

**ASX Announcement**

5 October 2010

**CYCLONE ZIRCON DEPOSIT
RESOURCE UPDATE****(DRX 100%)**

Diatreme is pleased to announce a review and upgrade of the Cyclone HM resource estimate that confirms the economic potential of the zircon rich Cyclone HM Deposit and demonstrates the robustness of previous estimates.

Highlights

- **Cyclone resource now 132.1 million tonnes (Mt) at 2.33% heavy minerals (HM) at a 1% HM cut-off grade, containing 3.1Mt HM (within DRX ground), of which >40% is classified as Measured.**
- **998,000 tonnes of zircon (excluding titanium minerals) within Cyclone, a 6.7% increase over previous estimates, (within DRX ground).**
- It is expected that the conversion rate of the resource to "reserves" will be high due to the approach adopted by DRX personnel and knowledge gained by prefeasibility work.
- Combined with the JORC resource announced by Image Resources NL (ASX:IMA) in July 2010 over their neighbouring Cyclone Extended Deposit, the deposit is shaping as a significant new Zircon development project.
- Recent MOU's entered into with the BaoTi Group and Image Resources are positive indications that the Cyclone Deposit is attracting both local and overseas interest.
- With the current upturn in zircon and rutile prices expected to continue, the high percentages of these minerals within Cyclone (and Cyclone Extended) are significant for future development and market infiltration.
- Cyclone represents potential for new, long-term, HM supply source for both Australian and overseas industries.
- Good exploration potential remains for the confirmation of further HM resources in nearby areas.

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 zircon rich Cyclone HM Deposit in Western Australia, which is situated within the emerging world class Eucla Basin heavy mineral sands 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
Code: DRX

Securities

Ordinary shares:

234,864,734

Unlisted 47c options (30 June 2011):

16,800,000

Unlisted 47c options (31 July 2011):

3,000,000

Board of Directors**Executive:**

Tony Fawdon - Chairman/CEO

David Hall - Operations

Non-executive:

Lawrence Litzow

George White

Andrew Tsang

Company Secretary:

Lawrence Litzow

Leni Stanley

Key Projects:

- Eucla Basin Heavy Minerals Project
- Clermont Copper Project
- Anabama Copper Project
- Bellfield Base Metals Project

Diatreme Resources Contact:

Tony Fawdon

Executive Chairman

Phone: +61 7 3832 5666

Fax: +61 7 3832 5300

Share Registry:

Link Market Services

Level 19, ANZ Building

324 Queen Street, Brisbane, Q4000

**CYCLONE DEPOSIT RESOURCE UPDATE**

Discovered in 2007, the Cyclone Deposit is located along the Barton shoreline within the highly prospective Wanna Lakes area of the Eucla Basin, 25 kilometres within Western Australia from the state border with South Australia and 220 kilometres north of the transcontinental railway, Figure 1. A typical cross section is provided in Figure 2.

The total resource estimate for Cyclone now stands at **132.1Mt at 2.33% HM at 1% HM cut-off grade** (Table 1). Technical details concerning the deposit, delineation drilling program and the resource estimation are presented in Appendix 1. The resource continues to exhibit very low slimes (clay) and oversize content.

TABLE 1: CYCLONE RESOURCE ESTIMATE

Category	HM cut-off %	Material Mt	HM %	HM Mt	Slimes %	Oversize %	Percentage in HM				Zircon Kt	Rutile Kt
							Zircon %	Rutile %	HiTi %	Alt Ilm %		
MEASURED	2.0	29.5	3.4	1.02	3.7	4.4	31.4	11.9	17.7	10.2	319	121
MEASURED	1.5	40.1	3.0	1.20	4.1	4.8	31.7	12.3	17.4	10.1	381	147
MEASURED	1.0	49.7	2.7	1.32	4.5	5.3	32.2	12.7	16.8	10.0	426	169
INDICATED	2.0	30.9	3.2	0.98	3.7	5.0	32.5	13.1	17.5	12.6	319	129
INDICATED	1.5	48.8	2.6	1.29	4.0	5.5	32.3	13.0	17.8	12.9	417	168
INDICATED	1.0	72.2	2.2	1.59	4.2	6.0	32.3	12.7	18.0	12.8	513	202
INFERRED	2.0	2.2	2.4	0.05	2.9	8.4	32.7	12.8	21.5	19.5	17	7
INFERRED	1.5	6.3	2.0	0.12	3.3	9.0	33.3	11.3	22.8	21.3	41	14
INFERRED	1.0	10.2	1.7	0.17	3.6	8.9	33.6	10.9	23.0	21.4	58	19
TOTAL	2.0	62.6	3.3	2.05	3.7	4.8	32.0	12.5	17.8	11.7	655	257
TOTAL	1.5	95.1	2.7	2.61	4.0	5.5	32.1	12.6	17.9	12.3	840	329
TOTAL	1.0	132.1	2.3	3.08	4.3	5.9	32.4	12.6	17.9	12.4	998	388

