

ASX

ANNOUNCEMENT

23 December 2019

Mining Lease Application lodged for Galalar Silica Project

- **Mining Lease Application (MLA) lodged for Diatreme's Galalar Silica Project, North Qld, encompassing an area of 523 hectares; includes 100% of the identified Mineral Resource**
- **Testwork demonstrates Galalar silica sand product can be processed to high quality "low iron" (sub 100ppm Fe_2O_3) suitable for solar panel (photovoltaic) glass manufacturing, with potential to upgrade further to "ultra-low iron" (sub 50ppm Fe_2O_3) and attract premium pricing**
- **MOU's for "low iron" photovoltaic grade silica offtake signed with private Chinese companies, amid growing demand for silica sand from Asia's expanding solar panel market.**

Emerging silica sands explorer and developer, Diatreme Resources Limited (ASX:DRX) announced today the lodgement of a Mining Lease Application (MLA) with the Queensland Department of Natural Resources, Mines and Energy (DNRME) for the Company's Galalar Silica Project in North Queensland.

The MLA encompasses the previously announced Indicated Mineral Resource, comprising 30.2 Mt > 99% SiO_2 (refer Table 1 below). Located near the world's largest operating silica sand mine at Cape Flattery, the Galalar project has the potential to become a near-term, low cost and premium quality silica producer for fast-growing Asian markets, generating valuable new jobs for the North Queensland community, new investment and other economic spin-offs.

Commenting on the MLA's lodgement, Diatreme's CEO, Neil McIntyre said: "Today's announcement is a significant milestone in the development of a valuable new silica sand mine for North Queensland, which we are developing in partnership with the traditional owners, Hopevale Congress.

"We are focused on advancing the Galalar project as quickly as possible through the next step permitting and approvals processes to ensure the maximum economic and social benefits are unlocked for all our stakeholders."

*** Table 1: Galalar Silica Project Indicated/Inferred Mineral Resource (total = 30.2 Mt > 99% SiO₂)**

Classification	Area	Silica Sand (Mt)	SiO ₂ Grade	Cut-off SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	LOI %	TiO ₂ %
Inferred	East Nob Point	6.6	99.26	99.00	0.12	0.09	0.11	0.10
	West Nob Point	2.1	99.16	99.00	0.11	0.16	0.04	0.15
	Total	8.7	99.25		0.11	0.09	0.11	0.10
Indicated	East Nob Point	20.2	99.26	99.00	0.12	0.09	0.11	0.10
	West Nob Point	1.3	99.16	99.00	0.11	0.16	0.04	0.15
	Total	21.5	99.25		0.11	0.09	0.11	0.10

