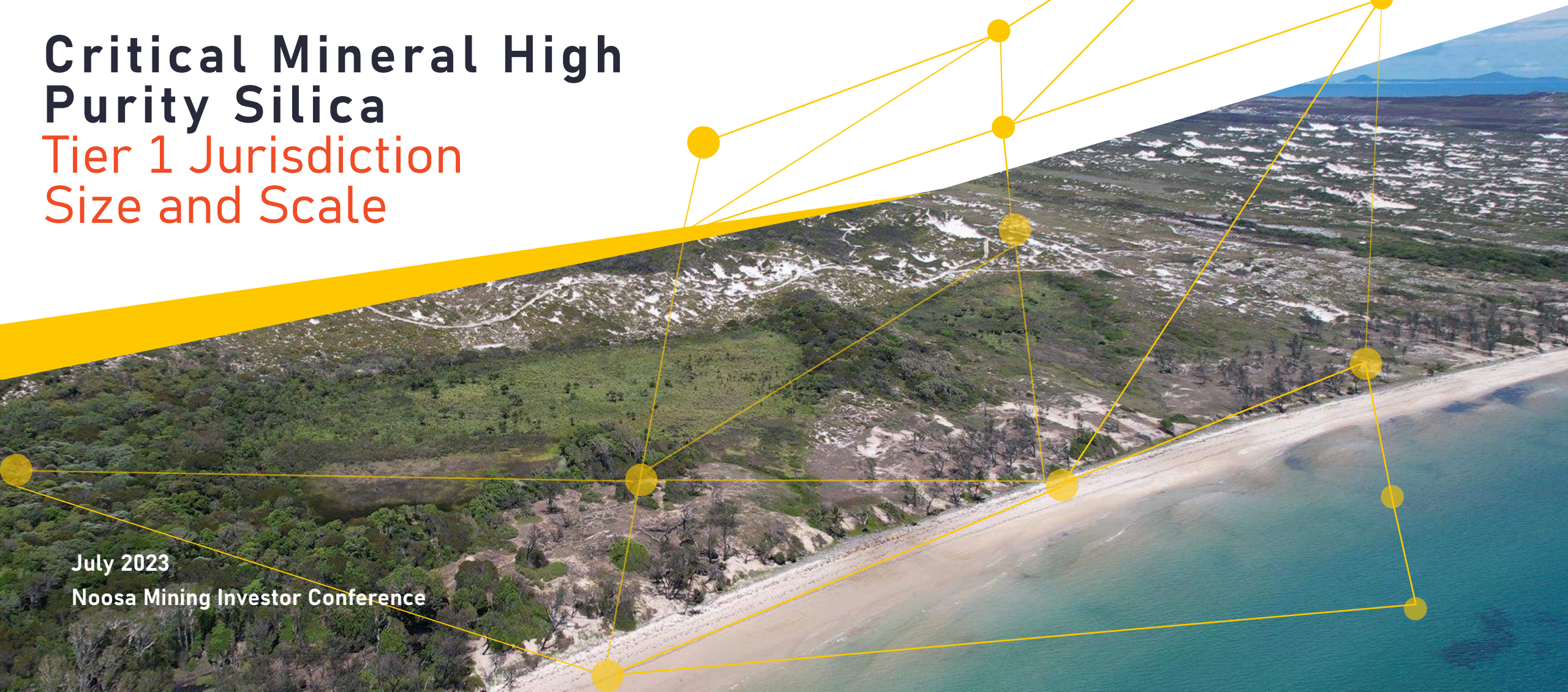
DIATREME Resources

AUSTRALIAN SANDS. UNIVERSAL DEMAND.

Critical Mineral High Purity Silica

Tier 1 Jurisdiction Size and Scale



July 2023

Noosa Mining Investor Conference

Important Information

This presentation contains certain forward-looking statements and forecasts which include without limitation, expectations regarding future performance, exploration, mineral resources, the financial position of Diatreme Resources Limited (the "Company"), industry growth or other trend projections. Whilst this presentation is based on information from sources which are considered reliable, the Company, its directors, employees and consultants do not represent, warrant or guarantee, expressly or impliedly, that the information in this presentation is complete or accurate. To the maximum extent permitted by law, the Company disclaims any responsibility to inform any recipient of this presentation of any matter that subsequently comes to its notice, which may affect any of the information contained in this document and presentation. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

Cautionary Statement

Whilst the Company has concluded that it has a reasonable basis for providing the forward looking statements included in this presentation, the Company advises that given the current price of silica and the company's current market capitalisation (compared to the capital expenditure required in connection with the Galalar Silica Sand Project and/or the Northern Silica 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 the Company's 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 29 April 2022 (Annual Report), continue to apply and have not materially changed. The Company 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.

ASX Announcements

This presentation should also be read in conjunction with the DRX Annual Report for 2022 and the June 2023 Quarterly Activities report, together with any announcements made by the Company in accordance with its continuous disclosure obligations under the Corporations Act including but not limited to the following ASX releases:

- 13 July 2023 – Offtake MOU with FLAT for NSP
- 16 June 2023 – NSP permitting pathway progresses with EPBC referral
- 14 June 2023 – Positive Scoping Study for Northern Silica Project
- 19 May 2023 – Permitting pathway advances for Northern Silica Project
- 13 March 2023 – Major silica resource expansion from 124Mt to 235Mt
- 11 January 2023 – Northern Silica Project potential resource expansion
- 30 August 2022 – New drilling and exploration underway on silica projects
- 18 August 2022 – MOU signed with Ports North on Northern Silica Project
- 5 July 2022 – Mining Lease Applications lodged for Northern Silica Project
- 27 June 2022 – Transformational strategic partnership and placement
- 17 March 2022 - Resource base grows to 200MT across high-grade silica projects
- 23 February 2022 - Diatreme expands Northern Resource Project exploration
- 10 January 2022 - Diatreme discovers 2nd major regional high-grade silica deposit

