DIATREME Resources

AUSTRALIAN SANDS. UNIVERSAL DEMAND.

High purity silica sand in global demand.

QEC Critical Minerals Investment Showcase

Neil McIntyre, CEO, Diatreme Resources

3 October 2023

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

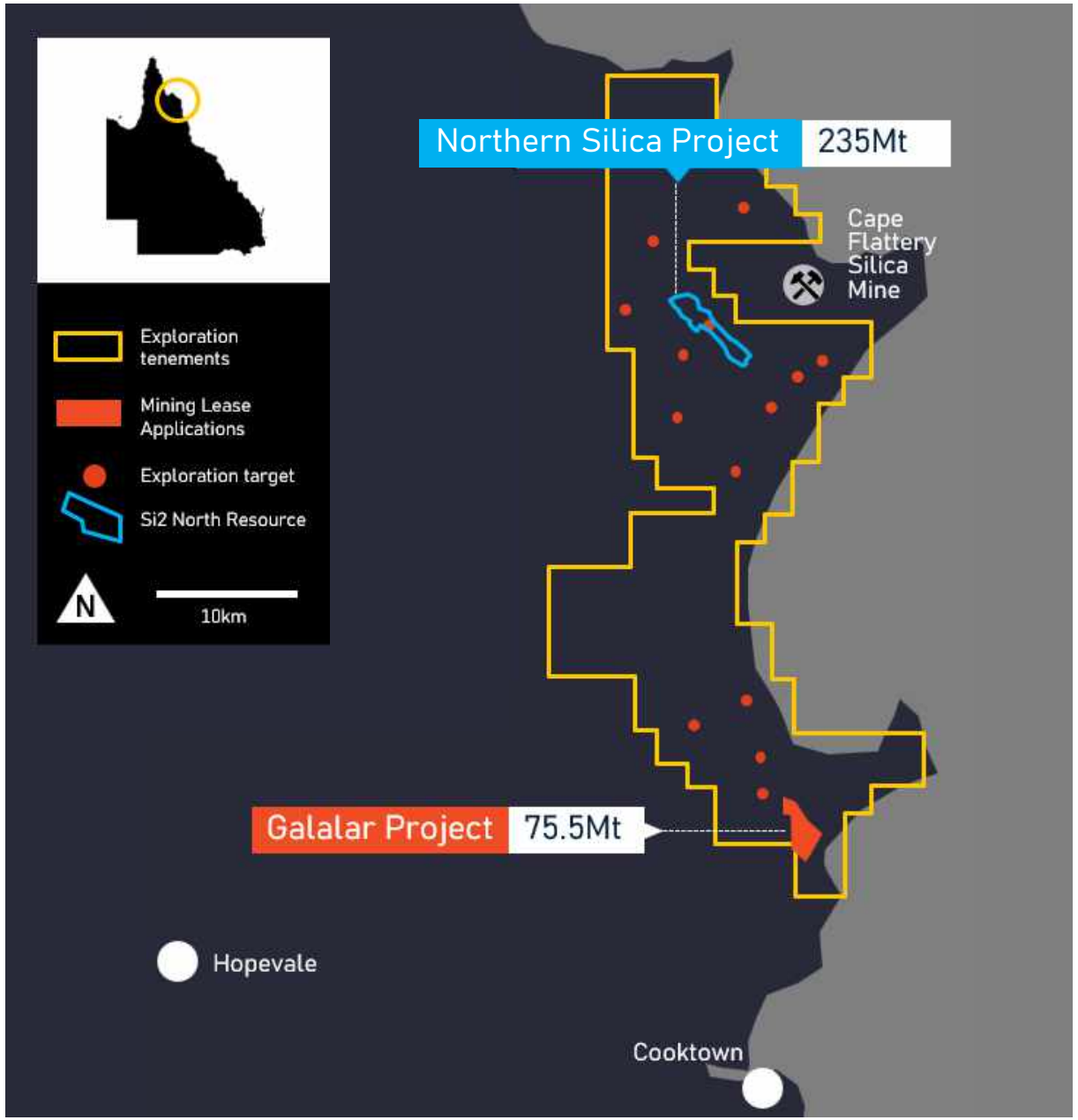
This presentation should also be read in conjunction with the DRX Annual Report for 2022 and the June 2023 Quarterly Activities report, together with any announcements made by the Company in accordance with its continuous disclosure obligations under the Corporations Act including but not limited to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

- 3 August 2023 – NSP granted Project of Regional Significance status
- 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

Two high purity, low iron silica sands projects in North Queensland

The Northern Silica and Galalar projects will be co-developed with our J/V partner Sibelco.