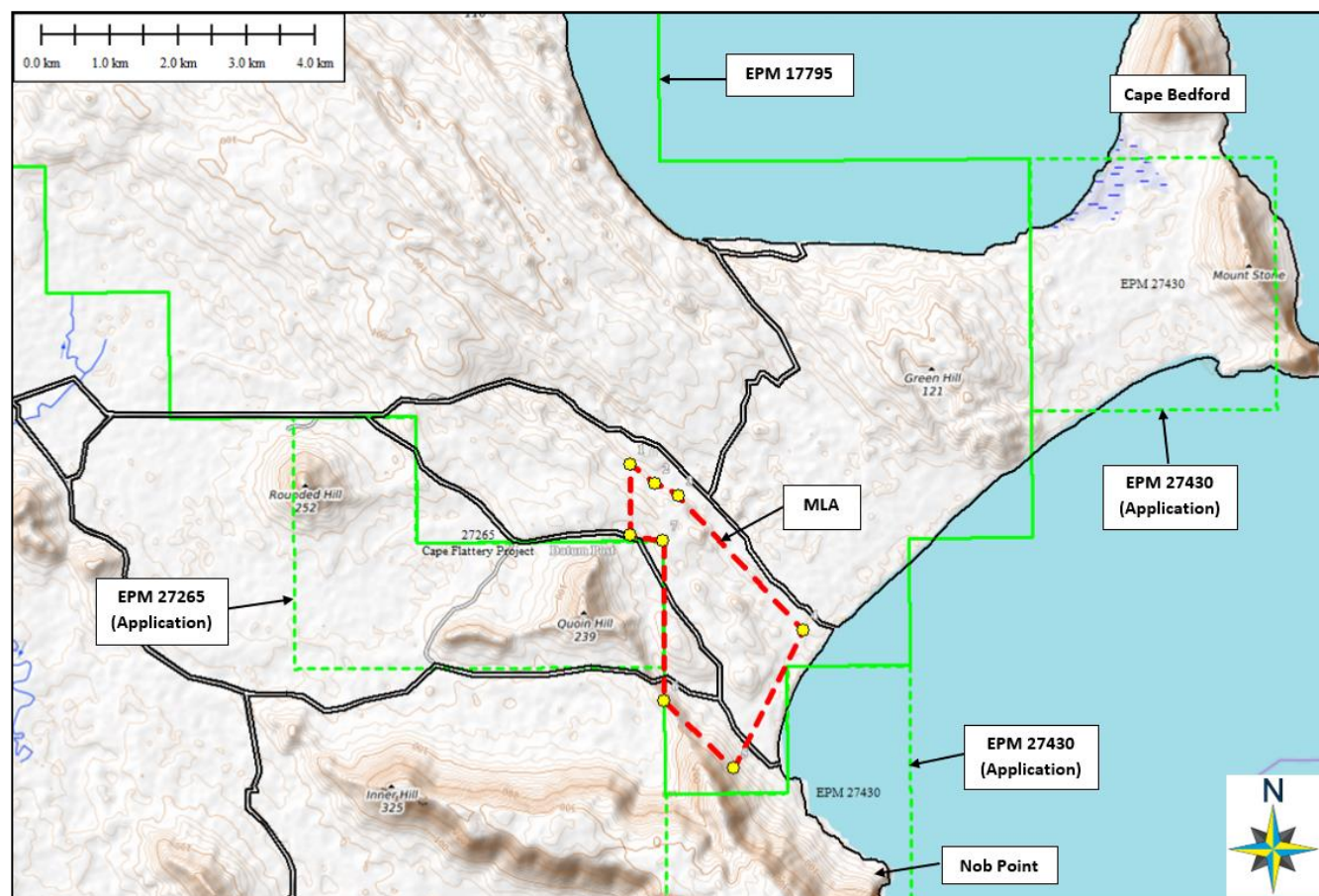
Note: The Resource Estimate is current as of 14 May 2019 (refer ASX release dated 14th May 2019) and has not materially changed since.

Mining Lease Application Area

The Mining Lease has been marked out with a surface area of 523ha, comprising 501.7ha of freehold land owned by Hopevale Congress Aboriginal Corporation RNTBC and 21.3ha of road reserve. The proposed disturbance for the life of the mine however is limited to approximately 57% of the lease surface area (299ha). The remainder of the area includes the following:

- Approximately 163ha for environmental buffers to high and medium ecological values, watercourses and other environmental zones;
- Approximately 21ha of road reserve;
- Approximately 40ha for allocation of water bores and security management.

Figure 1: ML Application Boundary (MLA)



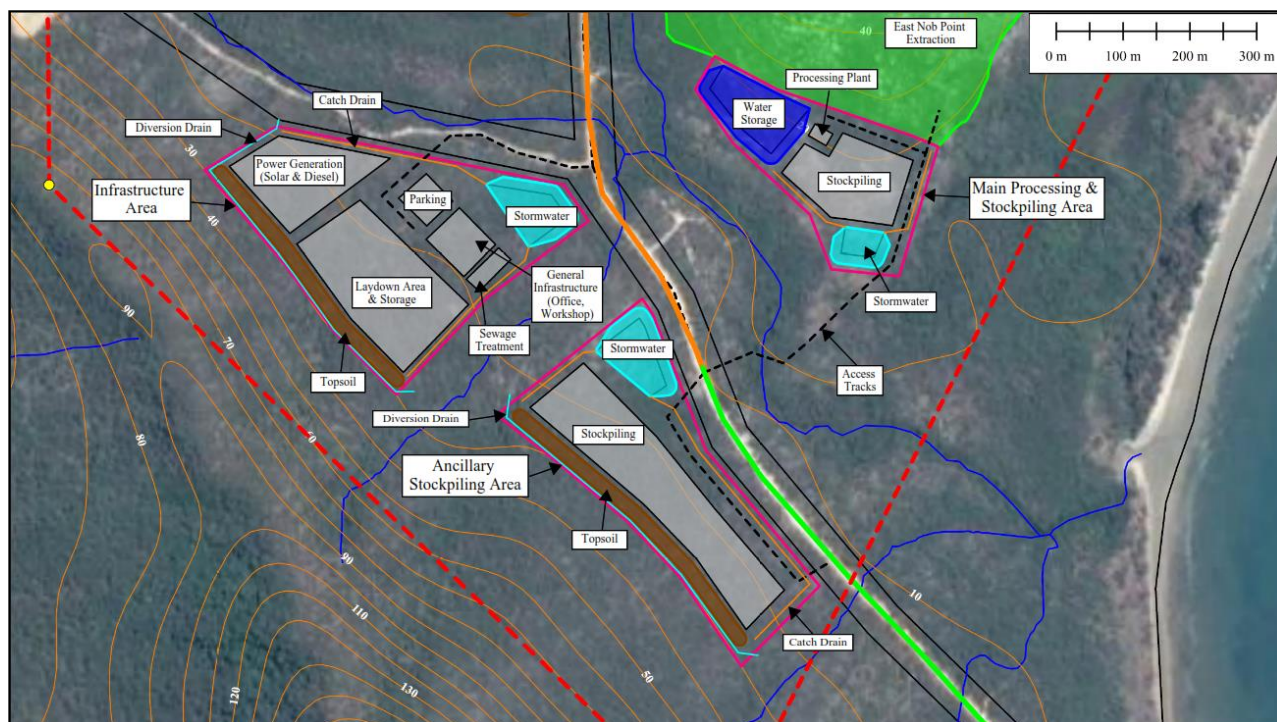
Note: DRX has also lodged applications for tenement areas surrounding the ML shown as EPM27265 and EPM27430



