For personal use only

DIATREME Resources

ASX ANNOUNCEMENT

30 August 2022

New Drilling and Exploration Underway on Silica Projects

- **Diatreme has ramped up drilling to expand its recently defined high-grade silica sand resource at the Galalar and Northern Silica projects**
- **Diatreme is actively identifying synergies between the Galalar and Northern Silica projects for financial, operational and development approvals processes**
- **Infill drilling is underway to increase the resource at Casuarina, which is strategically located near the Port of Cape Flattery and Cape Flattery Silica Mine**
- **Hand augering assays from Point Lookout Track return high-grade silica results, complementing previous exploration success at Si2 North**
- **Marine surveys planned for areas located to the south of the Cape Flattery port**

Emerging silica sands explorer and developer, Diatreme Resources Limited (ASX:DRX) is conducting further resource and exploration drilling to increase its high-grade silica sand resource base. New drilling is focused on Galalar and the recently established Northern Silica projects.

The development of two operations will enable the delivery of high-grade silica to fast-growing export markets amid increasing demand from the solar PV industry. The exploration follows recent success which culminated in the establishment of a new, high-grade silica sand resource at Si2 North (refer ASX release 17 March 2022), giving Diatreme a total resource of nearly 200 million tonnes of high-grade silica at Si2 North and the flagship Galalar Silica Sand Project (GSSP).

Diatreme's CEO, Neil McIntyre commented: "*Our high-grade silica sand resource continues to expand and we look forward to the further results of this latest drilling campaign across both our northern and southern hubs.*

"*With demand increasing due to the solar power revolution, we are confident in the outlook for our Far North Queensland projects, which have the potential to become long-life operations delivering enormous benefits for the local community, including Traditional Owners and all other stakeholders.*"

The new exploration and resource drilling follows Diatreme's submission of two Mining Lease Applications (MLAs) and four infrastructure permits for its Northern Silica Development, located near the Port of Cape Flattery (refer ASX release 5 July 2022) (**Figure 1**).

Diatreme recently signed an MOU with Ports North (refer ASX release 18 August 2022), which whilst non-binding, facilitates the exchange of commercially sensitive project information between the parties and enables Diatreme to access key senior executives from Ports North to progress the Company's Northern Silica Development (NSD).

EMERGING PROJECT SYNERGIES – GALALAR AND NORTHERN SILICA PROJECTS

Diatreme is now looking to advance its Galalar and Northern Silica projects, which potentially comprise high purity (low iron) silica resources of major significance and scale.

Whilst the GSSP remains more advanced in terms of the permitting, approvals and financial studies process given the Northern areas rapidly advancing progress status, Diatreme is now actively examining both project areas for broader potential synergies, together with operational efficiencies that enhance economic, social and regulatory outcomes for company and regional stakeholders.

Potential synergies include:

- The shared use of product export methodology and associated infrastructure
- Optimisation and efficiencies in the use of operational plant and equipment
- Further de-risking of the regulatory approvals process
- Early establishment of a plant nursery and rehabilitation programs
- Early project recruitment and training of workforce (Indigenous and non-Indigenous)
- Access to shared site facilities including staff accommodation
- Evaluation of hybrid power Solar-Wind-Hydrogen solutions across operations to minimise carbon footprint and target a carbon neutral operation

Diatreme will identify further synergies as its scoping studies progress on the Northern Silica project. The Company will also continue to enhance and refine project economics and planning as studies transition from pre- to definitive feasibility.

For personal use only

For personal use only

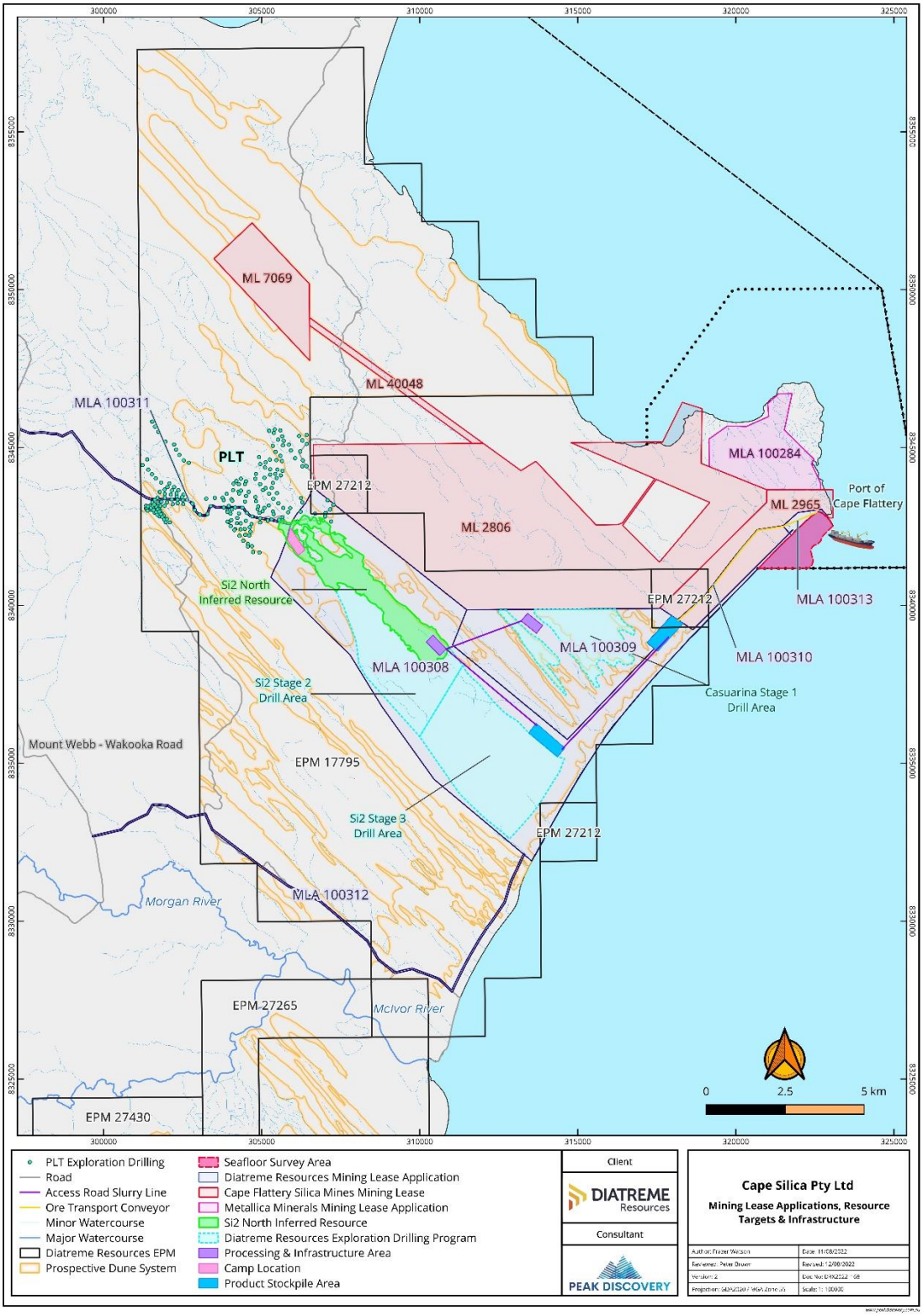

Figure 1: Project and resource target areas

For personal use only

NORTHERN SILICA PLANNED DRILLING

In March 2022, Diatreme established a resource of 124Mt within the Northern Silica MLA, utilising low impact vacuum drilling. Resource confidence will increase with additional survey controls and infill drilling, which is underway.

White, high purity silica sands dominate in the area (SiO_2 average: 99.33%) with low iron (Fe_2O_3 average: 0.11%). The resource averages 13.9m in overall thickness across the whole dune profile, with dune crests ranged up to 42.5m above the groundwater table. The current resource area covers up to 6.8km in length and up to 1.5km width, with an area of approximately 556ha.

Knowledge of the provenance and mechanics forming the dune sands is evolving, towards prioritising targeted consistent high silica grades. Continuity of geology (chip tray photographs) and grade (assays) are traceable between all drillholes. The high degree of confidence in geology models for the dunes also indicates that local variations in dune formation are considered to have an insignificant influence on mineral resource estimations. Planned drilling will test the extension to the current Si_2 resource at 400m centres and at closer separation where necessary. The drilling will occur in low heath areas along dune ridge lines.

