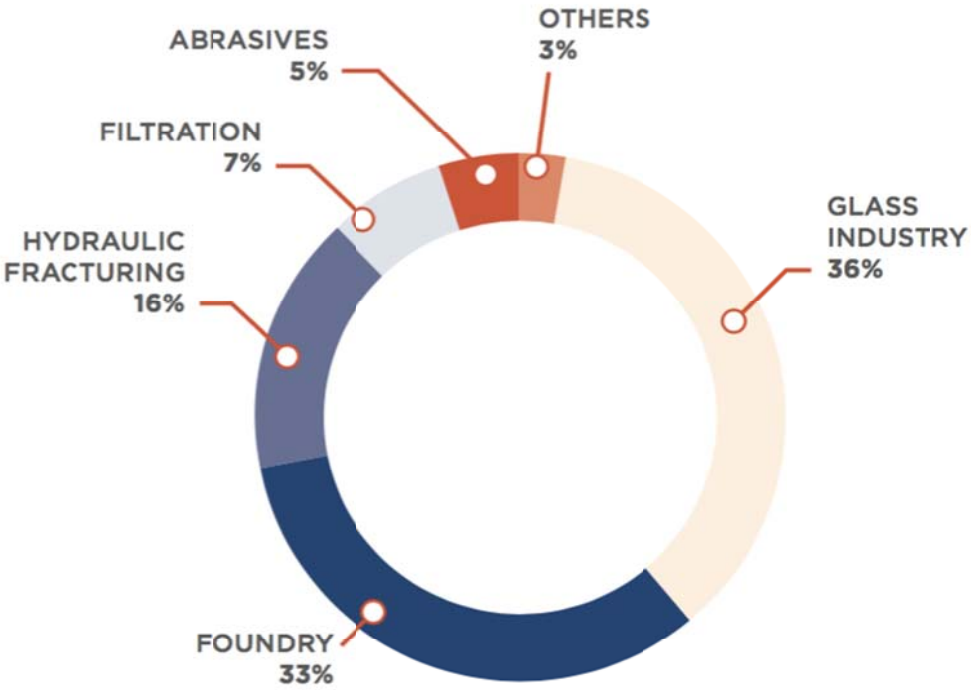

SOURCE: ANALYST REPORT & IMARC ESTIMATES

IMARC expects high growth in demand from North America, Latin America and Western Europe through to 2022 due to increasing hydraulic fracturing activities that use silica sand as a proppant, due to its low cost. Growth is also expected to be driven by emerging markets such as China and India, where the demand for silica sand in the foundry and construction industries is expected to be high.

Overall, it sees the silica sand market expanding at a CAGR of 4.2% from 2017-2022, reaching around 230.6 million tonnes and revenues of US$9.6 billion by 2022.

MARKET METRICS – CONSTRUCTION SAND

Construction sand is a major global industry, with an estimated 11 billion tonnes of sand mined for construction alone in 2010.

The primary structural component in a range of building and construction products, whole-grain silica is used in flooring compounds, roofing shingles, skid-resistant surfaces and other applications requiring packing density and flexural strength. Ground silica adds durability, anti-corrosion and weathering properties in caulks, expoxy-based compounds and sealants.

Growing Asian markets for construction sand include Singapore, where its building construction industry uses an estimated 1 million tonnes of concrete per month, including 300,000 tonnes of construction sand. Importantly for Australian suppliers, the Singapore Building and Construction Authority has placed a requirement that 5% of construction sand be sourced from non-traditional sources including Australia.

Other Asian emerging markets are also showing growth, including in India, where the nation's rapid industrialisation has raised demand for construction sand.

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Vietnam is also seeing significant growth, having changed from an exporter to an importer of industrial sand thanks to its recent building boom, with estimates by its construction ministry that it could run out of domestic supply by 2020.

