ASX:DRX

Time to shine.

Advanced, high grade, low-cost silica project located adjacent to the world's largest silica sand mine.

Noosa Mining Virtual Conference 17 July 2020



DIATREME.com.au



2 March 2018 - "Testwork Confirms Prospects For New Silica Sand Mine"

7 February 2019 – "Galalar Silica Project Exploration Results Update" 7 March 2019 - "Galalar Silica Resource expands 22% to 26.4 million tonnes"

including but not limited to the following ASX releases:

13 March 2018 - "Cape Bedford Exploration Update"

25 March 2019 - "Large silica exploration target boosts Galalar's prospects" 27 March 2019 - "\$1.5m placement to progress Galalar Silica Project"

11 April 2019 - "New silica targets & heavy minerals discovery at Galalar"

14 May 2019 - "Galalar Silica Project further expands with maiden Indicated Resource" 20 June 2019 - "Boost for Galalar with sampling of regional exploration targets confirming continuity of high silica grades"

This presentation should also be read in conjunction with the DRX Annual Report for 2019

and the March 2020 Quarterly Activities report, together with any announcement made by

Diatreme in accordance with its continuous disclosure obligations under the Corporations Act

21 June 2019 - "Re-release: Boost for Galalar with sampling of regional exploration targets confirming continuity of high silica

grades 16 July 2019 - "Offtake MOU on Galalar Silica Project Signed With Fengsha Group"

7 August 2019 – "Regional support builds for Galalar silica mine" 9 September 2019 - "Galalar scoping study emphasises high return potential" (ASX release of Scoping Study)

19 September 2019 – "Second MOU signed for Galalar silica offtake"

23 December 2019 - "Mining Lease Application lodged for Galalar Silica Project"

29 November 2019 - 'Product upgrade potential for Galalar"

Additional Information

6 February 2020 - "EIS application lodged for Galalar 20 February 2020 - Galalar silica resource expanded 26%

8 April 2020 - Galalar regional economic study 12 May 2020 - Galalar silica resource expanded 25%

Disclaimer

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

the information included in this presentation and that all material assumptions and technical Studies, continue to apply and have not materially changed.

attracting suitable project major financial partners and should not be relied upon by investors

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offer to sell or a solicitation of an offer to buy or sell securities.

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

when making investment decisions.

Cautionary Statement

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

disclaims any responsibility to inform any recipient of this presentation of any matter that

Diatreme confirms that it is not aware of any new information or data that materially affects parameters underpinning Resource Estimates, Production Targets and Project Feasibility

Our vision is to become a producer of high-quality silica and mineral sands for use in growing global solar PV and ceramics markets.

Diatreme Resources

- Galalar is a high-grade silica sands project near production in close proximity to the world's largest silica sands project at Cape Flattery, with low capex and opex requirements.
- Soaring silica sands consumption parallels rising demand worldwide for solar PV panels, whose primary component (70%) is glass sheeting manufactured from "low iron" sand.
- Shovel-ready Cyclone Zircon Project progressing towards development, amid shortage of high-grade zircon supply.



Corporate overview

Market capitalisation

Cash

As at 10 July 2020

Options

A\$18.5m

A\$1.33m

50m - Exp 30/06/21 @ \$0.024

181.7m - Exp 4/2/22 @ \$0.020

Share price

10 July 2020 close

52 week high \$0.015, low \$0.008

Shares on issue

1,855m

Performance rights

3.3m

8.9%

Directors &

Ilwella P/L (Flannery)

14.8%

Others 76.3%

Management

47.5Mt

Total Mineral Resource*

@ 99% silica oxide

One of the world's purest silica sands projects

Production target 2022

World class projects

Galalar Silica Project

- Sufficient reserves to support 15-year mine life at 750,000 tonnes per year of solar-grade silica
- Close to port and growing Asian markets
- MOU's signed with world leading offtakers
- Backed by traditional owners, Hopevale Congress

Cyclone Zircon Project



Total Mineral Resource* 203Mt @ 2.3% HM

Shovel ready-project

- One of the major zircon-rich discoveries of the past decade
- 2018 Definitive Feasibility Study returned favourable economics, including NPV of A\$113m, IRR 27% and payback in 2.7 years
- Strategic metal potential within zircon component
- All project approvals in place, ready for development

^{*} Refer competent person statement and detailed resource tables within this presentation.