- Long life, sustainable operations with excellent logistics and ESG credentials
- Diatreme exploration acreage (500km^2) adjoins the world's largest high purity silica sand mine at Cape Flattery (CFSM-Mitsubishi)
- Multi-phase high purity sand dunes located 20-50km north-east of Hope Vale, FNQ, extending inland for 10-15km



Corporate snapshot

Share price
A$0.024
2 October 2023
52 week high $0.039, low $0.02

Market capitalisation
A$89.5m
29 September 2023

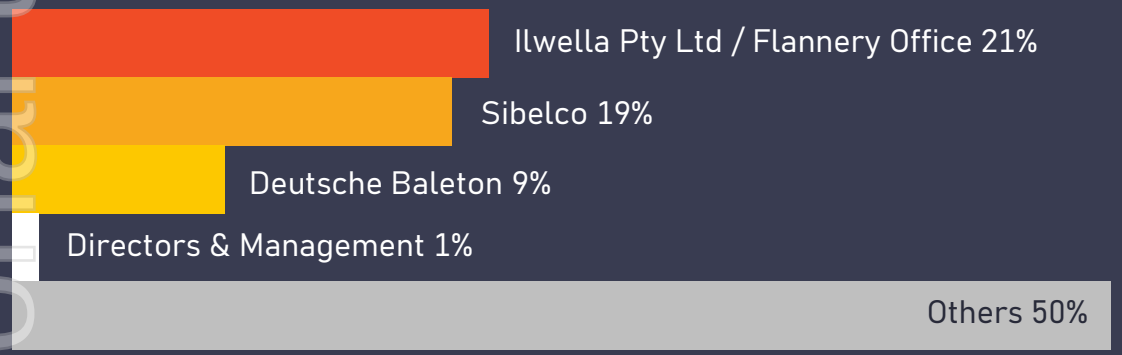
Shares on issue
3,729m
21 September 2023

Cash
A$20.2m
30 June 2023 (Corp & J/V Cash)

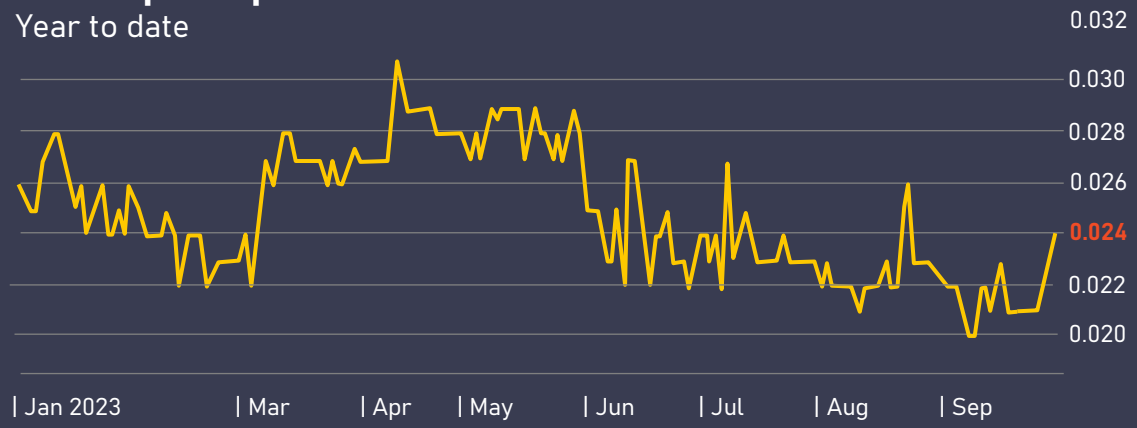
Debt facility (unsecured)
A$1.5m
Repayment 30 May 2024

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

Shareholder interests



Share price performance
Year to date



In a nutshell

Diatreme's Northern Silica Project in North Queensland is one of the world's purest silica sand projects.

Mineral Resource

235Mt

High silicon dioxide

99.9%+

98% in range

Low iron

<120ppm

100% in range

Sibelco is our development partner.

The Northern Silica Project's high purity silica sand is attracting interest from glass majors around the world.

June 2022

Diatreme enters joint venture with international materials heavyweight **Sibelco**.

- Sibelco to pay $35m for 26.8% of Diatreme's silica projects
- $11m received January 2023; $24m due December 2023
- DRX has strong cash position = long runway

DIATREME Resources + SIBELCO

Sibelco

One of the world's leading providers of industrial minerals

Sibelco brings world class silica processing and technical knowledge along with marketing and development expertise