Further demand growth is likely given UN estimates that there will be more than 40 “megacities” home to more than 10 million inhabitants by 2030, up from 31 in 2016, resulting in more demand for housing and infrastructure, and thereby mineral sands.

EXPLORATION OVERVIEW – 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.

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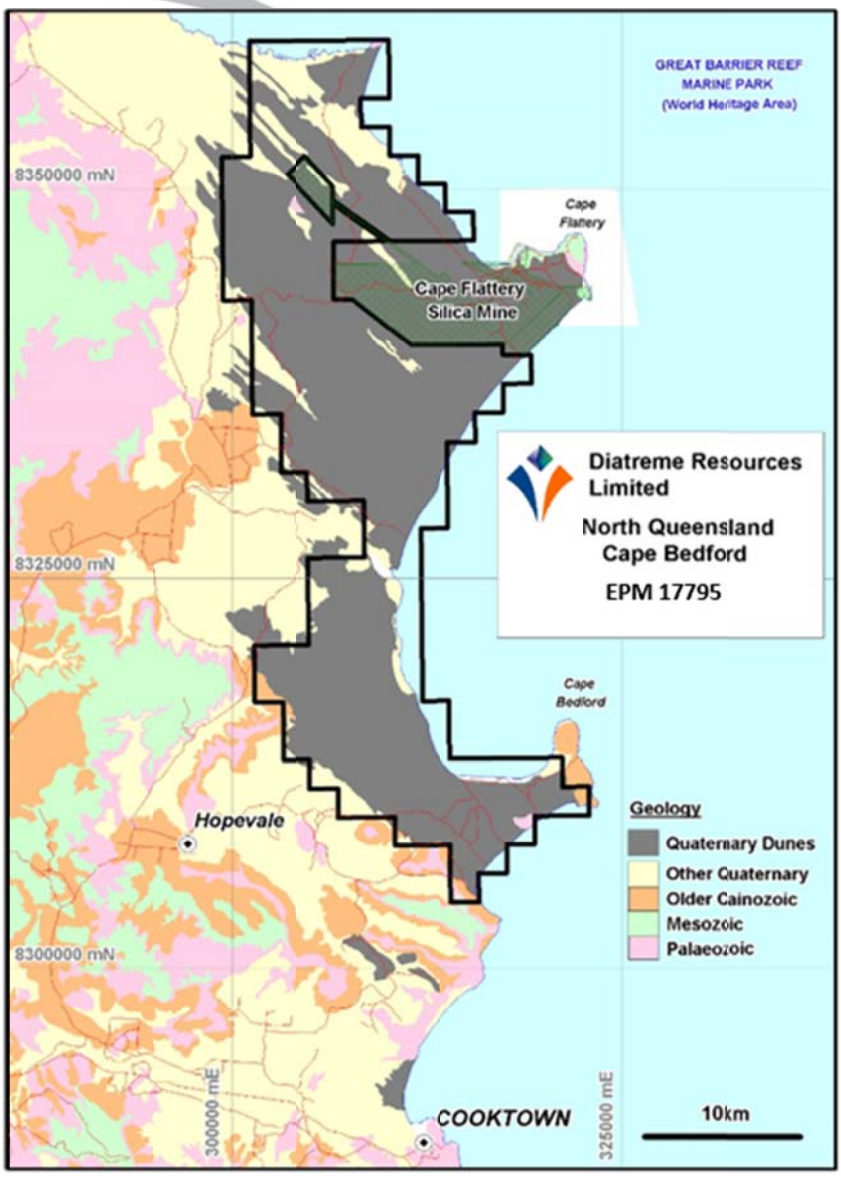

Historical exploration has focused on the Cape Flattery area, within the Mining Leases of CFSM, but reconnaissance exploration has been carried out over the entire dune field in the late 1960's and again in the early 1980's. This exploration confirmed the presence of both silica sand and heavy mineral 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.

