

ASX:DRX

Time to shine.

Advancing to Mining
High Purity Silica Mine

Noosa Mining Unearthed
12 November 2021



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Important Information

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Whilst Diatreme Resources has concluded that it has a reasonable basis for providing the forward looking statements included in this presentation, Diatreme Resources advises that given the current price of zircon and the company’s current market capitalisation (compared to the capital expenditure required in connection with the Cyclone Zircon Project), the production targets and forecast financial information contained in this presentation do not provide an absolute assurance of economic development at this stage. The stated production targets and forecast financial information contained in this presentation are based on detailed PFS studies and Diatreme Resources’ current expectations of future results or events, including sourcing of project development finance within the targeted timeline and/or attracting suitable project major financial partners and should not be relied upon by investors when making investment decisions.

The Resource Estimates and Production Targets reported by the Company on 20 September 2021 continue to apply and have not materially changed. Diatreme confirms that it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Additional Information

This presentation should also be read in conjunction with the DRX Annual Report for 2020 and the September 2021 Quarterly Activities report, together with any announcement made by Diatreme in accordance with its continuous disclosure obligations under the Corporations Act including but not limited to the following ASX releases:

- 9 November – Galalar Maiden Ore Reserve, PFS deliver substantial boost to new silica sand mine
- 3 November – Wayne Swan appointed Non-Executive Director & Chairman
- 28 September – Progress update – high priority northern exploration targets
- 20 September – Galalar silica resource expands by 22% to 75.5Mt
- 6 September - \$10M placement to progress Galalar Silica Project
- 18 August 2021 – Northern exploration targets resource expansion
- 11 August 2021 – Drilling boosts confidence in Galalar resource
- 10 June 2021 – Mining Lease Application lodged for Nob Point export solution
- 19 May 2021 – Offtake MOU advances development of Galalar Silica Project
- 22 April 2021 – Positive initial testwork results received for Galalar DFS
- 8 April 2021 – Final metallurgical testwork underway for Galalar project
- 17 March 2021 – Galalar silica resource expands 30% to 61.9Mt
- 23 February 2021 – Canberra meetings highlight community support for Galalar
- 11 February 2021 – Diatreme advances community engagement for Galalar
- 25 January 2021 – Diatreme eyes further silica sand resource expansion
- 22 January 2021 – Galalar EIS study progresses with water monitoring underway

Diatreme introduction.

- Public, ASX-listed company operating over 14 years focused on minerals exploration and development (ASX:DRX)
- Current market cap ~ \$66 million
- Flagship project - Galalar Silica Project, Far North Queensland
- Over 1,200 active shareholders including major shareholders Ilwella P/L (Flannery Family Office) (approx. 20%), Deutsche Balaton (approx. 11.5%)
- Experienced Board and management who have successfully implemented and managed many projects through to mining, with specific Nth Qld mining project implementation and management experience from greenfield to production.

Diatreme Board

Chairman

Wayne Swan

Directors

Michael Chapman

Greg Starr

William Wang

DRX Management

CEO Neil McIntyre

COO Peter Brown

Project Manager Phil McMurtrie

Geologist Neil Forbes

CFO Tuan Do



Corporate Overview

Share price

A\$0.023

At close trading 8 November 2021
52 week high \$0.030, low \$0.012

Shares on issue

3,014m

Options

219.2m

179.2m – Exp 4/2/22 @ \$0.020
13.3m – Exp 27/5/26 @ \$0.025
13.3m – Exp 27/5/26 @ \$0.030
13.4m – Exp 27/5/26 @ \$0.035