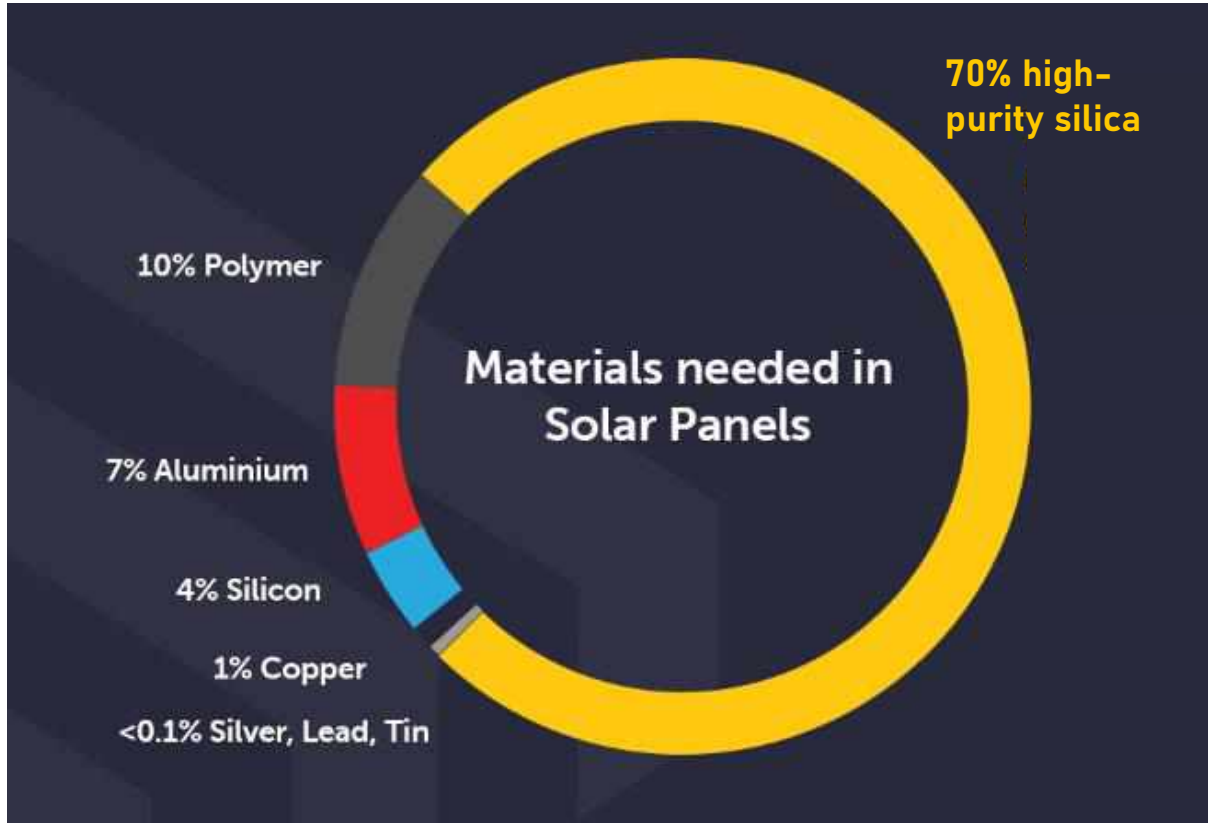
- Sibelco is also a leading supplier of silica to the Asian market for specialty glass
- Global leader in supply of cristobalite (refined silica) used in engineered stone, polymers and coatings
- Leadership in high purity quartz used in the production of photovoltaics and microprocessors

Sibelco has production facilities around the world with exposure to every major market.

High-purity silica is vital for the manufacture of solar panels

70% of a solar panel is comprised of glass made from high purity, low iron silica.

- High-grade low iron silica sand is an essential raw material in production of solar panels, smartphones and other specialty glass uses
- Solar panel manufacturers' feed stock requires >99% purity silica with less than 120ppm iron oxide levels
- Supply diminishing as much of the sand used in Asia comes from areas where environmental concerns are increasingly restricting extraction



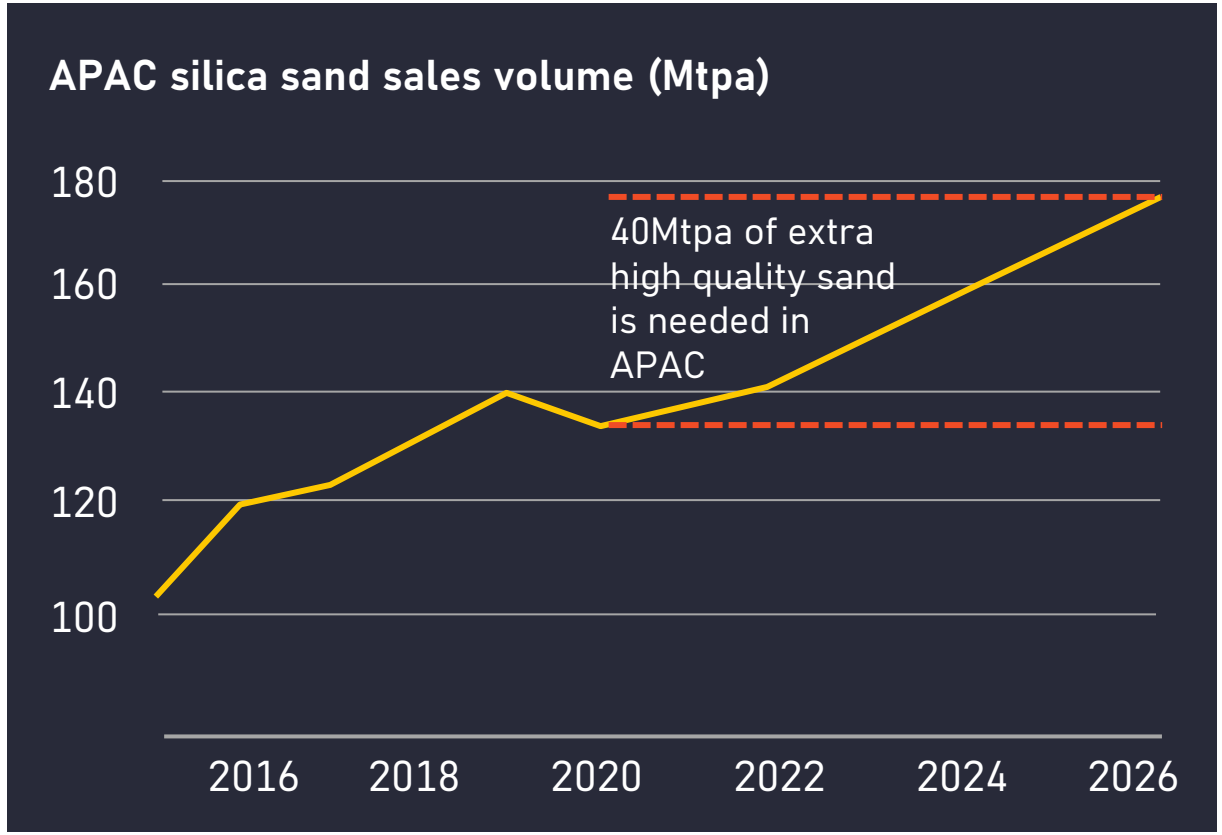
Source: World Bank 2020: "Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition."