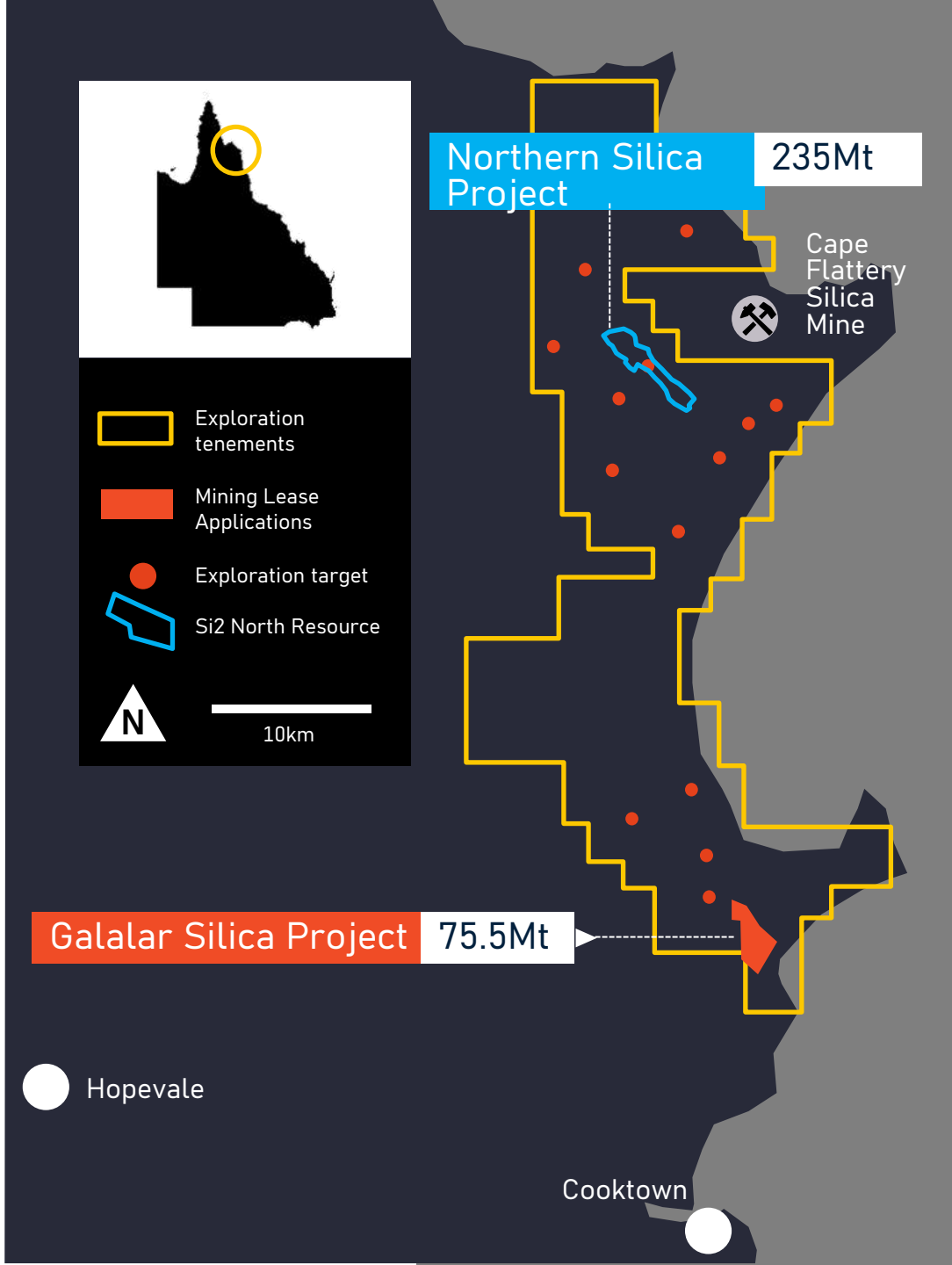
Company profile

Diatreme Resources is an emerging Australian producer of **critical high purity, low iron** silica sands.

Our **Northern Silica Project & Galalar Silica Project** in Far North Queensland will be co-developed with our J/V partner Sibelco, one of the world's largest materials handling companies, in the emerging silica critical minerals hub around Cape Flattery.

DIATREME Resources

SIBELCO



Our Vision

DIATREME Resources

To be a near-term producer of high purity, “low iron” silica sands for use in growing global solar PV and specialty glass markets.

01

Northern Silica is one of the world’s purest silica sands projects.

Total Mineral Resource

235Mt @99.34% SiO_2

02

Potential for delivery of **two** world class low iron high purity silica projects.

Northern Silica Project
Galalar Silica Project

03

Global silica consumption growing fast.

Solar PV panels whose primary component is low iron glass sheeting

04

Robust economics, advancing fast.

First production target 2026; second project to follow.

Corporate snapshot

DIATREME Resources

Share price

A$0.024

14 Jul 2023
52 week high $0.044, low $0.022

Market capitalisation

A$93.2m

14 Jul 2023

Shares on issue

3,729m

Cash

A$22.1m

31 Mar 2023 (Corp and J/V Cash)

Options

60m

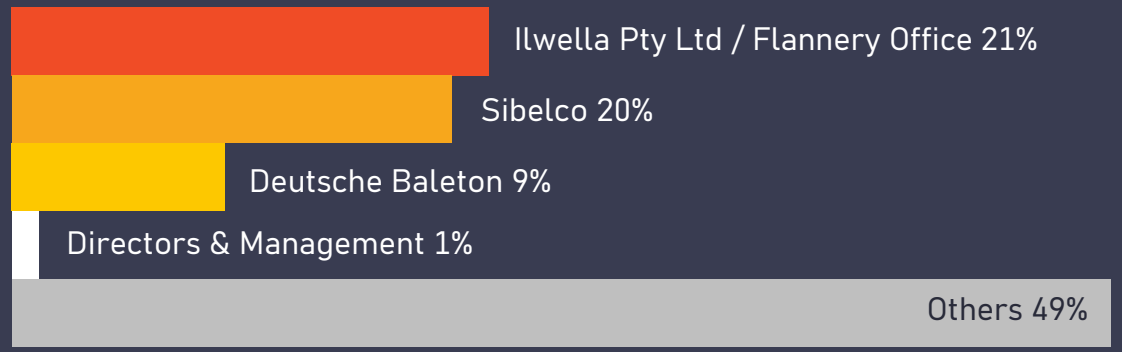
10.0m – Exp 27/5/26 @ $0.025
10.0m – Exp 27/5/26 @ $0.030
10.0m – Exp 27/5/26 @ $0.035
3.3m – Exp 26/5/27 @ $0.025
3.3m – Exp 26/5/27 @ $0.030
3.4m – Exp 26/5/27 @ $0.035
6.6m – Exp 25/7/27 @ $0.035
6.7m – Exp 25/7/27 @ $0.040
6.7m – Exp 25/7/27 @ $0.045