Performance rights

1.9m

Market capitalisation

A\$66m

At 8 November 2021

Cash

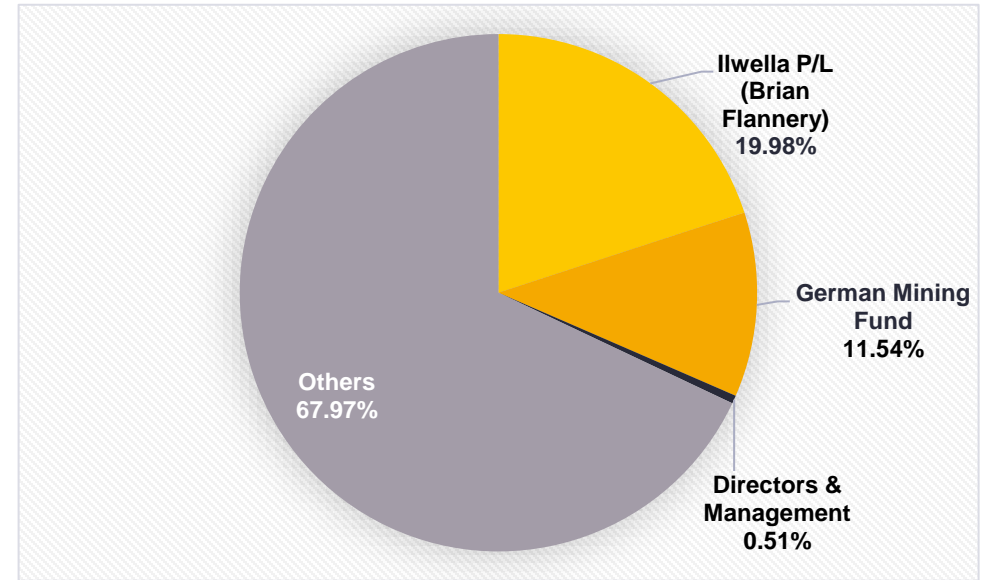
A\$8.8m

At 30 September 2021

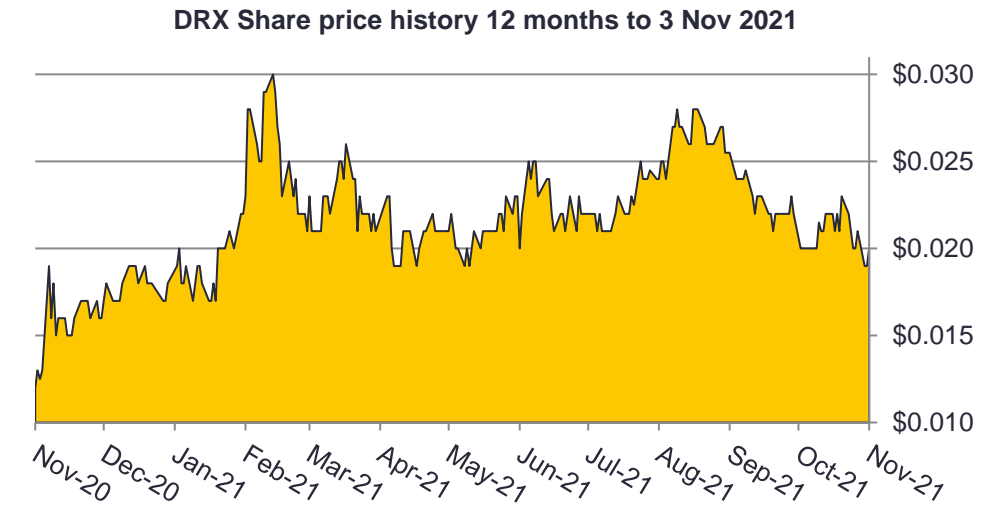
Debt facility (unsecured)

A\$1.5m

Repayment 30 November 2022



Shareholder interests at 3 Nov 2021





World Class Silica Sands Project

Our vision is to become a near-term producer of high purity, “low iron” silica sands for use in growing global solar PV and specialty glass markets.

1



One of the world’s purest silica sands projects.

Total Mineral Resource
75.5Mt @99.1% SiO₂

2



Proximity to the world’s largest silica sands project at Cape Flattery.

(Mitsubishi-owned) operating 30 years+

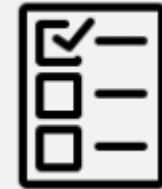
3



Global silica consumption growing fast.

Solar PV panels whose primary component is glass sheeting

4



Robust economics, advancing fast.

Low CAPEX | OPEX
First production target Q1 2023

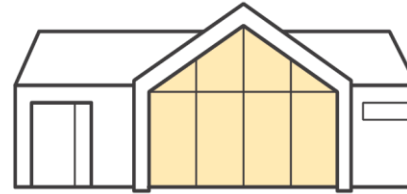
Our Silica – making solar panels – de-carbonising the world economy

- Project will produce 31Mt gross silica sand over LOM, potentially used to produce over **3.2B** solar panels producing “clean energy” well beyond actual Project mine life.
- Based on estimated energy generation over life of panels, the emissions saving compared to coal fired power would equate to taking 132M cars (petrol) off the road
- Savings in emissions equivalent to planting 34-291 million ha of trees
- Total emissions savings could power equivalent of 38.7M Australian households
- Net projected reduction in emissions of **25.5Kt CO₂**
- The total lifecycle emissions associated with solar panels produced as a result of the GSSP is approximately 1,093Mt CO₂-e. This compares to approximately 26,669Mt CO₂-e for the equivalent amount of energy generation by burning coal.

Calculation - Solar panels: 26,669 billion kWh x 0.041kg CO₂-e/kWh = 1,093,425,000kg CO₂-e - Versus Coal power: 26,669 billion kWh x 1kg CO₂-e/kWh = 26,669,000,000kg CO₂-e

Note: Calculations on silica consumption in PV panel manufacturing and electricity generation undertaken by independent consultants BMT Oct 2021 from available public data and production data from DRX.

