

## QUARTERLY REPORT

# HIGHLIGHTS

## EXPLORATION ACTIVITIES REPORT QUARTER ENDED 30 SEPTEMBER 2014

### CYCLONE ZIRCON PROJECT (WA)

Final cash call payment received from Perpetual Mining Holding Limited (PMHL), allowing PMHL to earn a 6% joint venture (JV) participating interest in the Cyclone Project.

Negotiations progressing with traditional owners the Pila Nguru (RNTBC) for the Cyclone Project Mining Agreement. Agreement finalisation followed by a signing ceremony planned on site for mid-November.

PER documentation has been lodged with EPA. Referral lodged under Commonwealth EPBC Act, and notification received that the proposal does not require further assessment and approval under the EPBC Act.

In-house technical work underway to develop options and work program for optimisation of the Cyclone mine plan. Includes CAPEX and OPEX studies for anticipated significant cost reductions by use of improved mine planning and processing technologies.

### CLERMONT COPPER PROJECT (QLD)

Ongoing discussions with a third party regarding JV opportunity at Clermont.

### TICK HILL GOLD PROJECT (QLD)

Meetings held with Glencore executives to finalise the Tick Hill Option agreement and facilitate full transfer of ML titles and ownership to Diatreme. Internal planning commenced for immediate activity on transfer of license assessing alluvial, colluvial and tailings opportunities on site.

### CAPE BEDFORD HM PROJECT (QLD)

Discussion commenced with land owners to facilitate exploration agreement and support for grant of EPM. Project remains an important priority for Diatreme.

### GRAYS HILL COPPER PROJECT (QLD)

Review of historical exploration data and reports undertaken by consultant geologist. Opportunity identified for both structurally controlled epithermal mineralisation and porphyry mineralisation.

### TENEMENT REVIEW

A review of Diatreme's tenement holdings is underway to ensure any retentions, renewals or new applications are strictly consistent with the Companies commercial objectives.

Diatreme Resources Limited is an Australian based diversified mineral explorer with significant projects in WA, QLD, VIC and SA.

The Company seeks to develop the Cyclone Zircon Deposit in WA, through a joint venture arrangement, and conducts exploration over a number of project areas prospective for heavy mineral sands, silica sand, copper and gold.

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

Australian Securities Exchange  
Codes: DRX, DRXO

Board of Directors  
Non-executive:  
William Wang - Chairman  
Andrew Tsang  
Daniel Zhuang

Executive:  
Neil McIntyre – Chief Executive  
Tuan Do – Chief Financial Officer  
Ian Reudavey – Chief Geologist

Joint Company Secretaries:  
Leni Stanley and Tuan Do

#### Key Projects:

- Cyclone Zircon Project
- Clermont Copper Project
- Tick Hill Gold Project
- Cape Bedford Silica/HMS Project

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### CYCLONE ZIRCON PROJECT (WA)

Project de-risking activities under the joint venture with Perpetual Mining Holding Limited continued during the quarter with the focus on preparation of the Public Environment Review (PER) documentation and progressing mining agreement negotiations with the Pila Nguru People. On the 16<sup>th</sup> September 2014 Diatreme received the final cash call amount from PMHL under the HOA signed in January 2014, thereby completing its initial farm-in commitment on the Cyclone Zircon Project.

The environmental studies and assessment processes for the Project have been completed in accordance with the PER schedule which has been agreed with the Western Australian Environmental Protection Authority (EPA). The PER document has now been lodged with the EPA.

A referral for the Cyclone Project was submitted under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), and the company has been advised that the proposed action is not a controlled action and therefore does not require further assessment and approval under the EPBC Act.

Negotiations between Pila Nguru and Diatreme for the Cyclone Project Mining Agreement have reached agreement for the principal commercial terms between the parties, with work now moving on to drafting of the encompassing legal agreements. A formal signing on site at Tjuntjuntjara with the Pila Nguru is anticipated for mid November 2014.

