ASX ANNOUNCEMENT

17 March 2022

Resource Base Grows to ~200Mt Across High-Grade Silica Projects

- **Significant expansion to Inferred Mineral Resource for Diatreme's Si2 North Project, increasing by 134% from 53 million tonnes (Mt) to 124 Mt @ 99.33% silica (SiO_2)**
- **Si2 North remains open to southeast, with potential for additional drilling to identify further significant extensions to silica resource**
- **Drilling results indicate dunes up to 40m thick, averaging 14m, covering area of approximately 556 ha**
- **Diatreme assessing optimal approaches for development over entire Northern Regional Project area, including mining lease pre-lodgement discussions with relevant stakeholders and government agencies**
- **Material step change in resource inventory to total of 199.5 Mt silica now defined in resources, across suite of high-grade silica projects and amid continued growth in demand from Asia's booming solar PV industry.**

Emerging silica sands explorer and high purity silica producer, Diatreme Resources Limited (ASX:DRX) (the Company) continues to expand its high-grade silica sand resource in North Queensland, North of Cooktown ,with the Company's Si2 North Project resource recording a significant increase of around 134% to 124 Mt.

Located within the Northern Resource Project (NRP) of Diatreme's Cape Bedford (EPM17795) exploration tenement, Si2 North represents a major and additional new project to the Company's existing silica sand reserve at its Galalar Silica Sand Project (GSSP), which contains an estimated 75.5 Mt (refer ASX release 20 September 2021).

The Galalar and Si2 North projects deliver a total resource estimated at **199.5** Mt, providing a large resource base in a stable and ESG compliant jurisdiction amid increasing demand growth from Asia's booming solar PV industry.

Welcoming the latest upgrade, Diatreme's CEO Neil McIntyre said: *"This latest huge expansion now starts to show the enormous scale of our silica sand resources now standing at circa 200 million tonnes across both the Galalar and Si2 North projects, which will continue to increase as we intensify our exploration efforts across multiple dune systems.*

+61 7 3397 2222

Unit 8, 55–61 Holdsworth St
Coorparoo, Qld, 4151

diatreme.com.au

"Our Galalar Silica Project remains our immediate development priority given its advanced stage, however having this second exceptional and growing high-grade resource will add to our project development pipeline in the medium term.

"Diatreme also has an important role to play regionally providing long-term and sustainable economic benefits for the local communities, while supporting the world's clean energy future."

The expanded Inferred Mineral Resource was estimated by independent industrial minerals mining engineering consultants Ausrocks Pty Ltd (refer attached summary report). The additional resources confirm the target Si2 dune system has the potential to host significant silica sand resources, as incremental exploration has increased the resource size significantly.

Diatreme's intention is to examine the resources underpinning project economics and review lodgement of a mining lease application (MLA) covering the northern section of the tenement. This will potentially facilitate the "fast tracking" of a second independent major high purity silica operation, with the Si2 North Project benefitting from its proximity to the existing State-owned Cape Flattery port operations (Ports North owned).

Expanded Inferred Resource

A drilling program was undertaken in November 2021, with 47 vacuum drillholes for a total of 1,055.6m used to define this Maiden Inferred Mineral Resource Estimate in accordance with the JORC Code (2012). A further drill program leading to this expanded mineral resource estimate was carried out in December 2021. The drill program comprised 33 vacuum drill holes totalling 919.3m.

Table 1: Expanded Inferred Resource Estimate – Si2 North Project, March 2022

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	99.33	0.11	0.15	0.08	0.12	99.85	77.6	1.6	98.5

***Note**: Under the JORC Code, 2012 Edition an Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to support mine planning and evaluation of the deposit's economic viability. An Inferred Mineral Resource has a lower level of confidence than an Indicated or Measured Mineral Resource.*