CO₂e savings



38.7 million
households



132 million
cars



34 to 291 million
hectares of trees



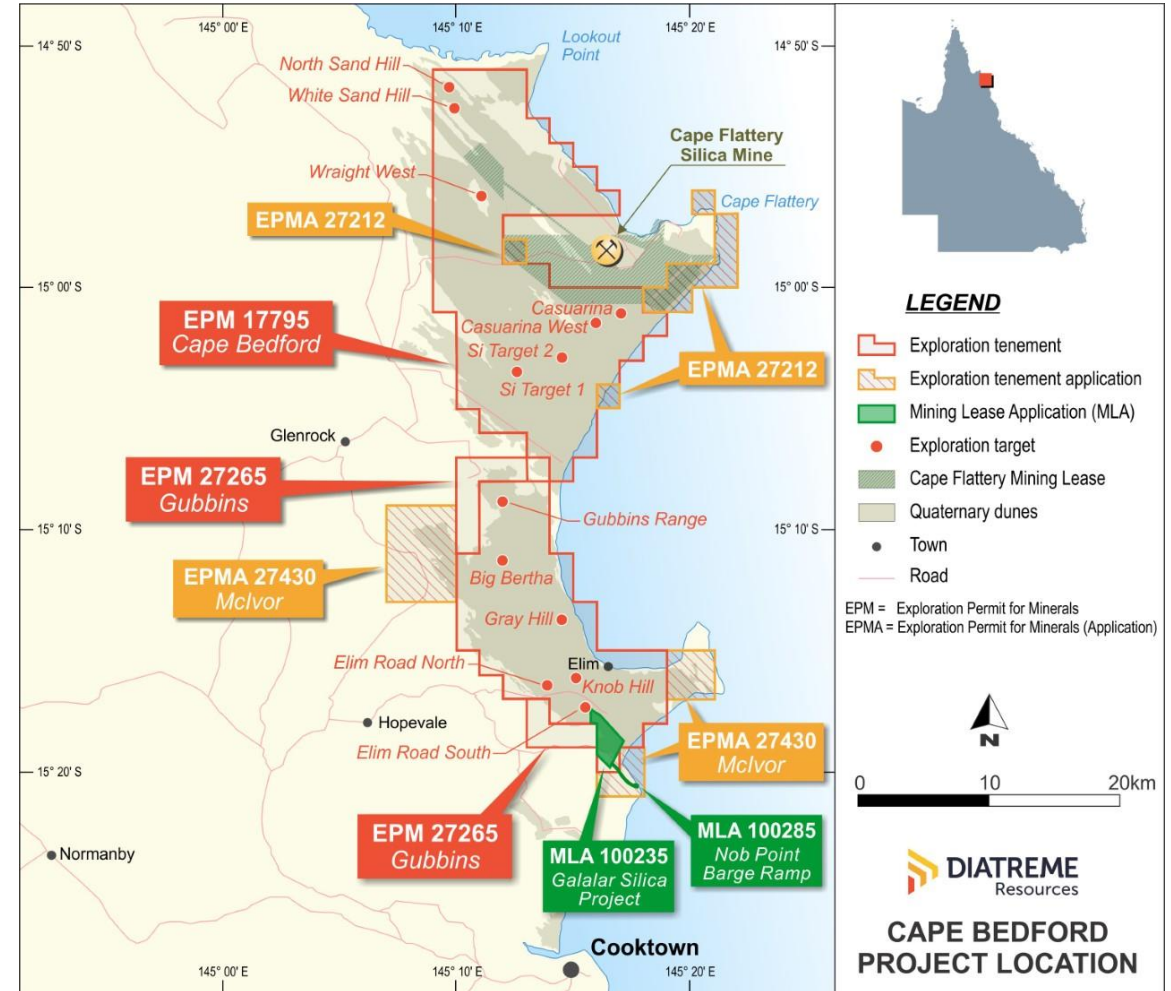
Upcoming value catalysts 2021/2022

Q4 2021	New Maiden Resource – Northern Exploration Area
Q1 - Q2 2022	Finalise DFS Study
Q1- Q2 2022	Final environmental approvals targeted
Q1- Q2 2022	Final approvals targeted for Mining Lease
Q2 2022	FID
1H 2022	Assemble project level debt/ finalise offtakes / finalise finance support
Q4 2022	Commence site works

Note: Timing expectations are based on current best estimates and may be subject to change

Premium quality silica – with size and scale

- Project located 20km north of Cooktown, FNQ adjacent to world's largest high purity silica sand mine at Cape Flattery (Mitsubishi-owned) operating 30 years plus
- Diatreme holds dominant exploration position in known silica province at over 500 sq km
- High purity silica resource identified (75.5Mt) and maiden Ore Reserve estimated (32Mt); further potential for resource expansion at Project and in Northern tenement area.
- Pre-Feasibility Study shows positive investment fundamentals, incl. post-tax NPV₈ of \$358m, IRR 66% , payback 1.4 years
- Short-term pathway identified to cashflow via low capex project, targeting mine construction commencement in Q4 2022
- Strong demand from Asia for premium quality, low iron product for booming solar PV market and specialty glass applications
- Declining global supply highlights need for new projects

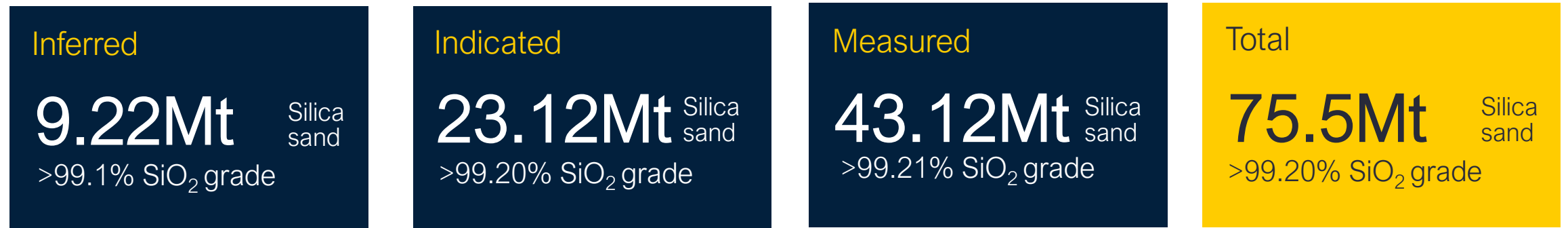




Expanding mineral resource & Maiden mining reserve estimate

- Silica resource continues to expand, increasing 22% to 75.5Mt in latest upgrade (refer ASX release 20 September 2021)
- Total resource covers 486 ha with average thickness 15.5m, comprising 92.9% of MLA
- Clean, high-purity in-situ SiO₂ grade, with average in situ 99.16% SiO₂
- Potential for further resource expansion, including northern exploration targets
- Maiden Mining Reserve – 32.5 Mt at 98.5% SiO₂ cut-off grade