For personal use only

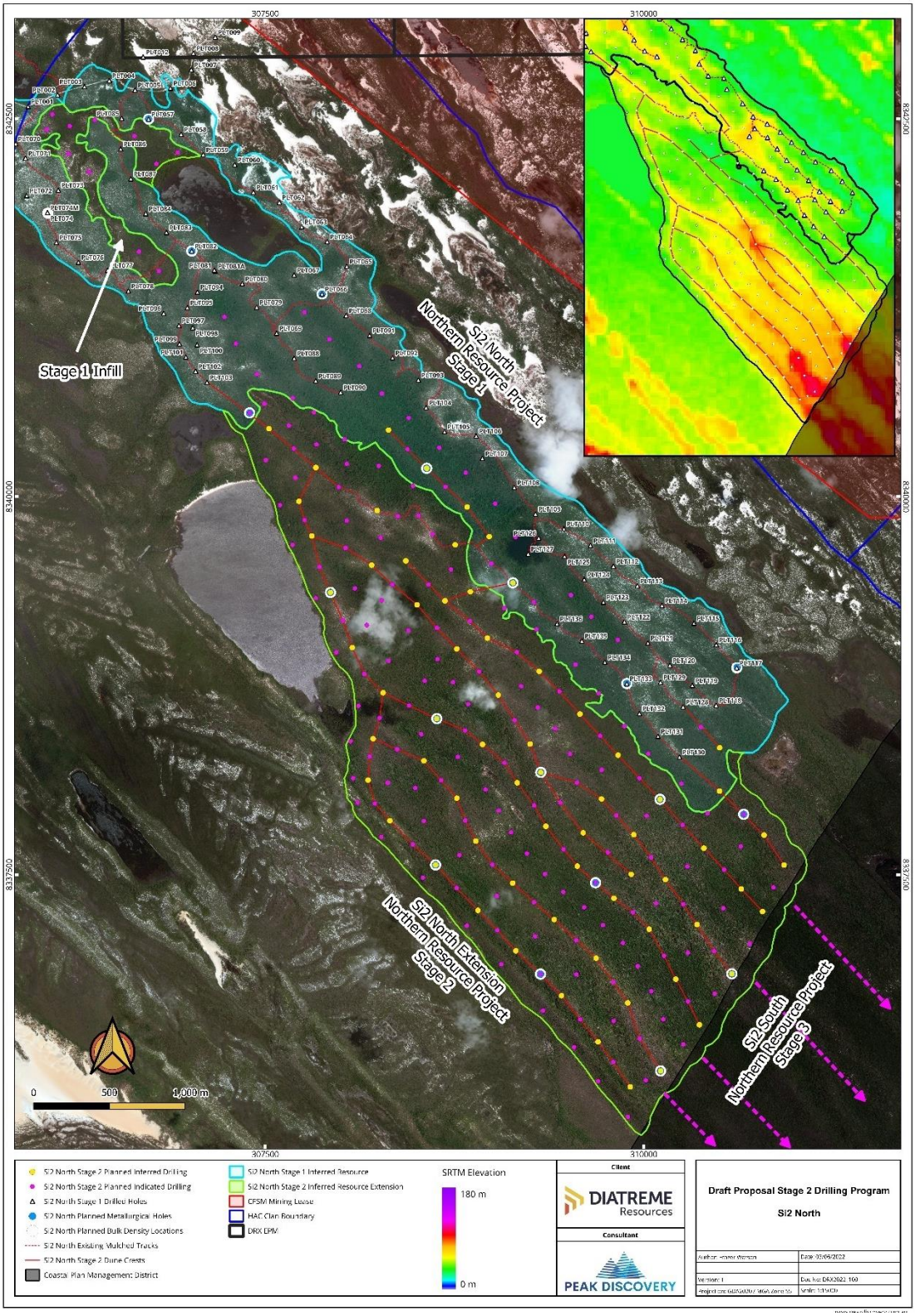

Figure 2: Planned Stage 2 drilling to extend the Si2 North resource

For personal use only

CASUARINA PLANNED RESOURCE DRILLING

The Casuarina dune is currently mined within the Cape Flattery Silica Mine and the sand extends into Diatreme's EPM 17795. The current mining lease boundary was established more than 50 years ago, when ML 2806 was initiated through an application in 1970. The boundary appears to be an arbitrary line across the dune field.

The remnant Casuarina dune system is located in close proximity to the Cape Flattery Port and hence may deliver early feed to a development located within Diatreme's MLA 100309. Estimated sand volumes in the dune have been included within Initial development planning for the Company's Northern Silica Development.

Drilling activities in the dune are currently restricted by access and to some extent by thick vegetation. In alignment with Diatreme's environmental protocols, drilling is focussed on hand auguring with access gained via walking to sites. Initial environmental surveys over the area are planned in September 2022.

Historic drilling along the current ML boundary indicates a range of sand dune thickness between 15m and 48m, with an average of 28m. Drilling in 2022-23 plans to confirm sand quality, thickness and continuity across the Casuarina dune.

Figure 3: CFSM Mining Operation within Casuarina dune (image publicly available via internet)

For personal use only

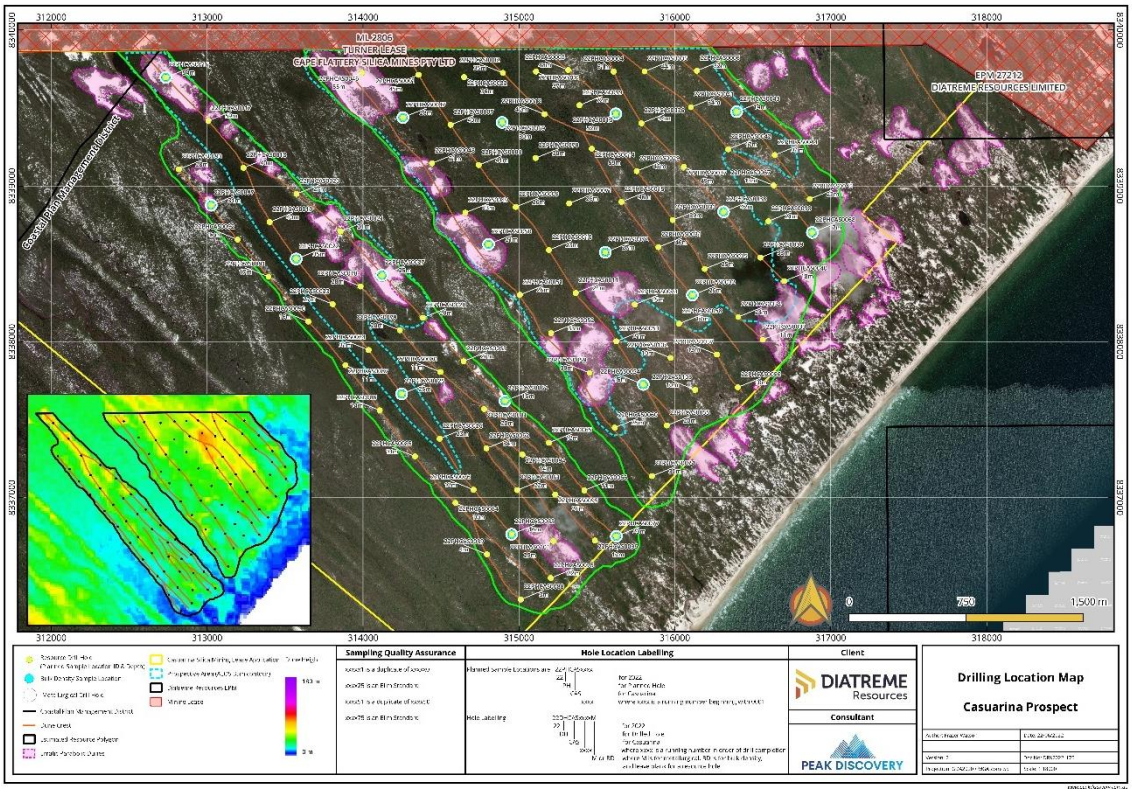

Figure 4: Planned Casuarina drilling

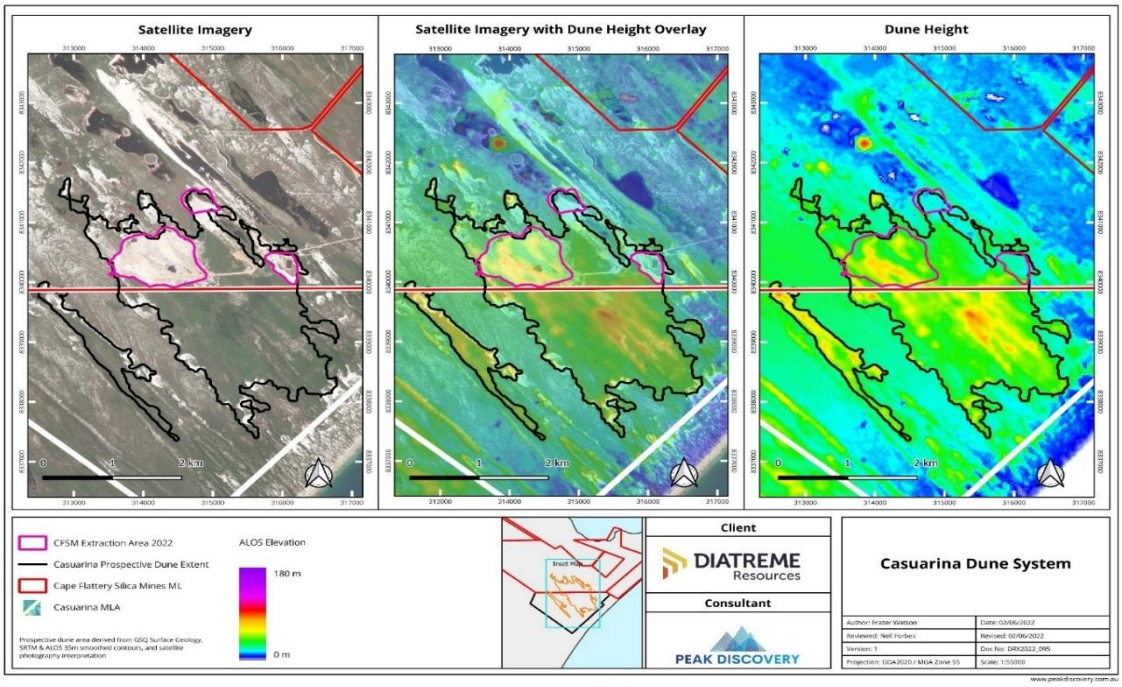

Figure 5: Casuarina dune system thickness and current mining

For personal use only

GALALAR DUNE SYSTEM PLANNED EXTENSION DRILLING (GAAMBI)

The Galalar dune system is continuous and extends inland for approximately 12km inland. The sand deposits have been subject to limited exploration, with the current focus on permitting and advancing development of the main GSSP. Preliminary drilling has intersected sand depths of up to 40m.