The company executed a Conduct and Compensation Agreement (CCA) in January 2017, and a Cultural Heritage Agreement (CHA) in June 2017 with the traditional owners, the Hopevale Congress. The CCA allows access for ground disturbing exploration activity and ensures the traditional owners share in the potential economic benefits of this new project, while the CHA sets out the protocol for cultural heritage issues. Cultural heritage surveys for the first proposed exploration program were undertaken in August and subsequent exploration access granted in September 2017.

Reconnaissance Exploration – September 2017

Following the process defined by the CHA, Diatreme assisted with a Cultural Heritage survey in August 2017 over the proposed reconnaissance exploration area in the Nob Point to Elim Beach area in the

southern part of EPM17795. A reconnaissance exploration program was subsequently approved, and Diatreme commenced exploration in September 2017 utilising a Company-owned and operated air-core drilling rig. Reconnaissance drilling was planned alongside established roads and tracks, with line clearing and reconnaissance drilling also planned over a dune system in the southern part of the EPM.

The exploration program was developed based upon encouraging results from historical exploration in the 1970's and 1980's (although this was itself reconnaissance in nature), encouraging observations from Diatreme's site visits, and the ease of access due to several roads and tracks traversing the area.

During September, 29 holes were drilled along Elim Road and a related beach access track, for a total of 606m with an average hole depth of 21m. The logged geology was reasonably consistent in defining large areas of fine grained quartz sand, but sand colour was variable, with a variety of coloured sands particularly apparent towards Elim Beach. This is not surprising, as Elim Beach itself is known for its exposures of eroded high dune cliffs displaying "coloured sands".

The beach access track runs alongside a broad elongate swamp, and holes drilled here encountered quartz sands with a shallow water table (~3m) and typically white sands on surface and tannin stained light brown to brown sands below water table.

Holes drilled along the central part of the Elim Road returned good thicknesses of fine grained white quartz sands from surface, and assay results support the logging with an average 99% SiO_2 reported for the samples submitted for analysis.

A table of summary XRF assay results is presented below:

Hole_ID	East	North	RL	From	To	Int.	SiO_2	Al_2O_3	Fe_2O_3	TiO_2	LOI
	UTM Zone55L GDA			m	m	m	%	%	%	%	%
CB013	314743	8308688	18	0	12	12	99.04	0.09	0.05	0.08	0.16
CB024	314094	8309126	18	0	18	18	98.67	0.06	0.07	0.14	0.13
CB025	313869	8309318	22	0	18	18	98.89	0.09	0.08	0.14	0.14
CB026	313400	8309518	20	0	24	24	98.80	0.08	0.08	0.12	0.14
CB028	312094	8310134	29	0	18	18	98.99	0.08	0.08	0.15	0.09
CB029	311605	8310207	36	0	15	15	98.82	0.10	0.08	0.12	0.20

The assay results are considered highly encouraging in light of the fact they are as-drilled samples, with no sample preparation (e.g. washing, HM removal) as would typically be carried out for silica sands. Minor amounts of HM (ilmenite dominant) were observed during logging, as evidenced by the iron and titanium assay results reported.

Also note that CB027 was not initially submitted for analysis as it displayed a light brown sand layer with minor root material (interpreted as a paleo topsoil horizon) at 6m depth, disrupting the white sand profile which was present from surface to 18m in that hole. Samples from CB027 have now been lodged for analysis with assay results pending.

Widespread, but low-grade HM mineralisation was observed in most of the roadside reconnaissance drilling, with a visual estimate of background HM grades averaging around 0.3% for the drilled areas. However, some holes showed higher levels of HM in visual logging, and 60 samples were submitted for HM analysis to assess the economic potential of the observed HM. Significant results are shown below:

Hole_ID	East	North	RL	From	To	Int.	HM	Slime
	UTM Zone55L GDA			m	m	m	%	%
CB014	314809	8308933	23	12	18	6	0.8	3.6
CB016	315015	8309415	27	0	24	24	1.0	2.6
	including							
CB016	*315015*	*8309415*	*27*	*15*	*24*	*9*	*1.8*	*4.0*
CB028	312094	8310134	29	18	24	6	1.1	5.3

The HM mineralisation observed to date confirms the presence of HM in the region and the potential of the area to host mineralisation, but is not considered to be economically significant within the area currently being explored.

