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DIATREME Resources

ASX ANNOUNCEMENT

28 September 2021

High Priority Northern Exploration Targets – Progress Update

- **Low-impact auger drilling continues in DRX's high priority Cape Flattery exploration areas, 'Silica Target 1' and 'Silica Target 2', to confirm high-purity in-situ SiO_2 quality**
- **Initial results anticipated to define a new silica sand resource which will add to DRX's existing Galalar Silica Project resource located 25 km to the south**
- **DRX continues to work with Traditional Owners to avoid and minimise impacts in areas of high environmental and cultural heritage values**

Emerging silica sand developer and explorer, Diatreme Resources Limited (ASX: **DRX**, or the **Company**) is advancing its assessment of high priority target areas, Silica Target 1 (**Si1**) and Silica Target 2 (**Si2**), to the north of its flagship Galalar Silica Project in Far North Queensland.

Si1 and Si2 are two of the largest high-priority target areas within the Cape Flattery area of Exploration Permit for Minerals (EPM) 17795. These targets are located to the southwest of the world's largest high-grade silica mine at Cape Flattery (owned by Mitsubishi Corporation). The Si1 and Si2 target areas are dune systems above the 40 m RL contour, which extend inland from the coast for approximately 6-12 km in length with a width of 6-7 km (**Figure 1**).

Samples taken during a preliminary exploration program in 2019 returned assay results of >99% SiO_2, indicating a potentially large and significant high-purity silica occurrence (ASX release 18 August 2021). It is anticipated the results from Si1 and Si2 will add to the Company's current 75.5 Mt JORC Mineral Resource at Galalar to the south (ASX release 20 September 2021).

An initial inferred resource will be estimated following receipt of assay results in Q4 with a view to announcing a 'new' world-class silica resource in addition to the 75.5 Mt Galalar resource to the south. Given the proximity of the northern exploration targets areas to Cape Flattery, there are potential export and logistical advantages.

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DRX'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, playing a key role in Diatreme's future resource development and logistics 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, 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, demands for an increasingly de-carbonised global economy and the need for environmentally sustainable minerals supply as part of that solution."

EXPLORATION TARGETS

The northern exploration targets comprise five (5) dune systems over a total area of approximately 50 km^2. It is estimated that an initial resource of **40-160 Mt** of SiO_2 (of high purity) will result from the hand-auger drilling program (**Table 1**).

Exploration Target	Estimated Area		Estimated SiO_2 Resource Target (tonnes)	
	km^2	ha	From	To
Si1 Target	12	1,200	9,600,000	38,400,000
Si2 Target	25	2,500	20,000,000	80,000,000
Si2 Target West	9	900	7,200,000	28,800,000
Casuarina Hill	4	400	3,200,000	12,800,000
Casuarina Hill West	1	100	800,000	3,200,000
Total	**51**	**5,100**	**40,800,000**	**163,200,000**

Table 1: Initial resource target*

***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 (JORC 2012).*

The program is designed to identify areas of potential high purity silica within identified access constraints (cultural, environmental etc.), and has started with the most easily accessible sites utilising a utility task vehicle (UTV) buggy to minimise impacts. This is in tandem with ongoing Traditional Owner consultations and planning to establish access corridors in more inaccessible, and culturally and environmentally sensitive areas (**Figure 2**).

Hand-auger sampling is limited to a depth of 5 m, and an off-track vacuum rig is being considered to access areas to test the full depth of silica mineralisation and characteristics beyond the 5 m capability of a hand-auger (**Figure 3**).

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Work to date has been progressing well with **92 holes** for a total of about **447 m** (**Table 2**). Due to freight logistics and high demand at ALS laboratories, preliminary assay results are not expected until Q4 2021; however, visually, the samples obtained from the 5 m holes auger holes are highly encouraging (**Figure 4**).