The Gaambi dune has been subject to preliminary hand auger drilling to augment the 2019 hand auger program. Holes were centred on a 400m spaced grid pattern to collect enough information for a potential Inferred Resource to 5m depth.

A total of 13 holes for 63m were drilled utilising a UTV “buggy” to access the area without any requirement for track clearing. The Gaambi results were positive, confirming extensions of the high purity silica sand within the eucalypt forest, and there is scope to extend the Galalar resource into this area in the future.

The Galalar Extended and Gaambi areas of the dune will be targeted by initial 400m spaced drilling within open woodland, allowing easy access. Diatreme’s purpose-built air core rig will be transported between the sites.

For personal use only

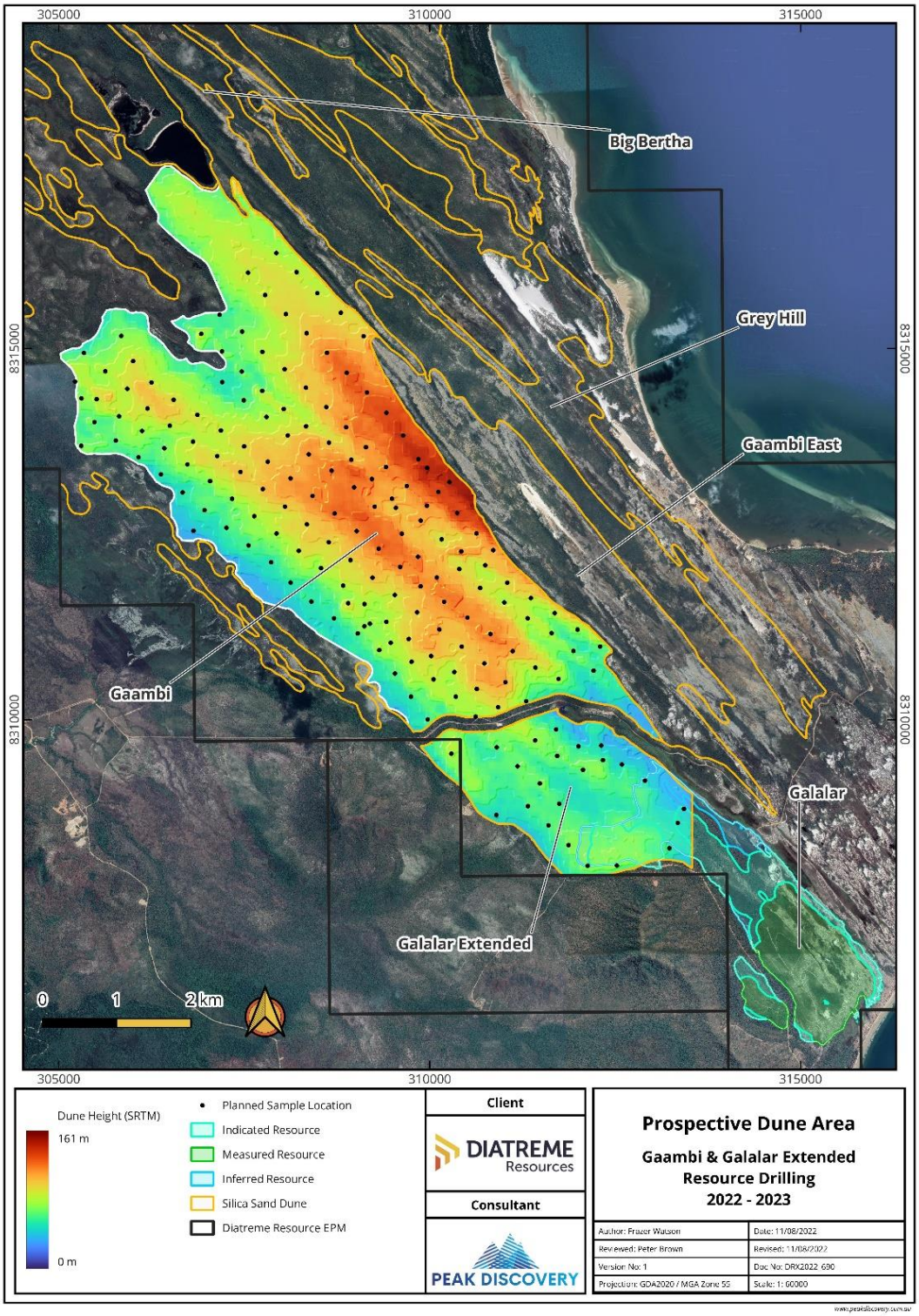

Figure 6: Galalar Extended and Gaambi dune system
(dune height represents topography and is not an indication of true dune thickness)

For personal use only

POINT LOOKOUT TRACK EXPLORATION RESULTS

The flatter targeted dunes are between 5-15m in height above groundwater level. The younger reworked parabolic dunes area predominantly unvegetated and form prominent topographic highs. The sand quality within this area is of high purity and preliminary metallurgy has been completed within the older, dome shaped Pleistocene dunes. Younger Holocene parabolic dune systems form topographic highs and are hence the most visible feature, though erratic in layout with variable size.

Safe access to the slopes of the young parabolic dunes is challenging. As the dunes are reworked from the existing Pleistocene dune system, they are regarded as having a similar sand quality, with their potential to be assessed during future operations.

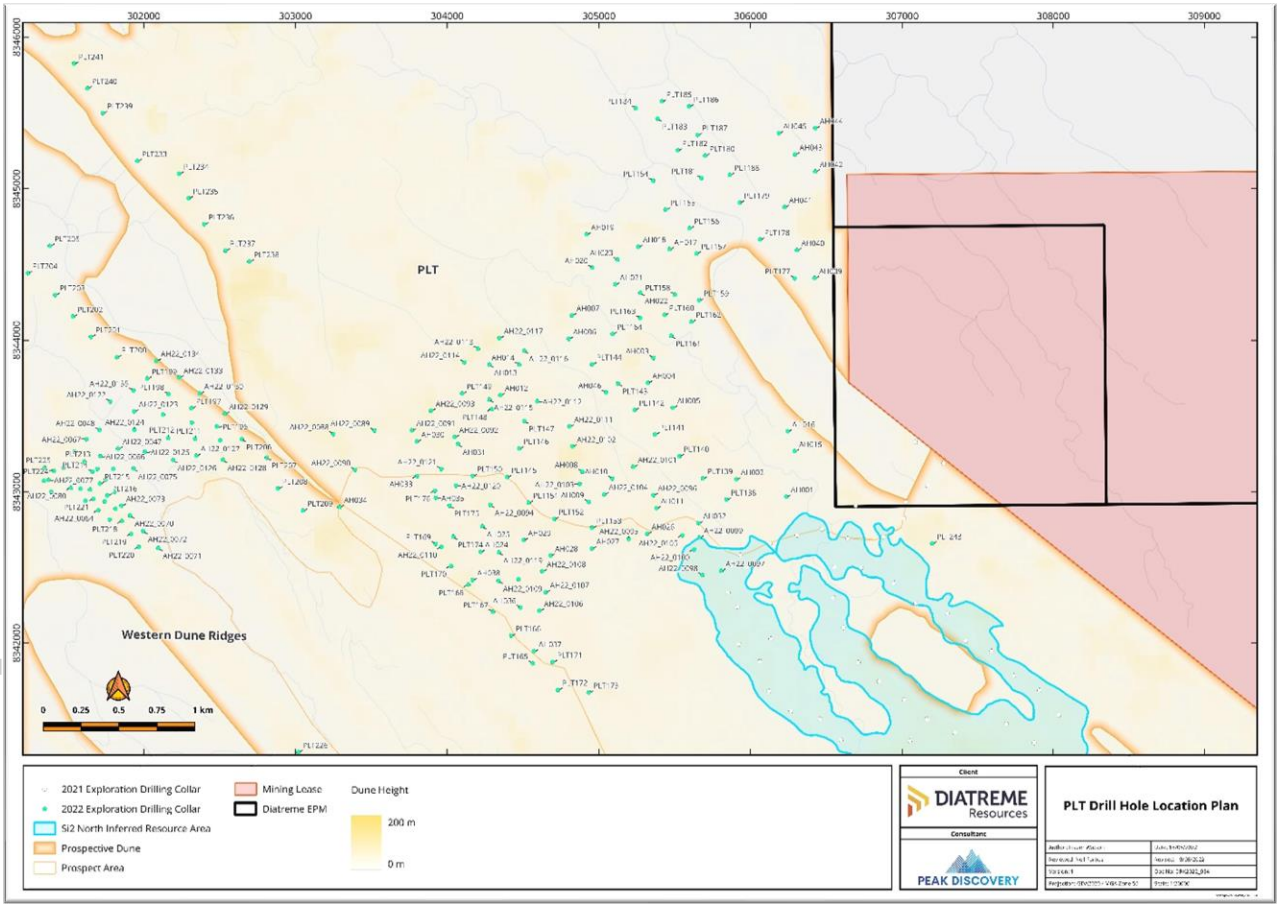

Figure 7: PLT drill hole locations

For personal use only

Figure 8: PLT dunes viewed from the Point Lookout Track towards the north-west, within EPM 17795. Younger parabolic dunes are exposed.