Debt facility (unsecured)

A$1.5m

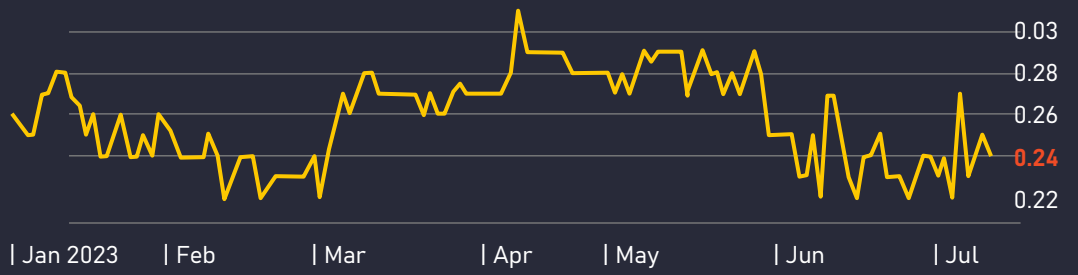
Repayment 30 May 2024

Shareholder interests



Share price performance

Year to date



Experienced Leadership

Our team has extensive experience in the government, mining and resources sector

Wayne Swan
Chairman

Mr Swan enjoyed a lengthy career in Australian federal politics, serving as Treasurer of Australia from 2007 to 2013 and Deputy Prime Minister of Australia from 2010 to 2013. Since retiring from Parliament in 2019, Mr Swan has served as a Director of Stanwell Corporation and Chairman of CBUS.

Neil McIntyre MBE
Chief Executive Officer

Mr McIntyre is a highly experienced resources and banking sector senior executive with over 30 years of management experience at national and state levels in Australia, Asia and the Pacific, including eight years as Managing Director of Pacific Capital Limited in Papua New Guinea. He has held positions as Chairman, Executive Director, Director Finance and Non-Executive Director in various listed and unlisted minerals and petroleum exploration companies regionally.

Michael Chapman
Non-Exec Director

Mr Chapman is an experienced mining engineer with more than 40 years' experience in the development, engineering, construction and management of open-cut and underground mining projects in Australia and internationally.
He recently served as the Chief Operating Officer of White Energy Company (ASX:WEC), following a similar role at Felix Resources.

Gregory Starr
Non-Exec Director

Mr Starr is a highly experienced corporate leader in the resources sector, with over 25 years of executive management experience across a number of Australian and international companies. This includes roles as Managing Director of KBL Mining Limited (ASX), Crater Gold Mining Company Limited (ASX) and Emperor Mines Limited (ASX); President and Director of Kenai Resources Limited (TSX); and CEO of Golden China Resources (TSX).

Cheng (William) Wang
Non-Exec Director

Mr Wang has a finance major from The Chinese University of Hong Kong. For 15 years he held senior management positions in several major Chinese state-owned companies, including being in charge of an international commodities trading arm with group assets exceeding $1.5 billion. Now domiciled in Australia, he has been active with Australian companies including directorships with China Century Capital Limited, Jupiter Mines Limited and Gulf Alumina Limited.

Sibelco
Our development partner

Formation of Silica Projects J/V with Sibelco June 2022 – progressive (two tranche) entry contributing $35m to earn 26.8% in Diatreme's silica projects.

Tranche 1 – $11M received Jan 2023

Tranche 2 – $24M due December 2023

- Sibelco direct corporate entry for 15% shareholding in Diatreme (completed)
- J/V tranche 1 completed (Jan 2023)
- Sibelco pre-eminent in silica space worldwide
- Diatreme manage and operate on-ground J/V
- Sibelco bring world class silica processing and technical knowledge, together with product marketing and development expertise
- Co-operation on potential development of further downstream (value add) silica opportunities in Australia

Note: Placement completed June 2022 – refer DRX ASX release 26th June 2022 for complete terms.

Sibelco

One of the world's leading providers of industrial minerals

Sibelco offers a broad range of high-specification products, derived from a core group of five minerals:

- Silica
- Clays
- Recycled glass
- Feld-spathics
- Olivine

- Sibelco is a leader in its main European market with a share of approximately 10%
- Sibelco is a clear leader in Europe for silica used in glass production and in the Asian market for fibre and display glass
- Clear leadership globally in cristobalite (refined silica) used in engineered stone, polymers and coatings
- Clear leadership globally in high purity quartz used in the production of photovoltaics and microprocessors

- 1872 Founded
- 6 Technical centres
- 120 Production sites
- 31 Countries
- 5100 Employees

Long life sustainable operations

Great logistics, conveyed products, existing port, sustainability

DIATREME Resources

Multi-phase high purity sand dunes located 20-50km northeast of Hope Vale in FNQ, extend inland for 10 to 15km.

Diatreme exploration acreage (500km^2), adjoins the world's largest high purity silica mine at **Cape Flattery (CFSM-Mitsubishi**); delivering new economy minerals for over 30 years.

Currently exploring and drilling multiple sand dunes.