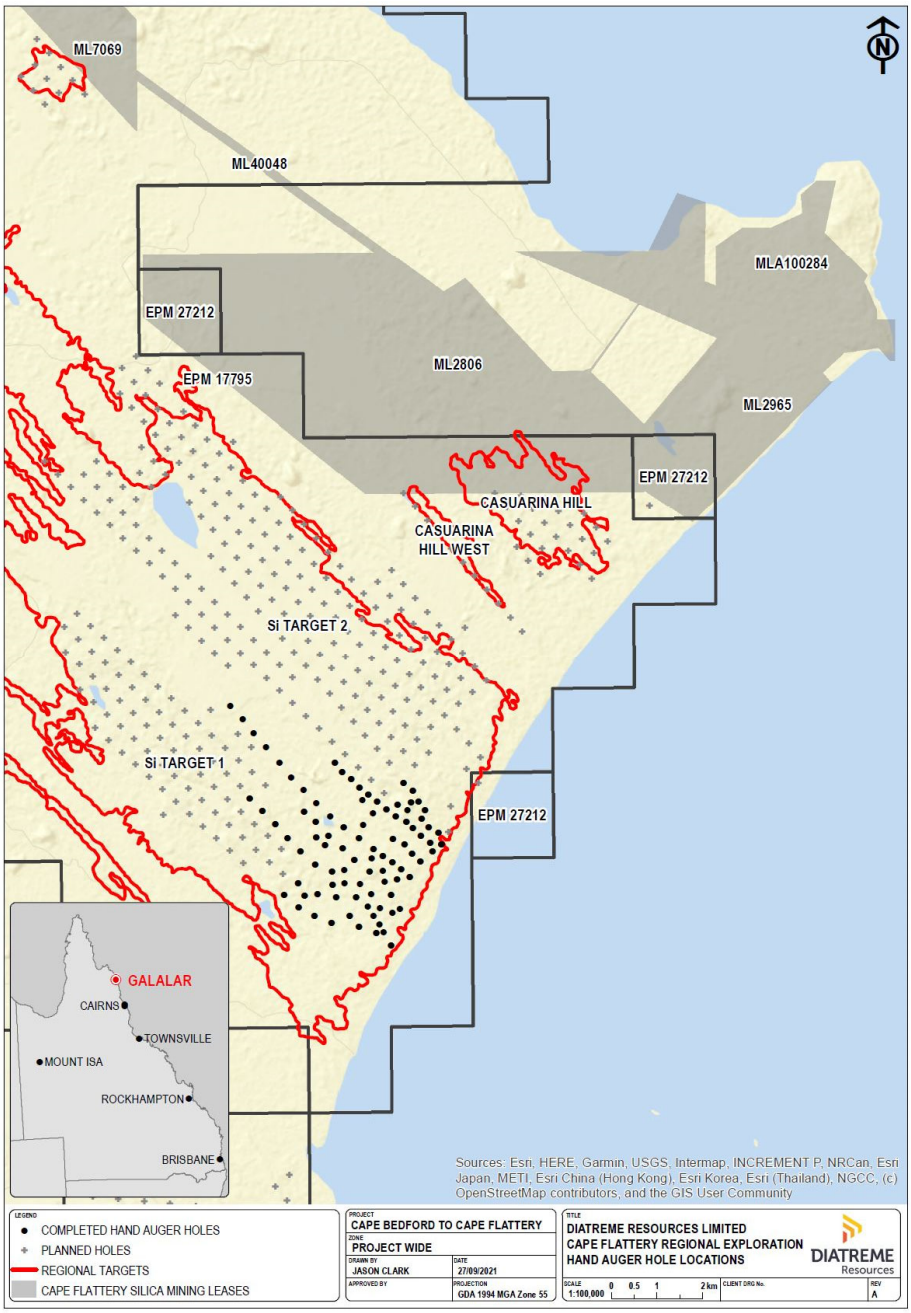

Figure 1: Location of Si Target 1 and Si Target 2 areas

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NEXT STEPS

The current program will progressively continue over the coming Quarter (Q4 2021) as the Company continues using low impact techniques and careful assessment of the terrain for future development potential (**Figure 5**).

Sample analysis results (currently experiencing some turnaround time issues due to high lab services demand) will also be assessed to determine areas of highest priority determined by silica purity and assessment of other contaminants such as iron and heavy minerals. The hand-auger program will also be supplemented by deeper drilling in select low impact areas moving forward during the upcoming Quarter.

Figure 2: Cultural heritage survey

Figure 3: Hand-auger sampling

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CULTURAL HERITAGE

The northern exploration areas are located within the boundary of the Hopevale Native Title determination area (QUD174/1997), which is administered by the Walmbaar Aboriginal Corporation RNTBC. The Si1 and Si2 dunes are located within the Dingaal Clan area. Cultural heritage advisers engaged by DRX are conducting interviews to record oral history and traditions, and are accompanying Dingaal representatives on cultural heritage field assessments.

