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DIATREME Resources

ASX ANNOUNCEMENT

18 August 2021

Northern exploration targets resource expansion

- **Initial Cultural Heritage survey on northern tenement area completed by specialist archaeological survey team, supervised by Native Title holders.**
- **Follow-on Cultural Heritage and low impact exploration program underway, targeting largest silica sand dunes within greater Cape Flattery dune field.**
- **Four primary targets identified within exceptionally large sand dune systems with scope to host occurrences of high purity silica sand, located near Cape Flattery mine.**
- **Initial exploration results to help identify areas with potential to define new resources and projects.**
- **Diatreme continuing strong focus on permitting, approvals and remaining economic studies towards Galalar mine development, with continued strong demand for premium quality silica product.**

Emerging silica sands developer and explorer, Diatreme Resources Limited (ASX:DRX) is further advancing its assessment of potential high grade silica assets located in regional areas to the north of the Galalar Silica Project in Far North Queensland. The exploration targets highly prospective areas identified within EPM 17795, some of which are located near the world's largest silica sand mine at Cape Flattery.

As part of Diatreme's exploration program, preliminary cultural heritage field surveys and a review of Traditional Owner story lines, were completed in the northern section of the exploration tenement. This activity was supervised by the Native Title holders for the area.

Previous reconnaissance sampling and a review of environmental values identified four potentially large silica dune systems with scope to host significant amounts of high purity silica sand.

Diatreme has now commenced an on ground, low impact exploration program which is advancing through the third quarter 2021. This program will utilise low impact hand auger drilling and aims to increase confidence in the quality of

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the sand dune systems and established resource. The Company has engaged in this low impact program in accordance with the provisions of its exploration permits.

The highest priority targets are the Silica Target 1 (Si1) and Silica Target 2 (Si2) dune systems. Following confirmation of sand quality, further definition of priority targets will be assessed. The program will also be subject to more formal agreements being completed between the Traditional Owners and the Company to facilitate more extensive drilling, which will be focused on minimising environmental impacts.

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

Notes to Figure 1:

1) *Port is Cape Flattery Silica operational port – owned by Ports North (Qld Govt)*
2) *Blue lines are Cape Flattery Silica mining lease boundaries*
3) *Map Scale Approx. 1cm = 1.5kms*

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Diatreme's CEO, Neil McIntyre commented: *"These northern exploration targets have the potential to demonstrate the true extent of this world class high purity silica dune system and deliver future world class resources in proximity to nearby Port infrastructure, also playing a key role in Diatreme's future resource development planning.*

"The Company remains focused on advancing the Galalar Silica Project into production as soon as possible, as it has a demonstrated ability to produce a low iron (100ppm), premium quality silica sand (99.9% SiO_2) product, perfect for the needs of Asia's fast-growing solar PV and specialty glass market. This is becoming even more significant amid growing global supply concerns and need for environmentally sustainable supply."

Silica Target 1 and 2 Dune Systems

Exploration will initially focus on low impact progressive evaluation of the **Si 1** and **Si 2** dune systems to confirm high purity silica that has potential to deliver mineral resources, without impacting areas of high environmental or cultural heritage value.

The individual dune systems extend inland from the coast. Initial size potential has been evaluated utilising SRM contours published by Geoscience Australia and evaluating sand volumes above an estimated water table. DRX has identified approximately 50 km^2 of large dunes above the 40m RL contour favourable in size to host silica sand and these are prioritised in the exploration.

The aerially large Si1 sand dune system has a length of 6.5km and width between 1.5 and 2 km. Two samples were collected by Diatreme in 2019 following a regional preliminary exploration program from the exposed dune in the south-east corner and returned >99% SiO_2. These results suggest the large dune system contains the targeted high purity silica sand and could potentially host a large and significant occurrence of high purity silica sand.

The aerially large Si2 sand dune system has a length of 12 kilometres extending from the beach to a large freshwater lake at the northern end. The dune has a width between 2 and 3 km and is one of the largest and highest in the Cape Flattery dune field.

Two samples were collected in 2019 from the exposed dune in the SE corner and returned >99% SiO_2. Little is known about this dune and information is limited. For planning purposes, a western dune has been added and will be explored separately initially.

Access from the south of the tenement is via Elim Beach Road east from Hopevale and secondary access is via tracks running east from Cooktown-McIvor River Road in the north of the tenement. Vehicle access is not possible over much of the area due to the irregular dunal topography and presence of extensive freshwater swamps and creeks.

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Potential Target Size

Initial exploration work, which will be undertaken in a series of programs over several weeks is currently being undertaken by low impact hand augur sampling, which by its nature restricts the available sampling depth to approx. 5 metres.

This sampling program also concurrently allows further on ground planning and assessments to establish ease of access and plan in some detail future surveys, including identification of areas of high value vegetation that may need to be excluded from higher impact exploration programs.

