

ASX ANNOUNCEMENT

21 February 2012

RIU EXPLORERS CONFERENCE FREMANTLE, WESTERN AUSTRALIA COMPANY PRESENTATION

Diatreme Resources Limited is pleased to attach a copy of a presentation entitled "Cyclone Zircon Project, Eucla Basin, WA" to be delivered by Tony Fawdon, Executive Chairman/CEO, at the RIU Explorers Conference in Fremantle, Western Australia today.

In this updated company presentation, Mr Fawdon discusses, amongst other subjects, the recently revised Cyclone mineral resource update and ensuing maiden ore reserve estimate along with the results of metallurgical testwork undertaken as part of the Prefeasibility Study nearing completion.

Please direct enquiries to:

Tony Fawdon
Executive Chairman/CEO
Ph: 07 3832 5666

David Hall
Executive Director - Operations
Ph: 07 3832 5666
Email : manager@diatreme.com.au

About Diatreme Resources

Diatreme Resources Limited (ASX code: DRX) is a diversified Australian mineral explorer with significant projects in heavy mineral sands, copper, base metals and gold. The Company is seeking to develop a mining operation at its Cyclone Zircon Project located within Western Australia.

About Zircon

Zircon is a mineral sand used in the production of ceramics, including sanitary ware, tiles and tableware. It is also used in refractories, TV glass and foundry applications. Zircon is the source material for zirconia and a range of chemicals used in high-tech applications, including fuel cells and abrasives. Zirconium metal is used in nuclear fuel rods, while zirconia is used in jewellery.

Diatreme Resources is an Australian based diversified mineral explorer with significant projects in heavy mineral sands, copper, base metals and gold.

The Company owns the world class **Cyclone Zircon Deposit** in Western Australia, situated within the recognised **Eucla Basin province**, along with extensive areas of underexplored ground prospective for heavy mineral sands.

The Board and senior personnel exhibit wide experience, ranging through the exploration and development phases of resource management.

Australian Securities Exchange
Codes: DRX and DRXO

Securities

Ordinary shares (DRX):
354,597,423
Listed 15c options (30/09/13)(DRXO):
88,650,039

Board of Directors

Executive:

Tony Fawdon - Chairman/CEO
David Hall - Operations

Non-executive:

George White
Andrew Tsang
William Wang
Neil McIntyre

Joint Company Secretaries:

Leni Stanley
Tuan Do

Key Projects:

- Eucla Basin Cyclone Zircon Project
- Clermont Copper Project
- Anabama Copper Project
- Gilbert River Base Metals Project

Diatreme Resources Contact:

Tony Fawdon
Executive Chairman/CEO
Phone: +61 7 3832 5666
Fax: +61 7 3832 5300

Share Registry:

Link Market Services
Level 15, ANZ Building
324 Queen Street, Brisbane, Q4000

DIATREME RESOURCES LIMITED



CYCLONE ZIRCON PROJECT

EUCLA BASIN W.A.

Tony Fawdon
Executive Chairman/CEO

February 2012

DIATREME RESOURCES LIMITED



DISCLAIMER

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.

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 Mineral Resources is based on information compiled by Mr Ian Reudavey, who is a Member of the Australian Institute of Geoscientists, and a full time employee of Diatreme Resources Limited. 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 2004 Edition of the ‘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 the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information compiled by Mr Phil McMurtrie, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie is a director of Tisana Pty Ltd, and is a consultant to Diatreme Resources Limited. 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 2004 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr McMurtrie consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

DIATREME RESOURCES LIMITED

DRX PROFILE

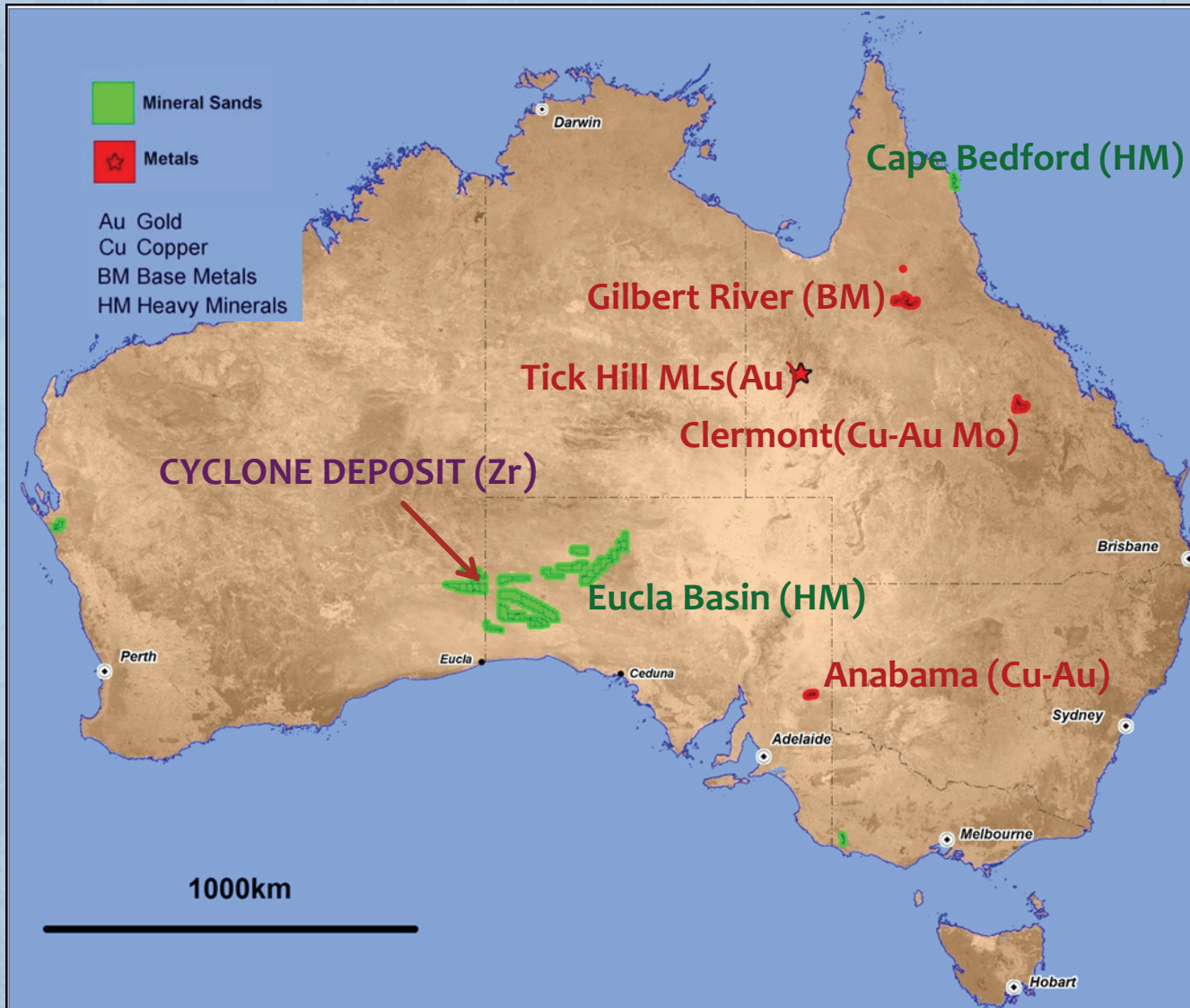


- **LARGE WORLD ORDER ZIRCON DEPOSIT AT CYCLONE, EUCLA BASIN WA**
- **CYCLONE DEPOSIT PREFEASIBILITY NEARING COMPLETION**
- **NEGOTIATING CYCLONE FARM IN PROVISIONS FOR BFS & DEVELOPMENT**
- **EXPLORING SATELLITE RESOURCES AT CYCLONE FOR FURTHER ZIRCON**
- **JOINT VENTURING DRX GOLD & BASE METAL PORPHYRY & VMS TARGETS**
- **SELF CONTAINED GEOLOGICAL, ENGINEERING, DRILLING & PREP LAB**