JORC Resource Estimate
13 September 2021



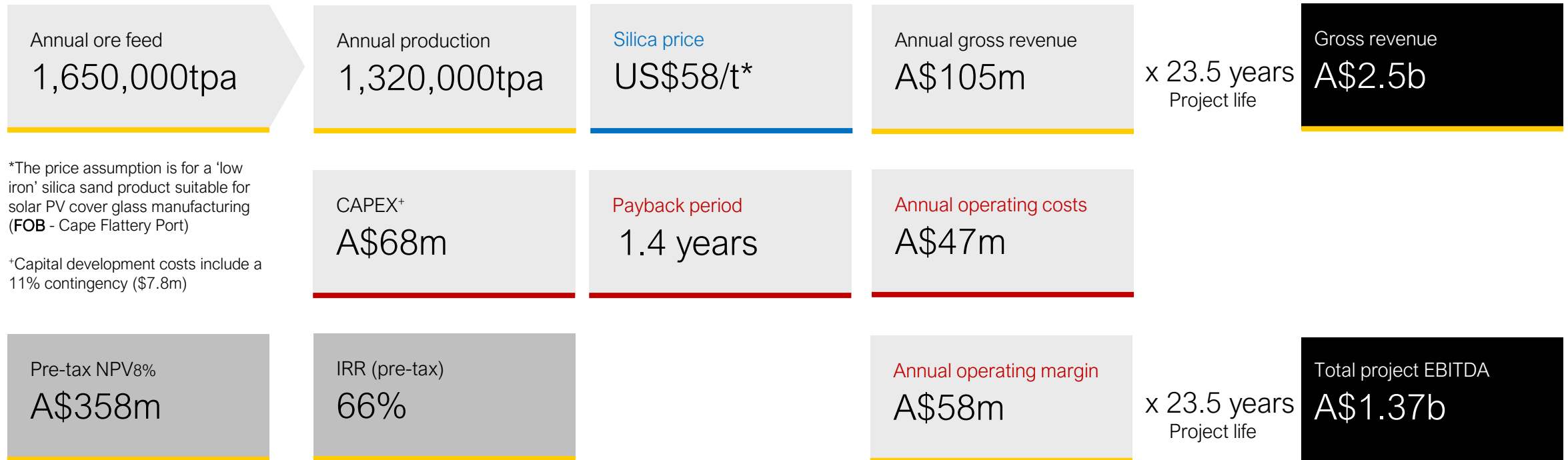
High quality silica product.

- The sand from the Galalar project is some of the world's purest
- Bulk sample testwork confirms ability to produce premium grade silica product for high-end glass & solar panel manufacturing (which demands minimum iron content)
- Positive results from initial metallurgical testwork by industry specialist, Mineral Technologies
- Solar panel manufacturers' feed stock requires >99.5% purity silica with "low iron" less than 120ppm iron oxide levels

Galalar expected quality – From bulk product testing

Iron oxide	Silicon dioxide	Particle size distribution	Titanium dioxide	Aluminium oxide
=< 110ppm	=> 99.9%	109-700 Microns 24-140 mesh	< 140ppm	< 500ppm
International required specifications <120ppm 100% in range	International required specifications >99.5% 100% in range	International required specifications 109-700microns 98% in range	International required specifications <400ppm 100% in range	International required specifications <1,000ppm 100% in range

PFS Now Complete – Project Economics – Strong Fundamental Improvements Achieved



Note: Refer to ASX announcement on 9 November 2021 – “Galalar Maiden Ore Reserve, PFS delivers substantial boost to new silica sand mine” and 20 September 2021 – “Galalar silica resource expands by 22% to 75.5Mt”. Diatreme confirms it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.



PFS - Positive investment case.

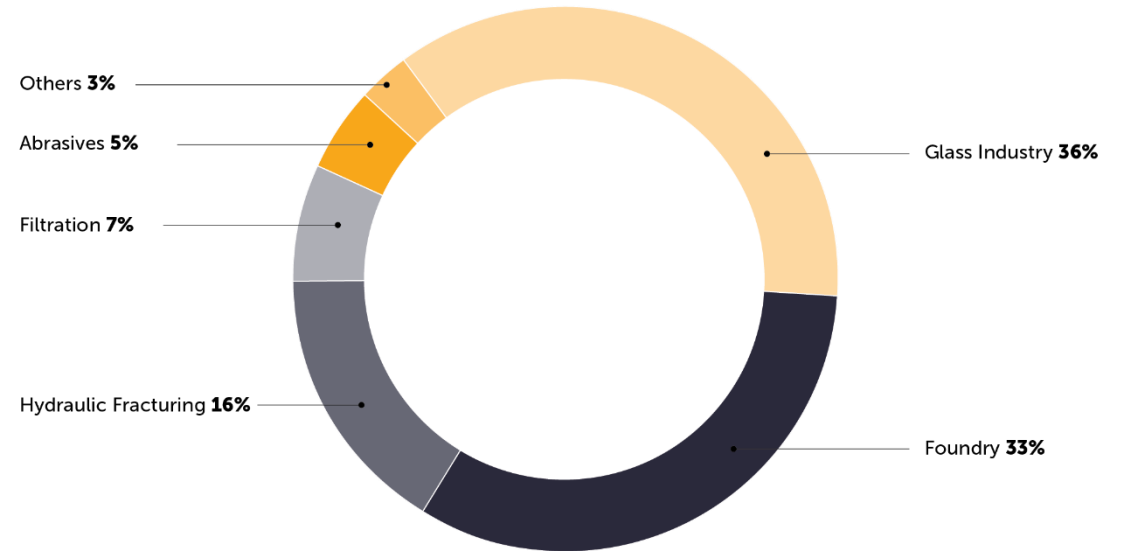
- Post-tax NPV₈ \$358 million (vs Scoping Study's \$158m), IRR 66% and life of mine net revenue \$2.5 billion
- Low initial capex of \$60.1m; payback period of 1.4 years
- Maiden Mineral Reserve estimate of 32Mt, sufficient for 18 years of initial operations; 23.5 year mine life scheduled
- Project to become significant regional employer (Hope Vale/Cooktown), directly employing 80-85 people, mainly from local community (drive in, drive out)
- Estimated \$800m contribution to local economy during LOM
- Forecast annual yield of 1.32Mt of premium, low iron SiO₂ product at full production
- Conventional mine extraction and physical separation processing plant with small footprint
- Northern exploration targets identified, offering potential to expand project
- DFS to be delivered in Q1/Q2 CY2022, supporting FID in Q2 CY2022 , targeting mine construction commencement Q4 2022

Note: Refer to ASX announcement on 9 November 2021 – “Galalar Maiden Ore Reserve, PFS delivers substantial boost to new silica sand mine” and 20 September 2021 – “Galalar silica resource expands by 22% to 75.5Mt” . Diatreme confirms it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Solar market consuming more sand for panel manufacturing.