The Company is advancing the regulatory approval process, Preliminary Feasibility Study (due in the coming weeks) and Definitive Feasibility Study to ensure the project plays a role in the region's recovery from the impact of COVID-19. The draft EIS is now being finalised with a target of receiving the necessary environmental approvals and grant of MLA 100235 in Q1 2022 and potential first production in late 2022.

Figure 4: Samples from 5 m hand-auger hole

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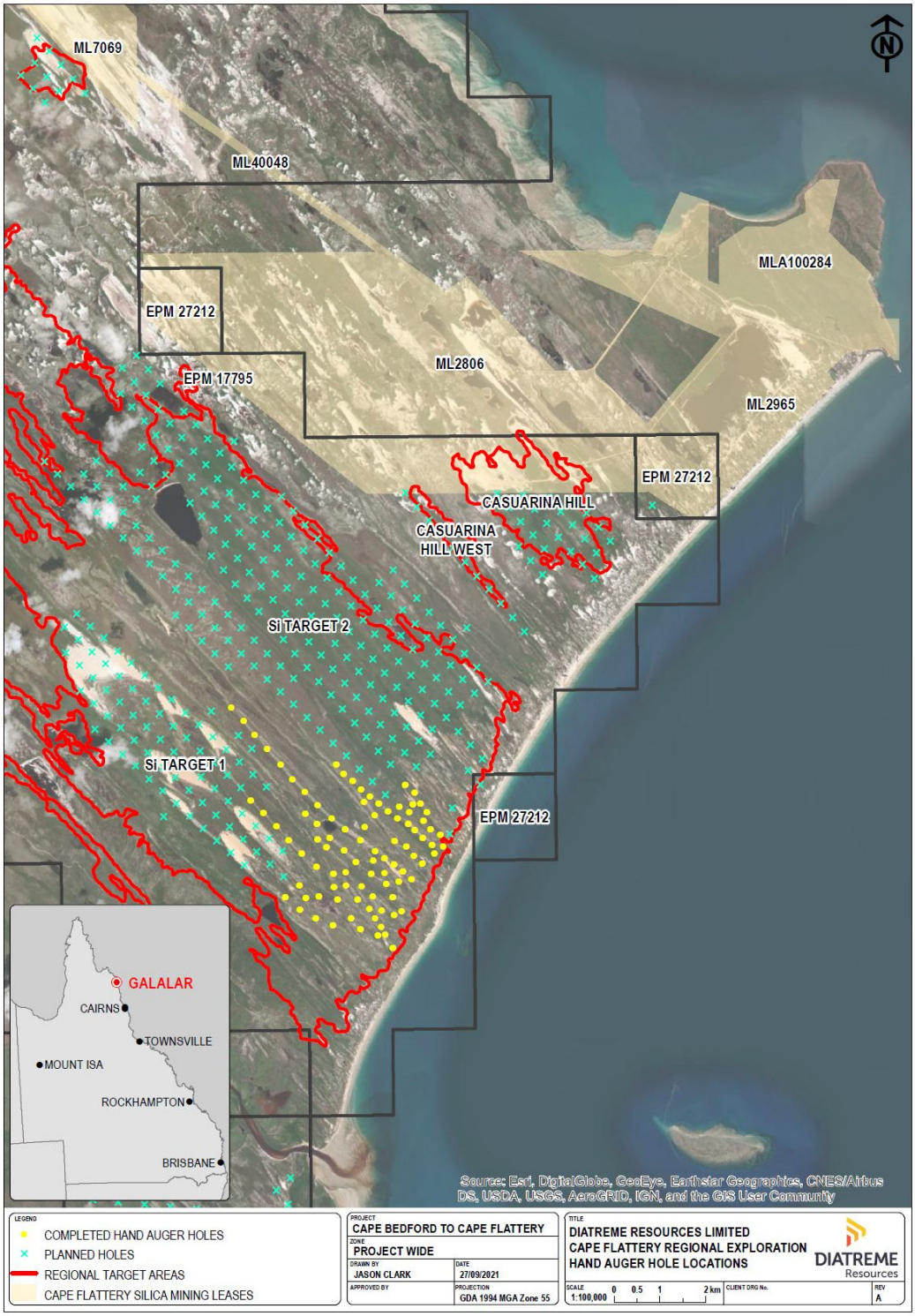

