

QUARTERLY REPORT

HIGHLIGHTS

EXPLORATION ACTIVITIES REPORT QUARTER ENDED 31 DECEMBER 2014

CYCLONE ZIRCON PROJECT (WA)

A conditional purchase agreement was executed with Image Resources on 10th November 2014 to acquire the Cyclone Extended mineral resource, providing a 50% increase in the Cyclone Project HM resource and improvements to proposed mine life and mine planning options.

A Project Agreement for the Cyclone Zircon Project was signed on-site by Lost Sands (a wholly owned subsidiary of Diatreme) and traditional owners, the Spinifex People on the 15th November 2014. The execution of the agreement represents the successful culmination of a negotiation process that has resulted in a productive and beneficial agreement for both parties.

Following lodgement of the Cyclone Project Agreement with the WA Mines Department, the Cyclone Mining Lease (M69/141) was granted to Lost Sands for a 21 year term on the 18th November 2014.

An internal review of the Cyclone Project identified potential savings of an estimated \$77M in capital expenditure and \$11M in annual operating costs.

TICK HILL GOLD PROJECT (QLD)

Pursuant to the 2004 Tick Hill Option and Sale Agreement with MIM, DRX exercised the option via an Implementation Deed which will result in the assignment to DRX of a 100% interest in three granted Mining Leases (MLs 7094, 7096 and 7097). Documentation has been lodged with the DNRM to facilitate full transfer of ML titles and ownership to Diatreme. Internal planning has commenced for immediate activity on transfer of license including assessment of alluvial, colluvial and tailings opportunities on site.

CAPE BEDFORD HM PROJECT (QLD)

Discussion is ongoing with land owners to facilitate an exploration agreement and support for the EPM grant. The project remains an important priority for Diatreme.

CLERMONT COPPER PROJECT (QLD)

A review of exploration data is underway with a view to farm-out or vend the project to interested parties.

TENEMENT REVIEW

A review of Diatreme's tenement holdings is ongoing to ensure consistency with commercial objectives.

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

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, gold and copper.

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

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CYCLONE ZIRCON PROJECT (WA)

Diatreme Resources negotiated a conditional purchase agreement with Image Resources NL to acquire its Eucla Basin HM tenements, including the Cyclone Extended Heavy Mineral Resource. The ASX announcement of 11th November 2014 provides further detail, with the key commercial terms involving total payment of \$435,000 with the agreement to be finalized by the 9th March 2015. The addition of Cyclone Extended to the Cyclone Project will increase the resource of Diatreme's flagship mineral sands project in Western Australia from 137 million tonnes at 2.2% heavy minerals (containing 3.0 Mt of HM) to 223 Mt at 2.1% HM (containing 4.6 Mt of HM), an effective increase of 53% in contained heavy minerals (refer DRX ASX Release "Acquisition Expands Cyclone Resource" 11th November 2014).

Cyclone Extended represents the strike extension of Diatreme's Cyclone mineralisation across a tenement boundary, allowing for the seamless extension of mining and processing. The proposed acquisition has the potential to extend mine life by five years or more, based on Diatreme's existing mine design plans, and is a significant increase to the project's known HM resource. It also allows for a wider range of options in mine planning and design. Work on a combined Cyclone Project mineral resource will be undertaken immediately upon successful completion of the purchase agreement.

A signing ceremony was held on site on 15th November 2014 at Tjuntjuntjara, Western Australia, for Lost Sands to execute the Cyclone Zircon Project Native Title and Mining Agreement (and ancillary documentation) with the Pila Nguru (Aboriginal Corporation) (RNTBC) representing the Spinifex People, the traditional owners of the land containing the project. The negotiation process of the Project Agreement, which provides a template for positive community engagement based on a robust economic model, has resulted in a productive and beneficial agreement for both parties.

The agreement is a major milestone in the project's development, and will allow Diatreme to progress the project through further regulatory and commercial stages towards the establishment of mining operations.