DIATREME RESOURCES LIMITED



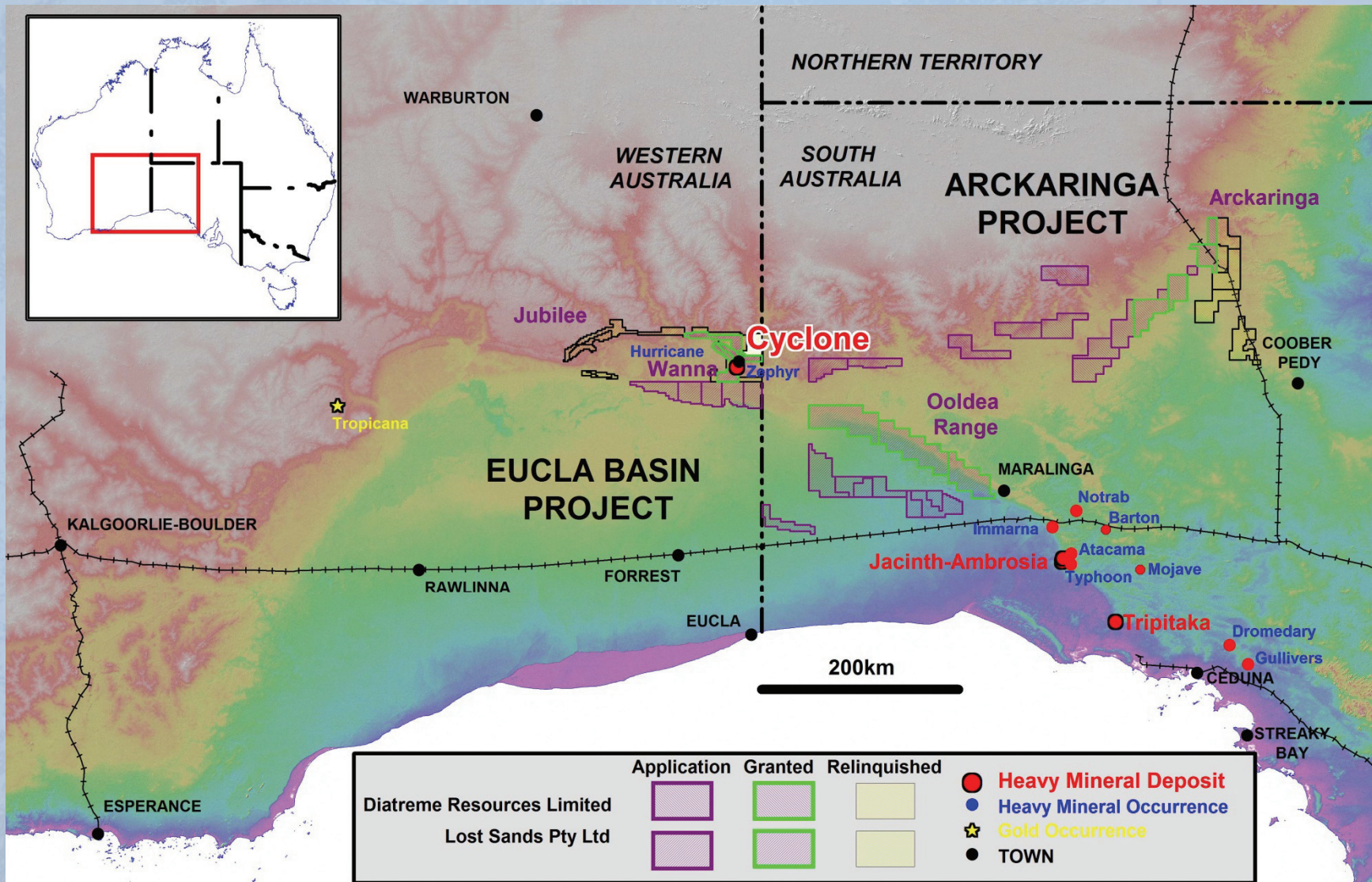
PROJECT LOCATIONS



DIATREME RESOURCES LIMITED



CYCLONE LOCATION



DIATREME RESOURCES LIMITED

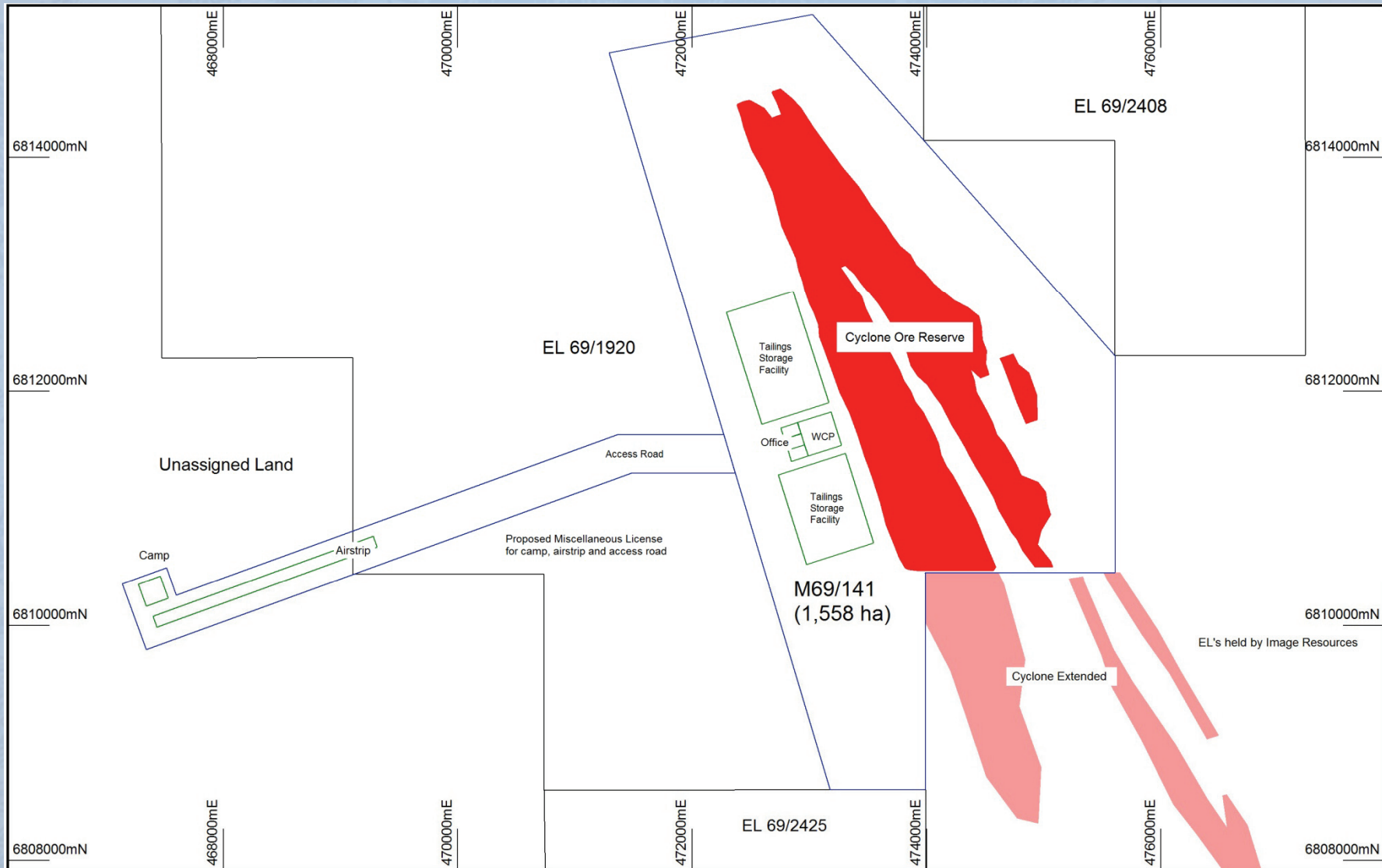
CYCLONE DEPOSIT



DIATREME RESOURCES LIMITED



MINING LEASE APPLICATION



DIATREME RESOURCES LIMITED



RESOURCE & RESERVES

MINERAL RESOURCE													
Resource Category	HM cut-off %	Material Mt	HM %	HM Mt	Slime %	OS %	Head Grade						Zircon Kt
							Zircon %	Rutile %	Leuc %	HiTi %	Alt Ilm %	Si TiOx %	
MEASURED	1.0	107	2.4	2.63	4.1	5.6	0.77	0.08	0.17	0.52	0.26	0.55	830
INDICATED	1.0	29	1.6	0.47	3.6	6.1	0.44	0.06	0.06	0.50	0.11	0.31	130
TOTAL	1.0	136	2.3	3.10	4.0	5.7	0.70	0.08	0.14	0.51	0.23	0.50	950
Mineral Assemblage							31%	3%	6%	23%	10%	22%	
ORE RESERVE													
Reserve Category	Zircon cut-off %	Material Mt	HM %	HM Mt	Slime %	OS %	Head Grade						Zircon Kt
							Zircon %	Rutile %	Leuc %	HiTi %	Alt Ilm %	Si TiOx %	
PROBABLE	0.4	97	2.5	2.41	4.0	5.1	0.79	0.08	0.17	0.52	0.26	0.56	770
TOTAL	0.4	97	2.5	2.41	4.0	5.1	0.79	0.08	0.17	0.52	0.26	0.56	770
Mineral Assemblage							32%	3%	7%	21%	10%	23%	

DIATREME RESOURCES LIMITED



BULK SAMPLE TESTWORK

CPG Resources - Mineral Technologies tested a seven (7) tonne bulk sample. Key outcomes from the metallurgical testing include:

- The wet concentrator testwork produced a high grade HM concentrate (97.8% HM) utilizing conventional mineral sand separation technology.
- The estimated distribution of zircon from the bulk sample to the wet concentrator process HM concentrate is 95.3%.
- The estimated distribution of zircon from the HM concentrate to the mineral separation plant final Zircon product is 85.0%.
- A mineral separation process has been designed to produce Zircon and two titanium products, HiTi87 (86.6% TiO_2) and HiTi67 (67.3% TiO_2).
- The testwork has identified that conventional “off the shelf” technology can be used in the mineral processing at Cyclone.