The Company continues to work with the directly affected Native Title groups within the northern tenement area during these activities to identify and exclude if required areas of cultural significance.

An initial inferred resource will be established following completion of the sampling program and receipt of testing results in the fourth quarter.

Given the combined area of the targeted dune system is approx. 50 sq km, it is expected an initial **40-160M tonne** resource could be established from the shallow hand auger program.

This program will then be supplemented moving forward by a higher impact drilling program to further define resource and silica ore characteristics at depth (up to 30m plus in some dunes) focussing on deposits within the dune system of high purity silica and low iron occurrences.

***Table 1**: Initial Resource target*

		Resource Target (tonnes)	
	Area (m^2)	From	To
Si Target 01	12,000,000	9,600,000	38,400,000
Si Target 02	25,000,000	20,000,000	80,000,000
Si Target 02 West	9,000,000	7,200,000	28,800,000
Casuarina Hill	4,000,000	3,200,000	12,800,000
Casuarina Hill West	1,000,000	800,000	3,200,000
Total	**50,000,000**	**40,000,000**	**160,000,000**

***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.*

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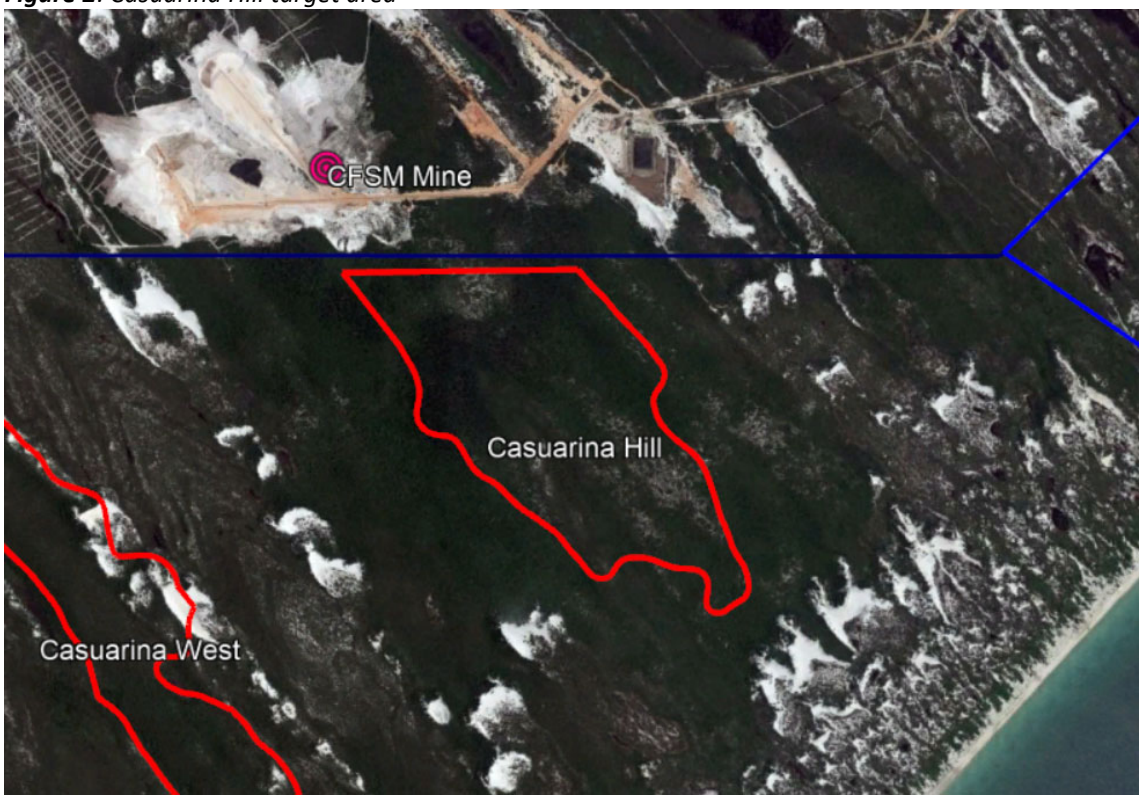
Casuarina Hill Dune System

The Casuarina Hill dune system is currently being mined by Mitsubishi within its Cape Flattery Silica Mining (CFSM) operations. Diatreme is targeting the major portion of this sand dune system and considering the similar provenance it is anticipated to have comparable in-situ quality. It is also favourably located concerning access to existing port infrastructure and is a shared area for the Dingaal and Nguurrumungu clan groups.