Figure 5: Aerial view of proposed and completed holes

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Table 2: Drill hole data

Hole ID	MGA_E	MGA_N	RL	TD
MA001	312490	8333093	98	5
MA002	312198	8333040	83	1.5
MA003	312535	8333361	110	5
MA004	312328	8333518	121	5
MA005	312653	8333121	101	5
MA006	312801	8332925	93	5
MA007	312154	8332790	89	5
MA008	311954	8332949	83	4
MA009	311747	8333116	75	5
MA010	311555	8333272	71	5
MA011	311361	8333432	64	5
MA012	311184	8333602	61	5
MA013	310993	8333764	61	5
MA014	310826	8333970	60	5
MA015	313157	8332188	49	5
MA016	312909	8332221	88	5
MA017	312960	8332032	78	4.3
MA018	312705	8332368	99	5
MA019	312531	8332540	102	5
MA020	312393	8332680	97	5
MA021	312462	8331469	90	5
MA022	312279	8331642	95	5
MA023	312087	8331799	103	5
MA024	311876	8331934	97	5
MA025	311666	8332089	96	5
MA026	313096	8332431	45	5
MA027	312880	8332555	52	5
MA028	312722	8332750	61	5
MA029	312698	8331817	70	5
MA030	312509	8331989	83	5
MA031	312349	8332182	77	5
MA032	312099	8332304	78	5
MA033	312088	8330697	74	2.5
MA034	312249	8330780	73	4.7
MA035	311917	8331366	94	5
MA036	311634	8331875	83	5
MA037	311877	8331617	92	5
MA038	311619	8331104	83	5
MA039	311808	8330803	82	5
MA040	311666	8330617	58	5
MA041	311046	8331338	55	5
MA042	311031	8331621	75	5
MA043	311894	8330270	58	5
MA044	311799	8330442	59	5
MA045	311545	8330830	65	5
MA046	312188	8331418	98	5

Hole ID	MGA_E	MGA_N	RL	TD
MA047	311586	8331578	85	5
MA048	312056	8331075	75	5
MA049	310687	8332375	71	5
MA050	310411	8332669	72	5
MA051	311254	8331846	82	4
MA052	311003	8332097	75	5
MA053	310157	8332908	67	5
MA054	310425	8332340	70	5
MA055	310617	8332171	70	5
MA056	311025	8332559	78	5
MA057	311354	8332309	84	5
MA058	311291	8331019	57	5
MA059	310763	8331582	49	5
MA060	310404	8331742	46	5
MA061	310080	8332025	70	5
MA062	309791	8332326	57	5
MA063	309523	8332625	59	5
MA064	309241	8332914	61	5
MA065	308966	8333191	64	5
MA066	312055	8329982	53	5
MA067	311734	8330242	52	5
MA068	311354	8330380	49	5
MA069	311154	8330622	55	5
MA070	310760	8330470	53	5
MA071	310385	8330621	55	5
MA072	310038	8330814	51	4.5
MA073	309717	8331070	49	5
MA074	310857	8331036	40	5
MA075	310448	8331090	38	5
MA076	310164	8331069	43	5
MA077	310025	8331343	44	5
MA078	310780	8331309	45	5
MA079	310724	8332802	65	5
MA080	310424	8333084	65	5
MA081	310145	8333367	65	5
MA082	311378	8331317	75	5
MA083	312416	8332934	90	4.4
MA084	311429	8333149	72	5
MA085	311658	8332862	69	5
MA086	311444	8332613	53	4
MA087	309868	8333646	71	5
MA088	309614	8333966	72	5
MA089	309327	8334308	71	5
MA090	308814	8334914	69	5
MA091	308546	8335196	69	3
MA092	309052	8334612	69	5

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This announcement was authorised for release by the Board.

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ASX releases referenced in this release

- Galalar silica resource expands 22% to 75.5 Mt – 20 September 2021
- Northern exploration targets resource expansion – 18 August 2021

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

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MINERAL SANDS AND SILICA – COMPETENT PERSON STATEMENT

The information in this report that relates to Exploration Results and Exploration Targets for the Cape Flattery and Cape Bedford regional target areas is based on information reviewed and compiled by Mr Neil Mackenzie-Forbes, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). 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.

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 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.

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.