Table Notes

- Rounding may generate differences in last decimal place
- A constant SG of 1.7 has been used to derive material tonnes
- Slimes refers to material <53um
- Oversize refers to material >2mm
- Mineral Assemblage derived from QEMSCAN analysis
- HiTi - Ti-Fe oxides (HiTi and leucosene) containing 70 - 95% TiO₂
- Altered Ilmenite - Ti-Fe oxides containing 55 - 70% TiO₂

The total mineral resource of the Cyclone Deposit, in addition to the mineral resource reported in the neighbouring Cyclone Extended Deposit held by Image Resources NL ("Image"), confirm the potential of this region to host the next world class mining operation within the Eucla Basin, after Iluka Resources' Jacinth-Ambrosia mine in South Australia. To this end, Diatreme is continuing to progress the current prefeasibility study ("PFS") being undertaken, and the newly formulated cooperation with Image under a Memorandum of Understanding ("MOU"), provides the opportunity for future development to be undertaken over a combined resource area with associated economies of scale.

The PFS is focusing on developing capital and operating cost information and revenue forecasts, involving additional work on mineralogy and metallurgy to more clearly define quantities of mineral product. A 500kg bulk sample has now been provided to an Australian laboratory to better define the character of any "run of mine" mineral concentrates and products that could be expected at Cyclone. Investigations are being conducted into designs and arrangements for mine plans, a wet process facility and mine water sources, infrastructure requirements and transport corridors, options for the location of a mineral separation plant, and cultural and environmental impacts.

The MOU announced on 10 August 2010 with the Chinese end user, BaoTi Group Ltd, is progressing through a period of due diligence and it is anticipated that the Heads of Agreement proposed under