^{*} Refer competent person statement and detailed resource tables within this presentation.

GALALAR

SILICA SANDS PROJECT



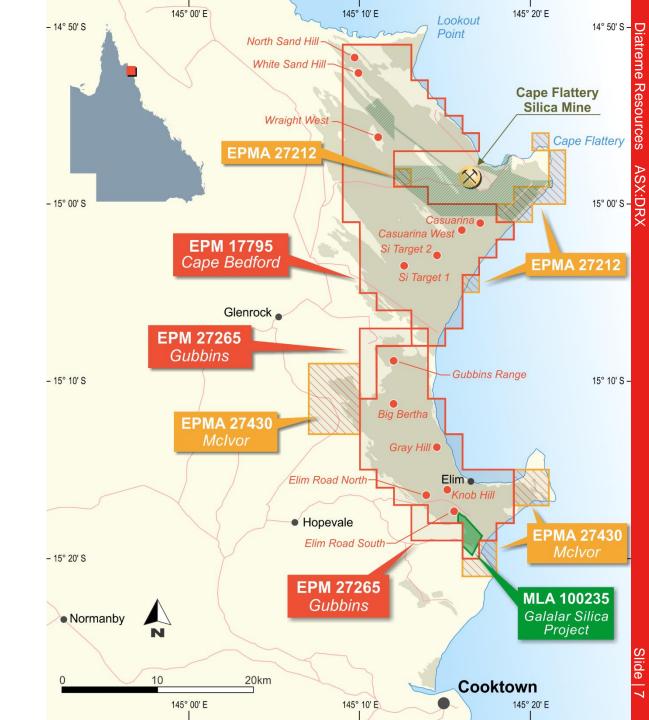




Premium quality silica

- Project located 20km north of Cooktown, FNQ adjacent to world's largest silica sand mine at Cape Flattery (Mitsubishi-owned) operating 30 years plus
- Diatreme holds huge dominant position in known silica province at over 500 sq km
- High purity silica resource identified (47m tonnes)
- Short-term pathway identified to cashflow via low capex project, targeting production by 2022
- Offtake MOU's with potential to supply up to 750,000 tonnes for solar PV market
- 2019 Scoping Study showed favourable economics, including pre-tax NPV \$231m, IRR 150% and capital payback in 8 mths
- Advancing permitting, approvals and preferred logistics solution with Qld and Commonwealth Govt's

Note: Refer to ASX announcement on 9 September 2019 – "Galalar scoping study emphasizes high return potential". Diatreme confirms that all material assumptions underpinning the production targets and forecast financial information from those production targets, as reported on 9 September 2019, continue to apply and have not materially changed.



Dersonal







Galalar Silica Project

Scoping study snapshot

Annual ore feed 950,000tpa

*The price assumption is for a 'low iron' silica sand product suitable for

⁺Capital development costs include a 20% contingency

Pre-tax NPV8%

solar PV.

A\$231m

Annual production

A\$24m

IRR (pre-tax)

150%

750,000tpa

Silica price

US\$75/t*

Annual gross revenue

A\$80m

x 15 years Project life

Gross revenue A\$1.2b

Payback period CAPEX+

8 months

Annual operating costs

A\$42m

Annual operating margin

A\$37m

x 15 years Project life

Total project EBITDA A\$555m

Note: Refer to ASX announcement on 9 September 2019 - "Galalar scoping study emphasizes high return potential". Diatreme confirms that all material assumptions underpinning the production targets and forecast financial information from those production targets, as reported on 9 September 2019, continue to apply and have not materially changed.