View North - GSSP Dune and Cape Flattery (CFP)

2018 – 2023 Exploration, Resource Definition and Feasibilities	**2023 – 2026*** Transition to Operator	Long Term Delivery to Investors and Stakeholders
Northern Silica Project & Galalar Silica Project	Northern Silica Project	Northern Silica Project & Galalar Silica Project
Targeting Resources of size/scale/quality	25+ years targets	50+ years potential

*Commencement dependent on successfully obtaining permitting, approvals and project finance

Maintain the rights of Traditional Owners

- Walmbaar Aboriginal Corporation and Hope Vale Congress Aboriginal Corporation represent interests of affected native title holders
- Hope Vale Congress also has role as trustee of Aboriginal Freehold land
- Detailed pre-clearing inspections for any exploration with Diatreme Indigenous Liaison Officers
- Cultural Heritage Management Agreement ensures protection of cultural heritage
- Community Liaison Programme led by a senior member of the Hope Vale community

- Walmbaar Aboriginal Corporation has established a traditional owner negotiation committee, the **TONC**, to negotiate with Diatreme and Hopevale Congress
- Improve access and work collaboratively with Traditional Owners so they have access to Country, build their capacity for business development, and achieve clan and community aspirations

Community benefits

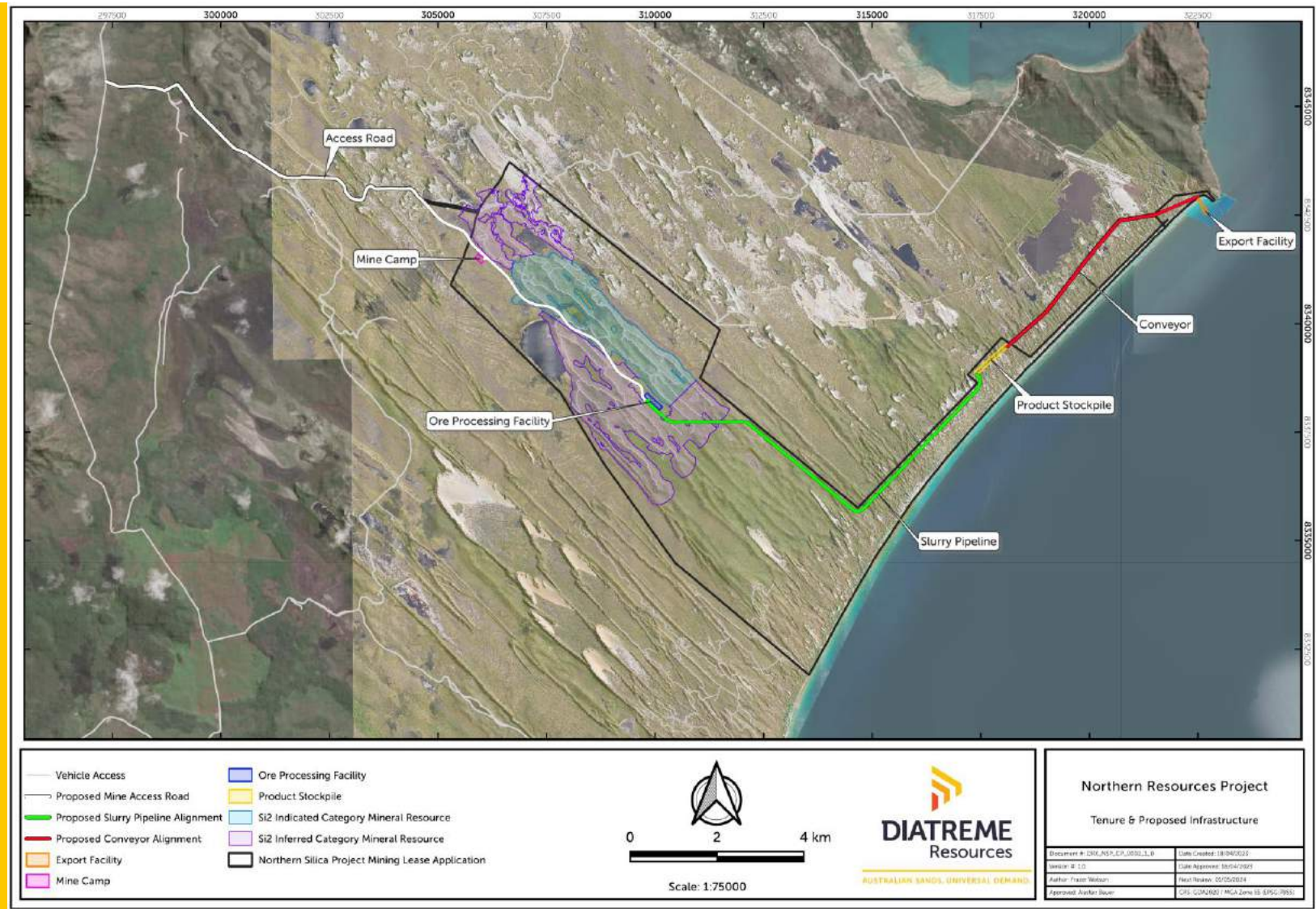
- Diatreme maintains office in Hope Vale servicing all project developments
- Mining Project Agreements with Indigenous clan groups deliver integrated Equity – Royalty – Business benefit
- Financial contributions towards training and education, partnerships, supported business development, facilitation of Council programs, employment, and community programs staged over 25 years (initial mine life of project)
- Initial 60% Indigenous employment target, tracked by KPI's
- Indigenous business development owned and managed in Hope Vale
- Increasing spend on goods and services in the community over project life

Northern Silica Project

235Mt Resource Base

- Primary development focus for Diatreme
- March 2023 - 89% Resource estimate expansion from 124.1Mt to 235Mt
- Ongoing significant exploration potential with further work planned for 2023
- Scoping study complete; now advancing feasibility studies
- Permitting and approvals underway
- Offtake advancing – MOU with FLAT signed

Note: NSP infrastructure layout is at scoping study level and is subject



Mineral Resource Estimate update

Increased by more than 240% in three years

DIATREME Resources

2021
Measured, Indicated & Inferred Mineral Resource

Galalar Total

75.46Mt

>99.18 [SiO_2%]

Si2 North Deposit

53.00Mt

>99.19 [SiO_2%]

Total

128.46Mt

>99.19 [SiO_2%]

2022
Measured, Indicated & Inferred Mineral Resource

Galalar Total

75.46Mt

>99.18 [SiO_2%]

Si2 North Deposit

124.00Mt

>99.32 [SiO_2%]

Total

198.46Mt

>99.19 [SiO_2%]

2023
Measured, Indicated & Inferred Mineral Resource

Galalar Total

75.46Mt

>99.18 [SiO_2%]

Si2 North Deposit

235.00Mt

>99.33 [SiO_2%]

Total

310.46Mt

>99.27 [SiO_2%]

Selective targeting and exploration planning

Avoiding high value environmental areas

Improved resource -reserve conversion

Rehabilitation to DRX-ESG, EA Compliance

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.