DIATREME RESOURCES LIMITED



CYCLONE PRODUCTS

Zircon: 65,000 tonnes per year

ZrO ₂ %	FE ₂ O ₃ %	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	P ₂ O ₅ %	U+Th ppm	CeO ₂ %
66.0	0.10	32.8	0.20	0.31	0.07	369	0.020

HiTi87: 10,000 tonnes per year

TiO ₂ %	FE ₂ O ₃ %	SiO ₂ %	Al ₂ O ₃ %	ZrO ₂ %	MgO %	MnO %	CaO %	CR ₂ O ₃ %	U+Th ppm
86.6	2.6	5.0	1.01	3.3	0.04	0.02	0.03	0.06	84

HiTi67: 46,000 tonnes per year

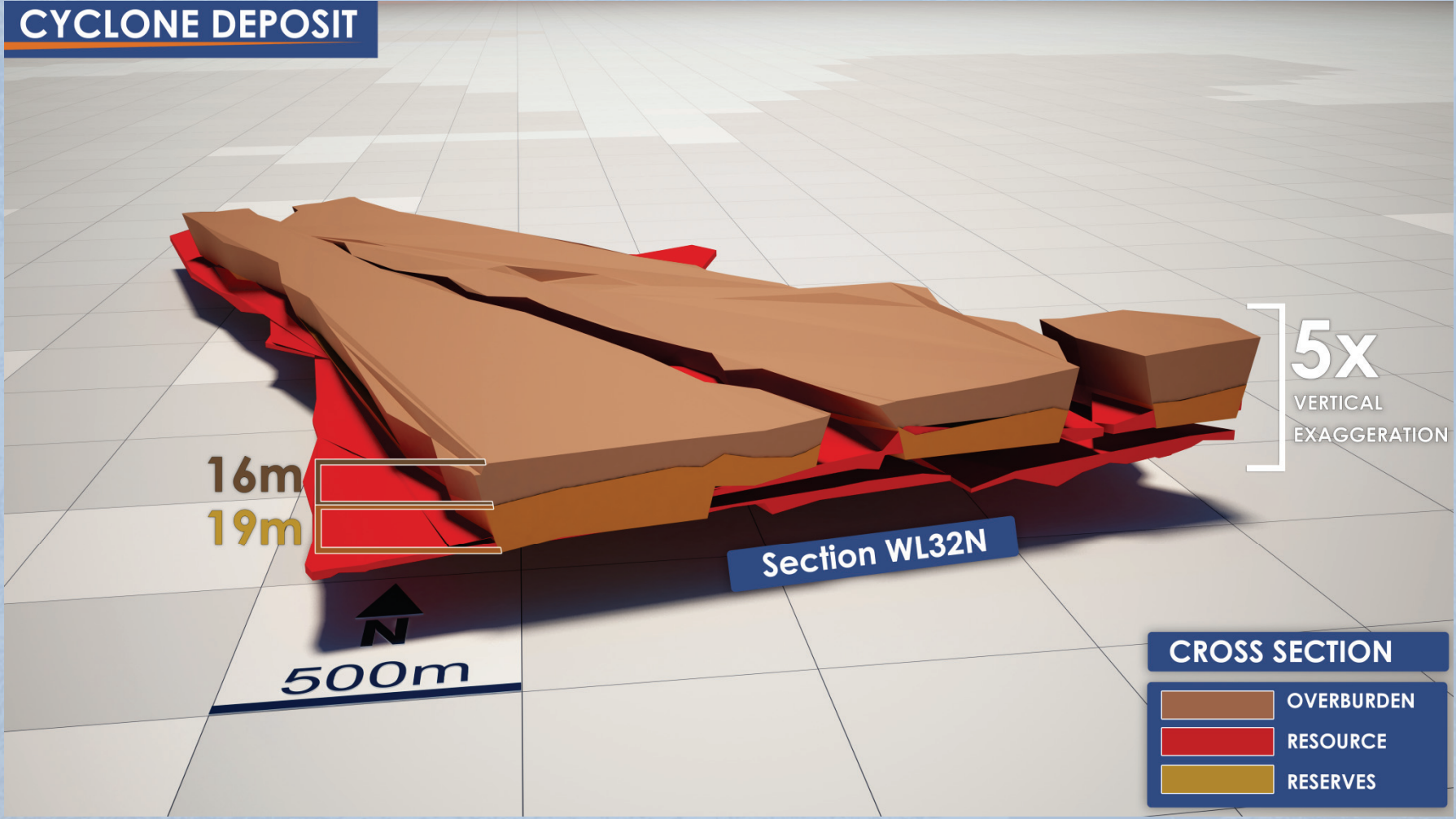
TiO ₂ %	FE ₂ O ₃ %	SiO ₂ %	Al ₂ O ₃ %	ZrO ₂ %	MgO %	MnO %	CaO %	CR ₂ O ₃ %	U+Th ppm
67.3	20.1	6.3	1.75	0.5	0.10	0.42	0.07	0.08	94