For personal use

Prepare & submit draft EIS

Galalar Silica Project

(develop and consult on draft terms of reference (DToR), undertake various

Near-term production

Final public consult period on EIS

technical & economic studies)

EA (Environmental) Final Approval

Design and construction

Potential first production

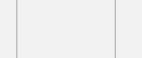
Mining Lease approval (application lodged Dec 2019) 2020

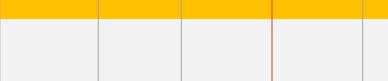
Q2

Q3

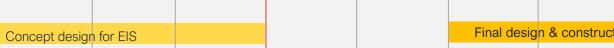
Finalise DToR

Q1





Q4



2021

Q1

Q2

Final public consultation Q3

Final design & construction

Q4

2022

Q1



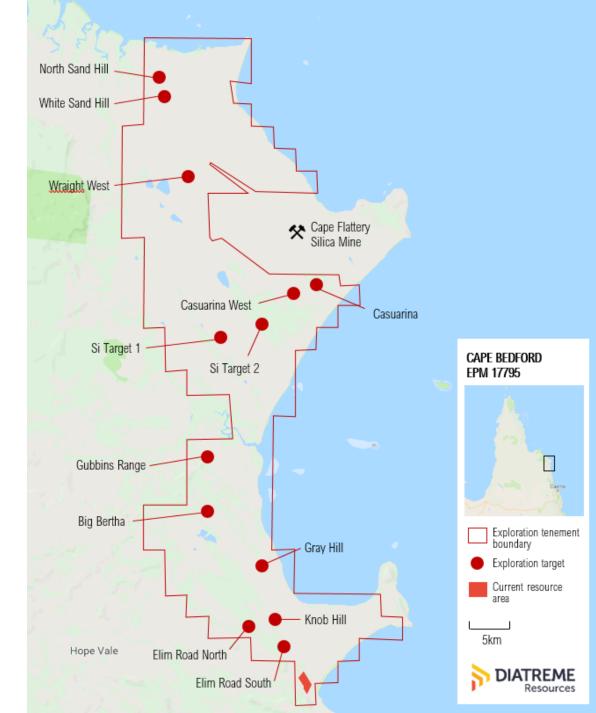


Galalar Silica Project

Multiple exploration targets

- Regional potential > 1 billion tonnes.
- Regional exploration program has identified potential resource extensions at Elim Road North and Elim Road South, with high SiO₂ results > 99%
- Potential heavy minerals discovery at Gubbins Range, with significant TiO₂ levels (up to 1.17%)
- Further exploration planned to test target areas, with focus on identifying silica deposits capable of supplying high-value product, together with sample metallurgical testing for Gubbins Range
- Qld Govt confirms silica a priority 'new economy mineral'

Note: Resource targets are not yet fully defined and will be subject to further drilling and exploration activity. Refer ASX release dated 25 March 2019 "Galalar significant regional Exploration Targets" for further information.



Solar panel manufacturers' feed stock requires >99% purity silica

Aluminium oxide

< 500ppm

International required

specifications < 1000ppm

100% in range

with "low iron" less than 100ppm iron oxide levels

Titanium dioxide

International required

specifications < 400 ppm

100% in range

< 140ppm

Galalar Silica Project

High quality silica product

(which demands minimum iron content)

Galalar expected quality – from bulk product testing

The sand from the Galalar project is some of the world's purest

Bulk sample testwork confirms ability to produce premium grade

Silicon dioxide

=> 99.7%

International required

specifications >99%

100% in range

Particle size distribution

24-140 mesh

specifications 109-700microns

International required

98% in range

109-700 Microns

silica product for high-end glass & solar panel manufacturing



Iron oxide

=< 85ppm

International required

specifications <100ppm

100% in range

solar photovoltaic panels manufacturers and specialty high end

Dersonal

Galalar Silica Project



Offtake MOU agreements in place

Agreement to supply up to 500,000tpa with an option to increase this to 750,000tpa

silica sand related products

and potential for direct investment

Zhong Investment Group

Diatreme has secured an MOU off-take agreement with the Fengsha Group, China's largest processor and supplier to

Fengsha deal also includes technical support, market access

Second 500,000t low iron silica product MOU signed with Wan

Thin Film Transistor line

For personal use

Mineral Separation Plant

Fengsha facilities, China

Galalar Silica Project



Chemical pickling vats





Galalar Silica Project

Strong stakeholder support











Note: Refer ASX release dated 8 April 2020 - "Galalar regional economic study" for detail on full economic report.