Drilling along beach access track, September 2017

Reconnaissance Exploration – October 2017

During October, 26 holes were drilled along cleared access tracks over a dune complex near Nob Point, for a total of 670m with an average hole depth of 26m. The logged geology was reasonably consistent in defining large areas of fine grained quartz sand, but sand colour was variable throughout the drilled area of the dune system, suggesting a complex depositional (and erosional) history for the dune complex.

Several large zones of white, fine grained quartz sand extending over 400m in length along the dune ridges were evident from surface down to 30m depth, and although these do not form a continuous body of white sand along the entire length of the dune ridges that were drilled, they do have potential to represent a body of sand with sufficient size that may allow large scale sand extraction for commercial purposes. Analytical results are awaited to confirm the economic potential.

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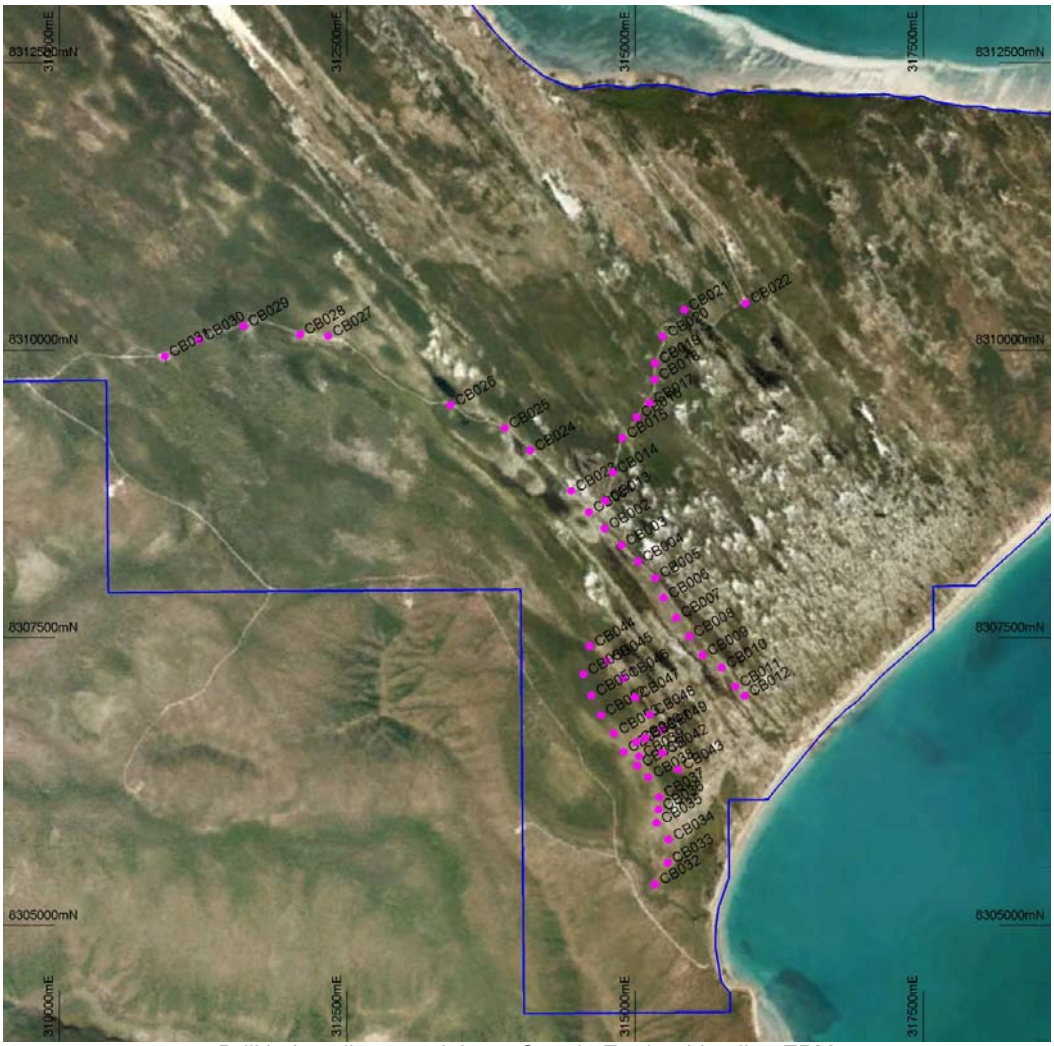
Drilling on dune feature in Nob point area, October 2017