DIATREME RESOURCES LIMITED



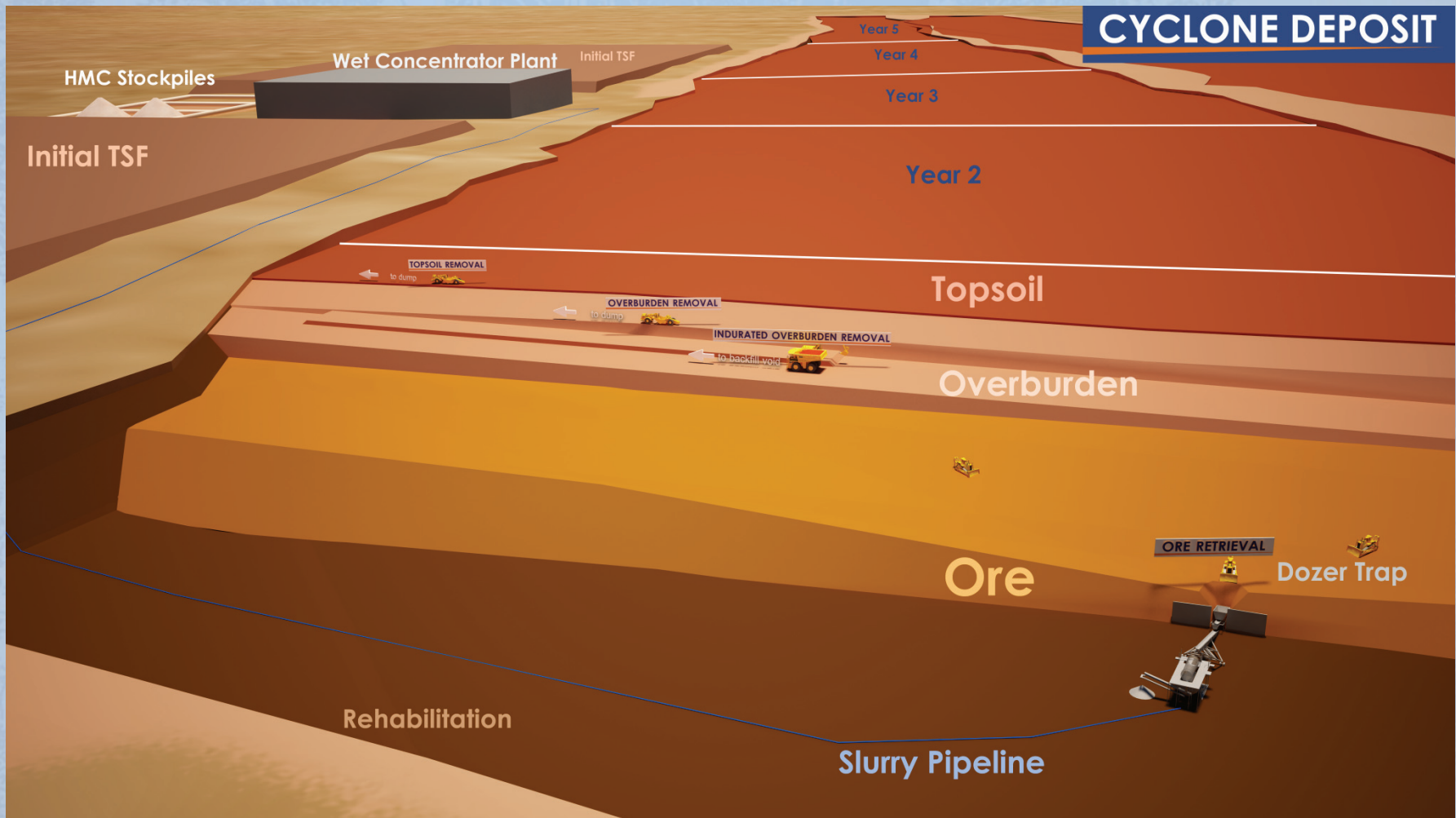
CYCLONE DEPOSIT – 3D

CYCLONE DEPOSIT



DIATREME RESOURCES LIMITED

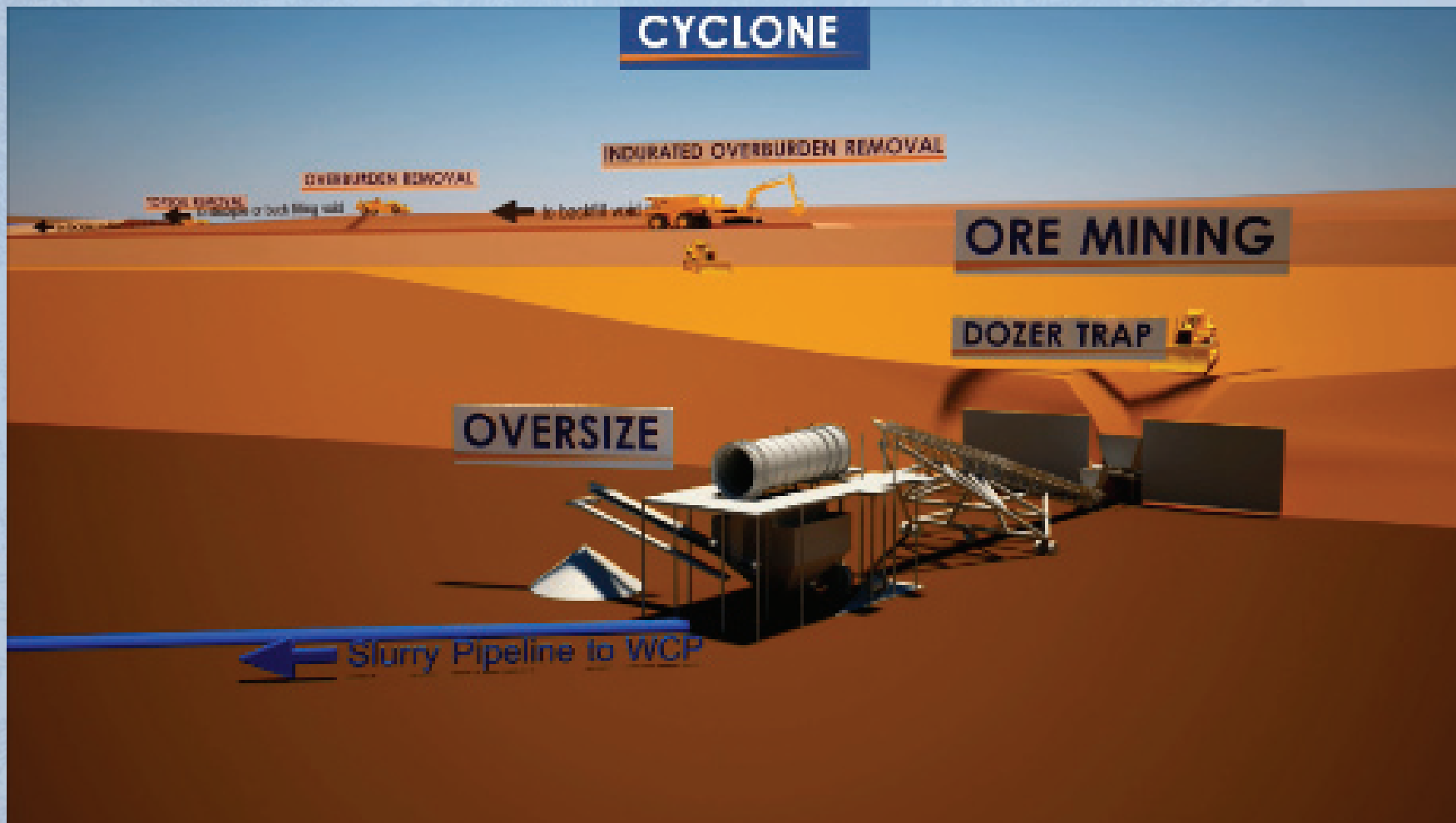
CYCLONE PROPOSED MINING METHODS





DIATREME RESOURCES LIMITED

CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS

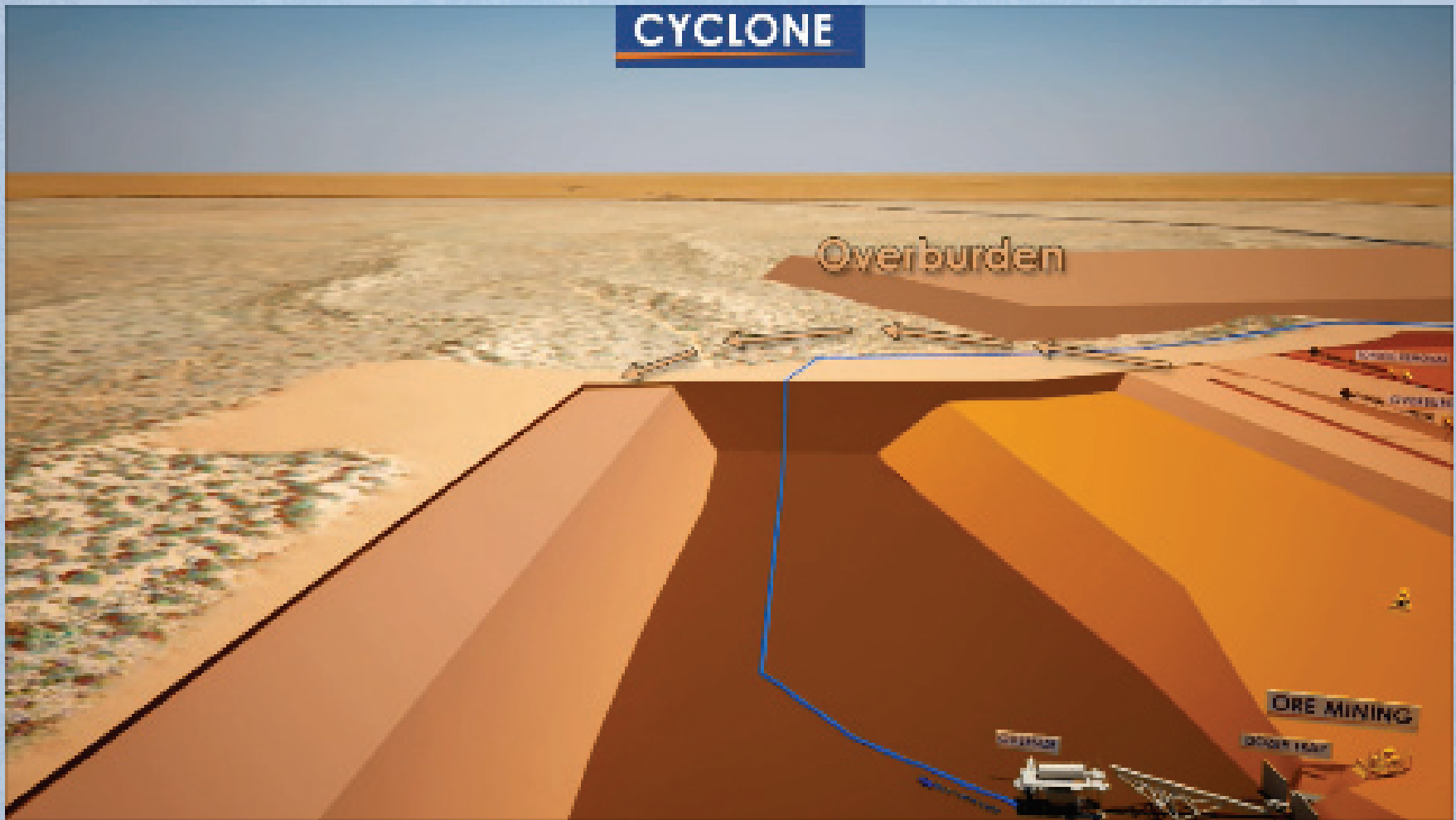