- Project being developed with support of traditional owners, Hope Vale Congress Aboriginal Corporation (12.5% direct "free carry" stake), the RNTBC representative body
- Traditional owners hold freehold and native title over entire tenement area
- Strong support from all levels of government, including State and local level
- Independent economic study (Cummings Economics) shows project would inject \$23-24m in construction phase and up to \$42m in operation for benefit of Hopevale/Cooktown region, while generating 110 (FTE) jobs and \$1.475m p.a. in state royalties



Scoping Study production target derived from 2018 JORC

Resource

Expanding mineral resource

Galalar Silica Project

Planned drilling in 2020 to expand and upgrade the size of the existing resource and lower the overall waste-to-ore ratio for the project

Significant JORC Exploration Target highlights potential to expand resource

JORC Resource Estimate¹ 6 May 2020

Inferred 10.59Mt Silica sand >99.0% SiO₂ grade

Indicated 6.02Mt Silica sand >99.1% SiO₂ grade

Measured 30.89Mt Silica sand >99.2% SiO₂ grade

Total 47.50Mt Silica sand >99.0% SiO₂ grade

¹ Refer ASX announcement 12 May 2020 and attachments including the resource and competent persons statements. Diatreme confirms these statements are still current as at time of presentation

No caustic chemicals or dust

Trommel

Classifiers

Galalar Silica Project

Simple processing system

Amenable to low capex & opex

Front end loader

Hydrocyclone

product stacker

Hopper conveyor

Wet high-intensity

magnetic separators

Spiral separator

Attrition scrubber









For personal



Galalar Silica Project

Export option Scoping Study: Cooktown

- Nine trucks operating 12 hours per day via existing road network from mine site to Cooktown (60km). 50 tonnes per truck, 42 loads daily, 360 days per year
- Stockpile up to 25,000 tonnes at barge loading facility. Refurbishment of existing barge ramp facility on Marton River in Cooktown. Barges transport product 10km on river to ship at anchor for transhipping
- Transhipment from Cooktown port. Normal shipment 35,000t
- 10 days to load a ship
- Shipment every 2-3 weeks





Galalar Silica Project

Export option 2: Nob Point Optimised transport solution

- Construction of new 3.6km road from mine site to purpose-built barge ramp at Nob Point (subject to Qld Govt approvals), saving significant trucking opex costs
- Reduces truck and barge impacts on community
- Barging 750,000t of silica product per year over open water to ship transfer site (5,000t barges)
- Transhipping activity undertaken within the Cape Flattery designated port defined area
- Currently working with Qld Govt seeking potential development consents
- Strongly supported by Hopevale Congress and other regional stakeholders



Silica market

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
- IMARC forecasts compound annual growth rate (CAGR) of 7.2% per year through to 2022, reaching US\$9.6B revenues*
- Accelerating growth in solar panel market, where silica is the main component (70%)
- 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

GLOBAL SILICA SAND MARKET VOLUME AND VALUE **TRENDS** 2009 - 2022 220 200 **MILLION TONNES** 20 2015 2009 2010 2011 2012 2013 2016

^{*} Refer DRX announcement, 30 November 2017

more than half of this growth

with a CAGR of 34.7%*

Silica market

Solar panel manufacturers' feed stock requires >99% purity silica with less than 100ppm iron oxide levels

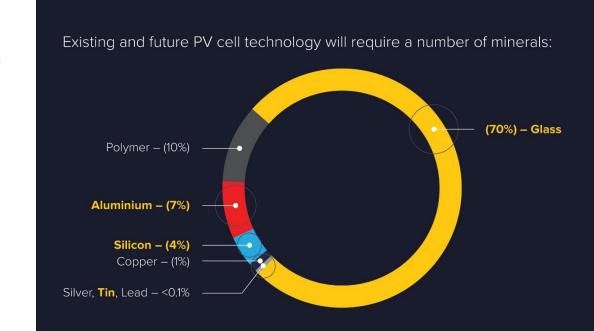
for panel manufacturing

World Bank estimates global renewable capacity will grow by over 1TW from 2018 to 2023, up 46%, with solar PV accounting for