METALLURGICAL CHARACTERISATION OF COMPOSITE SAMPLES

Preliminary metallurgical testing has been completed on two composite samples from PLT drill holes to determine whether the sand in this area can be readily upgraded to high purity silica sand. This involves using gravity separation to remove heavy minerals, attritioning to remove contaminants from the surface of silica grains, classification to remove fine particles, and magnetic separation to remove any remaining particles with high iron content.

This silica characterisation procedure was conducted using 3kg splits from each composite sample, which were processed through laboratory bench scale equipment to simulate the best possible silica product that could be produced by a plant using the proposed GSSP plant process flowsheet.

The two silica product samples produced by the characterisation procedure both achieved the chemical composition of high purity silica sand. Both product samples were 99.9% SiO_2 and with low impurities. Table 1 below shows the ICP (ALS high purity silica method) chemical assays of the silica sand product samples. ZrO2 was not applicable for this assay method.

For personal use only

Table 1: PLT Composite Samples - product sample chemical assays (%):

Sample ID	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	K_2O	MgO	Na_2O	Cr_2O_3	LOI
PLT-C1	99.9	0.012	0.025	0.015	0.004	0.003	0.001	0.001	0.0001	0.02
PLT-C2	99.9	0.009	0.026	0.018	0.004	0.003	0.001	0.001	0.0001	0.01

PLT-C2 had an initial grade of 1.7% heavy mineral and assayed at 98.5% SiO_2 and 4,400ppm Fe_2O_3. After removal of heavy mineral by gravity separation, the assay improved to 99.8% SiO_2 and 110ppm Fe_2O_3. The final assay of this sample after attritioning, classification and magnetic separation was 99.9% SiO_2 and 90ppm Fe_2O_3. Further investigation of heavy minerals in this area will be undertaken.

PLT-C1 is a sample composited from 3 drill holes at the Si2 North resource area with Hole ID and sample intervals as follows (Table 2):

Drill Hole ID	Sample Interval
PLT095M	1m to 31m
PLT098M	1m to 42m
PLT102M	1m to 27m

PLT-C2 is a sample composited from 2 drill holes at the Si1 North resource area with Hole ID and sample intervals as follows (Table 3):

Drill Hole ID	Sample Interval
PLT020M	1m to 12m
PLT021M	1m to 12m

The yield to product and product quality data from the PLT characterisation testwork and the bulk sample (for comparison) are provided in Table 4:

Sample ID	Product Yield	SiO_2 %	Fe_2O_3 %
PLT-C1	97.4%	99.9	120
PLT-C2	94.6%	99.9	90
PFS Bulk Sample (GSSP)	94.5%	99.9	95

The PLT composites yield to product through the characterisation process are similar to the GSSP's PFS bulk sample yield to product, and the PLT composites are expected to achieve similar plant results. A plant recovery of 80% (ore to product) from the two PLT composite areas is expected with a SiO_2 grade of 99.9% and Fe2O3 grade approximately 10-15ppm higher than the grade achieved with the characterisation procedure.

For personal use only

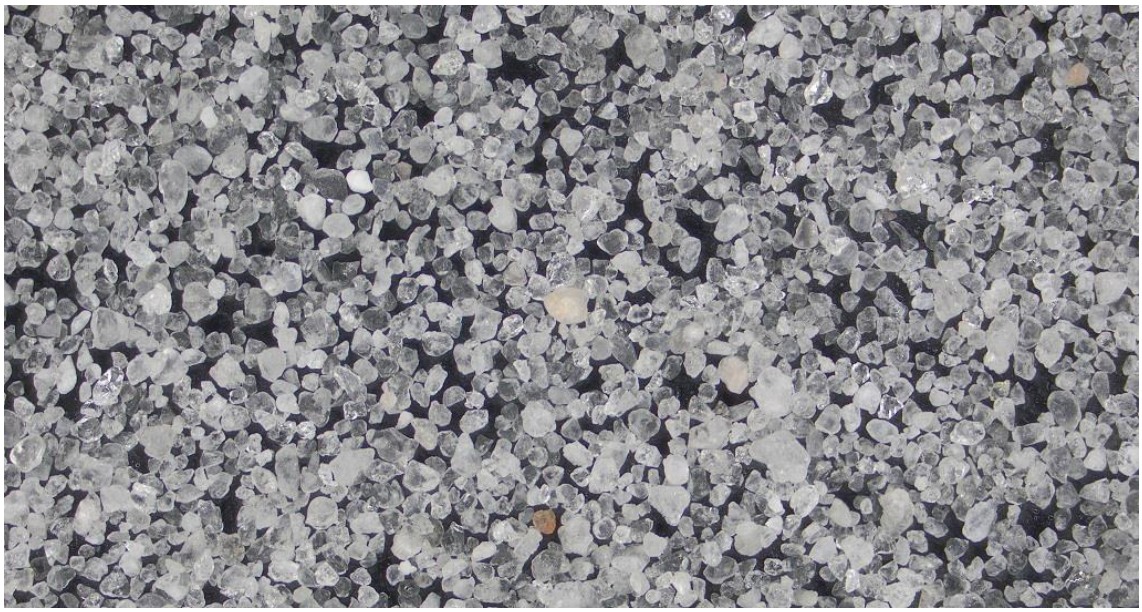

Figure 9: Photomicrograph of high purity silica product from PLT metallurgical test work

These latest exploration advances follow the announcement of a strategic partnership with global material solutions company, Sibelco (refer ASX release 27 June 2022). The two partners have agreed on a joint venture to develop the Galalar Silica Project and Northern Silica Project, supported by a significant initial investment from Sibelco of $35 million, subject to regulatory approvals.

CAPE FLATTERY PORT SURVEYS UPDATE

Ports North via the Department of Transport and Main Roads (DTMR), Maritime Safety Queensland (MSQ), Hydrographic Services Branch, are completing a hydrographic survey of areas located to the south of the current port. The data will attach to surveys already completed seaward of the existing port infrastructure. This data will inform the location of any new export infrastructure to support scoping and then feasibility studies on product export solutions.

For personal use only

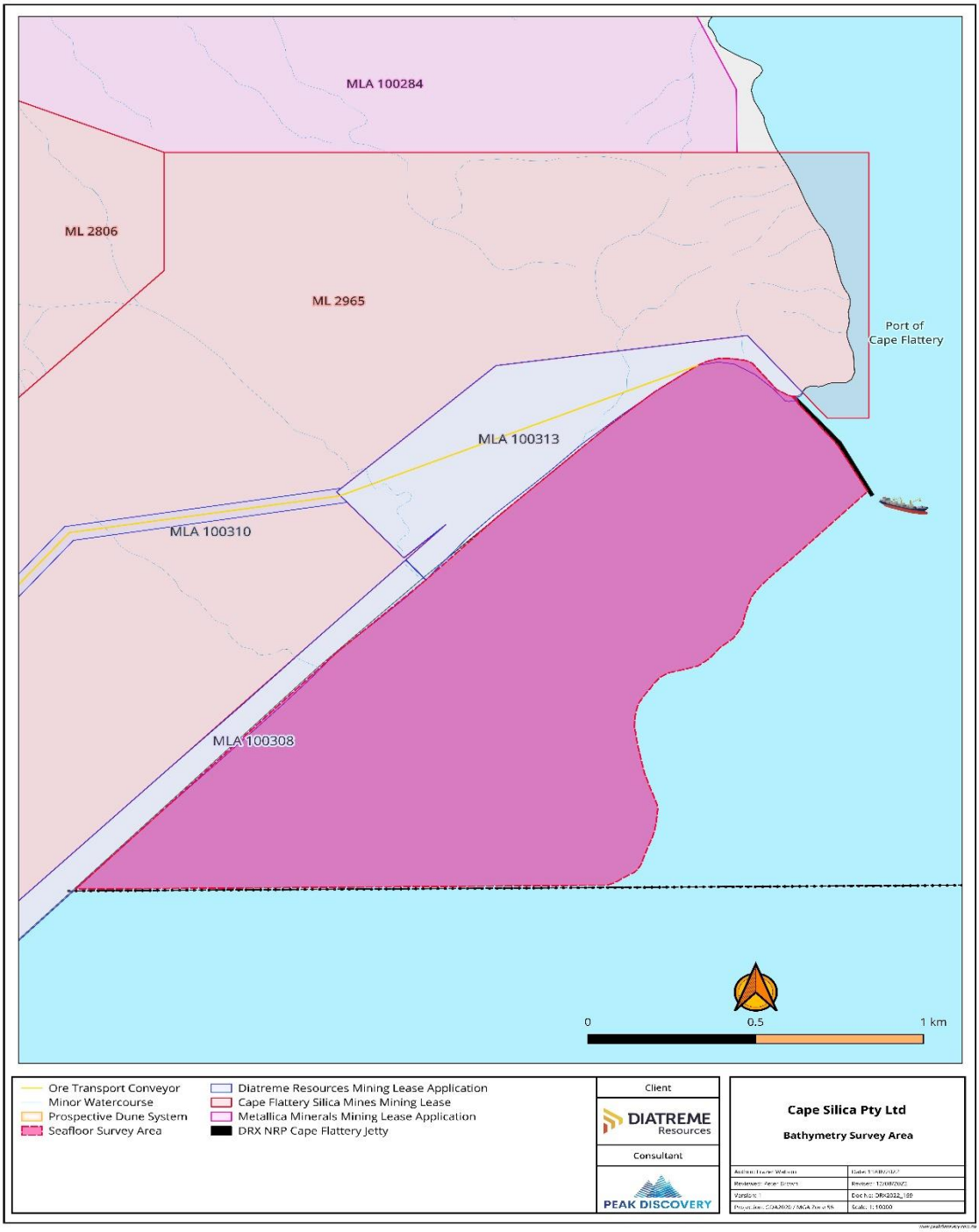

Figure 10: Bathymetric Survey area at the Port of Cape Flattery

For personal use only

This announcement was authorised for release by:

Neil McIntyre
Chief Executive Officer

Wayne Swan
Chairman

Contact: Mr Neil McIntyre
P: 07 3397 2222
E: manager@diatreme.com.au
W: diatreme.com.au

For media queries, please contact:
Anthony Fensom, Republic PR
anthony@republicpr.com.au
M: +61 (0)407 112 623

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 and Northern Resource Project in Far North Queensland, located next to the world's biggest silica sand mine at Cape Flattery.