Note: Total Resource Estimates current as of 17th March 2023 and has not materially changed since – refer to the attached Appendices for full resource tables (including a breakdown of individual categories comprising the combined Mineral Resources) and competent persons statements.

Northern Silica Project

DIATREME Resources

Mineral Resource

235Mt

Silica sand

>99.33% SiO_2 grade

High purity "low iron" silica product*

Iron oxide	Silicon dioxide	Particle size distribution
=<120ppm	=<99.9%	109-700microns
Required global specs =<120ppm **100% in range**	Required global specs <99.5% **98% in range**	Required global specs <109-700 microns **98% in range**

Titanium dioxide	Aluminum oxide
<140ppm	<500ppm
Required global specs <400ppm **100% in range**	Required global specs <1000ppm **100% in range**

*Expected product – metallurgical results from process plant simulation

Note: Total Resource Estimates current as of 17th March 2023 and has not materially changed since – refer attached annexures for full resource tables and competent persons statements.

Northern Silica Project

Scoping Study metrics

Av annual ore feed
6,050,000t

Annual production
3mtpa rising to 5m

Silica price
A$81/t*

Av Annual gross revenue
A$391m

x 25 years
Project life

Gross revenue
A$9.80b

* The price assumption is for a 'low iron' silica sand product suitable for solar PV (FOB – Cape Flattery Port)

+ Capital development costs include a 15% contingency ($46.4m)

CAPEX+
Stage 1- A$356m

Payback period
72 months

Annual operating costs
A$92m

Pre-tax NPV10%
A$1,410m

IRR (pre-tax)
33%

Av Annual operating margin
A$299.4m

x 25 years
Project life

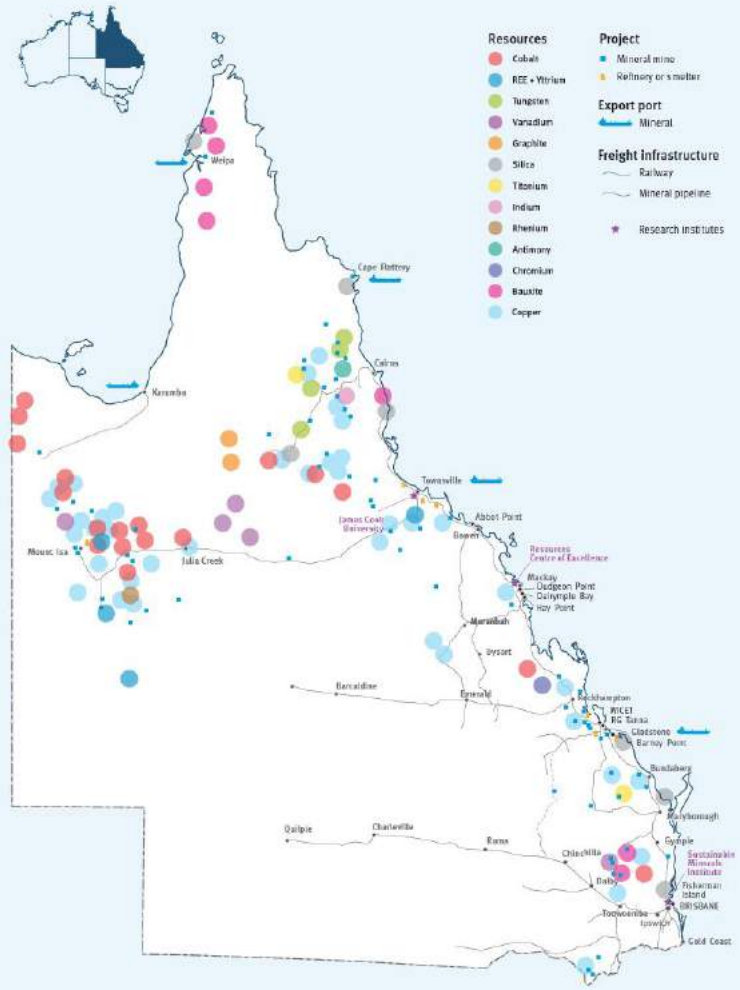
Total project EBITDA
A$7.485b

Note: Refer to ASX announcement on 14th June 2023 –" Positive Scoping Study for Northern Silica Project strengthens development plans". 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.

Silica market
Critical minerals hub

DIATREME Resources

- Qld Critical Minerals Strategy to oversee $245M investment in critical minerals, driving energy transition to renewables
- Cape Flattery area identified as potential silica critical minerals hub
- Cape Flattery “hub” can create an open environment for all potential participants
- Hub to focus on efficiencies in the supply chain, access to infrastructure , pathways through permitting and approvals



