DIATREME Resources

ASX ANNOUNCEMENT

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Diatreme eyes further high purity silica sand resource expansion

- **Diatreme eyes further resource expansion at its Galalar Silica Project, targeting high priority silica sand areas near Cape Flattery**
- **Results from previous regional exploration indicate target areas could contain significant volumes of high purity silica sand in large sand dune systems**
- **Drilling programs to commence in mid-late Q1 CY2021, amid continued growth in solar PV market requiring increased supplies of high purity silica sand**

Emerging mineral and silica sands developer and explorer, Diatreme Resources Limited (ASX:DRX) announced today plans to explore two high priority silica sand areas near Cape Flattery, with the potential for further resource identification at the Company's Galalar Silica Project in North Queensland.

Diatreme has identified large silica sand dune systems in the Cape Flattery area of EPM 17795 Cape Bedford that could contain large volumes of high purity silica sands. In March 2019, a regional helicopter-based reconnaissance survey was completed to collect 1m auger samples from these target areas to confirm the sand quality was similar to the known resource areas of the greater dune system (refer ASX release 11 April 2019).

The new targets are located near the Mitsubishi-owned Cape Flattery mine, the world's largest operating silica mine, and its associated infrastructure such as port access. Significantly, these dunes could add significant silica sand to the current resource at Galalar amid continued growth in the solar PV market, requiring increased supplies of high purity silica sand.

Diatreme's CEO Neil McIntyre commented: "*These new targets offer the potential for further expansion of our total resource base and regional understanding, and we are well placed to supply the Asia-Pacific's fast-growing solar PV*

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market. We look forward to getting this new exploration program underway following the end of the wet season to determine the significance of these targets, as we look to create a long-life high purity silica sands project for the benefit of all stakeholders."

Exploration Targets

In July 2020, the volume of the potential targets was estimated using 1 second STRM contours published by Geoscience Australia. A conservative polygon was digitised using a relatively high dune floor contour to determine volume and tonnage using this RL as a floor. The floor RL was significantly higher than the observed lake (groundwater) level, providing conservative resource targets.

Figure 1: Cape Flattery target locations (Note: All targets are within the DRX granted EPM 17795).

Table 1: Priority Targets

Target Name	Volume (m3)	Density	Tonnage (t)	Priority
Casuarina Hill	10,000,000 to 75,000,000	1.62	16 to 120 Mt	1
Si Target 2	276,124,064	1.62	100 to 500 Mt (447,320,984)	1
Si Target 1	531,704,720	1.62	100 to 1,000 MT (861,361,646)	2
Casuarina West	13,128,010	1.62	10 to 20 Mt (21,267,376)	2
Wraight West	27,466,886	1.62	20 to 45 Mt (44,496,355)	3
Total			**250 to 1,685 MT (1,391,000,000)**	

Note: The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed to date to estimate a Mineral Resource in accordance with the JORC 2012 Edition Guidelines. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

***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.*

Table 1 above details the exploration priority targets ranked one to three, with one being the highest priority. Diatreme has prioritised these targets based on dune geometry, observable quality and proximity to existing infrastructure.

These target areas are difficult to explore conventionally as they are largely inaccessible from the ground. In addition, the dense and thick vegetation along with the large physical size of the dunes and distance makes physical access difficult without establishing access tracks to facilitate the entry of drilling equipment.

Diatreme is currently finalising detailed planning and site access programs to mobilise this program at the end of the first quarter 2021 (following the end of the wet season). The market will be further updated on exploration program mobilisation and upon receipt of results.

Priority 1 Target - Casuarina Hill

The Casuarina Hill target is located at the southern end of the large parabolic dune system currently being mined by Mitsubishi. The target sand dune is expected to have comparable in-situ quality and is favourably located concerning access to existing port infrastructure.

Figure 2: Casuarina Hill target area

Figure 3: Casuarina Hill boundary with CFSM Workings looking south-east

Priority 1 Target - Silica Target 2

The large parabolic sand dune has a length of 6.5km and width between 1.5 and 2 km. It is one of the largest and highest in the Cape Flattery dune field.