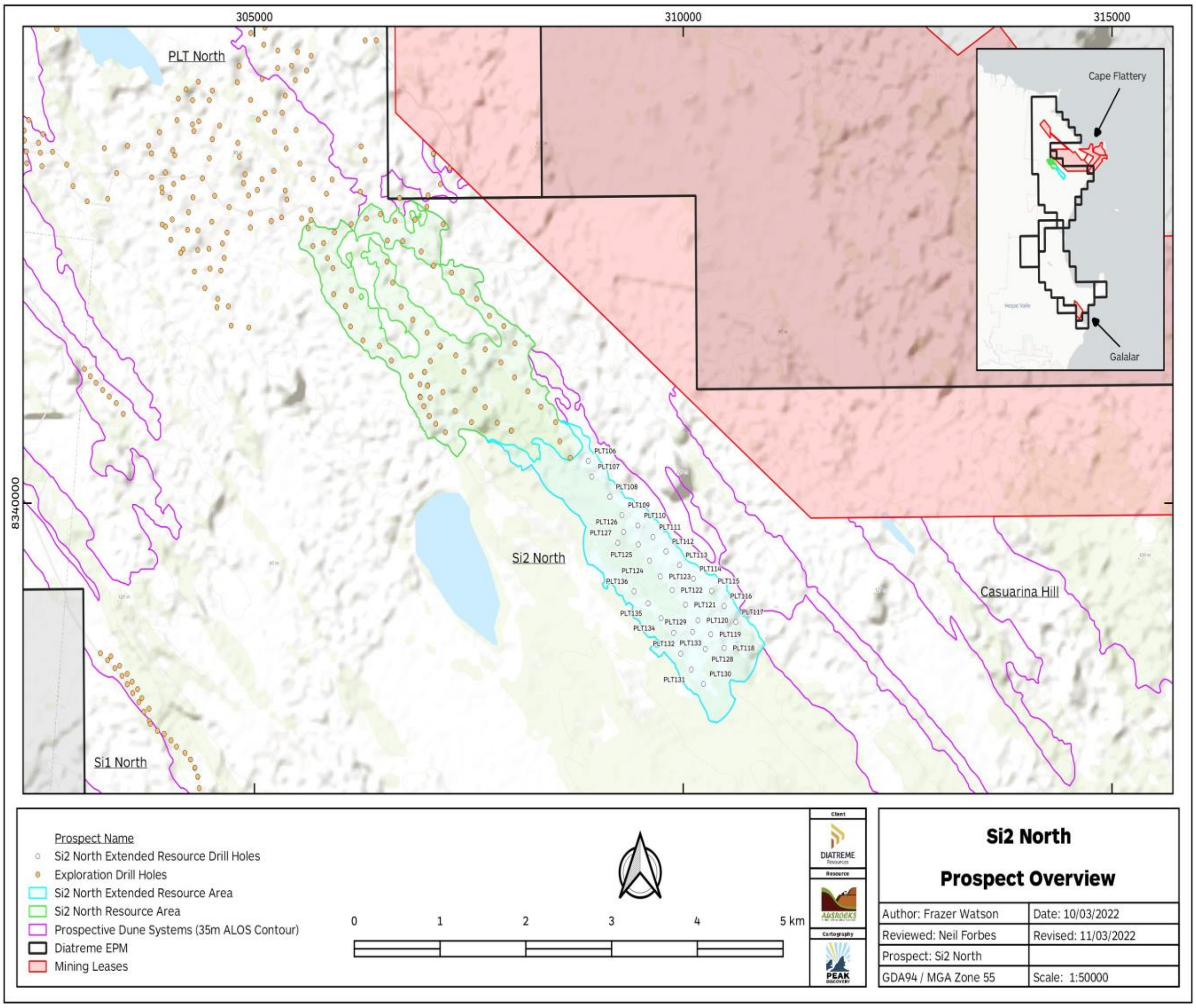


Fig 1: Si2 North Project Resource Overview

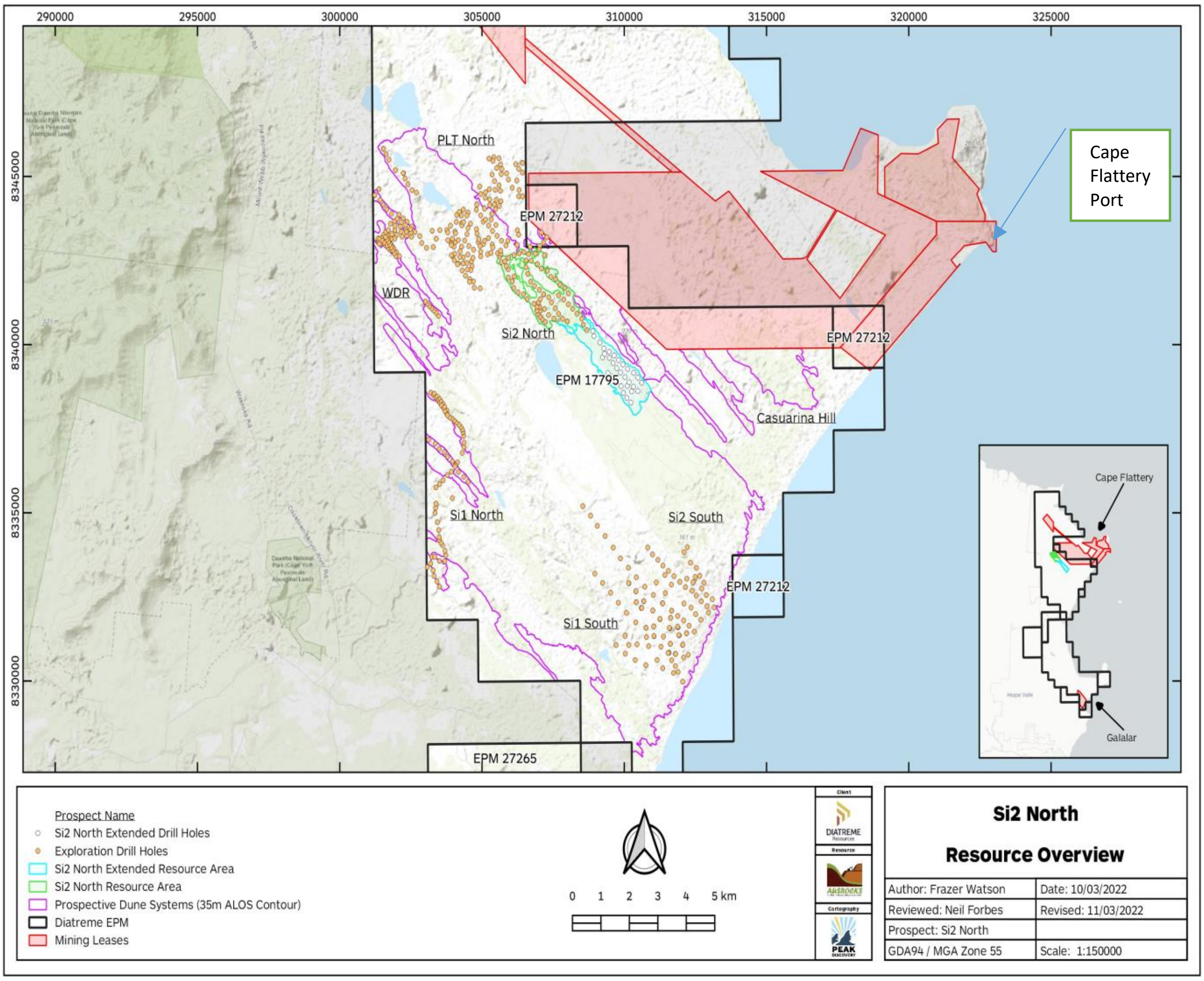


Figure 2: Si2 North Prospect Overview – Regional Setting

2022 Project Development

Diatreme is targeting the following next steps for the NRP, including the Si2 North deposit:

- Diatreme is continuing to drive exploration and project development efforts though the 2022 wet season, focussed on the PLT and Si2 North dune systems which are located within the NRP area. The focus is on multiple resource definition over a large area located immediately to the south west of the CFSM mine.

- Preliminary engineering scoping is determining optimal paths to permitting and potential development in the area. This will be factored into additional investigation of the Si2 North deposit, including solutions on infrastructure and export leveraged to the Cape Flattery Port.

- Bulk sample metallurgical test work on Si2 North will determine amenability to processing utilising Diatreme's Galalar optimised silica product processing criteria. This targets assessment and delivery of a high value low iron, high purity silica product.

- Preparation of Mining Lease Applications for this northern section of the tenement, aligned to appropriate solutions for infrastructure development and export, with the aim of fast tracking a second major high purity silica operation.

- Undertaking relevant logistics and economics studies as appropriate to determine the economic development case.

This announcement is authorised for release by the Board of Directors of the Company.

Neil McIntyre
Chief Executive Officer

Wayne Swan
Chairman

Contact – Mr Neil McIntyre - Ph – 07 33972222
Website - diatreme.com.au
E-mail - manager@diatreme.com.au

For media queries, please contact:
Anthony Fensom, Republic PR
anthony@republicpr.com.au
Ph: +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 Sand 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

ASX releases referenced in this release

- Diatreme expands Northern Resource Project exploration – 23 February 2022
- Diatreme discovers second major high-grade silica deposit – 10 January 2022
- Galalar Maiden Ore Reserve, PFS delivers substantial boost to new silica sand mine – 9 November 2021
- High priority northern exploration targets – progress update – 28 September 2021
- Galalar silica resource expands by 22% to 75.5 Mt – 20 September 2021

Table 2 – Total Resource Estimate Galalar Silica Project & Si2 North

	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)
Galalar	Measured	43.12	26.95	98.5	99.21	0.09	0.11	0.16	0.13	1.60
Galalar	Indicated	23.12	14.45	98.5	99.16	0.09	0.13	0.24	0.10	1.60
Galalar	Inferred	9.22	5.76	98.5	99.10	0.11	0.16	0.27	0.11	1.60
Galalar	**Sub Total****	**75.46**	47.16	98.5	99.18	0.09	0.12	0.20	0.12	1.60
Si2 North	**Inferred**	**124**	77.56	98.5	99.33	0.11	0.15	0.12	0.08	1.60
Combined	Total	**199.5**		98.5						1.60

** Resource estimate current as of 13 September 2021*

*** Galalar Sub-total inferred, indicated and measured*

Note: The Galalar Mineral Resource Estimate (75.46 Mt – Table 2) was used as a basis for conversion to a Maiden Mineral Ore Reserve Estimate (JORC 2012), which was completed (Table 3) concurrently for the Pre-Feasibility Study (PFS), the results of which were announced in ASX release 9 November 2021.

Table 3 – 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	**32.5**	**20.3**	**98.5**	**0.04**	**99.20**	**0.08**	**0.11**	**0.16**	**0.13**	**1.60**

COMPETENT PERSON STATEMENT

The information in this report that relates to Mineral Resources at the Si2 North Prospect is based on information, geostatistical analysis and modelling carried out by Mr Chris Ainslie, Project Engineer – Mining & Quarrying.

Mr Ainslie is an employee of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Ainslie worked under the supervision of Mr Carl Morandy, Mining Engineer who is Managing Director of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and Mr Brice Mutton, Senior 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.

Ausrocks 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 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).

Mr 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 Si 2 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.

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.

SI2 NORTH EXPANDED INFERRED MINERAL RESOURCE ESTIMATE

***Prepared for Diatreme Resources Limited by Ausrocks Pty Ltd* (Excerpts only)**

Exploration

Two vacuum drill programs have been carried out on the Si2 North Project.

- Program #1: The maiden drill program, carried out in November 2021, comprised 65 vacuum drill holes totalling 1,055.6m.
- Program #2: The drill program leading to this Expanded Mineral Resource Estimate was carried out in December 2021. The drill program comprised 33 vacuum drill holes totalling 919.3m. Drillholes were generally collared on the crest of a large elongate parabolic dune systems superimposed on older dunes.

Eighty (80) vacuum drill holes (47 from Program #1 and 33 from Program #2) were used to define this Expanded Inferred Mineral Resource Estimate in accordance with the JORC Code (2012).