In Western Australia's Eucla Basin, Diatreme's 'shovel-ready' Cyclone Zircon Project is considered one of a handful of major zircon-rich discoveries of the past decade.

Diatreme has an experienced Board and management, with expertise across all stages of project exploration, mine development and project financing together with strong community engagement skills.

Diatreme's silica sand resources will contribute to global decarbonisation by providing the necessary high-grade silica for use in the solar PV industry. The Company has a strong focus on ESG, working closely with Traditional Owners and all other key stakeholders to ensure the long-term sustainability of our operations, including health, safety and environmental stewardship.

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

REFERENCES TO PREVIOUS ASX RELEASES

This announcement contains references to the following ASX releases:

- MOU signed with Ports North on Northern Silica Project – 18 August 2022
- Quarterly Activities Report – 29 July 2022
- Mining Lease Application lodged for Northern Silica Project – 5 July 2022

For personal use only

- Transformational strategic partnership and placement – 27 June 2022
- Resource grows to 200Mt across high-grade silica projects – 17 March 2022
- Diatreme expands Northern Resource Project exploration – 23 February 2022
- Diatreme discovers 2nd major high-grade silica deposit – 10 January 2022

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.

Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results expressed or implied by any forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements.

Disclaimer: Diatreme and its related bodies corporate, any of their directors, officers, employees, agents or contractors do not make any representation or warranty (either express or implied) as to the accuracy, correctness, completeness, adequacy, reliability or likelihood of fulfilment of any forward-looking statement, or any events or results expressed or implied in any forward-looking statement, except to the extent required by law. Diatreme and its related bodies corporate and each of their respective directors, officers, employees, agents and contractors disclaims, to the maximum extent permitted by law, all liability and responsibility for any direct or indirect loss or damage which may be suffered by any person (including because of fault or negligence or otherwise) through use or reliance on anything contained in or omitted from this presentation. Other than as required by law and the ASX Listing Rules, Diatreme disclaims any duty to update forward looking statements to reflect new developments.

For personal use only

Table 5: Existing Resource Estimate, Galalar Silica Project

JORC Resource Category	Silica sand (Mt)	Silica sand (Mm^3)	Cut-off SiO_2 (%)	SiO_2 %	Fe_2O_3 %	TiO_2 %	LOI %	Al_2O_3 %	Density (t/m^3)
Measured	43.12	26.95	98.5	99.21	0.09	0.11	0.16	0.13	1.60
Indicated	23.12	14.45	98.5	99.16	0.09	0.13	0.24	0.10	1.60
Inferred	9.22	5.76	98.5	99.10	0.11	0.16	0.27	0.11	1.60
Total**	75.46	47.16	98.5	99.18	0.09	0.12	0.20	0.12	1.60

- Resource estimate current as of 13 September 2021, with no material change.

** Total inferred, indicated and measured

Table 6: Probable Ore Reserve, Galalar Silica Project

JORC Category	Silica Sand (Mt)	Silica Sand (Mm3)	Cut-off SiO_2 (%)	Waste (Mt)	SiO_2 %	Fe_2O_3 %	TiO_2 %	LOI %	Al_2O_3 %	Density (t/m^3)
Probable Ore Reserves	32.53	20.33	98.5	0.04	99.20	0.08	0.11	0.16	0.13	1.60

- Resource estimate current as of 9 November 2021 – with no material change.

Table 7: Si2 North Prospect – Mineral Resource Estimate

JORC Resource Category	Silica Sand (Mt)	SiO_2 (%)	Fe_2O_3 (%)	TiO_2 (%)	Al_2O_3 (%)	LOI (%)	Total	Silica Sand (Mm^3)	Density (t/m^3)	Cut-off Grade SiO_2 (%)
Inferred	124.1	99.33	0.11	0.15	0.08	0.12	99.85	77.6	1.6	98.5

- Resource estimate current as of 17 March 2022 – with no material change.

For personal use only

Table 8: PLT Drill Hole Details

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
AH001	306235	8342968	35	2	2	99.15	0.08	0.39	0.11	0.11
AH002	305906	8343083	47	4	4	99.58	0.05	0.08	0.06	0.13
AH003	305359	8343884	40	1.5	1.5	99.19	0.13	0.31	0.08	0.09
AH004	305323	8343720	43	1.2	1.2	99.72	0.03	0.05	0.05	0.19
AH005	305487	8343556	39	1.5	1.5	99.53	0.03	0.05	0.06	0.49
AH006	304801	8344010	35	1	1	100	0.02	0.06	0.05	0.23
AH007	304823	8344165	44	1	1	99.46	0.03	0.07	0.06	0.2
AH008	304891	8343133	41	1.4	1.4	100	0.03	0.06	0.02	0.12
AH009	304932	8342933	39	1.8	1.8	99.64	0.03	0.07	0.06	0.2
AH010	305088	8343088	40	1	1	99.73	0.03	0.04	0.04	0.22
AH011	305379	8342893	39	1.6	1.6	99.38	0.09	0.19	0.08	0.18
AH012	304351	8343639	48	2.8	2.8	99.67	0.08	0.17	0.05	0.08
AH013	304279	8343839	43	1.2	1.2	99.97	0.05	0.1	0.05	0.16
AH014	304474	8343840	40	1.4	1.4	99.31	0.07	0.13	0.07	0.39
AH015	306289	8343268	35	1.5	1.5	99.63	0.04	0.1	0.04	0.18
AH016	306244	8343400	32	1.8	1.8	99.5	0.02	0.06	0.04	0.11
AH017	305466	8344601	34	2	2	99.54	0.04	0.09	0.09	0.16
AH018	305260	8344617	32	2	2	99.1	0.13	0.28	0.08	0.28
AH019	304919	8344699	35	0.5	0.5	99.27	0.07	0.15	0.06	0.18
AH020	304957	8344479	34	1	1	99.47	0.04	0.09	0.04	0.19
AH021	305109	8344369	34	1.5	1.5	99.15	0.07	0.13	0.07	0.14
AH022	305273	8344313	38	1.8	1.8	98.96	0.15	0.31	0.07	0.27
AH023	305123	8344531	33	0.5	0.5	99.08	0.06	0.11	0.06	0.07
AH024	304220	8342604	46	2.8	2.8	99.75	0.02	0.05	0.04	0.12
AH025	304232	8342772	43	2	2	100	0.02	0.04	0.04	0.08
AH026	305318	8342723	45	1.8	1.8	99.31	0.1	0.17	0.08	0.23
AH027	304953	8342626	42	4	4	99.45	0.08	0.19	0.05	0.19
AH028	304681	8342578	43	1.8	1.8	99.69	0.01	0.03	0.03	0.13
AH029	304504	8342682	42	2	2	99.69	0.05	0.09	0.05	0.12
AH030	303800	8343333	49	2	2	99.82	0.04	0.07	0.07	0.03
AH031	304072	8343315	45	1.5	1.5	99.7	0.02	0.04	0.07	0.03
AH032	305657	8342794	37	1.2	1.2	99	0.04	0.09	0.05	0.75
AH033	303802	8343105	43	2	2	99.13	0.02	0.03	0.04	0.41