- Solar panel PV market forecast to reach US\$48.2 billion by 2025, with a CAGR of 34.7%*
- World Bank estimates global renewable capacity will grow by over 1TW from 2018 to 2023, up 46%, with solar PV accounting for more than half of this growth
- Galalar project confirmed capable of supplying solar PV market with premium product
- Solar panel manufacturers' feed stock requires >99% purity silica with less than 120ppm iron oxide levels
- Est. 70% of each 'typical' commercial solar panel comprises glass sheeting made from 'low iron' high purity silica

* Source: Bizwit Research & Consulting



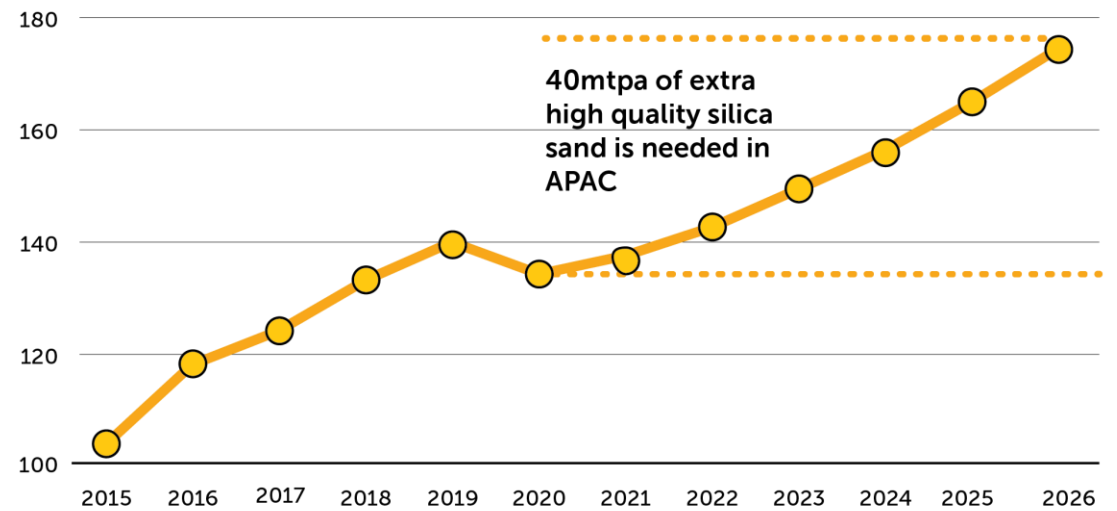
Source: Analyst Report & IMARC Estimates

Source: "Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition," World Bank, 2020

Growing global demand.

- Silica sand has many uses, the market is experiencing increasing demand from emerging consumers such as China and India from foundry, automotive and construction industries including the solar PV market
- Silica described as the 'next lithium' due to boom in solar PV; IEA estimates 162GW of extra capacity by 2022, 50% higher than 2019 level
- IMARC estimates global silica sand market could grow from US\$8B in 2019 to US\$20B by 2024; Asia-Pacific the fastest growing region with potential to reach US\$8B by 2026
- Supply is diminishing as a lot of the sand used in Asia comes from rivers where environmental concerns are increasingly restricting extraction
- No direct substitutes in majority of applications

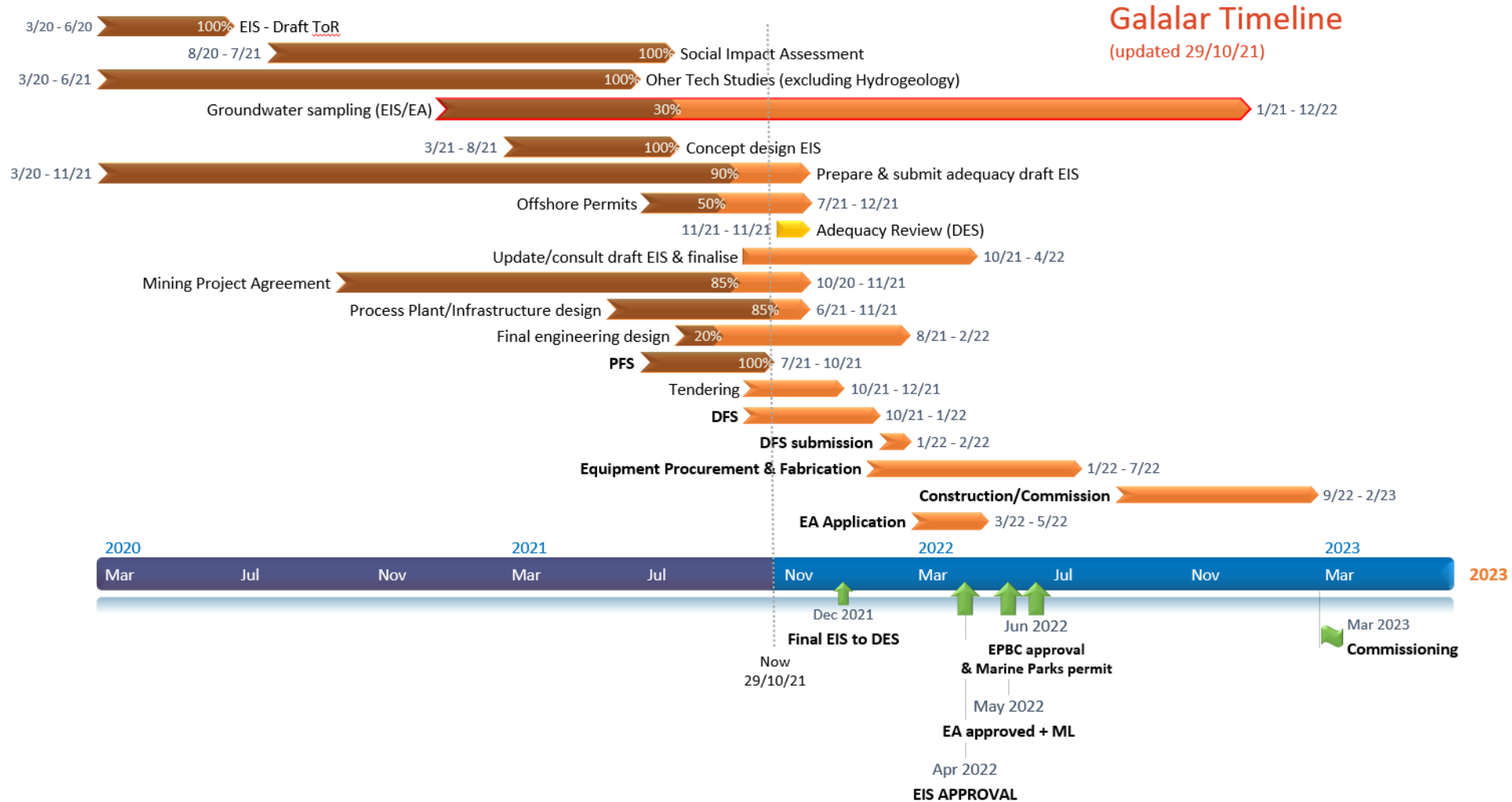
APAC Sales Volume (mtpa)