Silica surge

US$32B global market by 2028

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%.

- 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 (*source: International Energy Agency (IEA)*)
- IEA projects reaching net zero by 2050 will require annual additions of 630 GW of solar PV and 390 GW of wind by 2030 – four times the record levels set in 2020 "**equivalent to installing the world's current largest solar park roughly every day**"

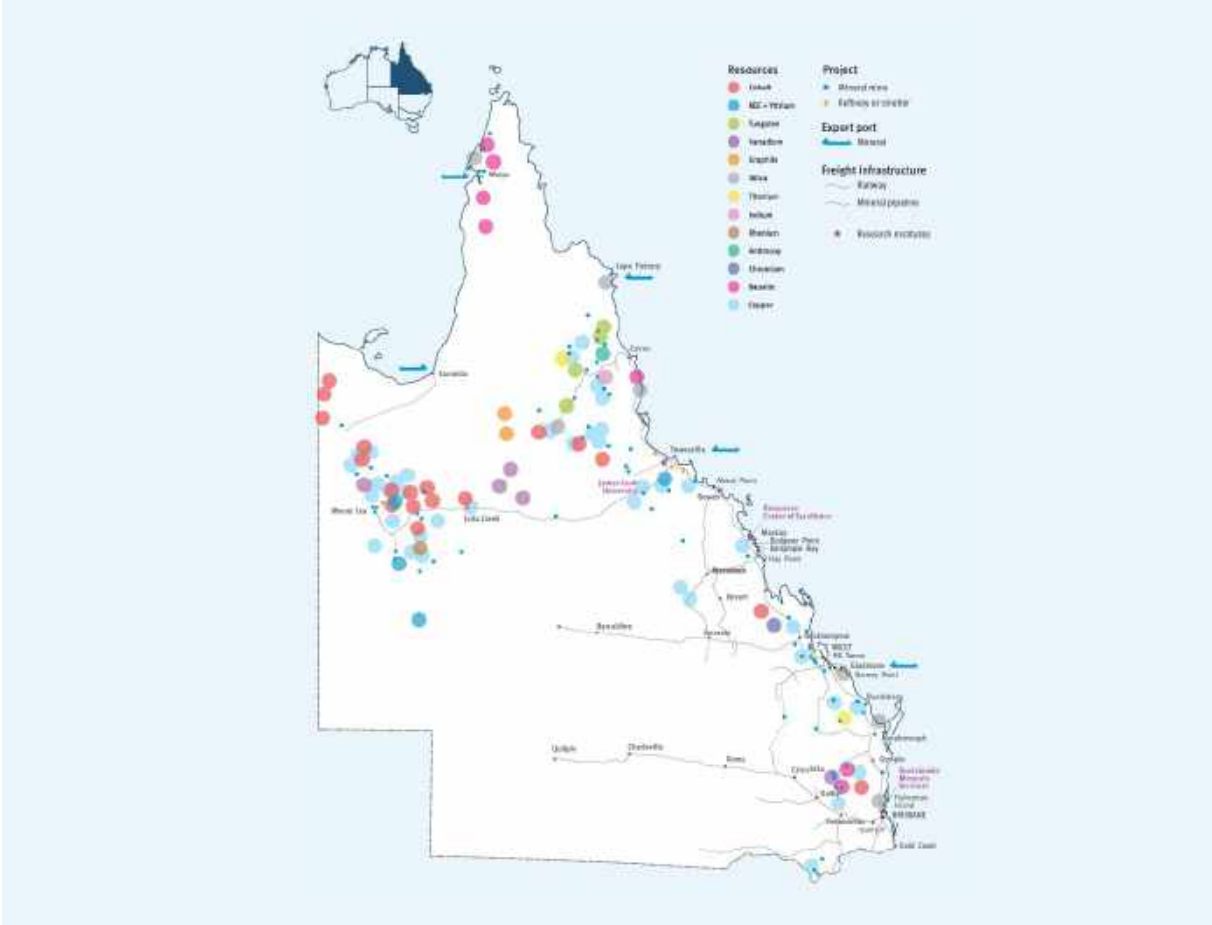


Source: IMARC Group, Report Title: "Asia Pacific Silica Sand Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2021-2026," February 2021

Potential to serve critical minerals hub in North Queensland

Queensland 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
- Northern Silica Project to be prioritised for development, including opening up export infrastructure



Ports North/CFSM/Diatreme

Unlocking approvals

- 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 Northern Silica Project's environmental approvals process

DIATREME Resources

AUSTRALIAN SANDS.
UNIVERSAL DEMAND.