Drill hole collars overlain on Google Earth – blue line EPM

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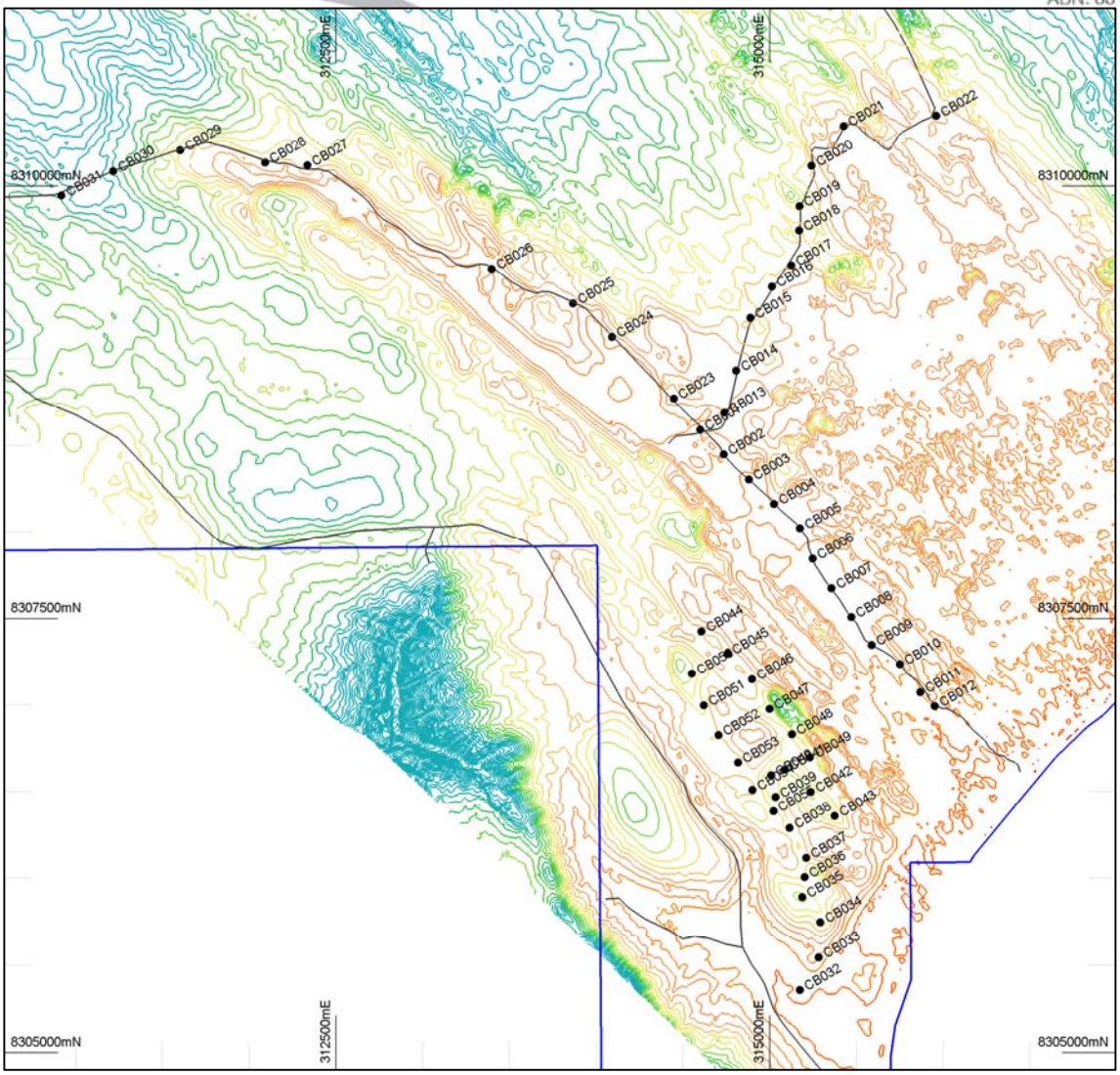