DIATREME RESOURCES LIMITED



CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS

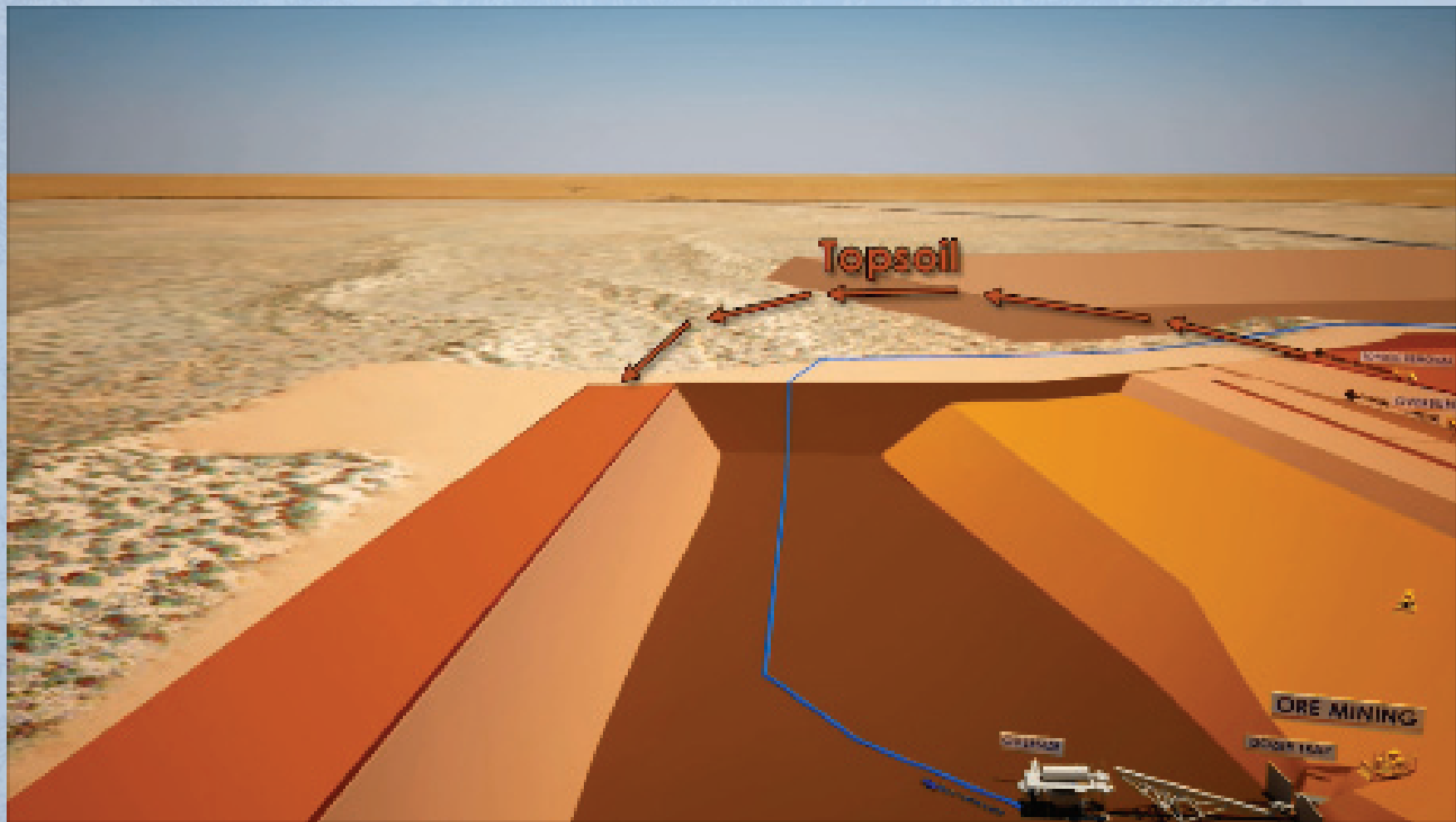
CYCLONE



DIATREME RESOURCES LIMITED



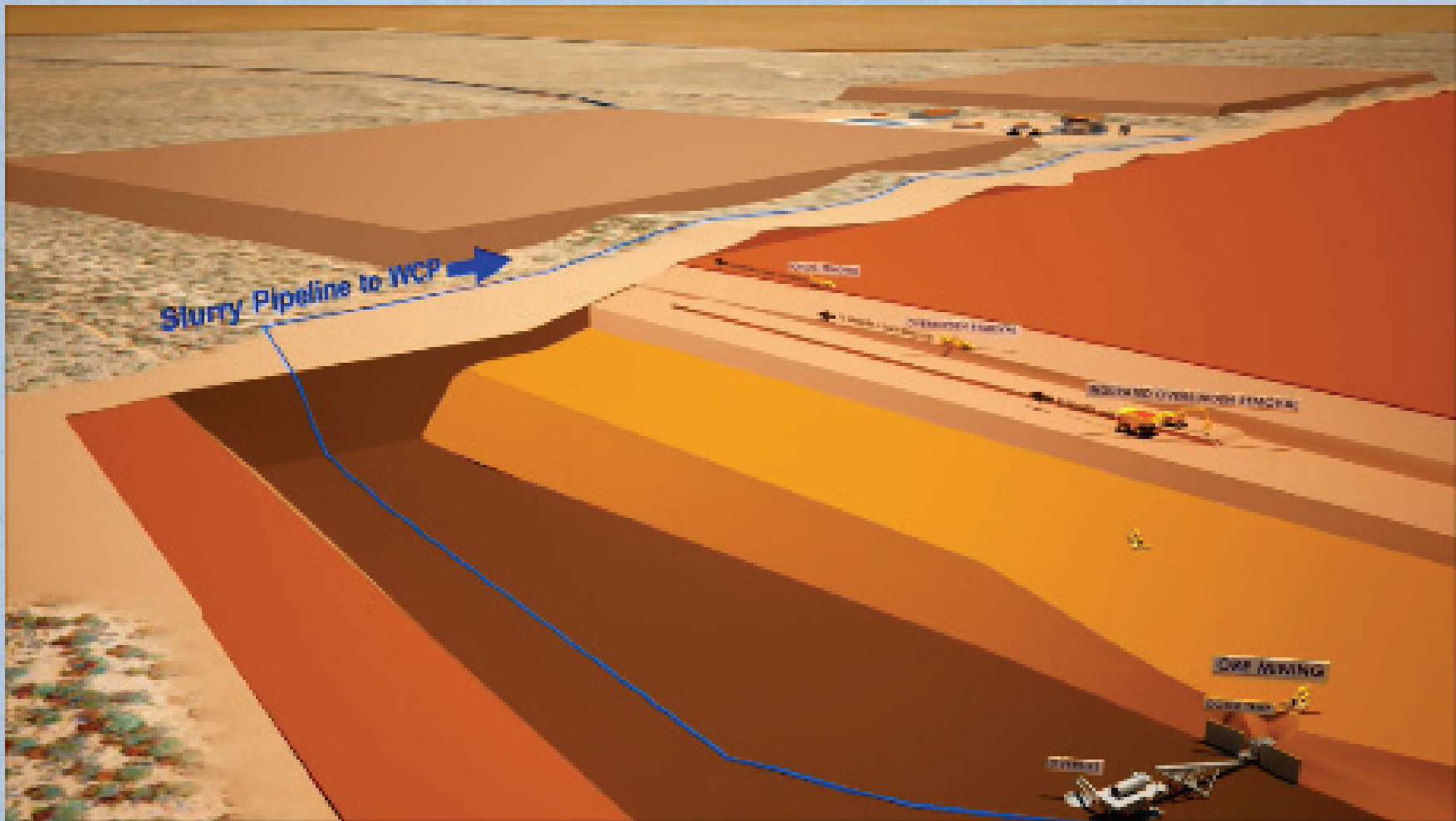
CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



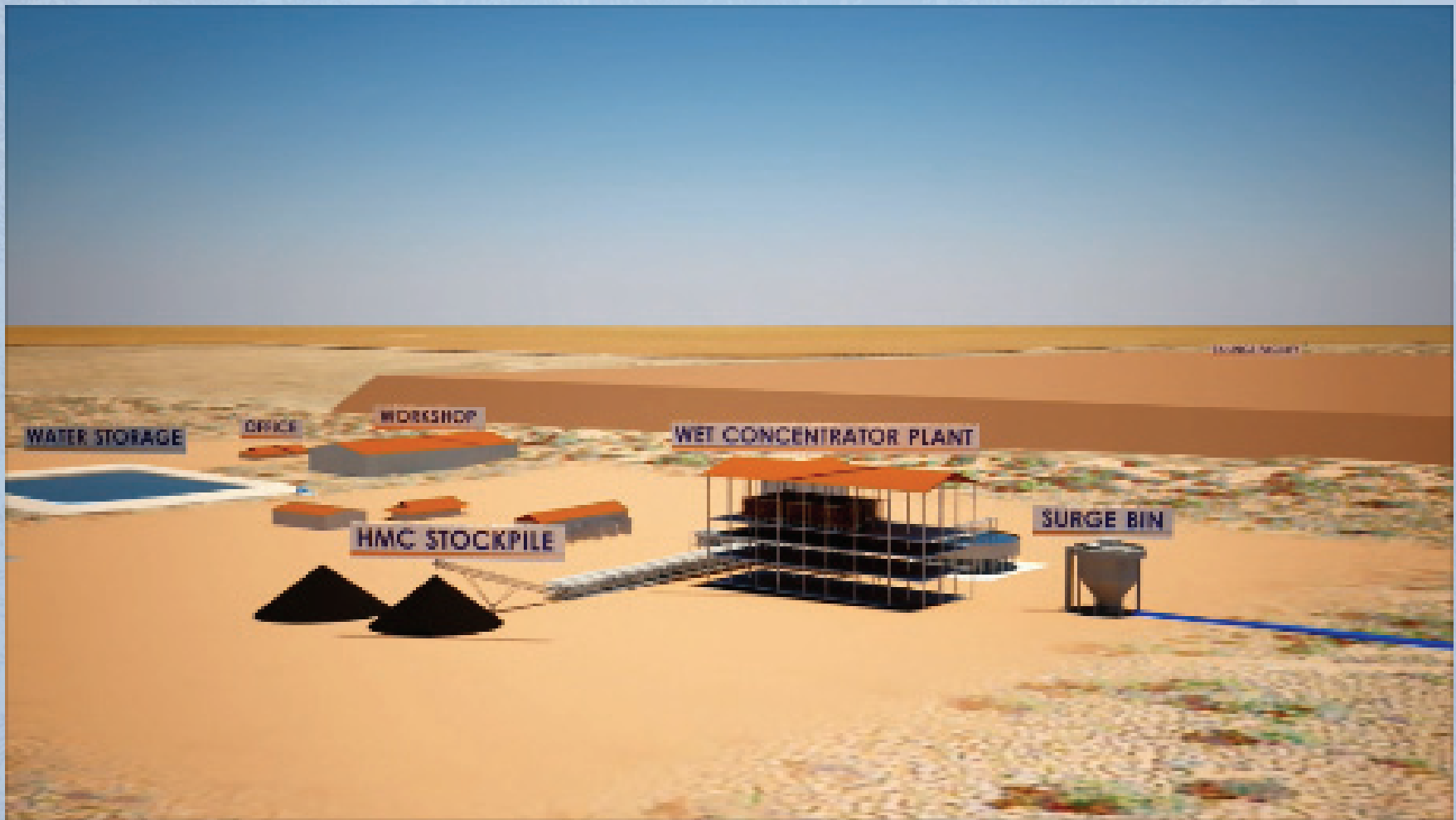
CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