Source: IMARC Group, Report Title: "Asia Pacific Silica Sand Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2021-2026," February 2021



Permitting/Approvals advancing towards near-term production.



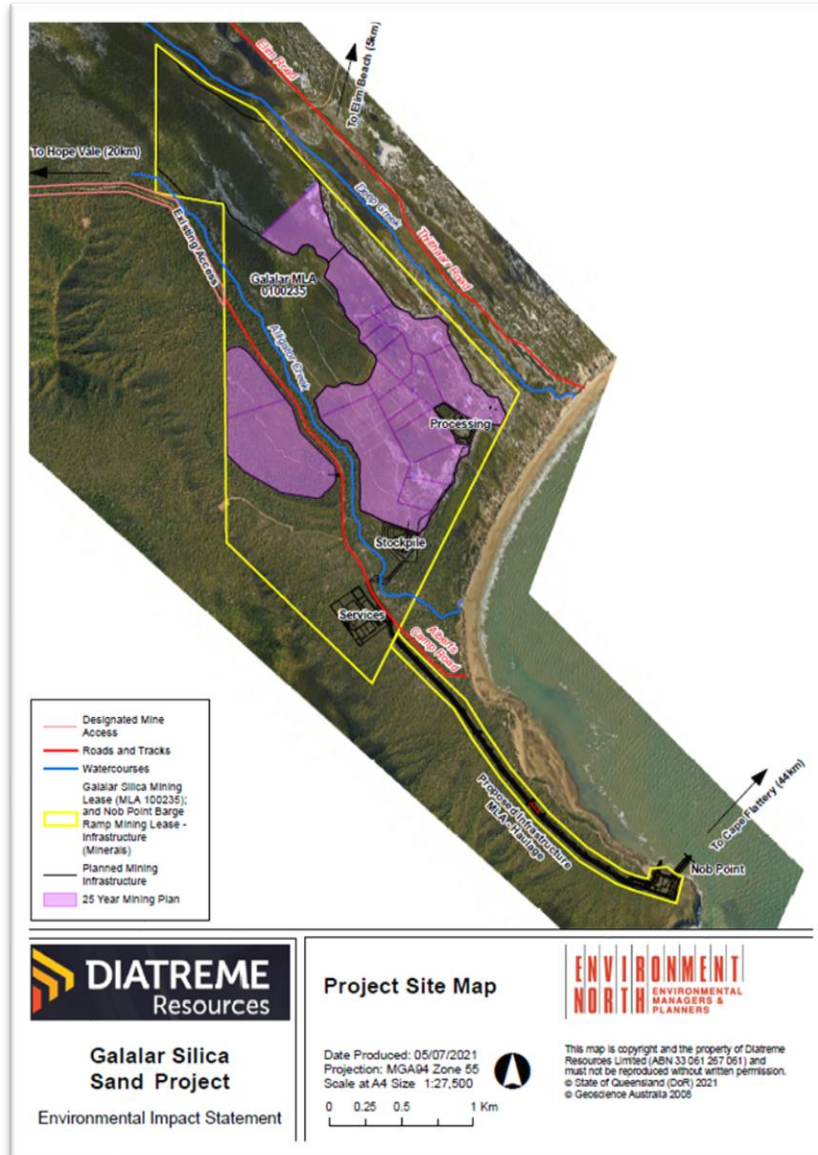
* Timing expectations are based on current best estimates and may be subject to change or modification



Galalar Silica Project

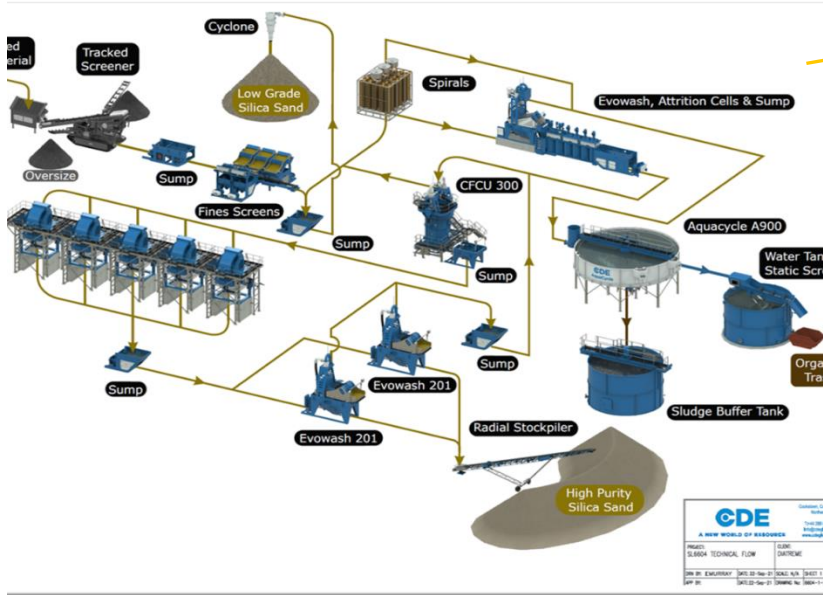
Export solution: Nob Point.