In-house technical work is underway to develop options and a work program for optimisation of the Cyclone mine plan. This will include CAPEX and OPEX studies for anticipated significant cost reductions through use of improved mine planning and processing technologies. Significant capital cost savings have been identified through use of various adjustments to mining techniques including the potential use of semi-mobile plant following the mining face saving significant pumping and pipeline costs, and new MSP spiral processing technologies that allow higher mineral recovery rates.

The introduction of the Mining Rehabilitation Fund (MRF) by the WA Mines Department has facilitated full refund of environmental bonds that were lodged for the active exploration tenements that make up the Cyclone Project (i.e. E69/1920, E69/2408 and E69/2425). Similarly, Rehabilitation Reports have been prepared and lodged with the WA Mines Department to for expired WA tenements (i.e. E69/2222, E69/2426, E69/2427, E69/2428, E69/2429) to facilitate refund of outstanding environmental bonds attached to the listed tenements.

### CLERMONT COPPER PROJECT (QLD)

A review of the Clermont project, and in particular the Rosevale Porphyry Corridor, is underway – with development of a proposed exploration program and identification of lower priority prospects and project tenement area that could be relinquished.

Data for the project is currently being reviewed by a third party for possible JV opportunity.

### TICK HILL GOLD PROJECT (QLD)

Meetings have been held with Glencore personnel to progress the 2007 option agreement and facilitate transfer of the three Tick Hill Mining Leases to Diatreme Resources. Internal planning has commenced for immediate activity on transfer of license to assess mining and processing opportunities for gold associated with alluvial, colluvial and tailings material on site. In addition to this, exploration drilling to test possible faulted offsets of the Tick Hill mineralising structure is planned.

The company anticipates finalisation of transfers and tenement ownership in Diatreme's name by mid-November.

### CAPE BEDFORD SILICA/HMS PROJECT (QLD)

Discussions are ongoing with traditional land owners to facilitate an exploration agreement for the Cape Bedford area and a letter of support for grant of EPM. This project has been identified as an important company priority to allow exploration activities to commence as soon as possible on site.

### GRAYS HILL COPPER PROJECT (QLD)

A review of historical exploration data and reports for the Wasp Porphyry prospect was undertaken by a consultant geologist familiar with porphyry related mineralisation systems. It is apparent that the Wasp prospect displays classic porphyry alteration together with low grade copper-molybdenum mineralisation, but has been discounted by previous explorers in the 1970's and 1980's as not representing potential open pit mineable mineralisation.

## QUARTERLY REPORT

An exploration opportunity has been identified for both structurally controlled epithermal mineralisation (which was not recognised/targeted by previous explorers) and porphyry mineralisation beyond the limits of previous drilling. Historical drilling has not fully tested the areal or depth extent of the porphyry as it was typically <150m deep, and focussed on the outcropping south-eastern portion of the granodiorite stock. Field work is required to better assess to exploration opportunity at the Wasp prospect.

### PROJECT TENEMENT RATIONALISATION

As part of a review of Diatreme's exploration strategy, Diatreme's tenement holdings and applications have been re-assessed with several tenement applications being withdrawn and non-core tenement holdings recommended for relinquishment. This will reduce tenement administration costs and allow Diatreme to focus on its core projects. Appendix 1 provides details of the exploration tenements disposed during the quarter.

The Noorina 2 (SA) HM tenement was relinquished due to a review of exploration prospectivity which suggested limited potential for significant HM mineralisation.

An application was lodged to relinquish the Elliston (SA) HM tenement due to review of exploration prospectivity which suggested limited potential for significant HM mineralisation, and proposed exploration environmental conditions relating to the presence of the Musgrave Prescribed Wells Area over a large portion of the EL.

The HoA for the Braemar Iron JV on the Anabama tenements in SA has been terminated and Diatreme is planning to relinquish the Anabama tenements in due course.

An ongoing review of Diatreme tenement holdings will ensure that any retentions, renewals or new applications are strictly consistent with the Companies commercial objectives.