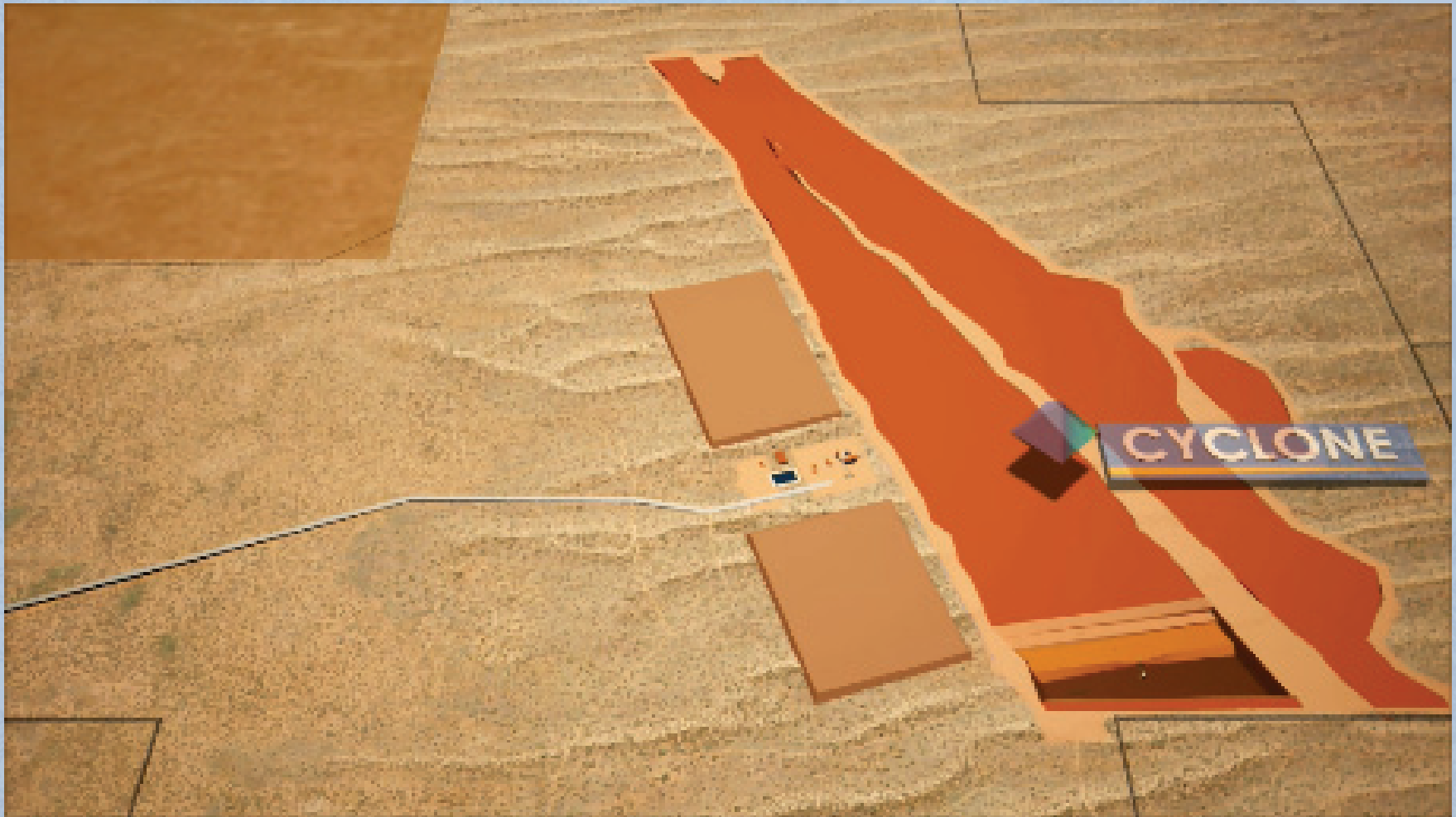
CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



CYCLONE PROJECT PROPOSED OPERATIONS – VIDEO STILLS



DIATREME RESOURCES LIMITED



CYCLONE PFS & SCHEDULES

PRE FEASIBILITY STUDY

- Geology & Mineralogy
- Resources & Reserves
- Hydrology
- Mine Planning
- Metallurgy & Mineral Processing
- Environmental Studies
- Infrastructure & Operations
- Site Access & HMC Transport
- Markets & Economics
- Capital & Operating Costs

CYCLONE PROJECT TIMEFRAME

Prefeasibility Study:	Q1 2012
Definitive Feasibility Study	Q1 2013
Project Financing	2013
Construction & development	2013 - 2014
Mining and production	2015



DIATREME RESOURCES LIMITED

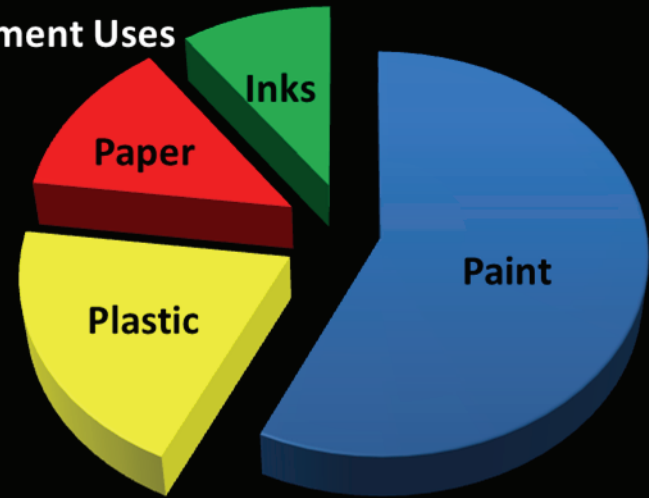


PRODUCTS & USES

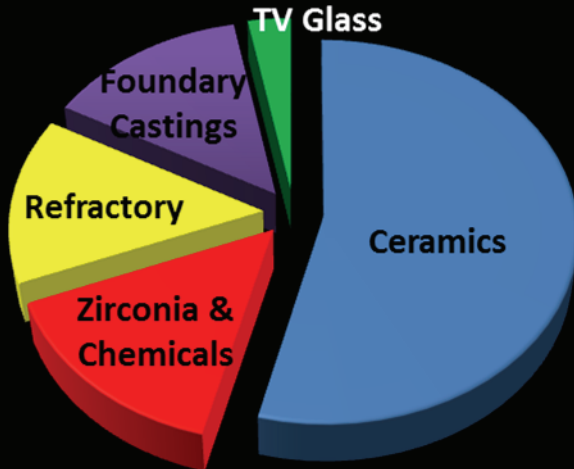
Titanium

93% of world titanium minerals used to produce TiO₂ pigment. TiO₂ is a white powder with high opacity and brilliant whiteness.