Silica surge

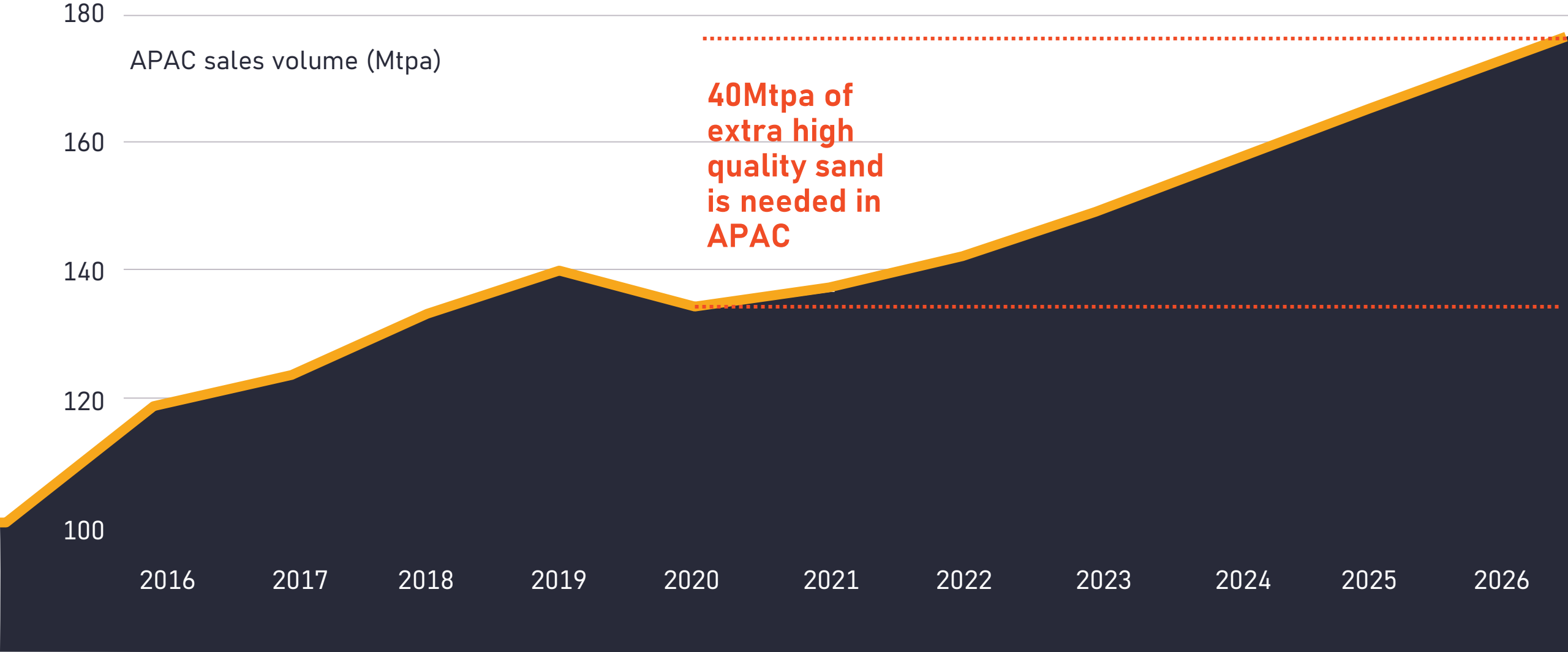
US$32B global market by 2028

- High-grade silica sand an essential raw material for production of solar panels, smartphones & other specialty glass uses
- IMARC predicts global silica sand market will grow from US$22.9B in 2022 to US$32.1B in 2028, with CAGR of 5.6%; Asia-Pacific the fastest-growing region
- IEA projects global solar investment in 2023 will exceed oil investment for first time ever, with estimated solar power spending of US$382B vs oil's US$371B
- Supply diminishing as much of sand used in Asia comes from rivers where environmental concerns are increasingly restricting extraction
- 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

Asia supply shortfall

DIATREME Resources

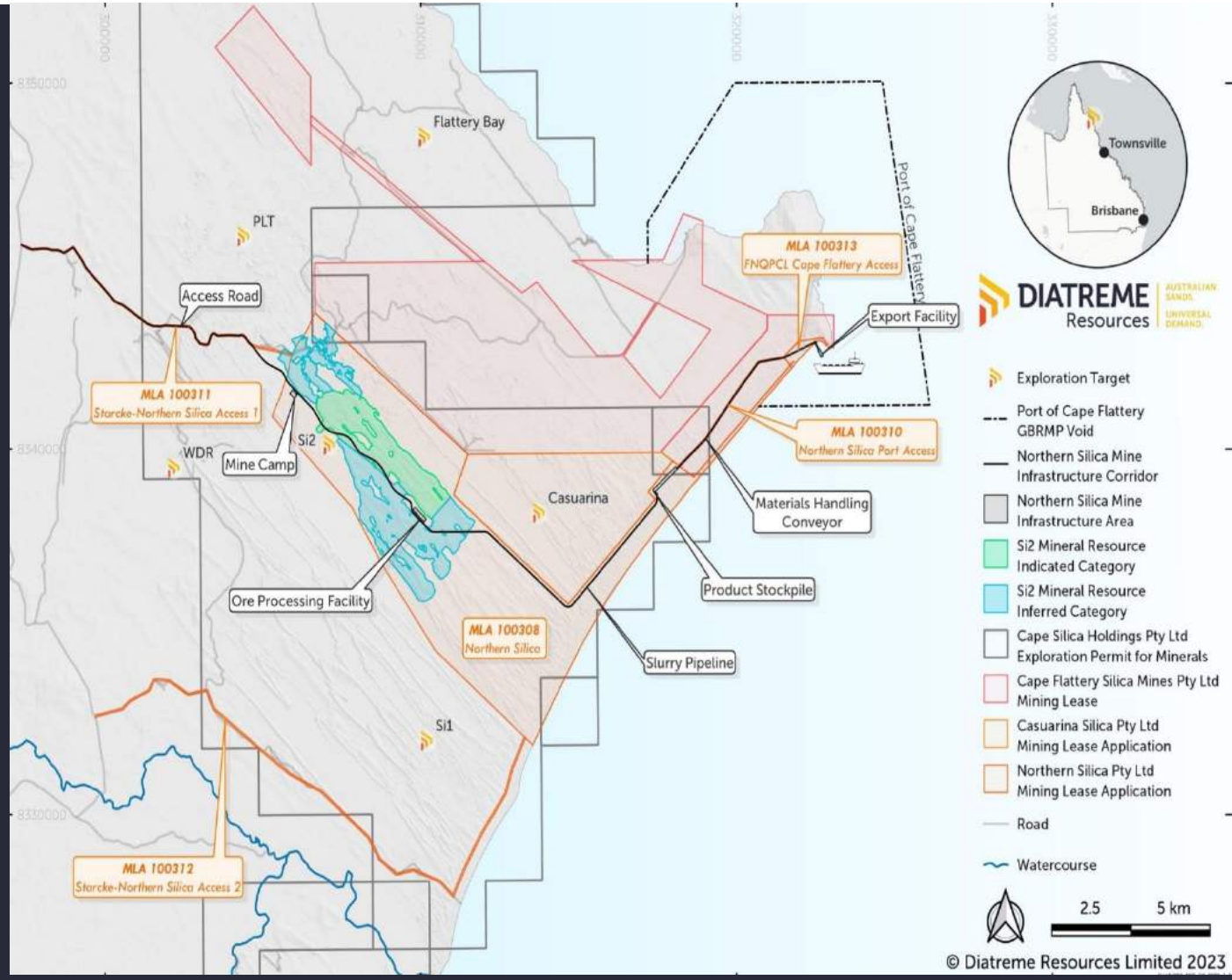
Source: IMARC Group, Report Title: "Asia Pacific Silica Sand Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2021-2026," February 2021