Figure 2: Proposed ML Layout Plan



Figure 3: Proposed Plant & Infrastructure Layout



The recently released scoping study (refer ASX release dated 9 September 2019) confirmed the Galalar project's potential to produce a high purity, low iron (sub 100ppm Fe_2O_3) silica product suitable for use as direct feed material in the manufacture of photovoltaic panels (solar panels), generally referred to in China as "photovoltaic grade" silica.

Significantly, the Galalar scoping study that showed the potential for high returns (estimated pre-tax nominal NPV of \$231 million, IRR of 150% and estimated capital payback within eight months)* was based on sales of photovoltaic silica sand product only.

Testing undertaken recently (refer ASX release dated 29 November 2019) showed the product's amenability for further upgrading to a high purity, "ultra-low iron" (sub 50ppm Fe_2O_3) suitable for further specialist uses including ultra-thin electronics, computer and mobile phone screens; a product generally referred to in China as "photothermal grade" silica. The value of this specialty "ultra-low" iron silica product is significantly higher than the "low iron" product, with market feedback indicating a significant pricing premium per tonne of product.

The latest results follow Diatreme's signing of MOU with private Chinese companies Wan Zhong Investment Group (refer ASX announcement 19 September 2019) and Fengsha Group (refer ASX announcement 16 July 2019) for the potential supply of photovoltaic grade silica sand (sub 100ppm Fe_2O_3) from the project.

Investor interest in the Galalar project has also strengthened, as seen with the securing of a new cornerstone investor, the family investment office of noted small-cap resources investor Brian Flannery (refer ASX announcement 6 November 2019).

Next steps

Diatreme has undertaken wet and dry season terrestrial flora and fauna studies for the ML area and will now undertake further marine studies in preparation for the lodgement of environmental approvals (EIS process), which will commence in January 2020. The Company will keep the market informed as these studies and further permitting submissions are undertaken and progress during first quarter 2020.

Meanwhile, the Company also plans further studies to determine what percentage of Galalar's targeted mining area of exportable product is amendable to product upgrades, while continuing further bulk sampling and larger scale testing. Additional discussions with China-based processing companies are planned to examine a joint venture, tolling arrangement or product price differential on Galalar's exported product to fully unlock the project's potential.

***Note:** Full details of the Galalar Scoping Study, including material assumptions underpinning production targets and forecast financial information, are contained in DRX's release to ASX on 9 September 2019. All such material assumptions continue to apply and have not materially changed.



Diatreme's Mr McIntyre added: "Galalar's outlook is excellent, with a number of new milestones in 2020 set to further advance the project's development particularly focussed on final permitting and approvals to develop. Together with our Cyclone Zircon Project in Western Australia, Diatreme has assembled two projects genuinely capable of transitioning to mining with great potential to generate substantial value for shareholders, amid constrained supply and rising demand from fast-growing Asian markets for the minerals we will be producing."