Silica Projects

Northern Silica Project
PV Silica Grade
High purity, low-iron specs

2023 Measured, Indicated & Inferred Mineral Resource

235.00Mt

>99.33 (SiO_2%)

Iron Oxide

=<120ppm

100% in range of global specs

Silicon dioxide

=<99.9%

98% in range of global specs

Particle size distribution

109–700 microns

98% in range of global specs

Aluminium oxide

<500ppm

100% in range of global specs

Northern Silica Project

Positive **Scoping Study** strengthens development plans. Feasibility Study now underway.

Target: Production of 121 million tonnes of high purity silica sand over 25 years.

Note: Refer to ASX announcement 14 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.

Target production

3Mtpa rising to 5Mtpa

CAPEX (Stage 1)

A$356m

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

Annual average sales revenue

A$391m

Silica price A$81/t for a low iron, silica sand product suitable for solar PV (FOB – Cape Flattery Port)

Annual operating costs (Av LOM)

A$92m

Shipping/marketing A$24.00/t
Production A$27.40/t

NPV (pre-tax)

A$1.41 billion

IRR (pre-tax)

33%

Average annual operating margin

A$299.4m

Gross revenue (LOM)

A$9.8 billion

Northern Silica Project

One of the world's purest silica sand projects

The Northern Silica Project's high purity, low iron product can be used as a direct feed by manufacturers.

Offtake advancing – MOU with FLAT Glass, one of the world's largest manufacturers of photovoltaic (PV) grade glass used in solar panel manufacturing.

DIATREME Resources + FCG 福莱特集团 FLAT GROUP

FLAT Glass Group headquarters in Jiaxing City, Zhejiang

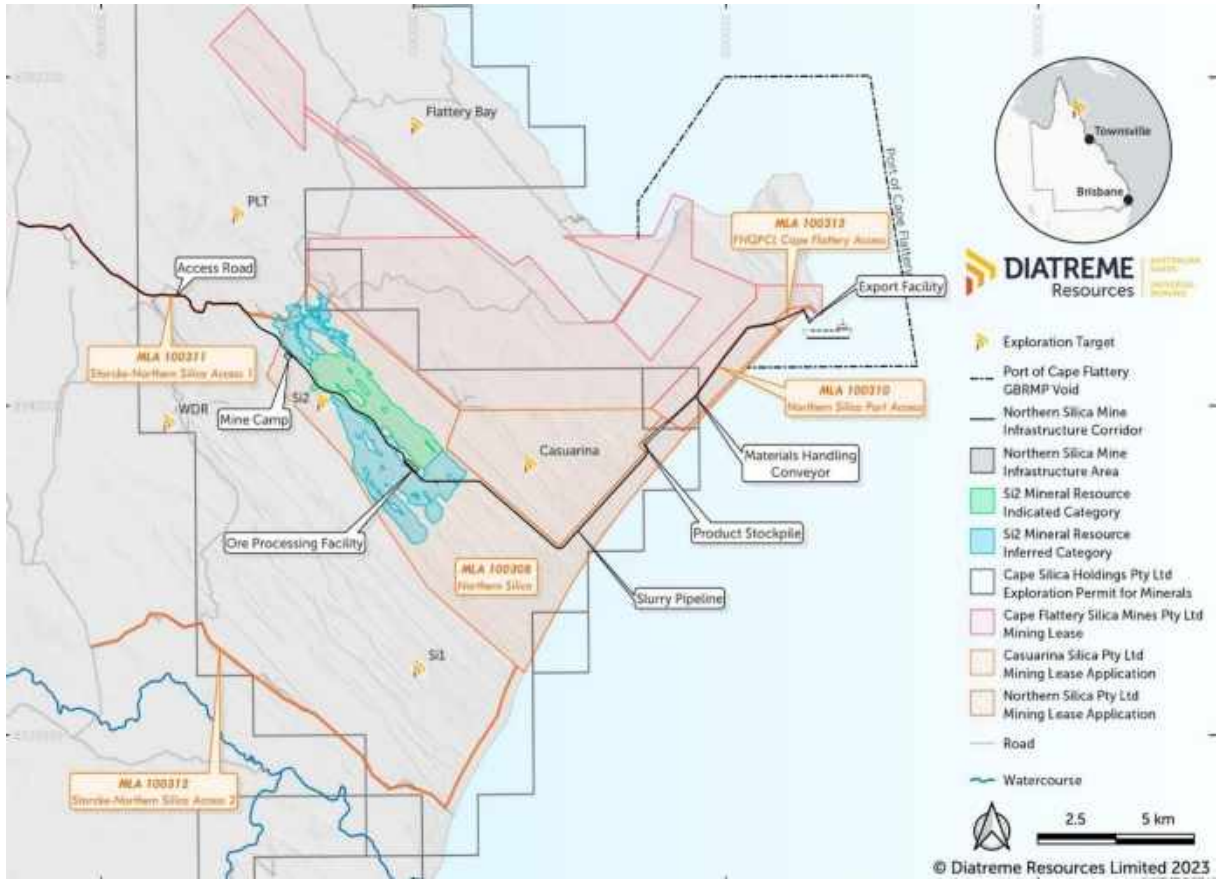
Northern Silica Project

Project adjacent to Cape Flattery Silica Mine.