Regional Geology

The Cape Bedford / Cape Flattery region of North Queensland is dominated by an extensive Quaternary sand mass and dune field which extends 50km from north to south and stretches inland from the present coast for approximately 10km. The major sand masses have developed through many Pleistocene cycles of sea level change and dune formation. Abundant sand was supplied by strong prevailing onshore winds blowing large volumes inland to form higher dunes. The large sand dunes systems were likely initiated by blowouts of older established Dune Systems and have evolved under conditions of persistent south-easterly winds on an exposed coastal aspect, with sand supplies replenished between marine transgressions. Multiple episodes of dune building are evident.

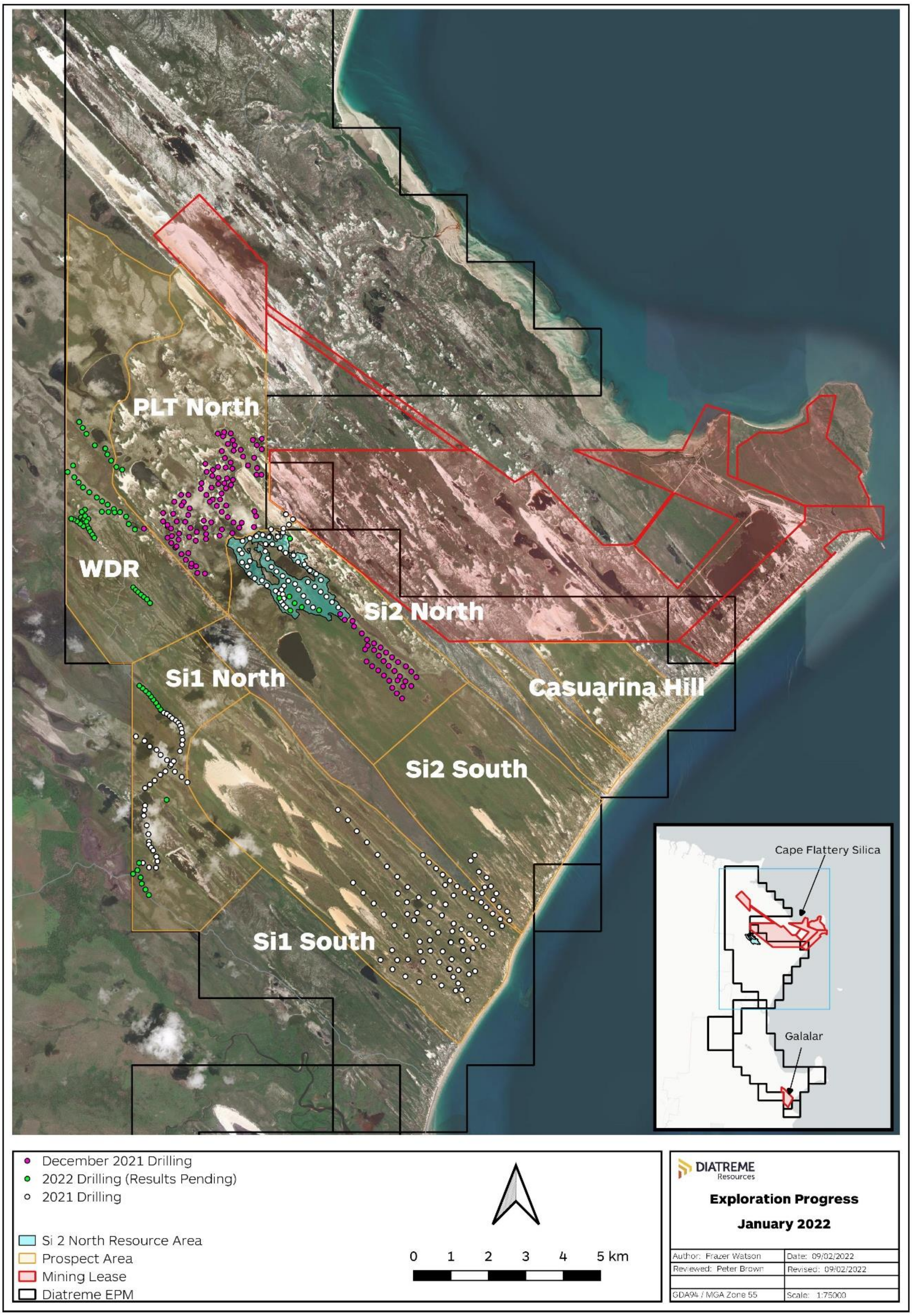
Local Geology

The Si 2 North Dune System is part of a large sand S1/S2 Dune System that extends 12km in strike and is up to 4,000m in width with elevations between 40 and 140mRL. Si 2 North occupies the NE extension of the S1/S2 Dune System.

The 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 Si Target 02.

The Si 2 North Dune System is located on coastal plain with an inlier of 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 Silica Target 2 is project is bound to the east and west by interdune wetlands and lowlands. The Main Dune System rises from the coast in the southeast.

Si2 North Prospect – Cape Flattery Regional Targets



Assays

Assay testing was carried for the vacuum drilling program drilling by ALS Laboratories, Brisbane. A total 1,738 SiO_2 assays were used in the Mineral Resource Estimate. Thirty (30) blanks and twenty-seven (27) duplicates have been employed to check repeatability of assay results. Four (4) holes were twinned for metallurgical testing.

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 XRay Diffraction (XRF) primarily to determine the silica (SiO_2%) percentage, but as part of the method results were obtained for a range of trace elements, 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 and ZrO_2. ALS provide detection limits of 0.01% for all elements, except Zircon (Zr) which is 0.007%. Examination of these elements, with exception of Fe_2O_3, TiO_2, Al_2O_3 and LOI, returned negligible results (below detection) and were not treated any further for this estimation.

Results for Fe_2O_3, TiO_2 and Al_2O_3 were very low but represent potential contaminants (as clays, iron oxides and heavy minerals) and have been further assessed. Consideration was given to the XRF method very marginally under-reporting silica grade resulting from the variability of Total results and possibly slightly overestimating iron (Fe_2O_3) grade, however no adjustments were made, and the data was used "as received" from ALS.

Metallurgical Testing

Standard characterisations have been conducted on a silica sand sample from Si2 North. The sample was brightly coloured white quartz, typical of most samples tested from the Cape Flattery region. The sample was a composite of intervals from PLT095M, PLT098M and PLT102M.

The sample produced a non-magnetic product with SiO_2 grades of 99.9% and Fe_2O_3 content of 120ppm. Testing confirms that conventional processing technologies are capable of producing high grade quality products.

Photo of Metallurgical Sample

Final Product from Sample

fraction	% wt to feed	Assay (%)														
		SiO_2	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	Na_2O	P_2O_5	SO_3	TiO_2	ZrO_2	MnO	V_2O_5	Cr_2O_3	LOI_{1000}
		Sample 5														
-710+45µm feed	99.7	99.6	0.066	0.004	0.076	0.003	0.003	0.002	n/a	n/a	0.124	n/a	n/a	n/a	<0.01	0.04
gravity float (-2.7sg)	99.3	99.8	0.028	0.003	0.015	0.003	0.001	0.001	n/a	n/a	0.018	n/a	n/a	n/a	<0.01	0.06
attritioned float (+106µm)	98.0	99.9	0.026	0.004	0.013	0.003	0.001	0.001	n/a	n/a	0.016	n/a	n/a	n/a	<0.01	0.01
non-magnetic float	97.4	99.9	0.025	0.004	0.012	0.003	0.001	0.001	n/a	n/a	0.015	n/a	n/a	n/a	<0.01	0.02
slimes (-45µm)	0.2	93.4	0.35	0.13	1.94	0.02	0.04	n/a	0.015	0.03	1.00	0.13	0.04	0.01	0.014	2.51
slimes post attritioning (-106µm)	1.3	99.25	0.135	0.013	0.075	0.004	0.012	0.010	0.001	0.004	0.114	n/a	0.004	<0.001	0.001	0.18

Cut-Off Grade

A silica (SiO_2 %) grade cut-off was used to define the in-situ resource to achieve a marketable high purity silica sand. Geological logging and returned assay grades and intersections showed an obvious grade demarcation of ore versus waste at 98.5% SiO_2. This was further supported by statistical analysis and representation. Lengthy continuous vertical intervals of >98.5% SiO_2 was the norm, and these intervals were used for the modelling and Mineral Resource Estimate. The clear in-situ grade demarcation of >98.5% SiO_2 persisted through the exploration program and across the whole of the Resource Area.
Only in a few rare drillholes did the resource intervals include intermediate sub-marginal silica grades, but these intervals were restricted to several vertical meters or less. Here the grades were >96% SiO_2 in any case.
Consideration was given to the XRF method very marginally under-reporting silica grade resulting from the variability of Total results and possibly slightly overestimating iron (Fe_2O_3) grade, however no adjustments were made no adjustments were made, and the data was used as received from ALS.