Drill hole collars overlain on 5m topographic contour data – blue line EPM, grey line road

The reconnaissance air-core drilling has allowed a general understanding of the dune geology, and returned results that confirm both the exploration potential of a significant silica sand deposit in the area, together with more localised occurrences of HM mineralisation.

Technical information relating to the reconnaissance exploration program has been previously presented as a JORC 2012 Table 1 appendix attached to the DRX quarterly activities report released to the ASX on 24 October 2017.

Detailed Sample Analysis Pending

Drill samples (76) from the October drilling program have been submitted to the laboratory for XRF analysis for silica and assay results are expected within 2-3 weeks.

Bulk samples of approximately 100kg each from six separate drill holes have been submitted for preliminary metallurgical testwork to assess the potential to generate a high-quality silica sand product from the white quartz sands intersected from the October drilling program. Unfortunately, due to the high work load in the laboratory test facility, results from this work are not expected to be available until January 2018.

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Samples have been submitted to a specialist laboratory to commence a series of tests to determine the characteristics of the Nob Point dune sand and assess its potential for use as a construction sand. Results are awaited.

Diatreme looks forward to updating the market as test results are obtained over the coming weeks as it seeks to further define the silica resource within the current exploration area.

Proposed Exploration Drilling – Southern Area

Planning for the next stage of exploration drilling in the southern EPM area is underway, with a vegetation survey planned for December 2017 to assess the presence of a threatened vegetation species within the NW extension of the Nob Point dunes drilled in October.

Approvals for exploration drilling will be dependent upon the results of the vegetation survey, but given the timeline for the vegetation survey, reporting and subsequent applications for vegetation clearing, no further drilling is likely until after the tropical wet season (late in Q1 of 2018)

Compilation of the reconnaissance data together with a high-resolution satellite image (and related topographic data processing) that was acquired in September 2017, will facilitate detailed planning for the next stages of exploration.

Proposed Exploration Drilling - Regional

During 2018, Diatreme intends to carry out regional reconnaissance drilling over accessible areas of the EPM. This proposed exploration will be subject to appropriate (cultural heritage) approvals being obtained from Hopevale Congress to proceed with exploration activity.

Diatreme has identified numerous areas of interest for both silica sands and mineral sands exploration, and will work with Hopevale Congress and government departments to gain any necessary approvals for the exploration program to be further expanded.

Summarising the Company's latest progress at Cape Bedford, Mr McIntyre said: "Cape Bedford is perfectly placed to tap into fast-growing Asian markets amid an environment of falling supply and rising prices. We see great potential for this project to become a significant producer of high-grade silica, adding to the Company's flagship Cyclone Zircon Project in Western Australia and cementing our position as a leading emerging mineral sands miner in Australia."

For further information, please contact:

Neil McIntyre, CEO

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Competent Person Statement

The information in this report, insofar as it relates to Exploration Results is based on information compiled by Mr Ian Reudavey, who is 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.