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
AH034	303290	8342900	49	3	2	99.42	0.08	0.15	0.06	0.13
AH035	303925	8342960	42	1.8	1.8	99.34	0.02	0.03	0.03	0.21
AH036	304484	8342235	42	1	1	99.5	0.05	0.09	0.05	0.31
AH037	304573	8341947	41	1.5	1.5	99.5	0.07	0.14	0.07	0.13
AH038	304168	8342418	56	2.5	1.5	99.58	0.03	0.05	0.04	0.1
AH039	306422	8344410	31	1.3	1.3	99.54	0.02	0.12	0.05	0.14
AH040	306305	8344595	30	1.3	1.3	99.13	0.03	0.15	0.05	0.17
AH041	306224	8344878	31	1.6	1.6	99.53	0.01	0.09	0.03	0.17
AH042	306426	8345114	28	1.3	1.3	99.46	0.04	0.15	0.05	0.3
AH043	306292	8345226	28	3	2	99.85	0.02	0.1	0.04	0.1
AH044	306427	8345400	25	1.3	1.3	99.73	0.03	0.06	0.03	0.11
AH045	306186	8345367	26	2	2	99.26	0.03	0.12	0.05	0.19
AH046	305047	8343655	36	1.8	0.8	99.82	0.04	0.11	0.05	0.15
PLT137	309276	8339287	56	2	2	99.71	0.07	0.2	0.1	0.21
PLT138	305840	8342948	36	6.4	6.4	99.05	0.22	0.41	0.1	0.23
PLT139	305686	8343089	39	6	5	99.3	0.18	0.32	0.1	0.2
PLT140	305530	8343236	38	9.5	9.5	99.29	0.16	0.28	0.09	0.21
PLT141	305370	8343380	42	8.5	8.5	99.54	0.09	0.14	0.07	0.21
PLT142	305235	8343541	40	6	6	99.24	0.13	0.24	0.08	0.3
PLT143	305125	8343716	42	8.8	8.8	99.62	0.05	0.08	0.05	0.23
PLT144	304955	8343842	38	9.5	9.5	99.75	0.06	0.1	0.06	0.19
PLT145	304393	8343097	44	5	5	99.47	0.07	0.13	0.05	0.42
PLT146	304474	8343287	43	7	7	99.53	0.1	0.17	0.06	0.22
PLT147	304510	8343468	44	6.5	6.5	99.46	0.08	0.15	0.06	0.24
PLT148	304294	8343546	44	5.5	5.5	99.55	0.07	0.15	0.06	0.35
PLT149	304098	8343649	47	10.5	10.5	99.7	0.07	0.12	0.06	0.15
PLT150	304167	8343104	43	2.5	2.5	99.36	0.09	0.17	0.07	0.18
PLT151	304537	8342929	44	5.5	5.5	99.52	0.12	0.22	0.08	0.15
PLT152	304705	8342821	46	4	4	99.33	0.12	0.22	0.08	0.21
PLT153	304955	8342762	43	4.8	4.8	99.61	0.12	0.21	0.06	0.22
PLT154	305357	8345053	26	4	3	99.75	0.02	0.08	0.04	0.07
PLT155	305441	8344862	30	4	3	99.49	0.09	0.25	0.06	0.12
PLT156	305598	8344739	32	4	3	99.42	0.06	0.23	0.09	0.17
PLT157	305644	8344573	40	13	13	99.6	0.1	0.17	0.07	0.09

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
PLT158	305501	8344301	39	12	12	99.42	0.12	0.24	0.07	0.18
PLT159	305661	8344263	35	9	9	99.4	0.06	0.12	0.06	0.19
PLT160	305433	8344167	40	13	13	99.63	0.07	0.1	0.07	0.12
PLT161	305477	8344030	32	6.6	6.6	99.43	0.03	0.08	0.05	0.24
PLT162	305609	8344122	34	6.5	6.5	99.37	0.06	0.15	0.08	0.25
PLT163	305272	8344147	40	7	7	99.57	0.07	0.14	0.08	0.26
PLT164	305090	8344042	34	6	5	99.53	0.05	0.1	0.06	0.14
PLT165	304563	8341866	47	18	18	99.32	0.15	0.2	0.13	0.09
PLT166	304422	8342049	45	15.5	15.5	99.31	0.13	0.18	0.13	0.12
PLT167	304301	8342207	47	15.5	15.5	99.26	0.11	0.16	0.11	0.17
PLT168	304139	8342386	60	24.5	24.5	99.15	0.15	0.2	0.12	0.09
PLT169	303924	8342655	48	16	16	99.68	0.05	0.05	0.05	0.13
PLT170	304025	8342510	49	17	17	99.35	0.1	0.15	0.1	0.12
PLT171	304696	8341875	48	14	14	99.55	0.08	0.13	0.07	0.14
PLT172	304729	8341691	44	9.5	9.5	99.52	0.06	0.11	0.06	0.16
PLT173	304934	8341673	46	14	13	99.54	0.05	0.08	0.05	0.16
PLT174	304041	8342703	45	10	10	99.44	0.07	0.12	0.06	0.16
PLT175	304016	8342909	42	7	7	99.59	0.03	0.06	0.06	0.21
PLT176	303920	8343007	42	10.5	10.5	99.6	0.03	0.05	0.05	0.12
PLT177	306292	8344409	33	2.5	2.5	99.05	0.03	0.2	0.06	0.23
PLT178	306062	8344664	32	10	10	99.44	0.02	0.06	0.04	0.26
PLT179	305928	8344908	29	8	8	99.51	0.01	0.05	0.03	0.17
PLT180	305699	8345218	31	9.5	9.5	99.6	0.02	0.04	0.04	0.07
PLT181	305675	8345070	28	8	8	99.48	0.02	0.05	0.04	0.17
PLT182	305520	8345252	27	7	7	99.49	0.02	0.06	0.06	0.13
PLT183	305387	8345463	29	12	12	99.51	0.02	0.05	0.04	0.1
PLT184	305245	8345531	28	8.5	8.5	99.67	0.02	0.04	0.03	0.15
PLT185	305416	8345575	27	11.5	11.5	99.82	0.01	0.03	0.03	0.09
PLT186	305594	8345542	24	1.8	1.8	99.16	0.03	0.1	0.06	0.64
PLT187	305651	8345355	28	6	6	99.7	0.02	0.06	0.03	0.15
PLT188	305863	8345092	28	8	8	99.65	0.02	0.06	0.03	0.18
PLT189	303505	8332807	28	1.5	1.5	98.83	0.05	0.08	0.05	0.47
PLT190	303414	8332958	37	1	1	98.84	0.06	0.08	0.04	0.32
PLT191	303314	8333120	31	1	1	99.24	0.04	0.08	0.05	0.24

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
PLT192	303281	8333289	28	1	1	99.39	0.04	0.11	0.06	0.37
PLT193	303079	8333386	25	1	1	98.94	0.05	0.15	0.13	0.24
PLT194	303194	8333490	31	3	3	98.69	0.06	0.11	0.05	0.35
PLT195	303238	8333689	39	11	11	98.98	0.13	0.2	0.07	0.13
PLT196	302483	8343432	38	9.8	9.8	99.09	0.15	0.23	0.08	0.12
PLT197	302314	8343552	45	14.8	14.8	98.54	0.26	0.42	0.09	0.11
PLT198	302165	8343644	43	18	18	98.69	0.23	0.39	0.09	0.17
PLT199	302023	8343747	42	19	19	98.47	0.27	0.46	0.08	0.16
PLT200	301823	8343889	47	22.5	22.5	99.02	0.12	0.19	0.07	0.11
PLT201	301652	8344023	44	21	20	99.15	0.11	0.16	0.07	0.06
PLT202	301534	8344157	40	17.8	16.8	99.14	0.11	0.18	0.07	0.09
PLT203	301416	8344299	39	16.8	16.8	99	0.14	0.23	0.07	0.14
PLT204	301236	8344444	44	25	24	99.22	0.13	0.23	0.07	0.09
PLT205	301381	8344623	26	4	3	99.3	0.04	0.11	0.06	0.14
PLT206	302646	8343348	43	9.5	9.5	99.13	0.11	0.19	0.07	0.13
PLT207	302812	8343227	42	7.5	8	99.41	0.12	0.2	0.08	0.06
PLT208	302884	8343021	39	4.8	4.8	98.74	0.18	0.35	0.09	0.15
PLT209	303050	8342876	37	3.5	3.5	99.18	0.08	0.15	0.07	0.1
PLT210	302503	8343339	41	11	11	99.43	0.06	0.1	0.04	0.07
PLT211	302339	8343351	36	5.5	5.5	99.33	0.11	0.2	0.07	0.13
PLT212	302161	8343356	32	2.5	2.5	99.13	0.13	0.25	0.1	0.1
PLT213	301608	8343198	39	17	17	99.37	0.08	0.16	0.06	0.09
PLT214	301661	8343132	37	18	18	99.17	0.13	0.23	0.07	0.07
PLT215	301711	8343054	39	18.5	18.5	99.1	0.16	0.29	0.08	0.13
PLT216	301761	8342975	39	19	19	99.07	0.19	0.34	0.07	0.09
PLT217	301814	8342889	47	20.4	20.4	99.43	0.07	0.11	0.05	0.09
PLT218	301857	8342807	49	24.5	24.5	99.23	0.11	0.18	0.06	0.11
PLT219	301918	8342722	40	16	16	99.03	0.14	0.22	0.06	0.13
PLT220	301967	8342635	36	4.8	4.8	99.09	0.09	0.16	0.06	0.19
PLT221	301670	8342953	38	14	14	99.04	0.12	0.2	0.06	0.14
PLT222	301584	8343022	36	12	12	99.1	0.14	0.24	0.07	0.2
PLT223	301498	8343088	37	15	15	98.92	0.16	0.28	0.07	0.12
PLT224	301408	8343137	44	26.4	26.4	99.27	0.07	0.12	0.05	0.08
PLT225	301346	8343157	50	34.5	34.5	99.42	0.06	0.1	0.04	0.08