TiO₂ Pigment Uses



Zircon Uses



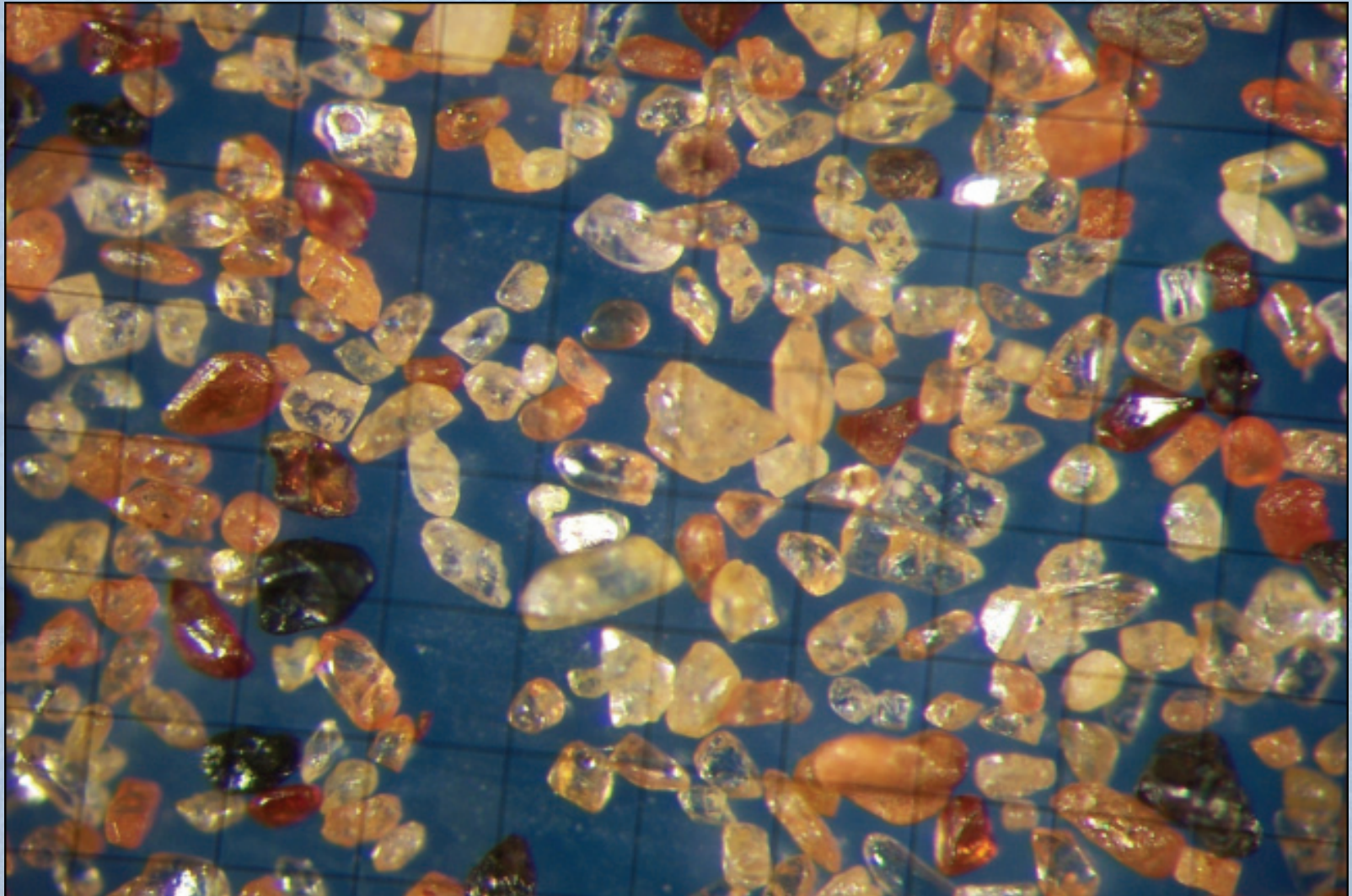
Zircon

Over 50% of the world's zircon is used as an opacifier in ceramic glazes.

Australia produces 40% of the world's zircon which is mostly used in China and Europe.