- Mining Lease Application lodged **June 2021** for Nob Point barge ramp, haulage road and temporary stockpile area
- Minimises community and environmental impacts as well as reducing transport costs (lower opex)
- Strongly backed by local stakeholders including Hopevale Congress and other affected Native Title holders (under a heads of agreement).
- Construction of new 3.6km conveyor system from mine site to purpose-built barge ramp at Nob Point
- Barging silica product (benign in nature) over open water (covered barges) to ship transfer site
- All transhipping activity undertaken within the Cape Flattery designated port defined area (in GBRMP exclusion zone)

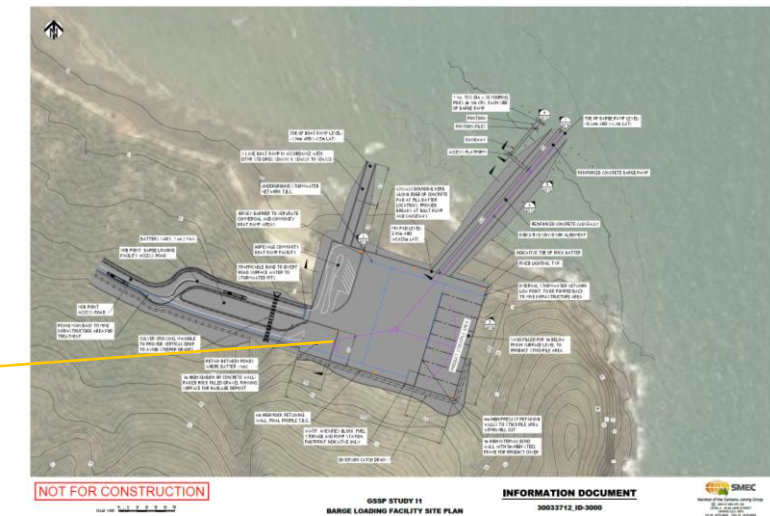


Project design.

- Simple gravity plant
- No processing chemicals apart from inert flocculent to settle clay/fines



PFS Design Process Plant



Strong stakeholder support.



- Project being developed with support of traditional owners. Hopevale Congress Aboriginal Corporation is the RNTBC entity, representing the interests of native title holders
- Memorandum of Co-operation (MOC) for preferred infrastructure development approach at Nob Point signed with Hopevale Congress, and native title holders the Thiithaarr and Gamaay People
- Thiithaarr and Gamaay People have established negotiation committee, with aim of delivering substantial benefits, business programs and direct community involvement - benefits include a 12.5% direct “free carry” stake in Project
- Pre-Feasibility Study shows project would become region’s largest private employer, with 80-85 directly employed, and contributing over \$800 million in wages, royalties and taxes during LOM

* Refer ASX release dated 9 November 2021 – “Galalar Maiden Ore Reserve, PFS deliver substantial boost to new silica sand mine”.

Potential to move downstream.

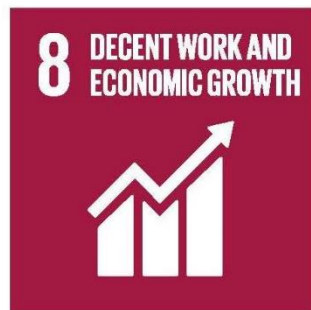
- Potential for further downstream processing or manufacturing – sites being examined in Townsville, Qld
- Potential for further beneficiation process to produce ultra-low iron (sub 50ppm Fe) silica product used in high-end, high value electronics
- Diatreme consulting with potential parties to examine economics of establishing onshore glass manufacturing operations to supply solar PV market
- Move would capture added value for benefit of Qld, regional investment and jobs, supporting Qld Govt renewable energy drive and “new economy minerals” initiatives



ESG benefits and environmental principals to be established at mine inception.



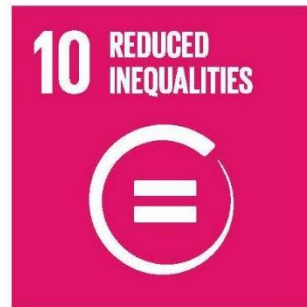
Renewable solar power to supply operation



110 FTE equivalent jobs + up to \$800m during LOM in various taxes, royalties and wages



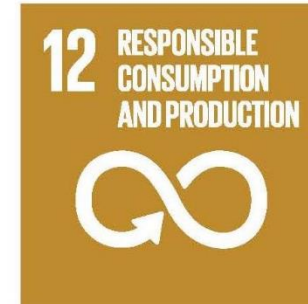
Downstream processing option for Townsville



Traditional owners hold 12.5% direct project stake and high indigenous employment targets at start-up



Small development footprint – no chemicals - with sustainable rehabilitation



'Net zero' emissions target for mining operation to be established



Supplying solar energy market with essential commodity to panel manufacturing



Sustainable rehabilitation – no disturbance to reef habitat

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APPENDIX



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Local backing.



Canberra delegation, including representatives of affected native title holders (Thiithaarr steering committee), Hopevale Congress Aboriginal Corporation, and DRX CEO at Parliament House, Canberra

Galalar sand mine increases

PETE MARTINELLI

SILICA sands developer and exporter Diatreme Resources Limited has announced another increase in the total JORC Mineral Resource estimate for its Galalar Silica Project near Cape Bedford in Cape York.