Northern Silica Project

Mining and infrastructure

- Phase 1: Production of 3Mtpa; transhipping via barge to ocean-going vessel (OGV) within Port of Cape Flattery using existing berthing “pocket”.
- Phase 2: Production of 5Mtpa; direct loading from jetty to OGV docked at wharf
- Technical committee formed to assess port engineering options, including funding, ownership of construction, future maintenance and operation
- Partial user agreement negotiations with Ports North underway
- Solar and renewable power options to be assessed, reducing carbon footprint
- No waste dumps or referable dams; zero discharge site
- Focus on minimising environmental impact



Ports North/CFSM/Diatreme

Unlocking approvals resource

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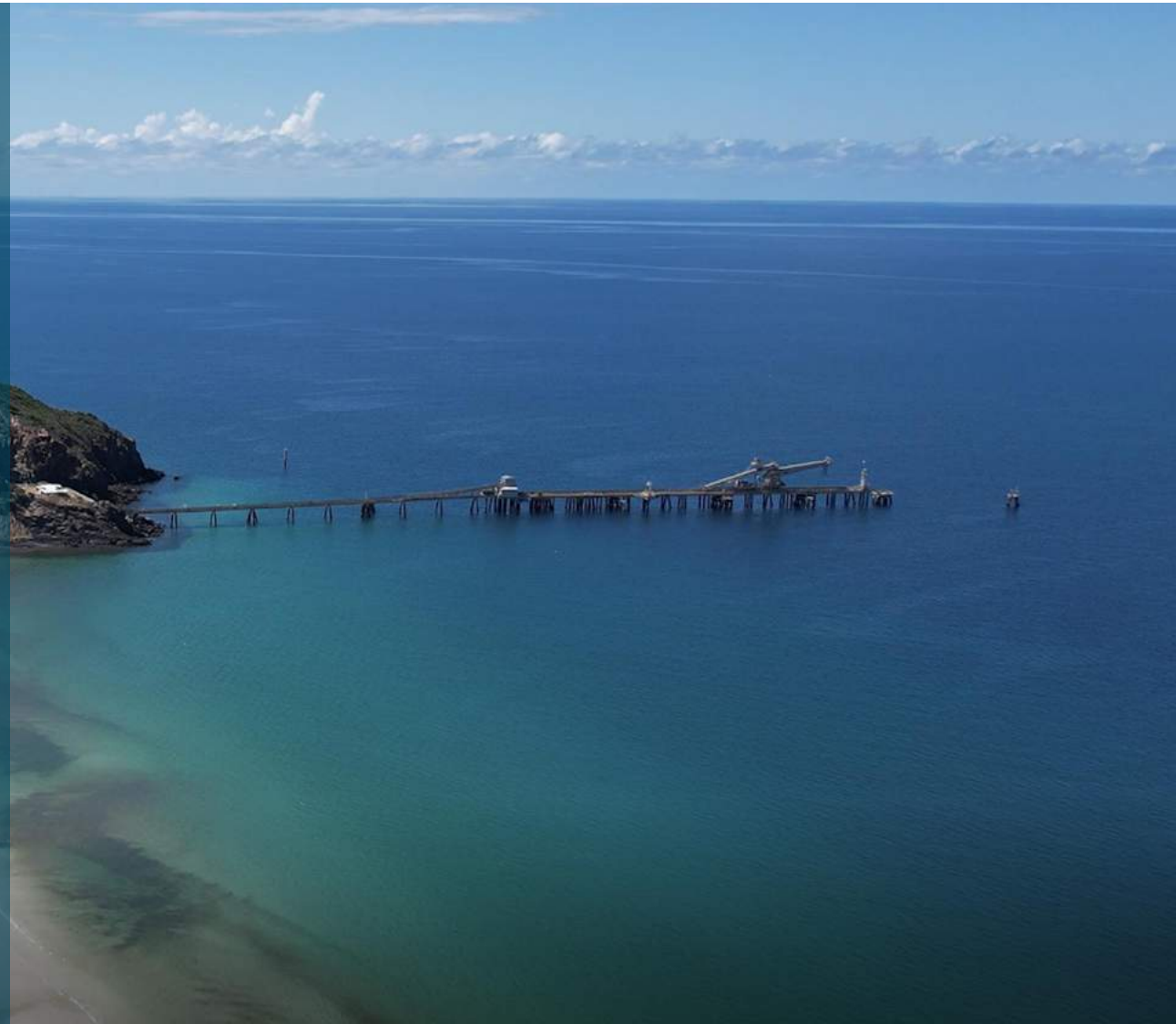
- Tripartite Entry Deed signed with Far North Queensland Ports Corporation (Ports North), the relevant port authority for Cape Flattery Port & port incumbent operator Cape Flattery Silica Mines (CFSM, Mitsubishi owned)
- Allows Diatreme and contractors to access port area and wharf facility to undertake environmental monitoring, surveys and investigations to support NSP's environmental approvals process



Galalar Project

Strategic 75m silica resource

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Galalar Project anticipated to feed future NSP production

Production aligned to Diatreme's low impact model and future silica market demand

Business value drivers

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- Single high purity silica product
- Environmental & social licence to operate
- Consistent delivery into silica market deficit
- Low capex start-up, high NPV, rapid payback
- Lowest quartile operating unit rates
- Evolving downstream high purity silica products with offtake partner expertise
- World class deposit, in-situ high purity silica Tier 1 Jurisdiction
- Supporting domestic innovation and technology