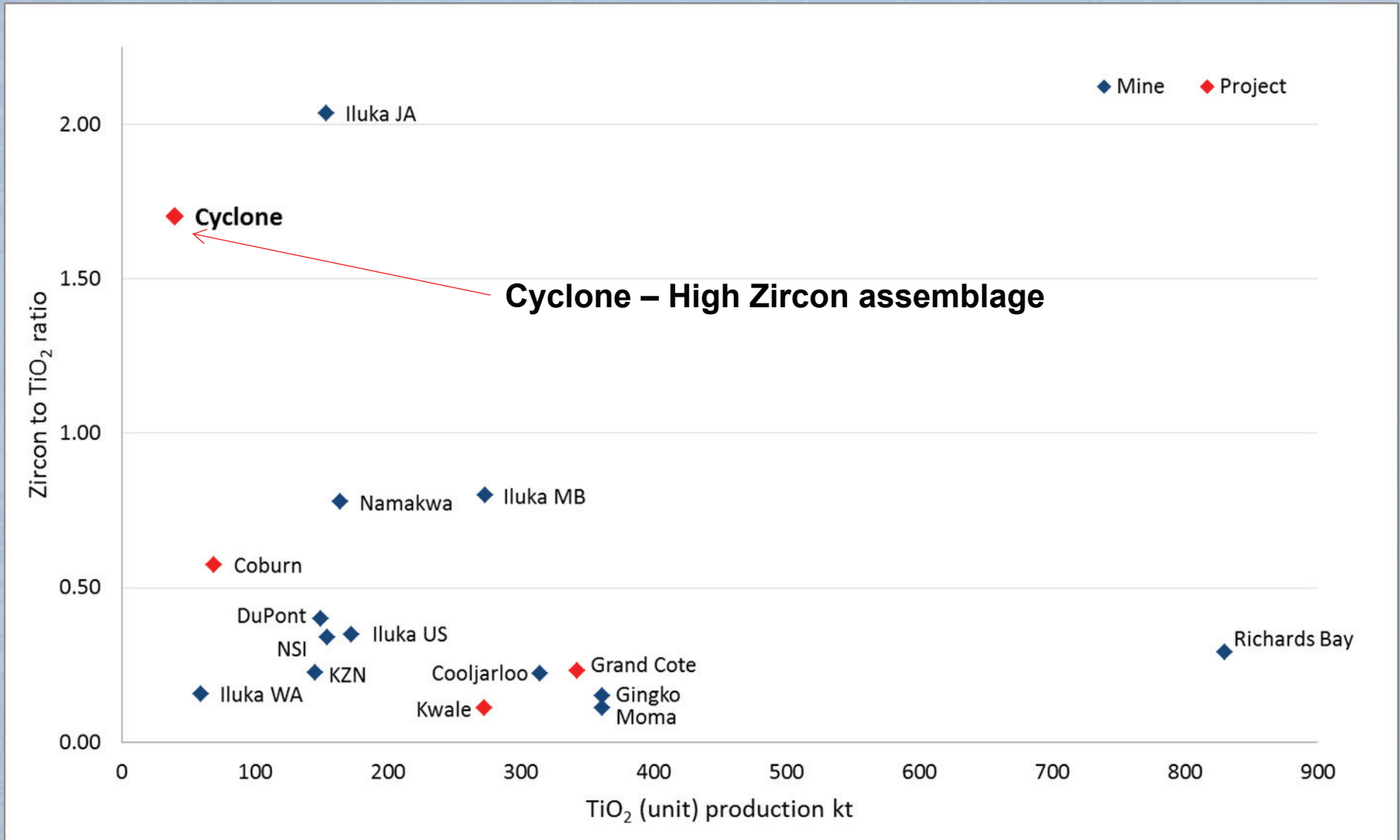
DIATREME RESOURCES LIMITED

HEAVY MINERAL CONCENTRATE



DIATREME RESOURCES LIMITED

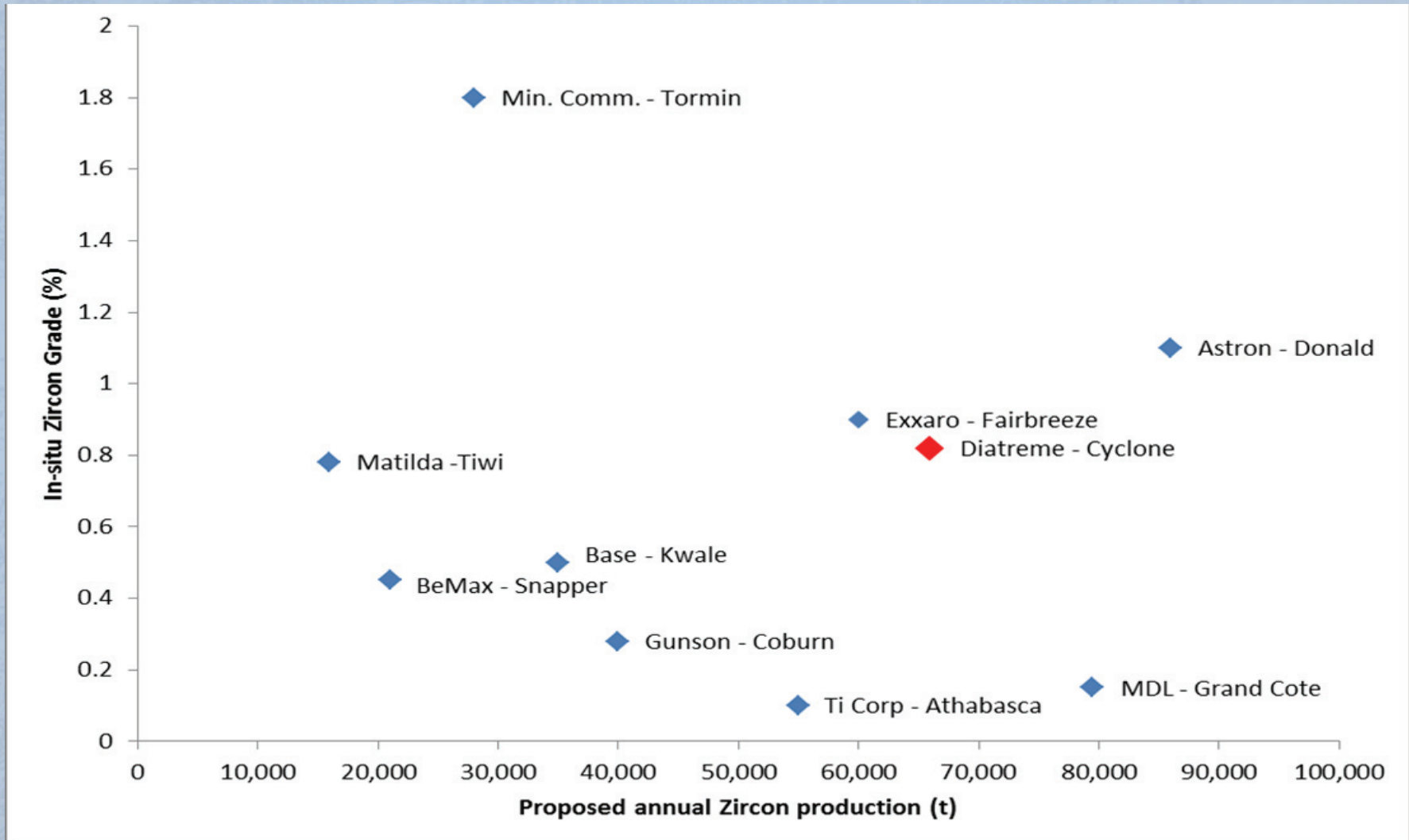
GLOBAL MINERAL SANDS DEPOSITS – Zr:Ti Ratio



DIATREME RESOURCES LIMITED



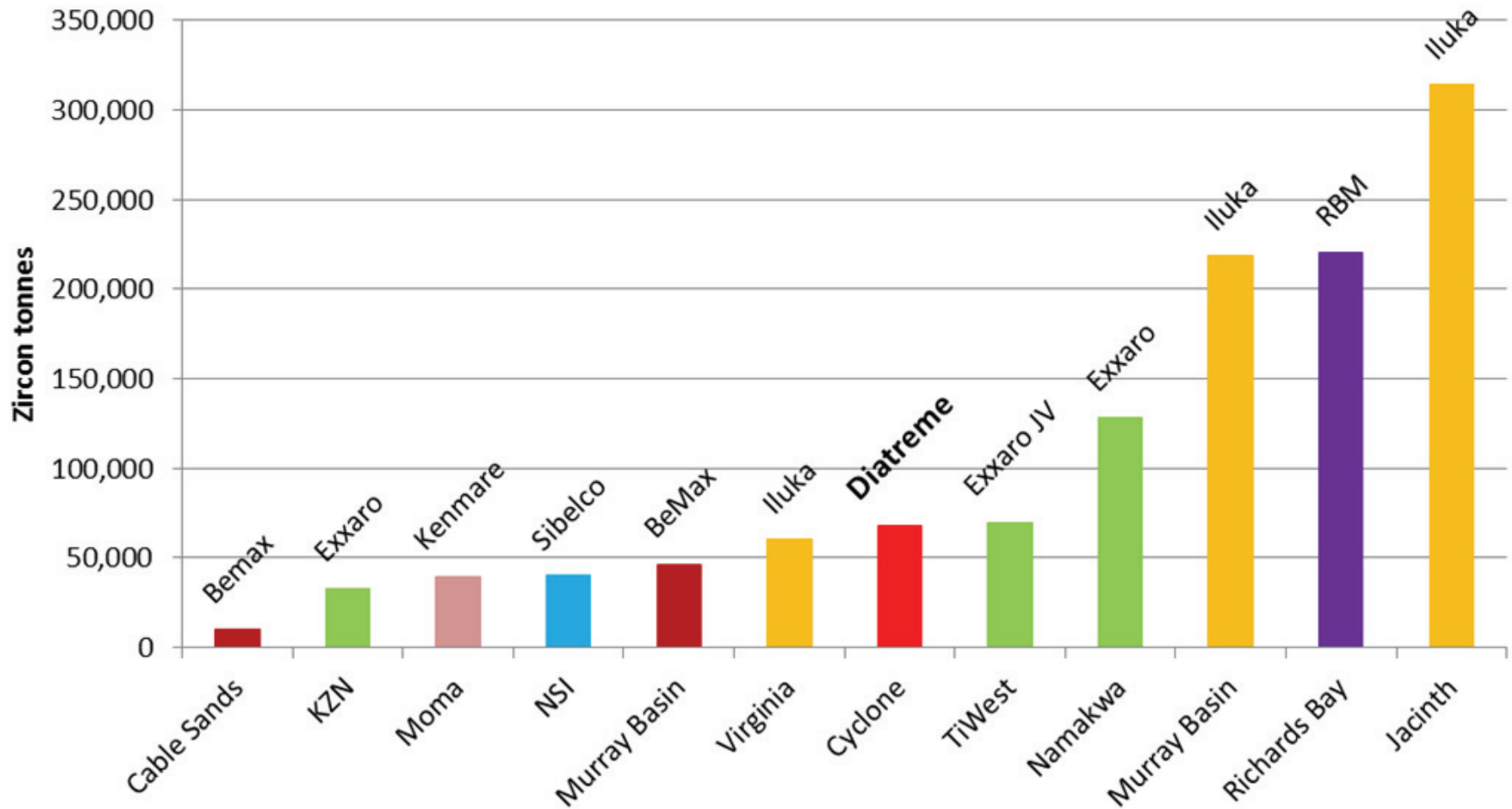
MINERAL SANDS PROJECTS – ZIRCON COMPARISON



DIATREME RESOURCES LIMITED



CYCLONE – Planned zircon production vs current operations



DIATREME RESOURCES LIMITED



SCOPING STUDY FORECASTS

Capital Expenditure (including pre-development)	\$201.5 Million
Average Annual Sales Revenue	\$187 Million
Average Annual Cash Operating Cost	\$69 Million
Average Annual Sustaining Capital Cost	\$2 Million
Average Annual Tax Payable	\$28 Million
Average Annual Net Operating Cashflow	\$88 Million

Key assumptions US\$1,800 / t Zircon and \$0.80 Exchange Rate

Source: Terence Willsted & Associates, June 2011

DIATREME RESOURCES LIMITED



PROJECT FINANCIALS

10 Year Mine Life at 9.8 Mt ore mined per annum

Average Annual Sales Zircon Product	66,000 t
Average Annual Sales Titanium Product	69,000 t
Payback Period	1.85 Years
IRR	45%
NPV (10%) Base Case	\$266 Million
Sensitivity Range	\$208 Million to \$463 Million
Valuation Most Likely	\$300 Million

Source: Terence Willsted & Associates, June 2011



DIATREME RESOURCES LIMITED

CYCLONE PROJECT DYNAMICS & DRX VALUES

- One million tonne zircon resource
- Current zircon price of US\$2,500 & escalating
- Zircon constitutes >80% of revenue
- Independent valuation of Cyclone Project **\$300 Million**
- DRX Market capitalisation **\$28 Million**

DIATREME RESOURCES LIMITED



CORPORATE INFORMATION

CAPITAL

Shares on Issue	355 Million
Options on Issue (ex Sept 2013 @ 15 cents)	89 Million
Share Price	8.0 cents
Option Price	1.7 cents
Market Capitalisation	\$28 Million
Cash at hand (End Dec Quarter)	\$3.6 Million

MAJOR SHAREHOLDERS

HOLDING

Andrew Tsang (Total)	21.8%
Doral Industries Ltd	6.6%
Zhangxi Zeng	4.5%
Chaohui Zhang	2.3%
Huntley Custodians	1.9%

DIRECTORS

A.J. FAWDON
D.H. HALL
A. TSANG
G.WHITE
C.WANG
N. McINTYRE

DIATREME RESOURCES LIMITED



SUMMARY

- **Advanced project in strengthening Zircon market**
- **Highly experienced & effective Geological & Engineering Team**
- **Right project in the right sector with large upside**