The surface to one (1) metre interval consistently returned a <98.5% silica assay and retuned higher than normal LOI. This logged interval included a thin average 0.3m topsoil and recorded organic material which caused minor contamination. This one (1) metre interval was adjusted by adopting the succeeding one metre assay grade. A topsoil layer from surface (0.0m to 0.3m) was excluded from the Mineral Resource Estimate.

A silica grade cut-off of 98.5% SiO_2 is robust and was applied as the cut-off grade for the resource modelling and Mineral Resource Estimate.

Limitations with the XRF method also contribute to the cut-off grade as variability is the 'Total' result affects the SiO_2 percentage. Diatreme utilise "as received" analysis results and do not correct for Total.

Mineral Resource Estimate

Micromine 2022 was used to complete the Expanded Inferred Mineral Resource Estimate in accordance with the JORC 2012 Code. A block model was generated to model the overall deposit shape and volume. The block model was defined by the top of the resource (0.3m below the surface topography to exclude the topsoil layer), the base of the resource (base of the drillholes) and the interpreted geological boundaries. Parent blocks were sized at 25mE x 25mN x 1mRL. Sub-blocks were sized at 1mE x 1mN x 1mRL. The block model was subject statistical and geostatistical analysis and the Ordinary Kriging (OK) method was used to populate the blocks. The Inverse Distance Weighting (IDW) method was used to check the model and yielded comparable results. Swath plots were used to validate the interpolation technique to ensure accuracy. In addition to modelling SiO_2 data in the block model, Fe_2O_3, TiO_2, Al_2O_3 and LOI were also block modelled with other assayed elements not modelled due to low values at or near the detectable limits.

The following parameters and assumptions formed the basis for the Expanded Inferred Mineral Resource Estimate in accordance with the JORC Code (2012).

- Topography – Shuttle Radar Topography Mission/SRTM Data sourced from ELVIS the Elevation Spatial Database
- Density of sand – 1.6 t/m^3. No bulk density measurements have been undertaken.
- A topsoil thickness of 0.3m has been assumed based on sources from CFSM, visual assessment and drillhole intercepts. Topsoil thickness may vary across the Resource Area based on the vegetation density.
- Fe_2O_3, TiO_2, Al_2O_3 and LOI and were reported as secondary elements constrained to the cut-off grade of SiO_2.
- The Resource boundary was determined by geological interpretation of cross sections and then modelling the top and bottom surface in Micromine 2022 and considering where the surfaces intersect.

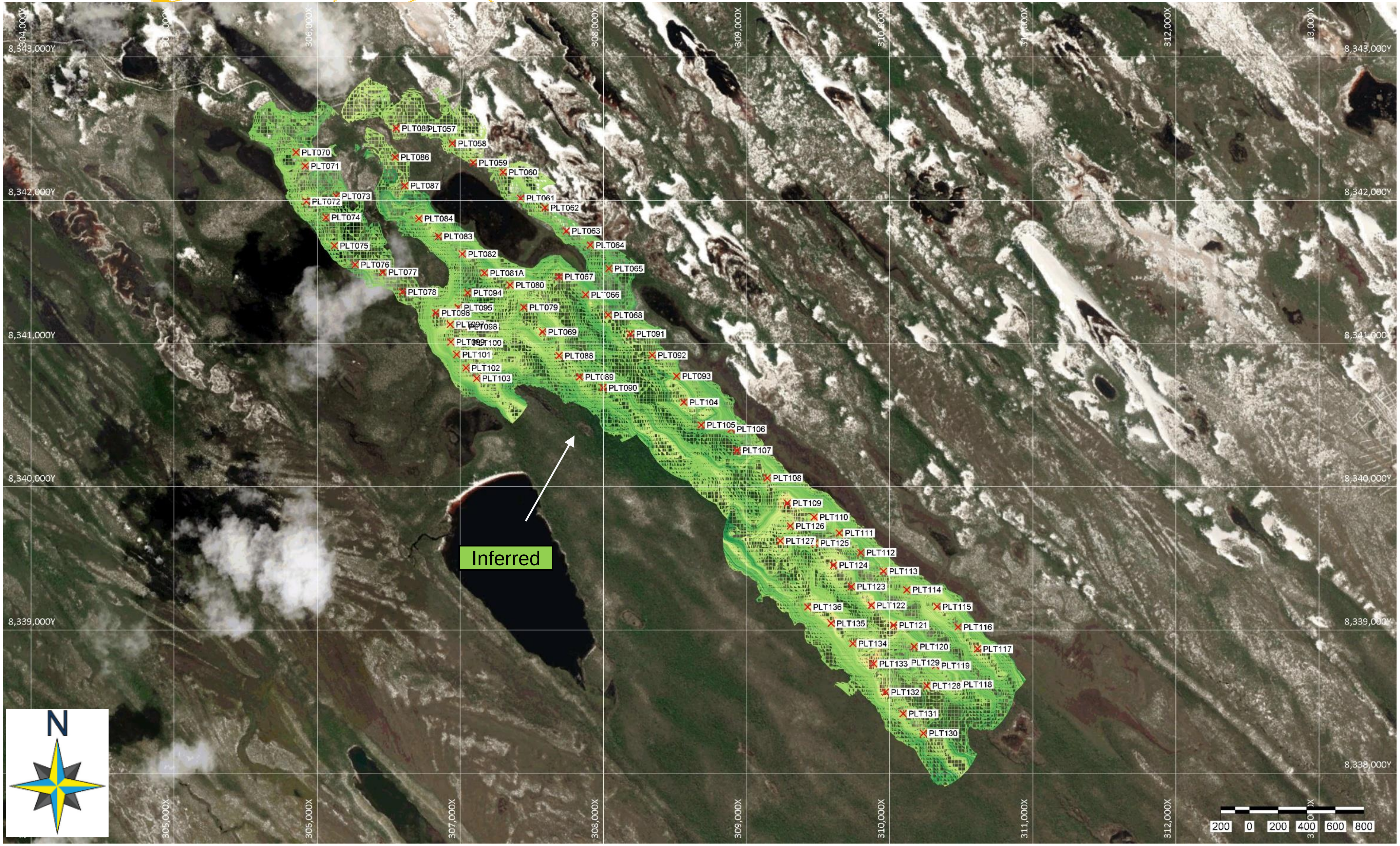
The level of accuracy with the surface data (SRTM), drill spacing and interpreted geological continuity allowed one resource category to be defined (Inferred Mineral Resource). The drill spacing along the dune traverse ranged from confirmatory level spacing (150m-250m) to a scout level spacing (250m-400m) ending in water table or B1 basement.

The results of the Expanded Mineral Resource Estimate are provided in the table below and the Resource Area is shown on the following page. Representative dune profiles across the Resource Area are shown in the Sections A'-A" and B'-B" below.