Following lodgment of the Project Agreement with the WA Government, the Cyclone Mining Lease (M69/141) was granted by the Department of Mines and Petroleum on the 18th November 2014 for a 21 year term.

An internal review of the Cyclone Zircon Project was undertaken with the aim of improving the project economic fundamentals. Diatreme has been investigating options for redesign of the Cyclone Project to reduce capital and operating costs, with the first stage excluding the proposed mineral separation plant from the project. The heavy mineral concentrate produced by the mine site wet concentrator plant will be sold rather than upgraded to final products. Based on a preliminary assessment, forecast capital costs have been revised down by \$77 million to an estimated \$146 million, while average estimated annual operating cash costs have been cut by \$11 million (based on previous PFS studies announced to market).

Mineral Technologies (MT) is being engaged to undertake a value engineering study, which will review the Prefeasibility Study's engineering design to identify opportunities to further reduce capital and operating costs and ensure current "best practice" technologies are applied to the project. Advances in spiral separator technology provide an opportunity to design a compact relocatable wet concentrator which would be located close to the mine face and tailings area, thereby reducing pumping costs for ore to the concentrator and tailings from the concentrator. This concept could result in a 25% reduction in the capital cost for the wet concentrator and large savings in diesel-generated power.

Other changes expected to reduce project capital cost include a lower cost upgrade for the Eyre Highway to Forrest access road, exclusion of earlier sunk costs on project development, reductions in site facilities and infrastructure, and consequent reductions in engineering, procurement and project management.

The revised project model, based on heavy mineral concentrate sales rather than final product sales, has undergone preliminary financial evaluation, with initial indications that the project will produce solid financial results at forecast near-term mineral prices.

The Public Environmental Review (PER) process for the project is required for approval of the haul road from Cyclone to the Forrest rail siding. The PER also covers the mine site and associated mine infrastructure (e.g. camp, water supply and airstrip). The PER report has been submitted to Western Australia's Environmental Protection Authority (EPA) and will be made available for public review in early 2015. The PER process is expected to be concluded by mid-2015, providing environmental approvals for the entire project, including the haul road.

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Cyclone's development into an operating mine will require participation in the project by financial, equity or joint venture partners whose balance sheets, capital positions and market credibility will allow the project to transition through its final stages to a Final Investment Decision.

Diatreme has focused on improving the project's commercial attractiveness through a "de-risking process". This has been accelerated through the last quarter of 2014 to remove key project risks, such as an agreement with the traditional owners, mining lease, environmental approvals, water supply and resource expansion. Addressing these areas is key to direct participation by the large and principally foreign-owned companies comprising mineral sands buyers/traders, processors and end users (offtake partners) that have shown interest in the project, in addition to existing joint venture partner, Perpetual Mining Holding Ltd.

EUCLA BASIN HM PROJECT (WA)

An exploration drilling program was undertaken within Serpentine E69/3113 during October 2014 to assess potential HM strandline targets and a potential southern extension of the Monsoon HM prospect. A total of 36 holes for 1,072m were completed, and while some low grade HM intersections were logged – it was concluded that this exploration drilling, coupled with previous exploration results, has adequately tested the HM potential of E69/3113 without identifying significant mineralisation or prospects worthy of further exploration. The tenement has been subsequently relinquished.

The company is awaiting departmental review of Rehabilitation Reports lodged with the WA Mines Department 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 under the new MRF regime in WA.

EUCLA BASIN HM PROJECT (SA)

An exploration drilling program was undertaken within Noorina 1 EL5045 during October 2014 to assess potential HM strandline targets associated with the interpreted Barton Shoreline feature. A total of 17 holes for 248m were completed, and while some low grade HM intersections were logged – it was concluded that this exploration drilling has adequately tested the HM potential of EL5045. The tenement has been subsequently relinquished and DRX no longer holds any tenure in the SA portion of the Eucla Basin.