Two samples were collected by Diatreme in 2019 following a regional preliminary exploration program from the exposed dune in the SE corner and returned >99% SiO_2. These results suggested the aerially large dune system contains the targeted high purity silica sand and could potentially host a large and significant occurrence of high purity silica sand.

In September 2020, Diatreme announced results of a drilling program comprising 44 air-core drill holes for 835m (refer ASX release 22 September 2020). New holes in the southern section encountered deeper sections of silica sand than expected, indicating the potential for an increased resource in this area.

Testwork has shown the Galalar project's ability to produce a premium-quality silica product suitable for solar PV manufacturing and other high-tech applications. In 2019, photovoltaics (solar power) dominated as the main new power-generating technology, accounting for 45% of all new capacity added, according to BloombergNEF data.

In November 2020, Diatreme announced the receipt of the final terms of reference for the project's environmental studies. A draft EIS is now underway, with Diatreme targeting receiving the necessary environmental approvals and Mining Lease in the fourth quarter of 2021 and potential first production in 2022.

Importantly, local stakeholders will be significant beneficiaries of the project's development, as shown by an independent economic study which estimated the potential for the creation of up to 110 full-time equivalent jobs and an economic injection for the region of up to $42 million in operation.

Diatreme announced in May 2020 a total silica sand resource of 47.5 million tonnes, including a Measured Mineral Resource of 30.9Mt @ 99.28% SiO_2 (refer ASX announcement 12 May 2020).

Diatreme's Mr McIntyre added: "*The solar energy boom is showing no signs of slowing as the world moves rapidly towards decarbonisation. We look forward to advancing our project towards development as we develop a base for long-term, high quality silica sand production.*"

This announcement was authorised for release by:

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About Diatreme Resources

Diatreme Resources (ASX:DRX) is an emerging Australian producer of mineral and silica sands based in Brisbane. Our key projects comprise the Galalar Silica Project in Far North Queensland, located next to the world's biggest silica sand mine, together with the Cyclone Zircon Project in Western Australia's Eucla Basin, considered one of a handful of major zircon-rich discoveries of the past decade.