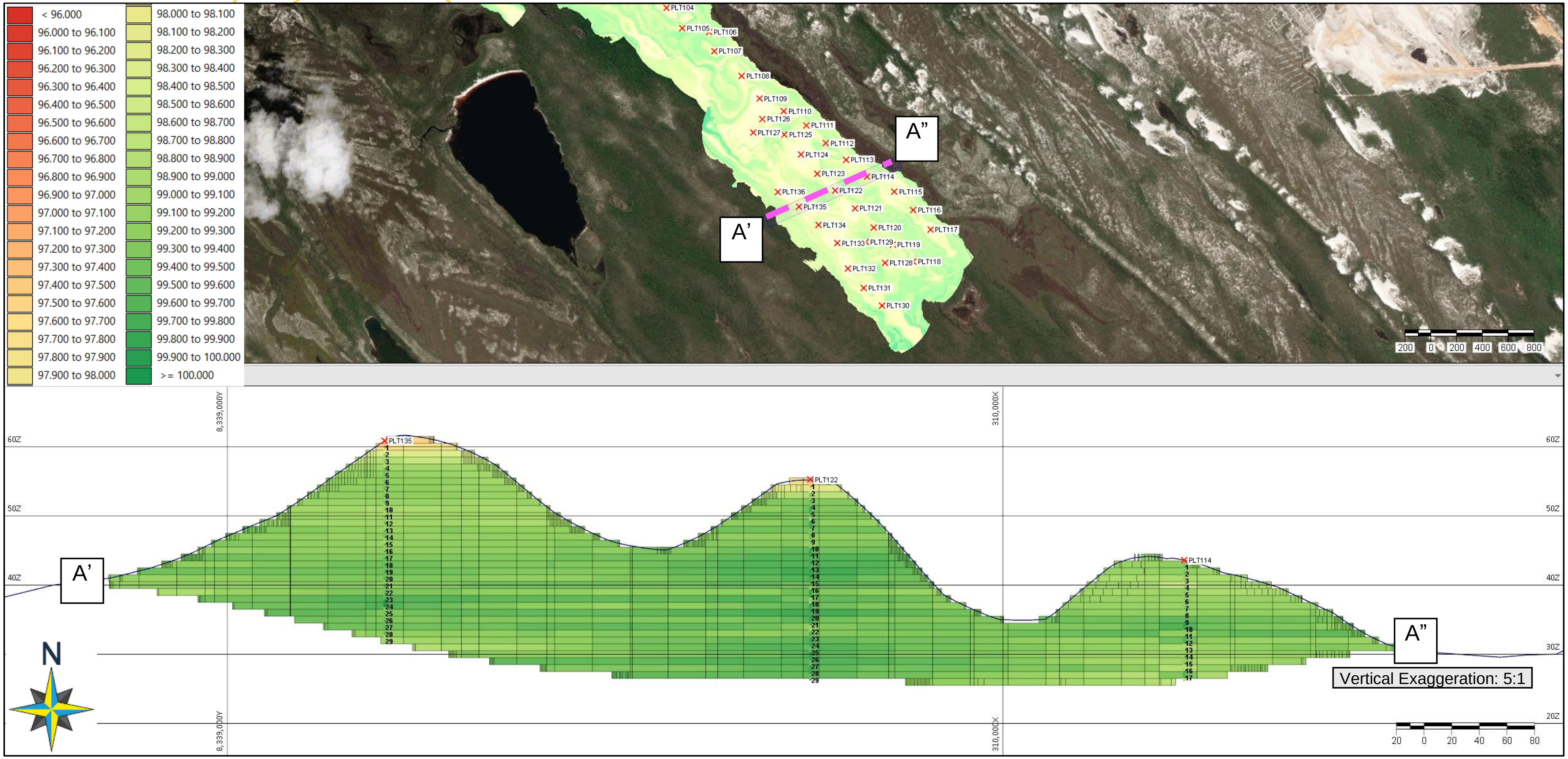
Si 2 North Project - Expanded Inferred Mineral Resource Estimate, March 2022

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	99.33	0.11	0.15	0.08	0.12	99.85	77.6	1.6	98.5

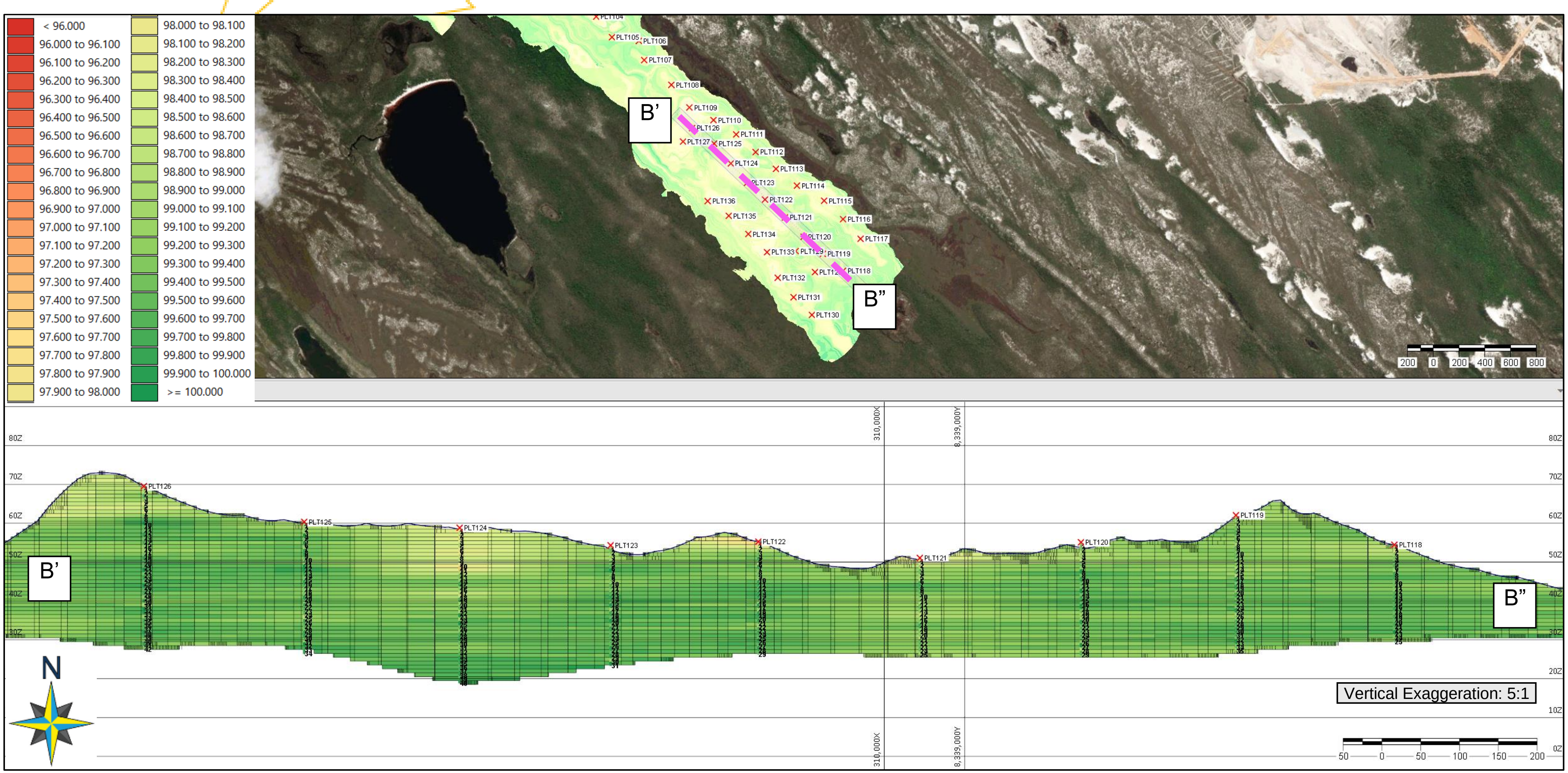
Resource Area of the Maiden Inferred Mineral Resource Estimate



Cross Section (West to East) through the Si2 North Block Model



Long Section (South to North) through the Si2 North Block Model



Conclusions

The outcome of this Expanded Mineral Resource Estimate for Si 2 North Project is summarised as follows:

- **Inferred Mineral Resource Estimate of 124 Mt at 99.33% SiO_2, 0.11% Fe_2O_3, 0.15% TiO_2, 0.08% Al_2O_3, 0.12% LOI and 99.85% Total,** which represents a **134%** increase on the previous Mineral Resource of 53 Mt (January 2022).