TICK HILL GOLD PROJECT (QLD)

The Tick Hill Gold Project comprises three granted Mining Lease No's 7094, 7096 and 7097 (totaling 390ha). The Tick Hill Gold Deposit was mined between 1991 and 1995 by Carpentaria Gold Pty Ltd (a subsidiary of MIM Holdings Limited) for the production of 513,333 ounces of gold from 705,000 tonnes of ore at a recovered grade of 22.6 g/t gold (source: MIM – Annual Reports). This makes it one of the highest grade gold deposits in Australia's recent gold producing history.

Pursuant to the 2004 Tick Hill Option and Sale Agreement with MIM, DRX has now exercised that option via an Implementation Deed which will result in the assignment to DRX of a 100% interest in the three ML's. The company anticipates finalisation of transfers and tenement ownership in Diatreme's name in January 2015. This final assignment will satisfy certain conditions precedent for the commencement of the DRX Farm-In and Joint Venture Agreement with Superior Resources Limited (ASX:SPQ) over the Tick Hill Gold Project.

SPQ will initially concentrate its exploration focus on areas containing possible offset extensions of the mined lode. Further additional exploration to be completed by SPQ/DRX includes an assessment of the tailings from the previous mining to determine if these contain sufficient gold to warrant reprocessing, assessment of potential alluvial resources and investigation of the grade of the old mine dumps - with particular focus on short term opportunities to facilitate positive revenue generation.

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.

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.

GRAYS HILL PROJECT (QLD)

The company has identified a number of topographic features within Quaternary sediments on the coastal plain in the eastern part of EPM25117 that may represent targets for HM accumulation. Discussions have commenced

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with the primary landholder to facilitate access for reconnaissance exploration.

The exploration opportunity for both structurally controlled epithermal mineralisation and porphyry mineralisation at the Wasp Prospect remains under review and is not currently a primary focus for DRX.

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 non-core tenement holdings recommended for relinquishment. This will continue to reduce tenement administration costs and allow Diatreme to focus activity on its core projects. Appendix 1 provides details of the exploration tenements disposed during the quarter.

The Noorina 1 (SA) HM tenement was relinquished due to the results of a reconnaissance exploration drilling program and a review of prospectivity which suggested limited potential for significant HM mineralisation. The Elliston (SA) HM tenement was formally relinquished during the quarter. Diatreme no longer has any tenement holdings or applications within the SA portion of the Eucla Basin

Following the termination of the Braemar Iron JV HoA for the Anabama project in SA, the two Anabama tenements have been relinquished.

The Serpentine HM tenement immediately east of Cyclone was relinquished following results of an exploration drilling program and review of previous exploration.

CASH POSITION

The Company's cash position at 31 December 2014 (Appendix 5B) was \$355K.

APPENDIX 1

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

Dated 27 January 2015

Neil J McIntyre

Chief Executive

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Competent Person Statements

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
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	Cyclone	M69/141	Eucla Basin	100%	LSPL	Granted
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
WA	Cyclone	M69/141	Eucla Basin	100%	LSPL	Granted
WA	Serpentine	E69/3113	Eucla Basin	100%	LSPL	Relinquished
SA	Noorina 1	EL5045	Eucla Basin	100%	LSPL	Relinquished
SA	Elliston	EL5429	Eucla Basin	100%	DRX	Relinquished
SA	Anabama North	EL4783	Anabama	100%	CHAL	Relinquished
SA	Anabama	EL5138	Anabama	100%	CHAL	Relinquished

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, Transfer of Title documentation lodged Dec 2014
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
-	-	-	-	-	-

Abbreviations:

E	Western Australia	Exploration Licence	DRX - Diatreme Resources Limited
M	Western Australia	Mining Lease	CHAL – Chalcophile Resources Pty Ltd
EL	South Australia, Victoria	Exploration Licence	LSPL – Lost Sands Pty Ltd
EPM(A)	Queensland	Exploration Permit for Minerals (Application)	MIM – Mount Isa Mines
EPM	Queensland	Exploration Permit for Minerals	
ML	Queensland	Mining Lease	