Resource estimate has risen to 61.9 million tonnes, up 30 per cent on the previous estimate announced last year.

The total resource covers about 335ha with an average thickness of 18.8m, of which 99 per cent falls within the Mining Lease Application area.

"This is another welcome boost for our Galalar project, demonstrating its potential to

become a long-term silica sand operation that generates valuable new jobs and investment for the benefit of the local community, including the directly affected native title holders," Diatreme chief executive Neil McIntyre (above) said.

"Galalar will be transformational for Hope Vale and Cooktown, and together with potential downstream processing opportunities in Townsville has the potential to give the whole region a boost in its post-pandemic recovery."

The latest resource expansion follows the release of an economic study showing the project's potential to generate more than 110 full-time jobs, delivering a significant boost to regional household incomes.



It could inject about \$23m-\$24m in the construction phase and up to \$42m in the operational phase for the benefit of Hope Vale, Cooktown and the surrounding region, with estimated total revenue of \$80m per year.

Located about 200km north of Cairns and 20km north of the port of Cooktown, the Galalar Silica Project lies within the same sand dune system and in proximity to the world's largest operating silica sand mine at Cape Flattery.

Townsville silica bid

TONY RAGGATT

BRISBANE-based and China-backed mineral and silica sands developer Diatreme Resources is evaluating opportunities for downstream processing of premium quality silica in Townsville.

Diatreme Resources plans to mine high-grade silica sand at the Hope Vale Aboriginal Community's Cape Bedford area north of Cooktown in its Galalar Silica Project.

The company told the Australian Securities Exchange on Friday it had undertaken site visits in Townsville with the help of the State Department of Regional Development, Manufacturing and Water and Townsville City Council.

The site visits examined potential available land and supporting infrastructure, including access to power, water and gas, for potential downstream processing or manufacturing opportunities.

The company said it was actively examining the potential for a portion of its planned mine product, a low iron (sub 100 ppm Fe) silica product, to undertake further beneficiation. It said this would likely be through a hot acid immersion process to produce an ultra-low iron (sub 50 ppm Fe)

Diatreme Resources CEO Neil McIntyre said they were working as hard as they could to deliver the best project possible for the people of North Queensland.

"Demand for Galalar's product continues to rise on the back of the solar energy boom and with the clean energy revolution accelerating, our project has the right product at the right time," Mr McIntyre said.

An economic study has estimated the mining project has the potential to create up to 110 full-time equivalent jobs and inject up to \$42 million into the region during its operation.

Affected native title holders will have a 12.5 per cent project stake.

A draft EIS is under way for the mine and Diatreme is targeting receiving environmental approvals and Mining Lease in the fourth quarter of this year with first mining production in 2022.

The company said it would update the market as discussions progressed with parties considering onshore glass manufacturing operations.

SAND MINE HEADS MEET LOCALS

EMERGING miner Diatreme Resources has kicked off stakeholder engagement meetings ahead of the proposed extraction of 21.6m tonnes of silica from a remote Cape York deposit.

An office in Hope Vale has opened with the aim of engaging the local community and a delegation to Canberra met Minister for Indigenous Australians Ken Wyatt and Environment Minister Sussan Ley. The Galalar Silica Project would mine 950,000 tonnes of silica sand a year during a proposed mine life of 15 years.

Diatreme chief executive Neil McIntyre said the meetings were key to earning a "social licence to operate".



Diatreme CEO Neil McIntyre

"It is impossible to stress enough the significance of such stakeholder engagement," he said.

Two weeks ago the company held community meetings at Hope Vale aimed at informing affected native title

holders including regional clan groups and town residents about the project.

Hopevale Aboriginal Congress chairman Willie Gordon said feedback must be "carefully listened" to in order to ensure development is sensitively undertaken.

"There are many positive benefits for the affected native title holders and broader Hope Vale community from this mining project, including jobs, revenue and economic opportunities," he said.

Leichhardt MP Warren Entsch supported the mine.

"(The mine) will be transformational for Hope Vale and Cooktown, an area of high unemployment," he said.



Resource statement Galalar Silica Project

Galalar Silica Sand Project – Resource Estimate*

JORC Resource Category (in situ)	Silica Sand (t)	Silica Sand (m ³)	Cut-off Grade SiO ₂ (%)	SiO ₂ (%)	Fe ₂ O ₃ (%)	TiO ₂ (%)	LOI (%)	Al ₂ O ₃ (%)	Density (t/m ³)
Measured	43.12	26.95	98.5	99.21	0.09	0.11	0.16	0.13	1.6
Indicated	23.12	14.45	98.5	99.16	0.09	0.13	0.24	0.10	1.6
Inferred	9.22	5.76	98.5	99.10	0.11	0.16	0.27	0.11	1.6
Total (Measured + Indicated + Inferred)	75.46	47.16	98.5	99.18	0.09	0.12	0.20	0.12	1.6

*Resource Estimate current as of 13 September 2021.

**Total Inferred, Indicated and Measured.



Competent person's statement.

Statement in accordance with the Australasian code for reporting of exploration results, mineral resources and ore reserves (the JORC code)

The information in this report that relates to Exploration Results and Exploration targets from the Galalar Silica Sand 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). 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 report that relates to Mineral Resources at the Galalar Silica Sand Project 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. 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 Ore Reserves at the Galalar Silica Sand Project is based on information reviewed or work undertaken by Mr Carl Morandy, Mining Engineer & Managing Director. Mr Morandy is the Managing Director of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy. Mr Morandy has relied on Diatreme for marketing, environmental, economic, social and government permitting. 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 Morandy has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the preparation of mining studies to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Ore Reserves (The JORC Code). Mr Morandy consents to the inclusion in the report on the matters based on their information in the form and context in which it appears.