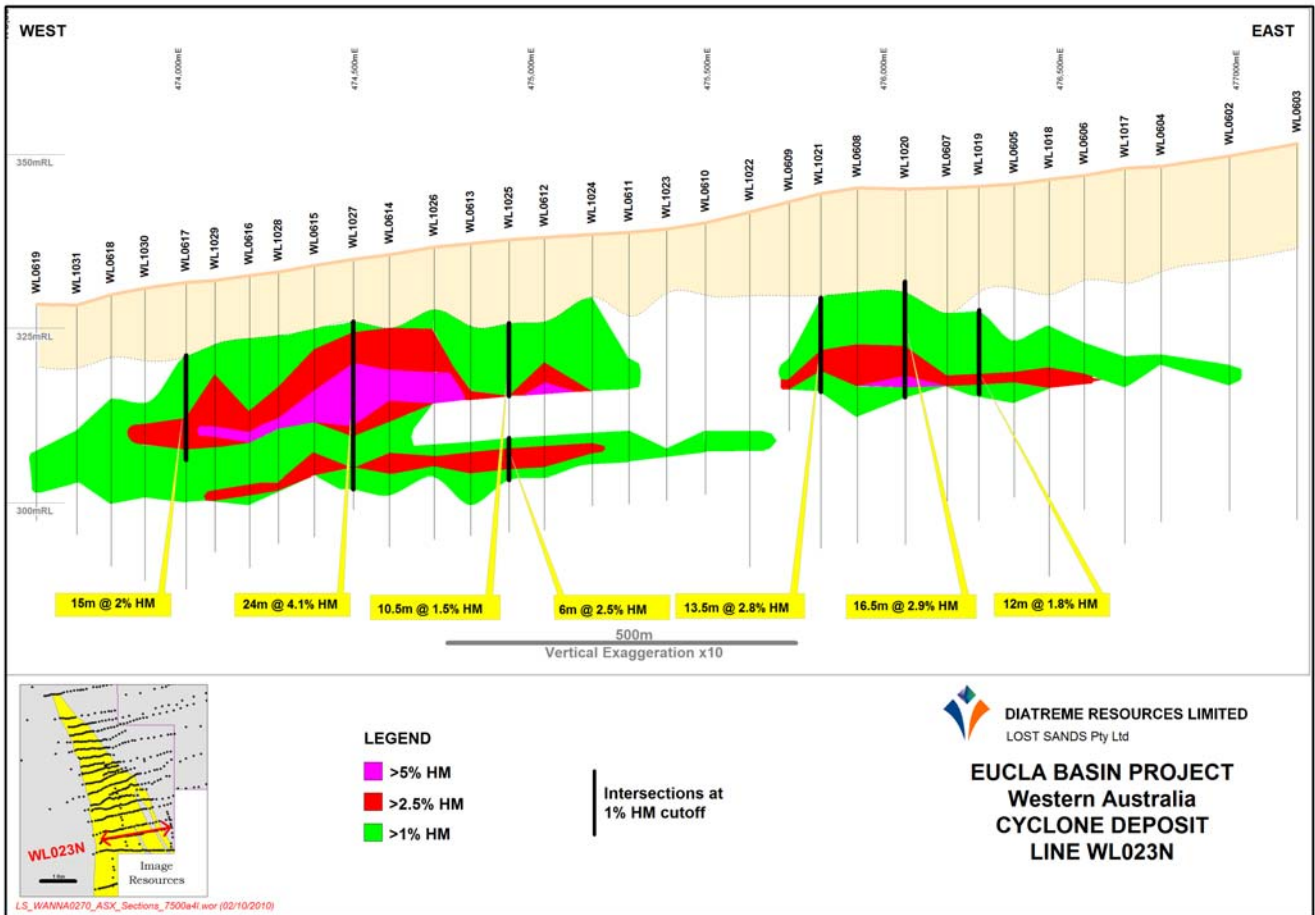


Figure 2: Section line through Cyclone Deposit

For further information on the Company visit www.diatreme.com.au

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

Competent Person Statement

The information in this report, insofar as it relates to Exploration Results and Mineral Resources is based on information compiled by company personnel under the supervision Mr David Jelley, of David Jelley Pty Ltd, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Jelley 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 Jelley consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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.

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.



APPENDIX 1 - Technical Details

Geology

The Cyclone Deposit is made up of a number of mineralised strand systems which are believed to represent ancient beach placer deposits with associated overlying dunal and underlying near shore deposits. The sands are free flowing with very little induration (rock) and low slimes contents which are favourable to traditional mining techniques.

Drilling Program

- All drilling has been completed using contract drillers using the NQ Air Core system of drilling.
- The Cyclone Deposit was discovered and delineated by DRX in 2007 (programme #1). A small programme of re-drilling was carried out in September 2008 (programme #2) over a selection of holes within the deposit (61 holes, 2,169m) which highlighted that much of the mineralisation was not recognised during the original drilling programme and therefore a more thorough drilling and sampling programme was organised and completed in July 2009 (programme #3) where 513 holes for 22,494 metres of drilling were completed. A total of 946 holes for 42,512m of drilling has now been completed over the Cyclone Deposit within DRX ground.
- The majority of the Cyclone resource has been drilled to 50m hole spacings and drill lines are generally 250m apart with some lines spaced at 400-600m.
- All drill holes are vertical and all samples collected at 1.5m intervals. The majority of samples collected through rotary splitter with some whole samples collected and used in bulk samples test work.
- All collars surveyed by DGPS.
- The grade of heavy minerals for each sample was initially estimated by panning and visual estimation. All samples were submitted to Regional Exploration Management Pty Ltd preparation laboratory for sample preparation, drying, wet sieving at 2mm and 53 micron and later to Diamantina Laboratories for heavy mineral separation by TBE.
- Mineralogical assemblage determined by QEMSCAN (with routine XRF confirmation) over selected sample intervals and incorporated in to the geological database.
- Drill hole, data spacings and geological continuity are recognised in the resource classification.

Resource Estimation

- Geological and mineralisation domains have been interpreted by Diatreme geologists from drill hole data using a nominal 1% HM cut-off.
- Solid wireframe models have been generated from these interpretations by Lynn Widenbar of Widenbar & Associates Pty Ltd and used to control estimation into a resource block model using an Inverse Distance Squared interpolation technique for HM, Slimes and Oversize, and nearest neighbour interpolation technique for mineralogy.
- Drillhole database integrity, sampling, interpretation and logging validated by Lynn Widenbar of Widenbar & Associates Pty Ltd and Diatreme geologists.
- Specific gravity of 1.7 applied to mineralised zone.
- The Cyclone Resource is up to 5.0km long and 2.0km wide. This resource estimate relates to only that portion lying within the Lost Sands Pty Ltd tenement (EL69/1920).
- Sectional interpretation shows good continuity both along and across the trend of the deposit.
- The resource is classified as Measured, Indicated and Inferred based on the criteria set out in the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC, 2004).

Note: The HM (Heavy Minerals) referred to in this report are all those minerals that have a density greater than 2.92 tonnes/cubic metre, as determined by heavy liquid separation. The amount of Valuable Heavy Mineral (VHM) such as Ilmenite, Rutile, Leucoxene and Zircon is determined by other methods (QEMSCAN). The HM% values do not imply that all of the HM is VHM.