Phase 2 (years 3 -25)

Production of 5Mtpa loaded from jetty to ocean-going vessel (OGV).

- Phase 1: Production of 3Mtpa; transhipping via barge to OGV within Port of Cape Flattery using existing berthing “pocket”
- 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



Galalar Project

Strategic 75m silica resource

Galalar Project anticipated to feed future Northern Silica Project production.

View South - Nob Point Towards Cooktown

Maintaining the rights of Traditional Owners

Walmbaar Aboriginal Corporation and Hope Vale Congress Aboriginal Corporation represent interests of affected native title holders so they have access to Country, build their capacity for business development, and achieve clan and community aspirations.

- Hope Vale Congress also has role as trustee of Aboriginal Freehold land
- Detailed pre-clearing inspections for any exploration with Diatreme
- Cultural Heritage Management Agreement ensures protection of cultural heritage
- Community Liaison Program led by senior members of the Hope Vale community
- Walmbaar Aboriginal Corporation has established a traditional owner negotiation committee, the **TONC**, to negotiate with Diatreme and Hopevale Congress

Community benefits

Diatreme maintains an office in Hope Vale to service its projects.

- Mining Project Agreements with Indigenous clan groups deliver both royalty and business benefits
- 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

Diatreme CEO Neil McIntyre (centre) with staff at an Open Day in Hope Vale, Qld.

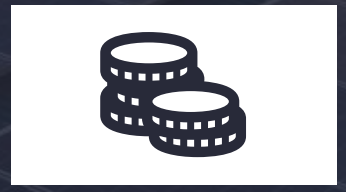
Integrated sustainability

Business Delivery

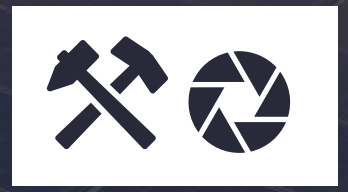
Secure jurisdiction, including government commitment to Critical-New Economy Minerals

Multiple long life projects, with low risk resource upside

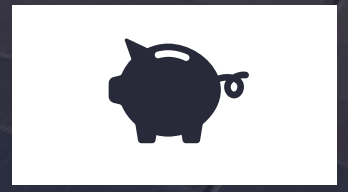
Utilising and upgrading product delivery infrastructure



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



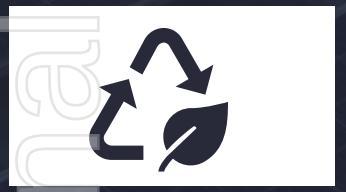
Uncomplicated mining, metallurgy and processing



Investor support for 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

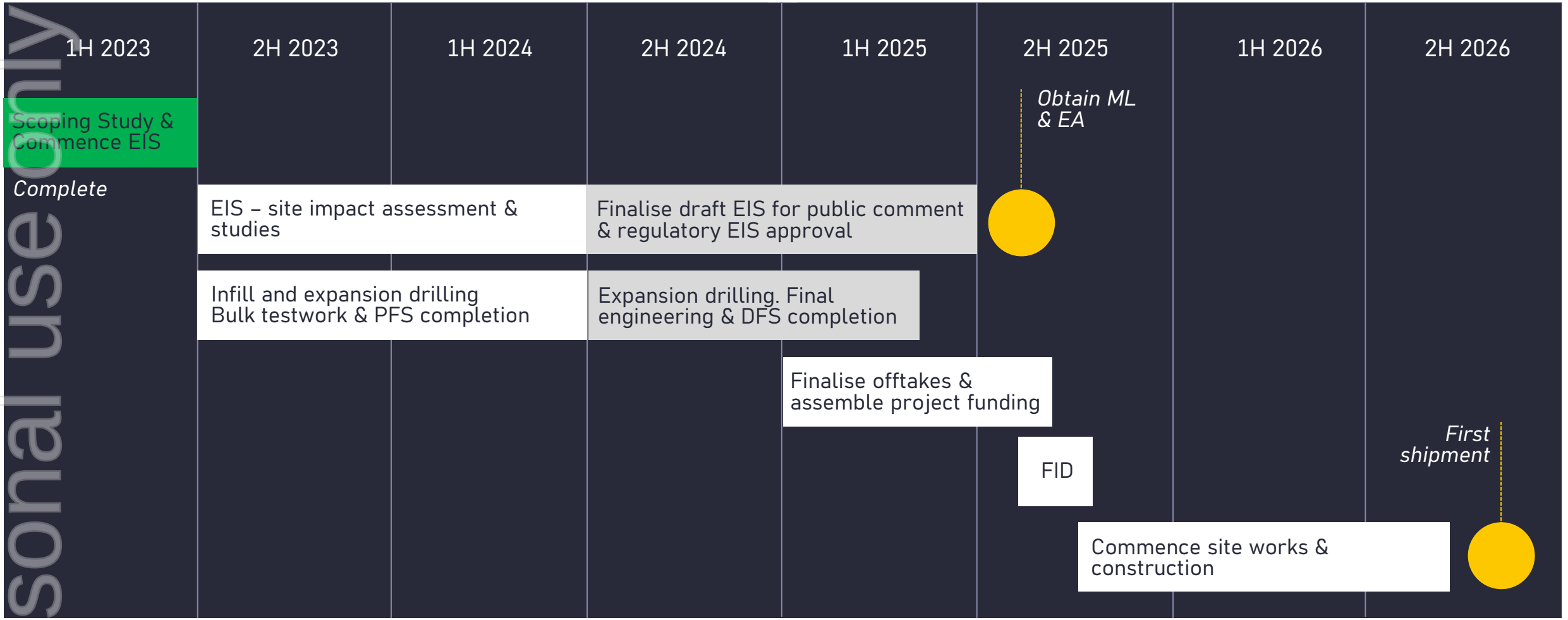
Sustained contribution to environmental improvement projects, aligned to Caring for Country