***Figure 2**: Casuarina Hill target area*



Notes to Figure 2:

1) *CFSM Mine – is Cape Flattery Silica Mine operations*
2) *Blue lines are Cape Flattery Silica mining lease boundaries*
3) *Map scale – Approx. 3cm = 1km*

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

Notes to Figure 3:

1) *Photograph scale unknown*

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***Figure 4**: Casuarina Hill targets: Aerial view*

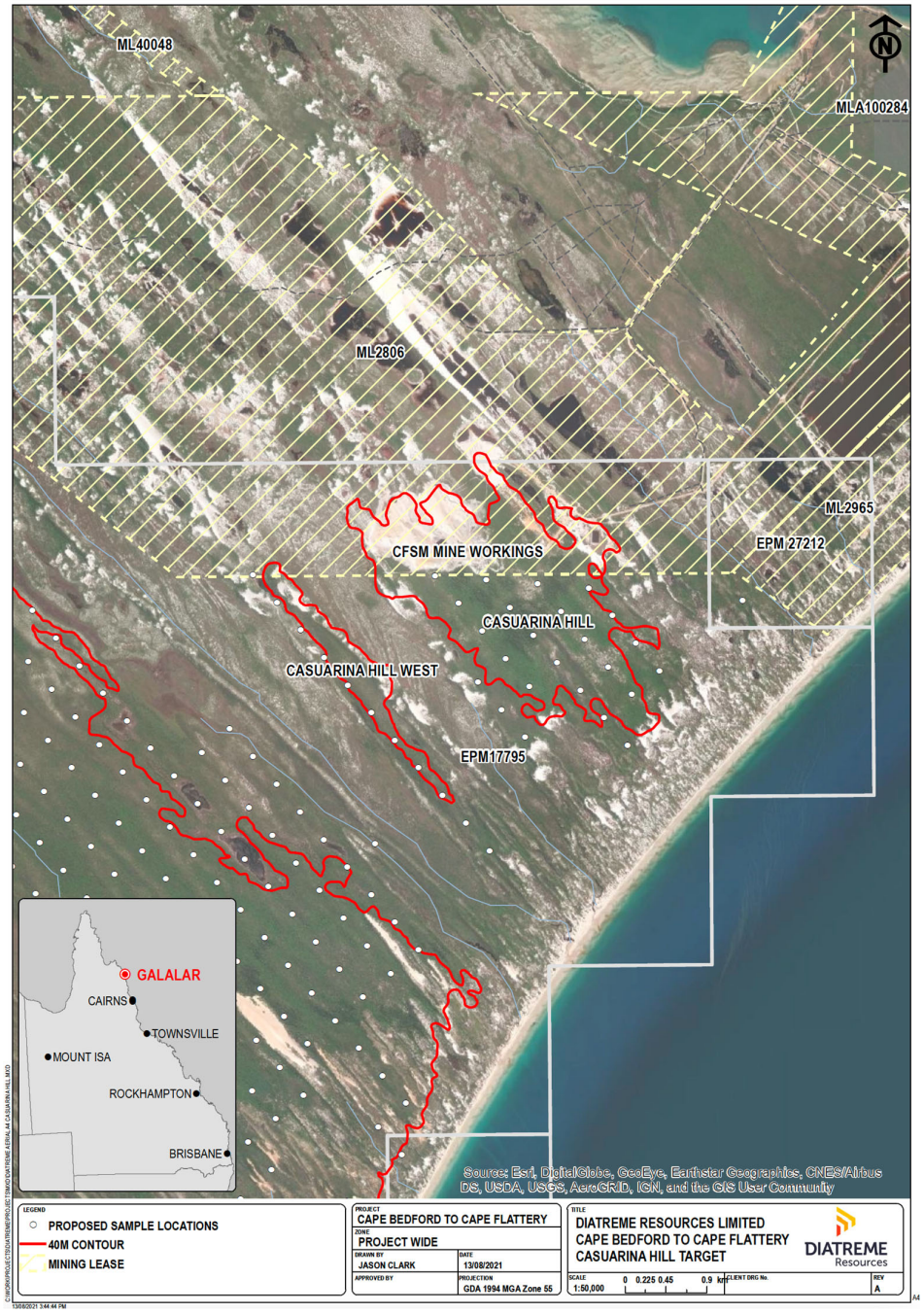

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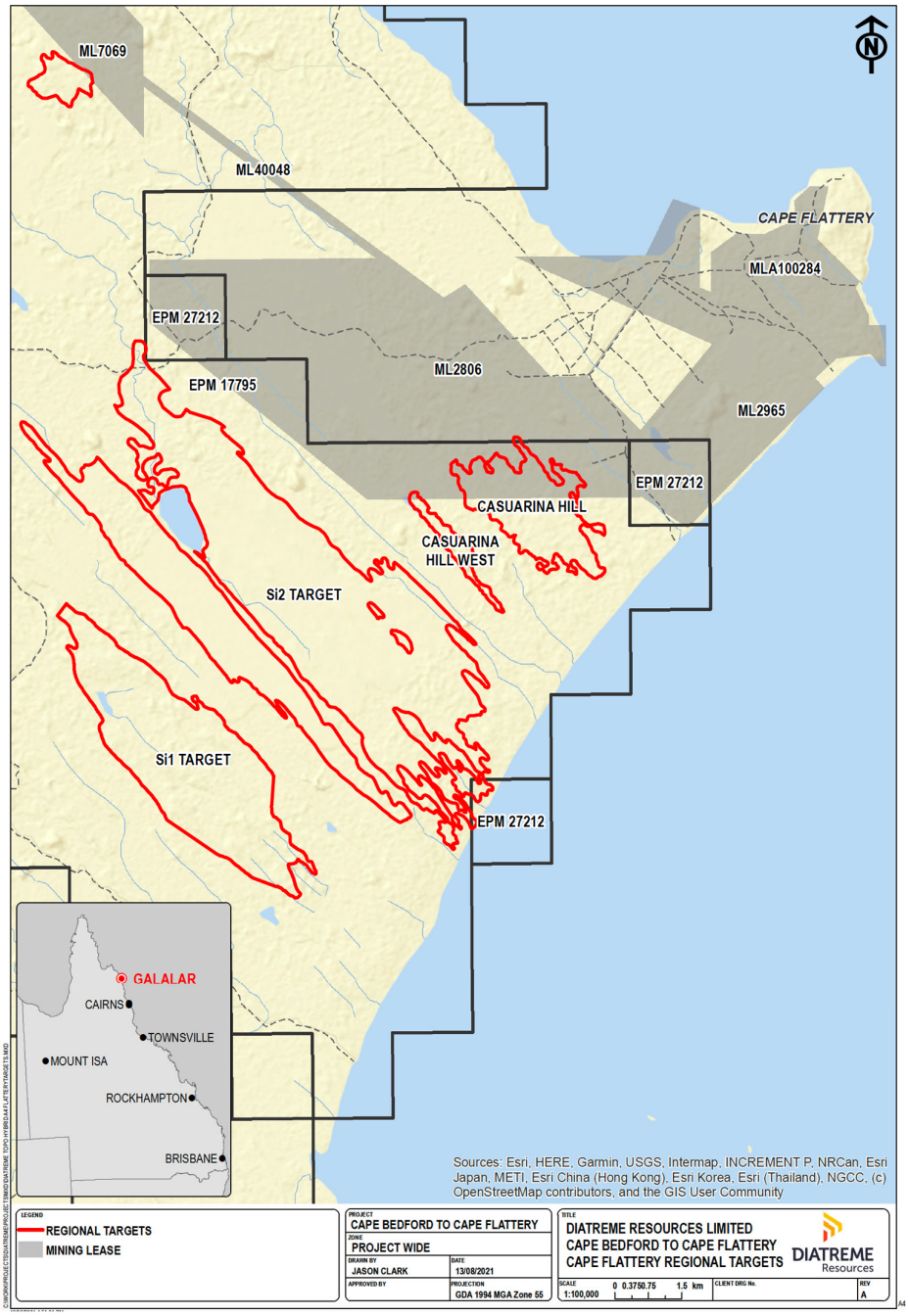
***Figure 5**: Regional targets*



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Cultural Heritage Survey

The northern exploration areas are located within the boundary of the Hopevale Native Title determination area (NTD) (QUD174/1997). The Si1 and Si2 dunes are located within the Dingaal Clan area. The Registered Native Title Body Corporate (RNTBC) for that part of the determined area is the Walmbaar Aboriginal Corporation.

ARCHAEO Cultural Heritage Services Pty Ltd (Converge) was commissioned by Diatreme to act as cultural heritage technical advisers, including undertaking interviews on clan story lines and accompanying Dingaal representatives on an initial cultural heritage field assessment of the study area.

Galalar Project Development

Diatreme continues to advance the Galalar project, having recently lodged an Infrastructure Mining Lease Application (MLA 100285) for a Nob Point export solution, aimed at minimising community and environmental impacts as well as reducing transport costs (refer ASX release 10 June 2021).

The Company is advancing a Definitive Feasibility Study for Galalar, targeting completion in the fourth quarter of 2021. Mining Lease and final environmental approvals are being targeted for the first quarter 2022, with Diatreme aiming for first production in late 2022.

This announcement was authorised for release by the Directors of the Company:

Neil McIntyre
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Chairman

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ASX releases referred to in this release

- Drilling boosts confidence in Galalar resource – 11 August 2021
- Quarterly Activities Report – 30 July 2021
- Mining Lease Application lodged for Nob Point – 10 June 2021
- Diatreme eyes further high purity silica sand resource expansion – 25 January 2021

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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

COMPETENT PERSON STATEMENT

The information in this report that relates to Exploration Results and Exploration targets for the Cape Flattery and Cape Bedford regional targets 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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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.

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