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
PLT226	303019	8341279	48	21	21	99.41	0.08	0.13	0.06	0.1
PLT227	303086	8341210	46	17.9	17.9	99.29	0.1	0.18	0.07	0.1
PLT228	303152	8341147	44	15	15	99.28	0.1	0.18	0.07	0.08
PLT229	303231	8341079	40	13	12	98.8	0.11	0.19	0.06	0.08
PLT230	303307	8341016	41	12.6	11.6	99.16	0.1	0.17	0.06	0.08
PLT231	303388	8340953	42	13	12	99.18	0.06	0.11	0.06	0.1
PLT232	303471	8340851	46	13.6	12.6	99.22	0.07	0.11	0.06	0.09
PLT233	301957	8345183	38	11.7	11.7	98.84	0.15	0.25	0.07	0.14
PLT234	302233	8345099	52	21	20	99.35	0.05	0.08	0.04	0.12
PLT234M	302239	8345096	53							
PLT235	302295	8344937	50	16.6	16.6	99.38	0.08	0.13	0.05	0.14
PLT236	302399	8344766	48	15.4	15.4	99.15	0.08	0.14	0.06	0.17
PLT237	302539	8344592	55	23.5	22.5	99.23	0.1	0.17	0.05	0.13
PLT238	302696	8344519	56	10	9	99.49	0.04	0.08	0.06	0.24
PLT239	301730	8345499	43	17.6	16.6	99.68	0.06	0.09	0.06	0.05
PLT240	301629	8345662	48	17.7	17.7	99.39	0.1	0.18	0.06	0.07
PLT241	301541	8345824	58	32.8	31.8	98.9	0.16	0.25	0.08	0.05
PLT241M	301536	8345823	58			98.84	0.24	0.41	0.1	0.08
PLT242	303962	8335434	44	15.6	14.6	99.39	0.05	0.05	0.06	0.11
PLT243	307200	8342658	51	9	9	99.28	0.06	0.1	0.07	0.1
PLT244	307226	8340676	58	23	22	99.25	0.09	0.12	0.06	0.15
PLT245	307340	8340880	61	30	30	99.31	0.08	0.12	0.08	0.14
PLT246	307531	8340772	49	17.7	16.7	99.47	0.05	0.09	0.08	0.17
PLT247	307196	8341060	59	33	33	99.71	0.07	0.2	0.1	0.21
AH22_0047	301831	8343285	26	5						
AH22_0048	301708	8343407	29	5						
AH22_0049	301695	8343151	32	3						
AH22_0050	303774	8337924	32	2						
AH22_0051	303711	8338012	35	3.5						
AH22_0052	303770	8338042	42	5						
AH22_0053	303687	8338143	44	5						
AH22_0054	303653	8338104	32	4.5						
AH22_0055	303581	8338191	32	4						
AH22_0056	303638	8338228	41	5						

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
AH22_0057	303574	8338299	43	5						
AH22_0058	303517	8338275	35	4						
AH22_0059	303516	8338373	39	5						
AH22_0060	303456	8338355	35	5						
AH22_0061	303429	8338451	33	5						
AH22_0062	303373	8338428	32	5						
AH22_0063	303326	8338541	28	4						
AH22_0064	303289	8338504	32	5						
AH22_0065	303204	8338571	34	5						
AH22_0066	301714	8343235	31	2						
AH22_0067	301622	8343348	33	5						
AH22_0068	301800	8343152	31	2						
AH22_0069	301750	8343081	37	4.5						
AH22_0070	301911	8342844	43	2						
AH22_0071	302096	8342629	29	2						
AH22_0072	301998	8342740	33	2.5						
AH22_0073	301854	8342908	39	4						
AH22_0074	301804	8342999	32	3						
AH22_0075	301933	8343153	27	3						
AH22_0076	301391	8342999	40	5						
AH22_0077	301373	8343078	46	5						
AH22_0078	301342	8343073	43	5						
AH22_0079	301471	8343162	36	5						
AH22_0080	301519	8343026	36	5						
AH22_0081	301575	8343073	35	5						
AH22_0082	301614	8342941	33	5						
AH22_0083	301646	8343015	38	5						
AH22_0084	301700	8342878	38	5						
AH22_0085	301744	8342936	41	5						
AH22_0086	301775	8342817	36	5						
AH22_0087	301545	8343266	47	5						
AH22_0088	303250	8343382	58	5						
AH22_0089	303520	8343405	47	5						
AH22_0090	303393	8343145	45	5						

For personal use only

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
AH22_0091	303767	8343406	56	5						
AH22_0092	304049	8343362	55	5						
AH22_0093	303894	8343536	62	5						
AH22_0094	304284	8342914	53	5						
AH22_0095	305197	8342687	51	5						
AH22_0096	305359	8342978	52	5						
AH22_0097	305806	8342479	40	3						
AH22_0098	305682	8342449	49	5						
AH22_0099	305662	8342698	41	2						
AH22_0100	305628	8342620	46	5						
AH22_0101	305227	8343166	52	3						
AH22_0102	304825	8343300	68	5						
AH22_0103	304873	8343050	42	1						
AH22_0104	305035	8342984	39	1						
AH22_0105	305551	8342713	47	5						
AH22_0106	304609	8342215	46	3						
AH22_0107	304648	8342337	44	5						
AH22_0108	304627	8342475	45	5						
AH22_0109	304339	8342412	44	4						
AH22_0110	303963	8342636	52	5						
AH22_0111	304807	8343432	41	3						
AH22_0112	304594	8343597	46	5						
AH22_0113	304203	8343944	59	5						
AH22_0114	304113	8343855	47	5						
AH22_0115	304278	8343609	49	5						
AH22_0116	304509	8343931	39	5						
AH22_0117	304345	8344015	64	5						
AH22_0118	304470	8342424	46	3.5						
AH22_0119	304341	8342599	45	5						
AH22_0120	304058	8343042	41	2						
AH22_0121	303961	8343151	48	5						
AH22_0122	301780	8343595	26	3						
AH22_0123	301938	8343532	29	1						
AH22_0124	301939	8343408	30	1						

Hole ID	Easting	Northing	*Collar RL	Hole Depth	Sand Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	M	m	Average %				
AH22_0125	302009	8343264	28	1						
AH22_0126	302193	8343210	30	3						
AH22_0127	302346	8343239	34	3						
AH22_0128	302522	8343211	52	5						
AH22_0129	302534	8343516	34	2						
AH22_0130	302369	8343650	34	2						
AH22_0131	302317	8343456	40	5						
AH22_0132	302127	8343510	33	2						
AH22_0133	302233	8343754	33	2						
AH22_0134	302083	8343865	29	2						

COMPETENT PERSON STATEMENT

The information in this release that relates to Exploration Results and Exploration targets from the Si2 North Prospect 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). Sebrof Projects Pty Ltd have been engaged by Diatreme Resources Limited to prepare this independent report and there is no conflict of interest between the parties.

Mr. Mackenzie-Forbes 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).

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.

The information in this release that relates to Metallurgical Testwork Results is based on information reviewed and compiled by Mr Phillip McMurtrie, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie is a Mining Engineer and director of Tisana Pty Ltd (consulting to Diatreme Resources Limited). Tisana Pty Ltd has been engaged by Diatreme Resources Limited to prepare the relevant sections of this report and there is no conflict of interest between the parties.

For personal use only

Mr McMurtrie has sufficient experience 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).

Mr McMurtrie consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

For personal use only

For personal use only

JORC Code, 2012 Edition – Table 1 Report

Northern Resource Area PLT Exploration – May 2022

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.	• One (1) metre samples were collected from a vacuum drilling program. All (material) intervals were sampled. • The vacuum drill collected cuttings from a return cannister with 2-3kg (100% of drill material returned by the vacuum drill rig) samples collected and riffle split 50% and then bagged separately numbered calico sample bags. • Where bulk samples are collected, 100% of sample from cyclone is collected from a twin hole. • One (1) metre samples were collected from a hand auger drilling program. All (material) intervals were sampled. • Hand auger sample ranged between 1 and 2 kg per metre and were samples 100% once auger was cleaned of surface contamination. • Samples were submitted to ALS Laboratories (Brisbane) for drying, splitting (if required), pulverization in tungsten carbide bowl, and XRF (X-ray Fluorescence) analysis. • Sampling techniques are mineral sands "industry standard" for dry beach sands (SiO_2) and for low levels of impurities. • As the targeted mineralisation is silica sand (SiO_2), geological logging of the drill material is a primary method for identifying mineralization.
Drilling techniques	• Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Vacuum drilling was by a 4x4 tractor mounted drill rig with a blade drill bit diameter of 60mm equivalent to NQ sample size, using 1.8m rods. • Hand Auger holes were used in areas as first pass or where access did not warrant air vacuum drilling. • Holes were terminated when the very damp sand or water was intersected or in a basement layer (clay/coloured sands).
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Vacuum drilling achieved 100% sample recovery throughout. • No sample bias occurred between sample recovery and grade. • Vacuum drilling terminated immediately when damp clay basement or wet sands were intersected. • Hand auger sampling excluded contamination on the outside of the auger. from the sub-samples to prevent cross-contamination

For personal use only

Criteria	JORC Code explanation	Commentary
	• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• Geological logging of the total hole by field geologist was completed onsite, with retention of sample in chip trays to provide a visual sample record, photography and to allow subsequent re-interpretation of data if required. • Every 1m sample interval was geologically logged. Logging includes qualitative descriptions of colour, grain size, sorting, induration and estimates of heavy minerals, slimes and oversize utilising panning. • Logging has been captured through field drill log sheets and transferred via excel spreadsheets with daily update of field database and regular update of master database.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• The vacuum drill collected cuttings from a return cannister with 2-3kg (100% of drill material returned by the vacuum drill rig) samples collected. Samples were riffle split 50% on the drill rig and bagged in numbered calico sample bags. Split samples were between 1kg and 2kg. • Hand auger sampling was bagged once auger was cleaned and 100% of sample was bagged in numbered calico sample bags. • Sample size (500g - 3kg) is considered appropriate for the grain size of material. Average grain size is 87% material by weight between 0.125mm and 0.5mm.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether	• All assaying has been carried out by ALS Laboratories, Brisbane. ALS is a global leader with over 71 laboratories worldwide providing laboratory testing, inspection certification and verification solutions. ALS Quality Assurance and all ALS geochemical hub laboratories are accredited to ISO/IEC 17025:2017 for specific analyses, which includes their Townsville and Brisbane laboratories. ALS is NATA Accredited, Corporate Accreditation No. 825, Corporate Site No. 818. • XRF was chosen as the most cost-effective assaying method for silica for all exploration samples.