Targeted programs lowering carbon emissions

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

Northern Silica Project

Delivery timeline 2023-2026



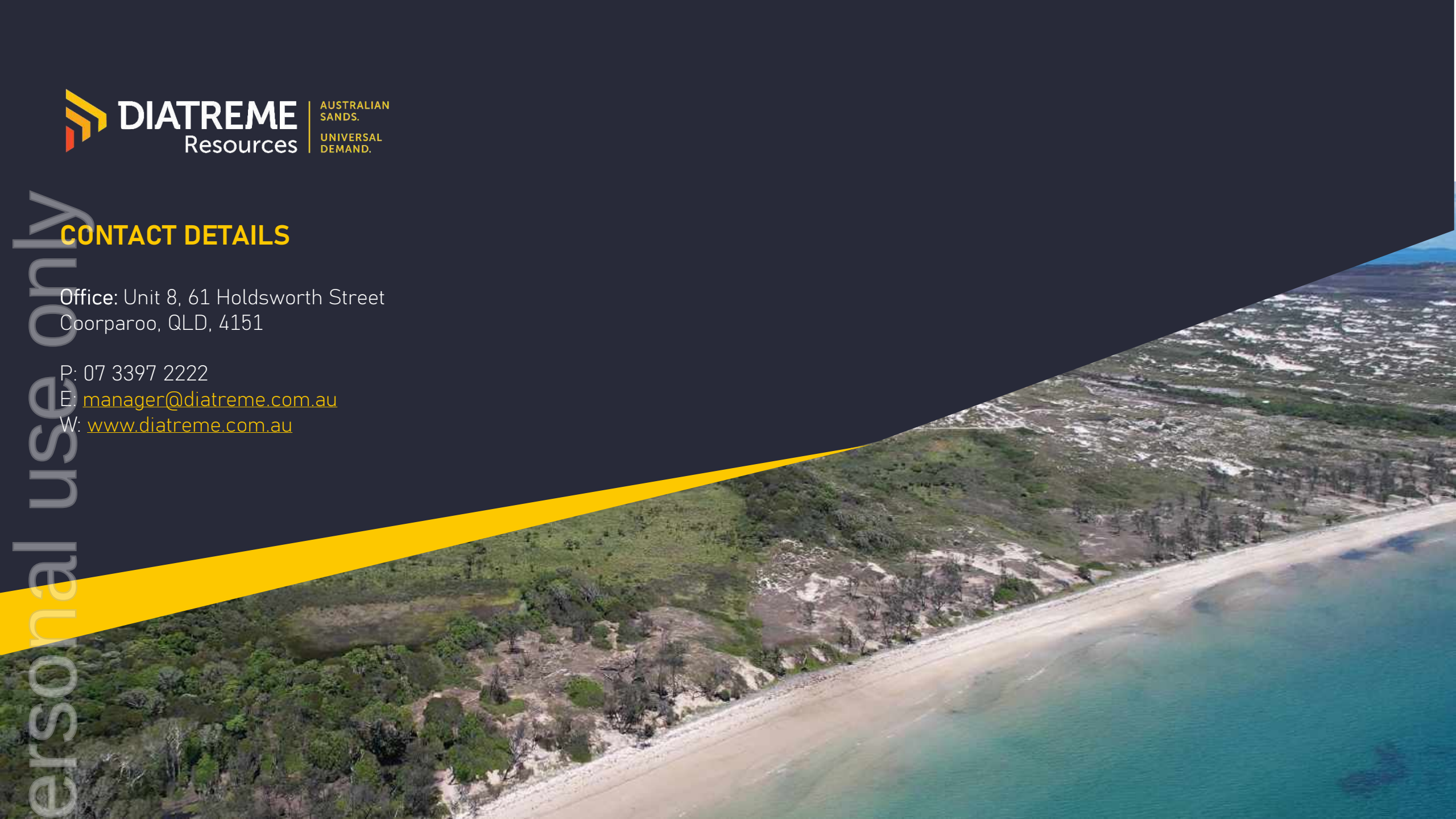
DIATREME Resources

AUSTRALIAN SANDS. UNIVERSAL DEMAND.