The Si2 North Project has been broadly defined by drilling and the geological controls are reasonably well understood. The Project contains white, high purity silica sands (SiO_2 average: 99.33%) and low iron (Fe_2O_3 average: 0.11%). The dunes average 13.9m in overall thickness, ranging from 1.7m to 42.5m. The Resource Area covers up to 6.8km in length and up to 1.5km width with an area of approximately 556ha.

The known nature and formation of the dune sands, together with consistent high silica grades achieved in drillholes, places a high degree of confidence in the geological interpretation. Continuity of geology (chip tray photographs) and grade (assays) can be readily identified and traced between all drillholes. The interpreted geology of the Si 2 North Project is relatively robust, and any alternative interpretation of the deposit is considered unlikely to have a significant influence on the Mineral Resource Estimate undertaken.

The high purity of the silica and the potential impact by trace elements (especially Fe_2O_3) demand that sampling and assaying protocols are continuously tested, reviewed and upgraded where determined. The block model knowledge could be leveraged to further interrogate isolated drillhole and assay anomalies including high Fe_2O_3 zones.

Recommendations

There is scope to increase the knowledge and understanding of the Si2 North Project by completing the following additional work:

- Existing SRTM survey data utilised for this Resource Estimation only provides a smoothed topographic surface. Acquisition of a detailed aerial survey (LiDAR – accuracy <1m) is considered necessary to enable better resource modelling and estimation confidence, and, for detailed resource planning 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 density "certified" 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.

3.1 Drillhole Data of Drilling Program

Hole ID	Easting	Northing	Collar RL	Hole Depth	Sand Resource Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	m	m	Average %				
PLT057	306729	8342498	33.76	2.5	2.5	99.17	0.06	0.06	0.20	0.15
PLT058	306945	8342398	34.11	2.8	2.8	99.15	0.05	0.07	0.26	0.11
PLT059	307090	8342263	36.88	1.7	1.7	98.94	0.05	0.08	0.41	0.14
PLT060	307299	8342196	39.1	5	5	99.15	0.11	0.10	0.26	0.20
PLT061	307422	8342014	36.99	3	3	99.34	0.06	0.09	0.11	0.10
PLT062	307592	8341948	40.95	6.7	6.7	99.33	0.05	0.07	0.24	0.09
PLT063	307741	8341786	39.91	7.5	7.5	99.23	0.10	0.08	0.17	0.16
PLT064	307908	8341688	41.99	8.5	8.5	99.59	0.03	0.05	0.16	0.05
PLT065	308038	8341524	45.11	17	14	99.66	0.04	0.06	0.13	0.08
PLT066	307875	8341341	53.33	23.5	23.5	99.61	0.07	0.07	0.10	0.11
PLT067	307691	8341466	50.99	19.5	19.5	99.39	0.13	0.08	0.21	0.22
PLT068	308033	8341199	50.1	32.5	17	99.65	0.08	0.10	0.17	0.10
PLT069	307575	8341081	72.59	40	40	99.03	0.24	0.11	0.17	0.33
PLT070	305852	8342335	43.88	10	10	99.32	0.12	0.08	0.09	0.19
PLT071	305916	8342239	41.75	9.7	9.7	99.52	0.05	0.05	0.18	0.06
PLT072	305924	8341992	43.82	15.5	15.5	99.20	0.09	0.07	0.26	0.14
PLT073	306133	8342028	39.74	8.5	8.5	99.62	0.06	0.07	0.13	0.09
PLT074	306062	8341879	43.68	10.8	10.8	99.48	0.12	0.10	0.13	0.21
PLT075	306120	8341683	40.93	11	11	99.45	0.10	0.09	0.16	0.15
PLT076	306266	8341551	37.16	4.4	4.4	99.50	0.03	0.06	0.26	0.05
PLT077	306459	8341498	38.81	7	7	99.15	0.12	0.08	0.21	0.20
PLT078	306596	8341361	36.73	6	6	99.32	0.05	0.06	0.18	0.15
PLT079	307443	8341253	71.18	37	28	99.19	0.19	0.10	0.10	0.28
PLT080	307348	8341408	57.95	31	29	99.24	0.09	0.09	0.06	0.11
PLT081A	307169	8341493	56.89	27	22	99.26	0.15	0.07	0.13	0.19
PLT082	307014	8341625	51.3	22	22	99.39	0.09	0.08	0.19	0.10
PLT083	306847	8341748	48.67	20.5	20.5	99.42	0.11	0.07	0.14	0.19
PLT084	306711	8341872	47.46	20	20	99.50	0.07	0.06	0.17	0.11
PLT085	306552	8342503	33	3	3	98.78	0.04	0.31	0.37	0.04
PLT086	306545	8342301	32.63	3	3	99.26	0.05	0.11	0.34	0.08
PLT087	306612	8342102	33.35	3	3	98.90	0.13	0.11	0.40	0.28
PLT088	307690	8340916	65.05	35	35	99.40	0.15	0.08	0.14	0.17

Hole ID	Easting	Northing	Collar RL	Hole Depth	Sand Resource Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	m	m	Average %				
PLT089	307833	8340766	61.25	26	26	99.53	0.16	0.07	0.17	0.11
PLT090	307998	8340691	67.73	30	30	99.40	0.22	0.09	0.16	0.18
PLT091	308189	8341067	50.87	26.5	12	99.10	0.25	0.09	0.18	0.27
PLT092	308340	8340919	47.62	14.5	8	99.14	0.24	0.13	0.13	0.33
PLT093	308511	8340772	49.74	14.5	10	99.32	0.14	0.11	0.24	0.24
PLT094	307052	8341354	56.73	26	26	99.19	0.12	0.08	0.10	0.15
PLT095	306985	8341251	64.33	32	32	99.08	0.12	0.07	0.15	0.18
PLT096	306829	8341213	54.38	26	26	99.30	0.07	0.05	0.16	0.11
PLT097	306930	8341133	63.43	35	35	99.12	0.11	0.07	0.12	0.15
PLT098	307020	8341119	69.26	42.5	42.5	99.11	0.09	0.06	0.14	0.14
PLT099	306933	8341010	69.22	42	42	99.20	0.08	0.06	0.08	0.11
PLT100	307049	8341005	68.99	39.5	39.5	99.21	0.11	0.07	0.10	0.15
PLT101	306975	8340923	64.85	36.5	36.5	99.35	0.08	0.06	0.12	0.11
PLT102	307040	8340830	57.27	27	27	99.21	0.11	0.07	0.10	0.18
PLT103	307115	8340756	55.44	25	25	99.42	0.11	0.06	0.10	0.19
PLT104	308562	8340590	63.09	35	33	99.28	0.10	0.08	0.14	0.11
PLT105	308684	8340431	52.51	26	23	99.49	0.10	0.08	0.13	0.16
PLT106	308893	8340402	42.1	14	14	99.42	0.05	0.09	0.11	0.08
PLT107	308934	8340253	36.57	10.5	10.5	99.10	0.08	0.09	0.14	0.14
PLT108	309145	8340061	53.99	24	24	99.17	0.12	0.09	0.07	0.20
PLT109	309285	8339886	67.62	39	39	98.99	0.18	0.09	0.13	0.25
PLT110	309472	8339788	67.27	42	42	99.14	0.14	0.09	0.13	0.19
PLT111	309648	8339677	49.45	23.5	23.5	99.22	0.09	0.08	0.14	0.10
PLT112	309799	8339540	47.94	22	22	99.38	0.09	0.07	0.13	0.08
PLT113	309957	8339410	43.74	14.5	14.5	99.18	0.10	0.09	0.12	0.16
PLT114	310120	8339280	43.59	17.5	17.5	99.14	0.14	0.11	0.11	0.22
PLT115	310331	8339163	56.71	29	29	98.85	0.24	0.12	0.10	0.35
PLT116	310478	8339020	47.75	22	22	99.36	0.10	0.08	0.11	0.14
PLT117	310614	8338868	45.23	18.5	18.5	99.26	0.14	0.11	0.15	0.16
PLT118	310478	8338620	54.44	28	25	99.39	0.07	0.08	0.10	0.07
PLT119	310321	8338751	62.05	37	35	99.35	0.07	0.08	0.12	0.07
PLT120	310172	8338884	55.09	29.5	29.5	99.38	0.08	0.07	0.12	0.11
PLT121	310027	8339033	51.06	25	25	99.12	0.12	0.09	0.24	0.18