Solar panel PV market forecast to reach US\$48.2 billion by 2025,

Solar market consuming more sand

sheeting made from 'low iron' high purity silica



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

Galalar project confirmed capable of supplying solar PV market with premium product

Est. 70% of each 'typical' commercial solar panel comprises glass

* Source: Bizwit Research & Consulting



250Mt

Annual silica

consumption

A compelling opportunity

Diatreme Resources

Annual **DRX** silica production

0.75Mt

Annual gross revenue

A\$80m

Annual operating costs

A\$42m

Annual operating margin

A\$37m

x 15 years Project life

Total net revenue A\$555m



Resource statement Galalar Silica Project

Galalar Indicated/Inferred/Measured Mineral Resource 47.5Mt >99% SiO₂

JORC Category	Al2O3 Grade	Fe2O3 Grade	<u>TiO2</u> <u>Grade</u>	Cut-off SiO2%	SiO2% Grade	Silica Sand (Mm³)	Density (t/m³)	Silica Sand (Mt)
Inferred	N/A	N/A	N/A	99.0%	>99.0%	6.54	1.62	10.59
Indicated	0.08	0.06	0.10	98.50	99.10	3.71	1.62	6.02
Measured	0.11	0.09	0.10	98.50	99.28	19.07	1.62	30.89
Total Inferred + Indicated + Measured						<u>29.32</u>	1.62	<u>47.50</u>

Note: Refer ASX release dated 11 May 2020 - "Galalar Silica resource expands 25% to 47.5Mt". Diatreme confirms this resource statement as current, with no material change as at the time of this presentation.

^{*} Resource estimate current as of 6 May 2020

APPENDIX





CYCLONE

ZIRCON PROJECT



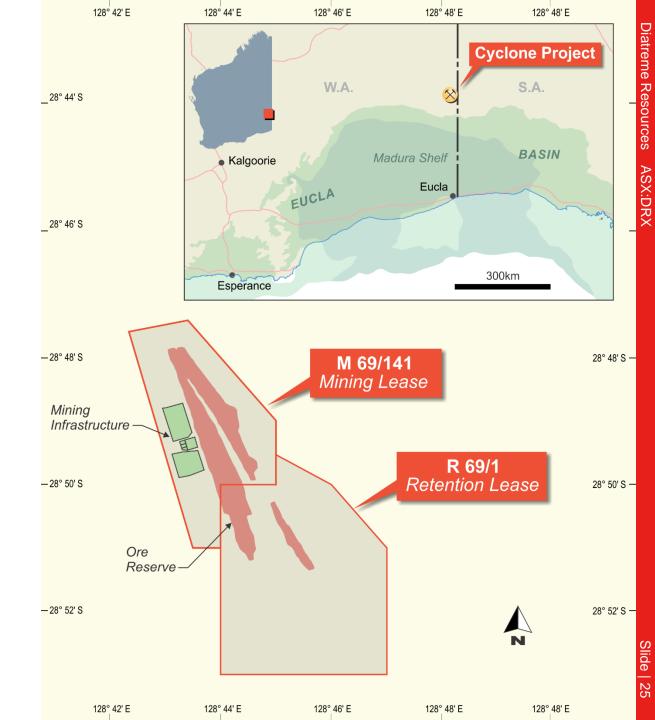


Dersonal

Ready for development

- Corporate advisers appointed to support progression of the project and ensure maximum shareholder benefit received
- JORC Resource: 203Mt @ 2.3% HM (1% HM cut-off grade), containing 4.7Mt HM & 1,262 Kt zircon
- Strategic metal hafnium identified within zircon component
- 2018 Definitive Feasibility Study returned favourable economics:
 - Pre-tax NPV \$113m, IRR 27% and estimated capital payback within 3 years
 - Capital costs \$135m
 - Life of Mine (LOM) production of 1.94Mt of heavy mineral concentrate, containing 936kt zircon, producing 772kt of zircon final product
 - ENFI, part of major SOE Chinese mining group China Minmetals, formally endorses the project and recommends immediate development