For more information, please visit www.diatreme.com.au

About Galalar Silica Project

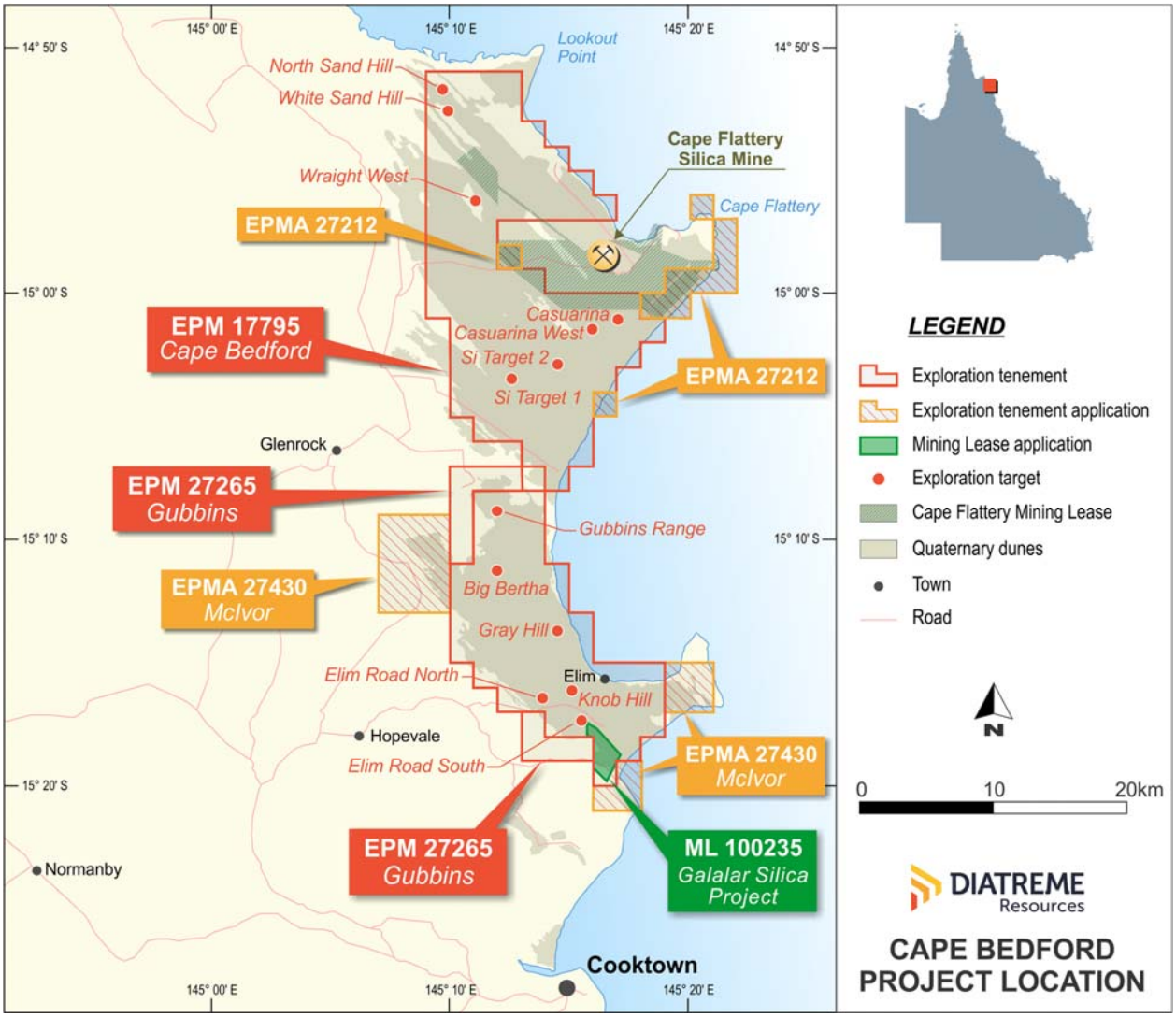
Located around 200km north of Cairns and 20km north of the port of Cooktown, the Galalar Silica Project (EPM 17795) lies within the same sand dune system and in close proximity to the world's largest operating silica sand mine at Cape Flattery. The Cape Flattery silica sand product is recognised as a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

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), while the global solar PV glass market is estimated to reach US$48.2 billion by 2025, up from US$3.3 billion in 2016 (source: Bizwit Research & Consulting).

An independent economic study has shown the Galalar project's potential to deliver a sizeable economic injection into the Hopevale/Cooktown region, including $23-$24 million in the construction phase and up to $42m in operation, creating up to 110 full-time equivalent jobs and contributing $1.475m in annual state royalties.

In May 2020, Diatreme announced a total Mineral Resource of 47.5 million tonnes (Mt), with the potential for further expansion (refer ASX release 12 May 2020). Bulk sample testwork has shown the project's ability to produce a premium grade silica product suitable for high-end glass and solar panel manufacturing, with more than 99% silica dioxide and low iron levels of less than 100 parts per million.

Following lodgement of a mining lease application in December 2019, Diatreme is now progressing through various environmental and regulatory approvals towards mining activity.



Galalar Silica Project, North Qld

SILICA - COMPETENT PERSON STATEMENTS

The information in this report that relates to Mineral Resources at the Cape Bedford Project is based on information, geostatistical analysis and modelling carried out by Dale Brown, Mining Engineer, Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy under the supervision of Brice Mutton, Geologist who is an Associate of Ausrocks Pty Ltd and is a Fellow of the Australasian Institute Of Mining & Metallurgy and a Fellow of The Australian Institute Of Geoscientists.

Brice Mutton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code).

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

The 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.

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