This release has been authorized by the undersigned:

Neil McIntyre

Chief Executive Officer

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Website - diatreme.com.au

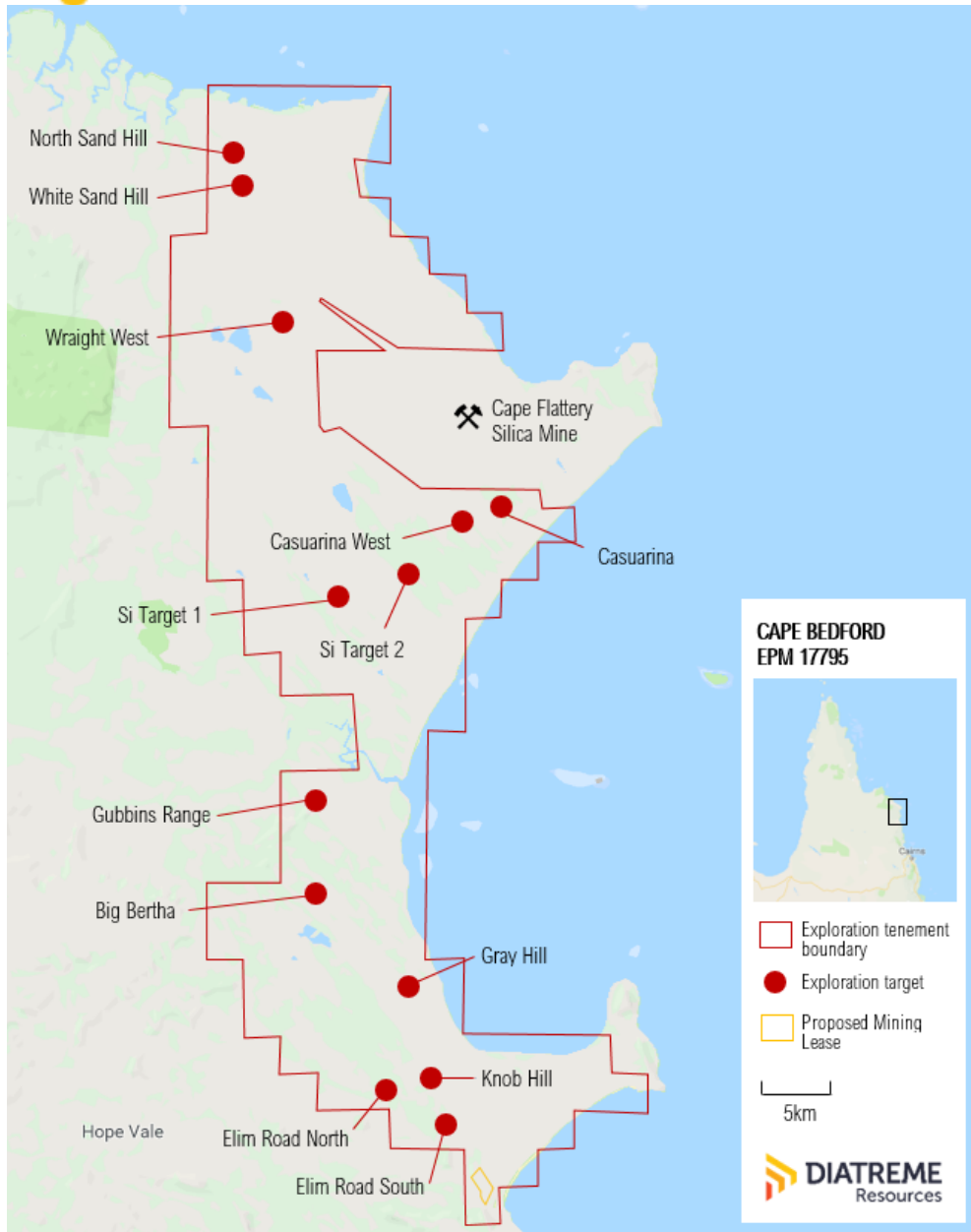
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Galalar Exploration Tenement and Resource Area

AUSTRALIAN SANDS. UNIVERSAL DEMAND.

DIATREME RESOURCES LIMITED | ABN 33 061 267 061 | ASX:DRX



Competent Person Statements - Silica

The information in this report that relates to Exploration Results and Exploration Targets from the Cape Bedford Project is based on information reviewed and compiled by Mr. Neil Mackenzie-Forbes, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr. Mackenzie-Forbes is a director of Sebrof Projects Pty Ltd (a consultant geologist to Diatreme Resources Limited). Mr. Mackenzie-Forbes has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Mackenzie-Forbes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Silica Mineral Resources is based on information compiled by Brice Mutton from Ausrocks Pty Ltd who has significant experience in Industrial Minerals and Quarry Resource assessments. Brice Mutton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code). Brice Mutton consents to the inclusion in the report on the matters based on their information in the form and context in which it appears.

The information in this report that relates to processing of samples from the Galalar Silica Project is based on information provided by Qinfeng Mining Co. Ltd (QMCL), a Chinese technology provider, and reviewed by Mr. Craig Brown, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Brown is a director of Resources Engineering & Management Pty Ltd (consultant metallurgist to Diatreme Resources Limited). Mr Brown has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Brown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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