CONTACT DETAILS

Office: Unit 8, 61 Holdsworth Street
Coorparoo, QLD, 4151

P: 07 3397 2222
E: manager@diatreme.com.au
W: www.diatreme.com.au



DIATREME Resources

AUSTRALIAN SANDS.
UNIVERSAL DEMAND.

APPENDICES

Mineral Resource Estimate increased by more than 240% in three years

2023 Measured, Indicated & Inferred Mineral Resource

310.46Mt

Northern Silica Project

235.0Mt

>99.33 (SiO_2%)

Galalar Project

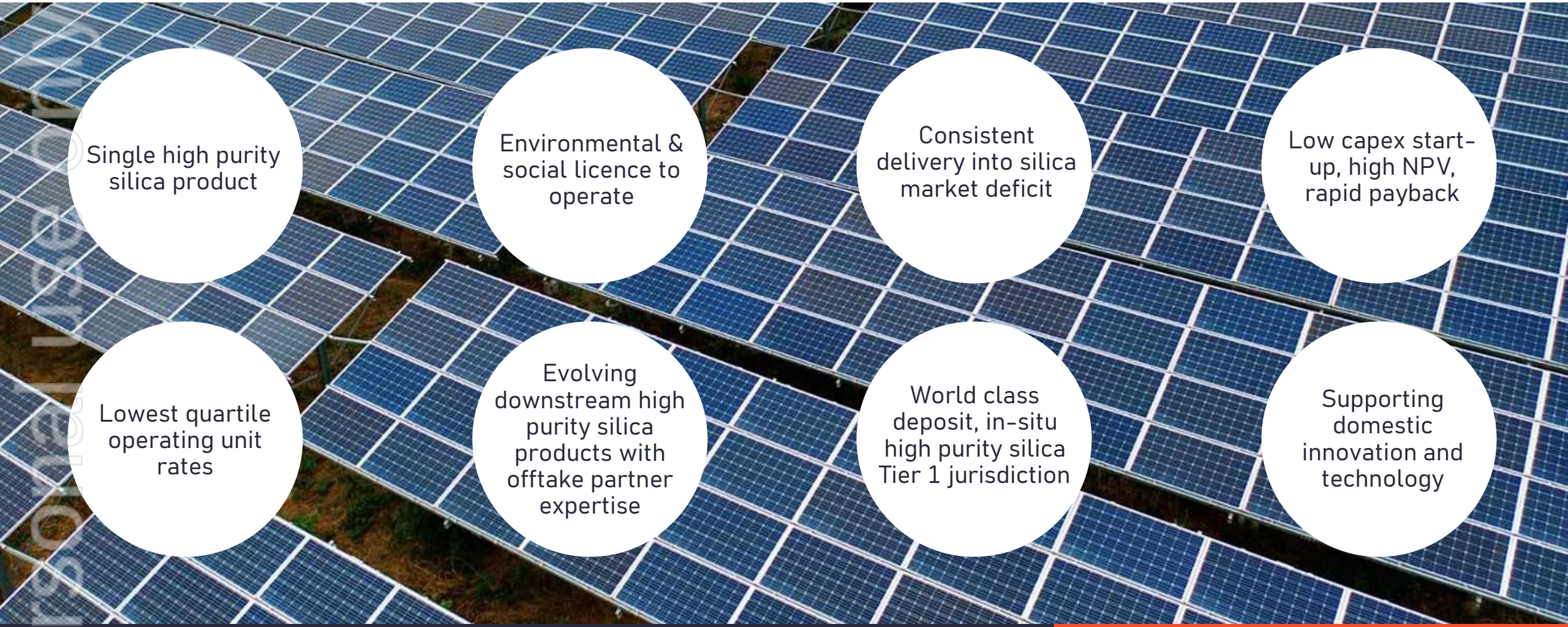
75.46Mt

>99.18 (SiO_2%)

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 17 March 2023 and has not materially changed since – refer attached annexures for full resource tables and competent persons statements.

Business value drivers



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
CEO

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.

Kara Keys
Non-Exec Director

An experienced company director, Ms Keys has a strong board and financial background. Her previous roles include as a trustee director at Cbus Super, Powerlink and United Super Asset Management and as a director of the Australian Institute of Superannuation Trustees. She has worked closely with Indigenous communities as the National Indigenous Officer at the Australian Council of Trade Unions.

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 – Northern Silica Project & Galalar Silica Project

	JORC Resource Category	Silica sand (Mt)	Silica sand (Mm^3)	Cut-off SiO_2 (%)	SiO_2 %	Fe_2O_3 %	TiO_2 %	LOI %	Al_2O_3 %	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 – Galalar Silica Project

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