Note: Refer to ASX announcement on 15 November 2018 – "Positive DFS confirms Cyclone's potential as new zircon mine". Diatreme confirms that all material assumptions underpinning the production targets and forecast financial information from those production targets, as reported on 15 November 2018, continue to apply and have not materially changed.



Global zircon production in 2018 approx. 1.2Mt

(2018: US\$1,351/t)*

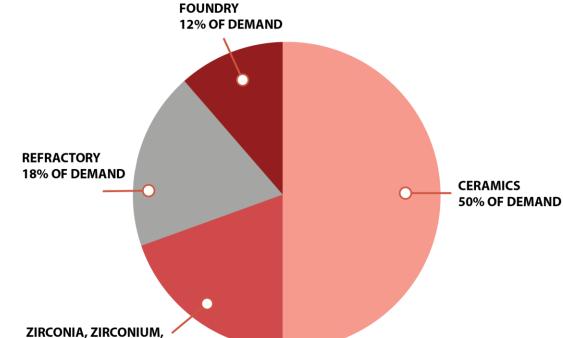
Valuable heavy mineral

Zircon market

Zircon primarily used to produce ceramic tiles, as well as other applications including refractories, foundry casting

Speciality applications in nuclear fuel rods, jet turbine blades

Most valuable heavy mineral, with current prices US\$1,487/t



CHEMICALS & METALS: 20% OF DEMAND

Titanium market

Growing global demand

Used primarily in pigments

*Source: Iluka Resources, 20 February 2020

Around 7.4m tpa global market (2018)*

China and technological advancements

Rutile price averaged US\$1,142/t in 2019 (2018: US\$952/t)*

Demand increasing due to higher environmental standards in

TITANIUM METAL: 5% OF DEMAND

> **WELDING ROD: 5% OF DEMAND**

TIO2 PIGMENT

90% OF DEMAND

HMC loaded into containers at Cyclone. 33 tonnes per container

1,100 kilometre rail transport from Forrest siding to Port Adelaide

Containers stacked at Port Adelaide until 15,000 tonnes accumulated. Crane uses container rotator to bulk load a

siding in 100 tonne loads

Handisize ship for transport to China.

in 3,000 tonne loads

Cyclone Zircon Project

Low-cost transportation

240 kilometre truck transport by road from Cyclone to Forrest rail

Project Development Options:

- Mineral Separation Plant in Australia final products from Australia
- Mineral Separation Plant in China or other country
- Direct sale of HMC within Australia
- Direct sale of HMC offshore

For personal

Cyclone Zircon Project

Easy mining process

Mining & Logistics						
Strip Ratio	1:1					
Mining Rate (Dry)	1,300 tonnes per hour – 2 x Dozer traps					
Wet Concentrator Plant Product	20 Tonnes / Hour HMC production 144,000 tpa @ 96% HM Concentrate					
Transport - Road	240km - 100 tonne loads to Forrest					
Transport - Rail	1,100km – 3,000 tonne loads to Port Pirie					

Sufficient reserves to support a long mine life:

Cyclone Zircon Project

Project fundamentals

- Currently 14 years at 10Mt pa

- Strand mineralisation gives options for high grading

owner agreements, environmental approvals

long-term expansion

- Quaternary dune field, Great Victoria Desert

- Substantial resource base to support potential

- Strong relationship, mining agreement signed

No competing land use

Support from traditional owners to develop project:



Head Grade Zircon

		IVIATARIAI	HIVI	HIV/	Silma	US]
Category	cut-off %	Mt	#WI %	Mt	%	%	Zircon %	Rutile %	Leuco %	HiTi %	Alt IIm %	Si TiOx %	Kt
MEASURED	2.0	69	3.7	2.58	3.6	3.8	1.06	0.11	0.24	0.88	0.45	0.82	735
MEASURED	1.5	102	3.1	3.14	3.9	4.4	0.88	0.09	0.20	0.73	0.38	0.67	896
MEASURED	1.0	156	2.4	3.81	4.2	5.0	0.69	0.07	0.16	0.58	0.30	0.53	1,079
INDICATED	2.0	13	3.2	0.41	3.8	4.4	0.66	0.07	0.18	1.06	0.55	0.60	83
INDICATED	1.5	24	2.5	0.60	4.1	5.0	0.52	0.05	0.12	0.84	0.41	0.46	123
INDICATED	1.0	48	1.9	0.89	4.4	5.1	0.38	0.04	0.09	0.62	0.30	0.34	183
TOTAL	2.0	82	3.6	2.99	3.6	3.9	1.00	0.10	0.23	0.91	0.47	0.79	818
TOTAL	1.5	126	3.0	3.75	3.9	4.5	0.81	0.08	0.18	0.75	0.38	0.63	1,019
TOTAL	1.0	203	2.3	4.70	4.2	5.0	0.62	0.06	0.14	0.59	0.30	0.49	1,262

27%

3%

6%

26%

13%

21%

Notes:

Dersonal

- Refer to ASX release 15 June 2016 "Cyclone Study Reaffirms Project Profitability" for more detail
- Rounding may generate differences in last decimal place

Resource statement

HM

Cyclone Zircon Project

- A constant SG of 1.7 has been used to derive material tonnes
- Slime refers to material typically <53um; OS refers to material typically >2mm
- Mineral Assemblage derived from QEMSCAN® analysis
- High Titanium Oxides (HiTi) Ti-oxides containing 70 95% TiO₂, Altered Ilmenite (Alt Ilm) Ti-oxides containing <70% TiO₂, Siliceous Ti-Oxide (Si TiOx) - Ti-oxides containing >10% silica rich Ti minerals.

Mineral Assemblage

- Resources are inclusive of Reserves (refer ASX announcement 27 April 2017)
- Diatreme confirms this resource estimate as current, with no material change at time of this presentation July 2020; also refer competent persons report.

Competent person's statement

Statement in accordance with the Australasian code for reporting of exploration

The information in this report that relates to Mineral Resources at the Cape Bedford

significant experience in Industrial Minerals and Quarry Resource assessments.

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

Project is based on information compiled by Bryce Mutton from Ausrocks Pty Ltd who has

Bryce Mutton has sufficient experience which is relevant to the style of mineralisation and

Code). Bryce Mutton consents to the inclusion in the report on the matters based on their

The information in this report that relates to Exploration Results and Exploration targets

Mackenzie-Forbes, a Competent Person who is a Member of the Australian Institute of

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

from the Cape Bedford Project is based on information reviewed and compiled by Mr. Neil

Geoscientists. Mr. Mackenzie-Forbes is a director of Sebrof Projects Pty Ltd (a consultant

type of deposit under consideration and to the activity for which he is undertaking to qualify

results, mineral resources and ore reserves (the JORC code)

information in the form and context in which it appears.

The information in this report, insofar as it relates to Mineral Resources at the Cyclone Project is based on information compiled by Mr Ian Reudavey, who was a full-time

employee of Diatreme Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Reudavey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has

undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'The

the information in the form and context in which it appears.

the information in the form and context in which it appears.

Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore

Reserves'. Mr Reudavey consents to the inclusion in the report of the matters based on

The information in this report, insofar as it relates to Ore Reserves at the Cyclone Project

is based on information compiled by Mr Phil McMurtrie, who is a director of Tisana Pty Ltd

(a consultant to Diatreme Resources Limited), and a Member of the Australasian Institute

of Mining and Metallurgy. Mr McMurtrie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he

has undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'The

Reserves'. Mr McMurtrie consents to the inclusion in the report of the matters based on

Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore

appears.

DIATREME CONTACT DETAILS

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