For personal use only

Criteria	JORC Code explanation	Commentary
	acceptable levels of accuracy (ie lack of bias) and precision have been established.	• There is an alternative ICP-MS (Induced Coupled Plasma Mass Spectrometry) method which has lower detection limits for the other oxides such as Fe_2O_3 and Al_2O_3, but the SiO_2 assay is determined by calculation and not a measured quantum. • Analysis of samples was via ALS's procedures designated ME-XRF26 (SiO_2 & trace elements) and OA-GRA05x (H_2O/LOI) by TGA furnace. Preparation and analysis of samples utilised tungsten-carbide pulverisation techniques. • Assaying was primarily to determine the silica (SiO_2%) percentage, but as part of the method results were obtained for a range of elemental oxides, namely Al_2O_3, BaO, CaO, Cr_2O_3, Fe_2O_3, K_2O, MgO, MnO, Na_2O, P_2O_5, SO_3, SrO, TiO_2. • Internal laboratory QAQC checks include the analyses of standards, blanks and duplicates. • ALS routinely run an ultra-pure blank every 50 samples. • Diatreme routinely run a blind duplicate utilising the discarded 50% split every 60 sample on average. • Acceptable levels of precision and accuracy were established.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company Personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• All data was captured and stored in both hard copy and electronic format. • Diatreme have conducted several twin holes comparing vacuum, air-core and hand auger drilling techniques at the geologically similar Galalar deposit confirming repeatability of drill results. To date, there is a strong correlation between results from different type holes and different assay batches. Downhole variability is matched in different drill programs and different assay batches. • Assay data had to be adjusted in some locations for the 0-1m interval due to minor topsoil contamination.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• All drill holes were initially located using a handheld GPS with an accuracy of 3-5m for Easting and Northing. GDA94 Zone 55 grid coordinate system was used. • Shuttle Radar Topography Mission (SRTM) Digital Elevation Model was used as the topographic surface. Collar RL's draped against this surface verifies the accuracy of the hole locations. • The SRTM data in this region is considered low quality and in general the topography is averaged with the topographic highs and lows typically containing the highest variation when

For personal use only

Criteria	JORC Code explanation	Commentary
		compared to LiDAR. However, this level topographic control is considered adequate for exploration purposes.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• Drill spacing and distribution should be sufficient to allow valid interpretation of geological and grade continuity for low confidence resource estimation contingent on sand quality. • The level of accuracy with the Digital Elevation Model (Shuttle Radar Topography Mission/SRTM), drill spacing and interpreted geological continuity allowed one resource category to be defined (Inferred Mineral Resource). • No sample compositing was undertaken.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• All drilling is vertical, intersecting the dune field geology essentially normal or at 90 degrees to the dune sand formation. Drilling has been completed along dune traverse lines along semi-regular spacing. • The dune profiles have been observed in a number of vertical exposures within the wider dune field complex. The orientation of the drilling undertaken is assessed to provide representative intersections and unbiased data for the deposit.
Sample security	• The measures taken to ensure sample security.	• Sample collection and transport directly from the field was undertaken by company personnel following company procedures. • Samples were placed into labelled calico bags, tied, and transported to the Cooktown base. They were then palletised and directly truck transported to ALS Laboratories in Brisbane. • Received samples were checked against the sample dispatch documents and a reconciliation report provided by the laboratory.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Reviews were conducted internally and independently by Diatreme Resources Limited and third-party consultants Ausrocks Pty Ltd and found to be consistent.

For personal use only

Section 2 **Reporting of Exploration Results**
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• The Northern Resource Area is located adjacent to the coastline in Far North Queensland, approximately 53km north of Cooktown. The project is adjacent to the southwest corner of the Cape Flattery Silica Mines (CFSM) Mining Lease. CFSM has been in operation since 1967 and is Queensland's largest producer of world class silica and the highest production of silica sand of any mine in the world • The project is located at the northern end of the Cape Flattery/Cape Bedford dune field complex within the Exploration Permits for Minerals (EPM) 17795 & 27212. The Northern Resource Area and nearly all the EPM is located on one land title, Lot 35/SP232620, a freehold lot of 110,000 hectares. The Project and EPM is in the Mareeba Mining District and falls within the Hope Vale Aboriginal Shire Council area. This lies approximately 35km north of the township of Hope Vale, with a population of approximately 1,500 in the Hope Vale Aboriginal Shire Council. • Diatreme was granted EPM 17795 "Cape Bedford" on 22 June 2016 for a period of 5 years targeting heavy mineral sand and silica sand. The EPM was granted under protected Native Title Protection Conditions. A renewal for an additional 5 years was lodged in 2021. As of December 2021, the tenure was in good standing. • EPM 17795 is an extensive EPM comprising 147 continuous subblocks (approximately 480km2) covering the majority of the Cape Flattery-Cape Bedford Quaternary dune field complex. The dune field complex is characterised by large transgressive elongate and parabolic sand dunes that have a predominant strike of 320-330 degrees. The extensive dune field complex of massive sand extends inland from the present coast for approximately 10km and for approximately 50km north to south • Three neighbouring EPM's related have been taken up by Diatreme, EPM 27212 (granted 27th September 2021), EPM 27265 (granted 30th January 2020) and application EPM 27430 (granted 26th October 2021).

For personal use only

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Exploration for silica sand has been undertaken in the Cape Flattery – Cape Bedford area in 11 Authorities to Prospect (ATP's) or Exploration Permits for Minerals (EPM's) since the 1960's. In general, past exploration of the dune field has primarily focused on the prominent high-level active dunes of clean white silica sand. Potential for economic concentrations of heavy mineral sand also exists throughout the lower dune elevation and older sand areas. • The only work relevant to the current Northern Resource Area are two (2) "Dormer Holes" completed by CFSM in 1983/84. In 1983/1984, CFSM carried out a regional exploration program over areas to the west and the north-west of their mining lease at Cape Flattery. 12 holes (designated West No. 1 to West No. 12) were designed but results are only publicly available for West No. 10 and West No. 12. CFSM didn't report (or analyse) for SiO_2 and only completed HM and Fe_2O_3 by methods which are not directly comparable to contemporary XRF analysis. As there are no assay certificates or any QA/QC for this historic data, it is considered qualitative and is not used in the current Mineral Resource Estimate but is referenced for transparency.
Geology	• Deposit type, geological setting and style of mineralisation.	• The Northern Resource Area covers the Greater Cape Flattery Dune field north of the McIvor River. Exploration has concentrated on and around the S1/S2 Dune Complex which extends 12km in strike and is up to 4,000m in width with elevations between 40 and 140mRL. • The greater dune system was established in the Pleistocene and is relatively static under established vegetation cover. Locally younger dunes are superimposed on top and still mobile but uncommon on the more vegetated areas. • The Northern Resource Area is located on coastal plain and Hodgkinson Formation metamorphics cropping out to the east where they rise to form Cape Flattery. The dunes elevation ranges from 0mRL near the coastline up to 140m RL on the main dune. The S1/S2 dune complex is bound to the east and west by interdune wetlands and lowlands. The Main Dune System rises from the coast in the southeast.

For personal use only

Criteria	JORC Code explanation	Commentary
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ▪ easting and northing of the drill hole collar ▪ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ▪ dip and azimuth of the hole ▪ down hole length and interception depth ▪ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	• A tabulation of the material drill holes reported are tabulated within the relevant target area sections of the announcement
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• The grade of silica sand is relatively consistent within the aeolian dunes and the drill hole aggregate intercepts use a simple arithmetic average. • A cut-off grade of 98.5% silica has been used for the Mineral Resource Estimation. • No grade truncations or aggregation methods were employed.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	• All drilling was vertical (-90°) intersecting undulating flat-lying aeolian dune sands. • Down hole length correlates with true width.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• Plan view of drill hole collar locations and appropriate sectional views are within the text.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades	• All relevant exploration assay results have been reported.

Criteria	JORC Code explanation	Commentary
	and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• Iron (Fe_2O_3) in various forms may potentially act as a contaminant for very high-quality "processed" end products. • The mineralisation is unconsolidated sand • Geological observations are consistent with aeolian dune mineralisation • Future metallurgical testing is planned.
Further work	• The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• A detailed aerial survey (LiDAR) for the project is considered integral to this ongoing work. • Undertake further infill drilling to best complete a semi-gridded coverage across the entire Resource Area, to upgrade the Mineral Resource categories and size. • Conduct bulk density measurements. • Verify topsoil thickness across the resource area, given the variation in vegetation density throughout the Resource Area. • Review the model and especially isolated drillhole and assay anomalies, including high Fe_2O_3 zones. • Ensure Sampling and Assaying Procedures are continuously reviewed and improved. Maintain systematic application of assay checking.

For personal use only