Hole ID	Easting	Northing	Collar RL	Hole Depth	Sand Resource Thickness	SiO_2	Fe_2O_3	TiO_2	Al_2O_3	LOI
	m	m	m	m	m	Average %				
PLT122	309872	8339172	55.26	29	29	99.39	0.09	0.07	0.16	0.12
PLT123	309733	8339302	54.31	32	31	99.47	0.07	0.07	0.14	0.09
PLT124	309607	8339452	58.81	40	40	99.07	0.20	0.11	0.19	0.31
PLT125	309477	8339606	60.35	34	34	99.47	0.08	0.07	0.10	0.12
PLT126	309306	8339726	69.51	42	42	99.42	0.12	0.08	0.09	0.17
PLT127	309236	8339622	69.66	30	29	99.28	0.17	0.08	0.12	0.25
PLT128	310260	8338610	49.73	12	10	99.40	0.07	0.08	0.13	0.10
PLT129	310110	8338773	60.09	31	29	99.54	0.07	0.08	0.09	0.10
PLT130	310236	8338278	50.47	21	18	99.47	0.08	0.11	0.07	0.11
PLT131	310094	8338415	52.93	21	19	99.15	0.10	0.08	0.09	0.15
PLT132	309971	8338566	59.6	31	23	99.11	0.13	0.09	0.10	0.20
PLT133	309888	8338764	65.06	36.8	29	98.97	0.15	0.12	0.12	0.22
PLT134	309743	8338905	67.89	44.5	38	99.17	0.09	0.10	0.11	0.12
PLT135	309591	8339046	60.85	33	29	99.15	0.09	0.11	0.15	0.12
PLT136	309427	8339160	62.65	25	23	99.30	0.07	0.09	0.12	0.10

End Of Excerpt Report

Appendix E | JORC Code, 2012 Edition - Table 1 Report

Si 2 North Project: Expanded Inferred Mineral Resource Estimate – March 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 two (2) vacuum drilling programs. 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 split (50%) collected and bagged in numbered calico sample bags and sealed ready for assaying as drilling progressed. • Where duplicate samples are collected, the otherwise dumped 50% of the split sample from cyclone is collected and submitted with unique sample number geochemical analysis. • Samples were submitted to ALS Laboratories (Brisbane) for drying, splitting (if required), pulverization in tungsten carbide bowl, and XRF (XRay Diffraction) analysis. • Sampling techniques are mineral sands "industry standard" for dry beach sands (silica/SiO_2) and for low levels of impurities. • As the targeted mineralisation is silica sand (quartz/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).*	• Eighty (80) vacuum drillholes were used for the Mineral Resource Estimate. All holes were drilled vertically. The average hole depth was 22.7m. • 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.
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.* • *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.*	• Vacuum drilling achieved 100% sample recovery throughout. • No sample bias occurred between sample recovery and grade. • Holes were terminated when the very damp sand or water was intersected or in a basement layer (clay/coloured sands).
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.*	• 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

Criteria	JORC Code explanation	Commentary
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	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. • 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 acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• All assaying has been carried out by ALS Mineral 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. • There is an alternative ICP (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/LIO) 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,

Criteria	JORC Code explanation	Commentary
		blanks and duplicates. • ALS routinely run an ultra-pure blank every 50 samples (total 30 blanks) • Diatreme routinely run a blind duplicate utilising the discarded 50% split every 60 sample on average (total 27 duplicates submitted). • Acceptable levels of precision and accuracy were established. • A total of 1738 SiO_2 assays were used in the Mineral Resource Estimate.
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. • Significant intersections were independently validated by Ausrocks against geological logging and the geological model. • 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 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 topography and imagery 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 compared to LiDAR. However, this level topographic control is considered adequate for the Inferred Mineral Resource due to the ability to apply manual controls to known water bodies and dune boundaries.
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 is sufficient to allow valid interpretation of geological and grade continuity for an Inferred Mineral Resource. Drilling has been completed at varying spacings across the Resource Area. • The level of accuracy with the surface data (Shuttle Radar Topography Mission/SRTM), drill spacing and interpreted geological continuity allowed one resource category to be defined (Inferred Mineral Resource). The drill spacing ranged from confirmatory level spacing (150m-250m) to a scout level spacing (250m-400m) ending in water table or B1/basement. • No sample compositing was undertaken.
Orientation of data in	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• 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.

Criteria	JORC Code explanation	Commentary
relation to geological structure	• *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.*	• The dune profiles have been observed in a number of vertical exposures within the wider dunefield 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.

• 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 Si 2 North Project is located adjacent to the coastline in Far North Queensland, approximately 53km north of Cooktown. The project is adjacent to the western boundary 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 Permit for Minerals (EPM) 17795. The Si 2 North Project and nearly all the EPM is located on one land title, Lot 35/SP232620, a freehold lot of 110,000 hectares. The Si 2 North 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 March 2022, the tenure was in good standing. • EPM 17795 is an extensive EPM comprising 147 continuous subblocks

Criteria	JORC Code explanation	Commentary
		(approximately 480km^2) covering the majority of the Cape Flattery-Cape Bedford Quaternary dunefield complex. The dunefield complex is characterised by large transgressive elongate and parabolic sand dunes that have a predominant strike of 320-330 degrees. The extensive dunefield 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).
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 historical work relevant to the current Si 2 North Project 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 planned, but it appears only holes West No. 10 and West No. 12 were drilled as they were the only holes reported. 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 Si 2 North Dune System is part of a large sand Si1/Si2 Dune System that extends 12km in strike and is up to 4,000m in width with elevations between 40 and 140mRL. Si 2 North occupies the NE extension of the S1/S2 Dune System. • The 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 Si Target 02. • The Si 2 North Dune System is located on coastal with an inlier of 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 Silica Target 2 is project is bound to the east and west by interdune wetlands and lowlands. The Main Dune System rises from the coast in the southeast.

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 used in this Mineral Resource Estimate is attached to this JORC Table 1.
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.*	• A cut-off grade of 98.5% silica has been used for the Mineral Resource Estimation. • Four (4) holes have been twinned and sampled at 1m intervals for future metallurgical testing. • 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 attached.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All relevant exploration assay results have been reported.
Other substantive	• *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*	• Iron (Fe_2O_3) in various forms may potentially act as a contaminant for very high-quality "processed" end products. • Future metallurgical testing is planned.

Criteria	JORC Code explanation	Commentary
exploration data	*treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	
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 density "certified" 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.

• Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The database was originally constructed, validated and electronically provided by Diatreme Resources Limited to Ausrocks Pty Ltd. • Ausrocks reformatted the database into appropriate file formats checking the veracity of the assay results. The data was further validated and cross checked against the geological logs and the chip tray photographs. • Micromine 2022 validated the files which were used for the Mineral Resource Estimate.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person has not recorded a site visit to the Si 2 North Project. The Competent Person has previously visited Cape Flattery/Cape Bedford and has experience of the dunefield complex.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.*	• The Si 2 North Project has been broadly defined by drilling and the geological controls are reasonably well understood. • The known nature and formation of the dune sands, together with consistent high silica grades achieved in drillholes, places a high degree of confidence in the geological interpretation. Continuity of geology (chip tray photographs) and grade (assays) can be readily identified and traced between all drillholes. • The interpreted geology of the Si 2 North Project is relatively robust, and

Criteria	JORC Code explanation	Commentary

	• *The factors affecting continuity both of grade and geology.*	any alternative interpretation of the deposit is considered unlikely to have a significant influence on the total Mineral Resource Estimate undertaken.
		• No major factors affect continuity both of grade and geology.
		• Geological controls were applied to multiple cross and long sections to constrain the final resource wireframe.
		• Prior to interpolating and assigning assay values to each block, a solid was generated to model the overall deposit shape and volume by applying the following parameters:
		  • Top surface - defined as the base of topsoil which is 0.3m below surface topography.
		  • Bottom surface – a gridded surface based on drillhole depths and geological interpreted boundary points.
		  • Boundary – the resource boundary was defined by the following considerations:
		    ▪ Surface dune extents based on imagery and interpretation.
		    ▪ Geological interpretation of drillholes.
		    ▪ The area where the top and bottom surfaces intersected.
		    ▪ Area of influence around drillholes determined by confidence level.
		    ▪ Several iterations were run to cross check boundary sensitivities.

Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The extent and variability of the Mineral Resource is expressed in terms of the full Resource Area
		  • **Max Length (along strike):** 6.8 km.
		  • **Max Width:** 1.5km.
		  • **Area:** The Mineral Resource covers an area of approximately 556ha.
		  • **Average Depth:** The average thickness of the total resource within the Resource Area is 13.9m.
		  • **Top of Resource:** The top of the resource corresponds to the topography ranging from 28.1mRL to 75.0mRL.
		  • **Bottom of Resource:** The base of the resource corresponds to water table / basement ranging from 18.7mRL to 52.7mRL.

Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	• Sample intervals have been collected at 1m throughout the drilling program. No sample bias based on the sample interval length. • Using Micromine 2022, Statistical and Geostatistical analyses was undertaken on silica (SiO_2) and the key impurities (Fe_2O_3, TiO_2, LOI, and Al_2O_3) of the dataset. Assay methods also returned results for 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 but they were not examined due to their very low grades (at or near detection range). • All sample intervals underwent basic statistical analysis (minimum,

Criteria	JORC Code explanation	Commentary
	• *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. Sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	maximum, mean etc.). All variables showed that there were no requirements for top or bottom cutting. • The raw data distribution for silica and the key impurities (Fe_2O_3, TiO_2, Al_2O_3 and LOI) were analysed in detail and used in the block modelling. • Parent block sizing was chosen as 25mE x 25mN x 1mRL which was then sub-blocked to 1mE x 1mN x 1mRL. • The Ordinary Kriging (OK) method was used to estimate the grades and populate the block model. • Each block within the blank block model was assigned values for SiO_2, Fe_2O_3, TiO_2, Al_2O_3 and LOI. • Cross-sections throughout the block model were compared with the same sections through the drillhole data to showing that the modelling completed was indicative of the input data and the mineralisation. • Multiple cross section iterations were used to further define and constrain the model where data was minimal. • Finally, swath plots were used to validate the interpolation technique to ensure accuracy. Swath plots compared the drillhole and block model with SiO_2 and Fe_2O_3 grades which showed sufficient spatial correlation between both modelled estimates and input drillhole grades. • The Inverse Distance Weighting (IDW) method was used to check the model and yielded similar results.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• No moisture content testing has been conducted.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A silica (SiO_2 %) grade cut-off was used to define the in-situ resource to achieve a marketable high purity silica sand. Geological logging and returned assay grades and intersections showed an obvious grade demarcation of ore versus waste at 98.5% SiO_2. This was further supported by statistical analysis and representation. Lengthy continuous vertical intervals of >98.5% SiO_2 was the norm, and these intervals were used for the modelling and Mineral Resource Estimate. The clear in-situ grade demarcation of >98.5% SiO_2 persisted through the exploration program and across the whole of the Resource Area. • Only in a few rare drillholes did the resource intervals include intermediate sub-marginal silica grades, but these intervals were restricted to several vertical meters or less. Here the grades were >96% SiO_2 in any case. Consideration was given to the XRF method very marginally under-reporting silica grade resulting from the variability of Total results and possibly slightly overestimating iron (Fe_2O_3) grade, however no adjustments were made. • The surface to one (1) metre interval consistently returned a <98.5% silica assay and retuned higher than normal LOI. This logged interval included

Criteria	JORC Code explanation	Commentary
		a thin average 0.3m topsoil and recorded organic material which caused minor contamination. This one (1) metre interval was adjusted by adopting the succeeding one metre assay grade. A topsoil layer from surface (0.0m to 0.3m) was excluded from the Mineral Resource Estimate. • A silica grade cut-off of 98.5% SiO_2 is robust and was applied as the cut-off grade for the resource modelling and Mineral Resource Estimate. • Limitations with the XRF method also contribute to the cut-off grade as variability is the 'Total' result affects the SiO_2 percentage. Diatreme utilise "as received" analysis results and do not correct for Total.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Similar to nearby operations, it is expected that mining will be conducted directly from the face by a Wheel Loader and material will be transported to the processing plant via conveyor or slurry pipeline. This mining method is flexible and is considered suitable for the deposit and is not likely to unnecessarily constrain the Mineral Resources. • Dilution was not considered in the Mineral Resource Estimate. In some holes there was minor additional resource below the >98.5% silica floor which is slightly lower grade material and would only marginally dilute the product. • Based on the sample assays and geological logs, the top 0.3m of the deposit has been excluded from the Mineral Resource Estimate as it is assumed that this would be a soil and vegetation layer and would be scalped when mining the deposit and re-used for rehabilitation.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Standard characterisations have been conducted on a silica sand sample from Si 2 North. The sample was brightly coloured white quartz, typical of most samples tested from the Cape Flattery region. The sample was a composite of intervals from PLT095M, PLT098M and PLT102M. • The sample produced a non-magnetic product with SiO_2 grades of 99.9% and Fe_2O_3 content of 120ppm. There was a minimal change in the Fe_2O_3 content between the attritioned float and non-magnetic products. This suggests that magnetic separation was ineffective for further improving the silica sand purity. • Following the magnetic separation stage, a PSD was completed on the non-magnetic fractions. All the mass was contained in the 710+106µm size fraction. The largest mass fraction was contained in the -180+150µm fraction.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well*	• No consideration of waste processes (e.g., tailings) have been made for the Project at this stage. However, similar to nearby operations tailings are not likely to be a significant factor for eventual economic extraction. • No detailed assessments of environmental impact have been conducted at this stage, however QLD Globe mapping shows that the Project is predominantly surrounded by 'Least Concern' Regional Ecosystems.

Criteria	JORC Code explanation	Commentary
	advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• No bulk density measurements have been undertaken on site. • A material density of 1.6 t/m^3 was used for the Mineral Resource Estimate. A material density of 1.6t/m^3 falls within the range of typical silica sand deposits.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The level of accuracy with the surface data (Shuttle Radar Topography Mission/SRTM), drill spacing and interpreted geological continuity allowed one resource category to be defined (Inferred Mineral Resource). The drill spacing ranged from confirmatory level spacing (150m-250m) to a scout level spacing (250m-400m) ending in water table or B1/basement. • The result accurately reflects the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Internal reviews were conducted on the Mineral Resource Estimate.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• It is the opinion of the Competent Person that the relative accuracy and confidence level across the reported geological intervals is adequate, given the drill density and continuity of geochemical samples. • The Resource boundary and the reported geological confidence intervals is relatively constrained based on the drill density. Further drill definition will better constrain dune sides/perimeters. • No production data is available at present as this is a Greenfields project. However, Cape Flattery Silica Mine lies in the same adjoining coastal dunes immediately to the Northeast, suggesting potential viability.