Upcoming value catalysts – Northern Silica Project

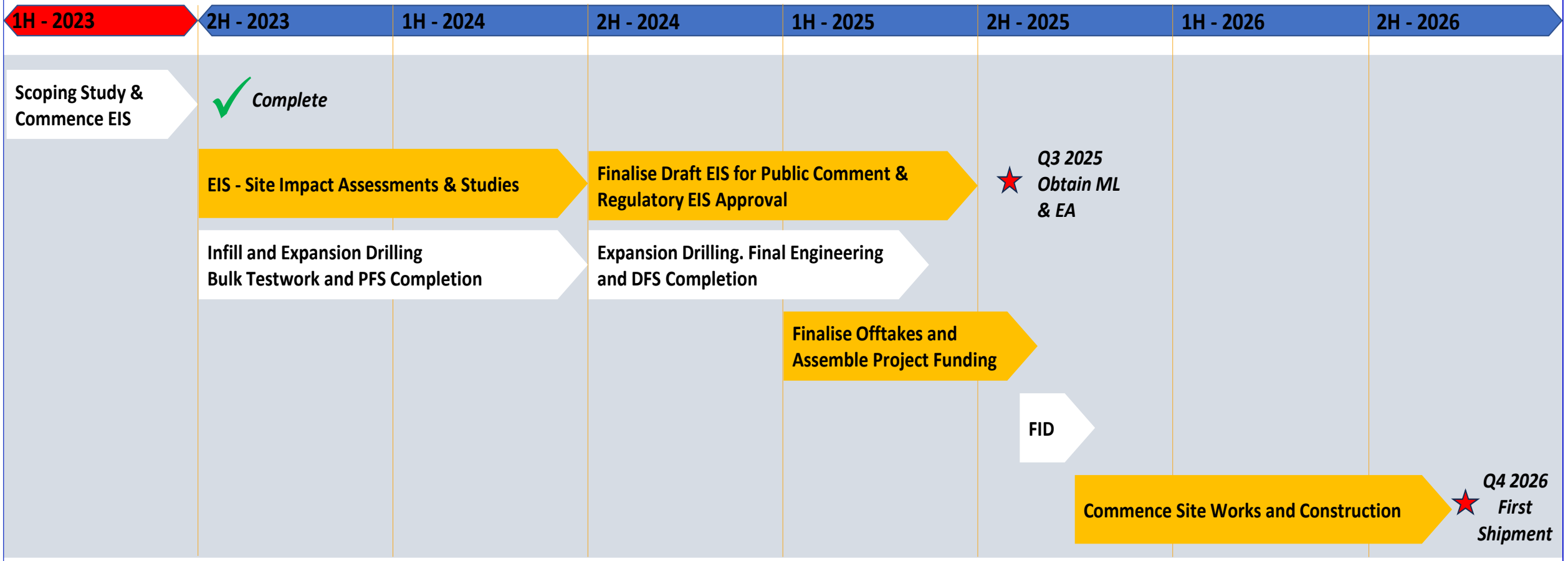
Upcoming value catalysts 2023 - 2026

1H - 2023	Scoping Study (**complete)** – Commence EIS
2H - 2023	Commence EIS site assessments – Infill and resource expansion drilling - Bulk testwork
1H - 2024	Ongoing EIS site assessments - PFS Completion
2H - 2024	Finalise EIS for public comment - Infill and resource expansion drilling
1H - 2025	EIS regulatory approvals – DFS Completion – Finalise Offtakes and Project Funding
2H - 2025	Obtain Mining Lease and EA - Project funding assembled - FID – Commence Construction
1H - 2026	Site Works & Construction to commence
2H – 2026	**Complete site works and First Shipment target in Q4 2026**

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

Project delivery timeline
2023-2026

Northern Silica Project Summary Timeline 2023-2026*



*Subject to advancement through permitting and approvals

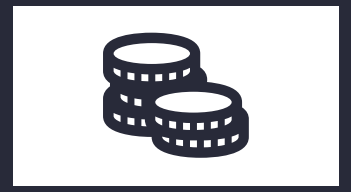
Integrated sustainability

Business Delivery

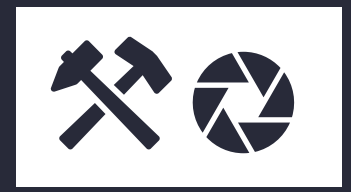
Secure jurisdiction, including a government commitment to Critical-New Economy Minerals

Multiple long life projects, with low risk resource upside

Utilising and upgrading product delivery infrastructure



Low CAPEX, low payback, long lived projects delivering consistent revenue



Uncomplicated mining, metallurgy and processing

Attracting investor support towards long term company development

Innovation delivering operational performance

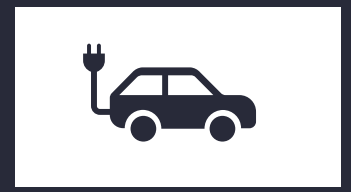
People, community & environment

Implementing measurable ESG including total supply chain

Training local, safety driven, high performance integrated team

Empowering Indigenous people, catalysing measurable benefits in local communities

Sustained contribution to environmental improvement projects, aligned to Caring for Country



Targeted programs lowering carbon emissions

Develop low impact mines with minimised areas of disturbance for progressive rehabilitation

DIATREME Resources

AUSTRALIAN SANDS. UNIVERSAL DEMAND.

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DIATREME Resources

AUSTRALIAN SANDS.
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APPENDICES

Competent person's statement

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

Exploration Targets & Exploration Results Statements

The information in this presentation that relates to Exploration Targets & Exploration Results is based on information compiled by Mr Frazer Watson, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy, and the Australian Institute of Geoscientists. Mr Watson is a full-time employee of Diatreme Resources Limited. Mr Watson has sufficient experience that 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 Resource and Ore Reserves'.

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

Where reference is made to previous releases of Exploration Results in this presentation, the Company confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the exploration results included in this presentation continue to apply and have not materially changed.

Mineral Resources

The information in this presentation 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.

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 JORC Code. Mr Mutton consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Ore Reserves

The information in this presentation 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 the Company for marketing, environmental, economic, social and government permitting.

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 JORC Code. Mr Morandy consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Resources and Reserves Statement

Global Resources – NSP & GSSP

	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 %	Total %	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	Inferred	103	65.0	98.5	99.31	0.10	0.14	0.13	0.09	99.83	1.60
Si2	Indicated	132	82.0	98.5	99.27	0.11	0.15	0.13	0.12	99.90	1.60
Si2	Sub Total	235	147.0	98.5	99.29	0.11	0.15	0.13	0.11	99.87	1.60
Combined	Total	310		98.5							

Reserves – GSSP

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