### CASH POSITION

The Company's cash position at 30 September 2014 (Appendix 5B) was \$1,423K, with the final cash call for the Cyclone Project HOA with PMHL being received during September 2014 quarter.

### APPENDIX 1

Appendix 1 provides information required under ASX listing rule 5.3.3 for mineral exploration entities.

Dated 31 October 2014

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Chief Executive

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#### Competent Person Statements

The information in this report, insofar as it relates to Exploration Results from the Grays Hill projects is based on information compiled by Mr Ian Reudavey, who is 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 '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 Exploration Results and Mineral Resources from the Cyclone Zircon Project is based on information compiled by Mr Ian Reudavey, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Reudavey is 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 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 Reudavey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## APPENDIX 1

Appendix 1 provides information required under ASX listing rule 5.3.3 for mineral exploration entities.

### Mining tenements held at the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
SA	Anabama North	EL4783	Anabama	100%	CHAL	Granted
SA	Anabama	EL5138	Anabama	100%	CHAL	Granted
SA	Noorina 1	EL 5045	Eucla Basin	100%	LSPL	Granted
SA	Elliston	EL 5429	Eucla Basin	100%	DRX	Granted
WA	Wanna Lakes	E69/1920	Eucla Basin	100%	LSPL	Granted
WA	Wanna Lakes East	E69/2408	Eucla Basin	100%	LSPL	Granted
WA	Wanna-South	E69/2425	Eucla Basin	100%	LSPL	Granted
WA	Serpentine	E69/3113	Eucla Basin	100%	LSPL	Granted
WA	Cyclone	M(A) 69/141	Eucla Basin	100%	LSPL	Application
QLD	Clermont	EPM17968	Clermont	100%	CHAL	Granted
QLD	Parapet	EPM19189	Clermont	100%	CHAL	Granted
QLD	Expedition Creek	EPM19544	Clermont	100%	CHAL	Granted
QLD	Grays Hill	EPM25117	Yeppoon	100%	DRX	Granted
QLD	Cape Bedford	EPM(A)17795	Cape Bedford	100%	DRX	Application
QLD	Tick Hill	ML7094	Duchess	100%	MIM*	Granted
QLD	Tick Hill	ML7096	Duchess	100%	MIM*	Granted
QLD	Tick Hill	ML7097	Duchess	100%	MIM*	Granted
VIC	Glenthompson	EL5478	Glenthompson	100%	CHAL	Granted

### Mining tenements acquired and disposed of during the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
SA	Noorina 2	EL 5046	Eucla Basin	100%	LSPL	Relinquished
QLD	Grays Hill	EPM25117	Yeppoon	100%	DRX	Granted

### Beneficial percentage interests held in farm-in or farm-out agreements at end of the quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter by exploration entity or child entity	Comments
WA	Cyclone Zircon Project	Farm-out Heads of Agreement	LSPL and Perpetual Mining Holding Limited	94%	HoA announced Jan 2014, initial 6% farm-out completed 18 Sept 2014
QLD	Tick Hill Gold Project	Option & Sale Agreement	DRX and MIM	100%	Option exercised by DRX
QLD	Tick Hill Gold Project	Farm-out Agreement	DRX and Superior Resources Limited	100%	Announced Aug 2011, subject to pre-conditions relating to option and sale agreement between DRX and MIM

### Beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter by exploration entity or child entity	Comments
SA	Anabama Iron Project	Farm-out Heads of Agreement	CHAL and Braemar Iron Pty Ltd	100%	HoA announced Jan 2013, terminated Oct 2014

#### Abbreviations:

EL South Australia, Victoria Exploration Licence

EPM(A) Queensland Exploration Permit for Minerals (Application)

EPM Queensland Exploration Permit for Minerals

M(A) Western Australia Mining Lease (Application)

ML Queensland Mining Lease

DRX - Diatreme Resources Limited

CHAL - Chalcophile Resources Pty Ltd

LSPL - Lost Sands Pty Ltd

MIM - Mount Isa Mines