



ASX ANNOUNCEMENT

23 November 2010

RESULTS OF DIATREME'S PRELIMINARY BULK SAMPLE METALLURGICAL TESTWORK FROM CYCLONE HM DEPOSIT

Highlights

- **Very high Zircon recovery of 98% from spiral tests.**
- **Premium grade Zircon product generated from benchtop tests.**
- **Zircon displays very low levels of radioactive elements.**
- **Good recovery of high value titanium minerals.**

As part of the ongoing Prefeasibility Study looking into the recoverable mineral products from the Cyclone heavy mineral (HM) Deposit, the Company is pleased to announce that preliminary results from a number of bulk samples have now been received.

The Cyclone Deposit resource stands at 132.1Mt at 2.3% HM (at 1% cut-off grade) containing 3.1Mt HM, of which >40% is classified as Measured Resource. Table 1 below, as released in the Company's announcement dated 5 October 2010, details the resource. It is expected that the conversion rate of the resource to reserves will be high.

A composited bulk sample was selected from the HM ore zone by DRX geologists and tested at the CPG Resources (Mineral Technologies) facility on the Gold Coast, Queensland, for spiral performance testwork.

The Company can report that the metallurgical testing was successful with very good recovery of valuable heavy minerals on a simulated wet concentrator circuit.

Laboratory analysis of the bulk sample reported 3.9% HM with 35% zircon in the HM mineral assemblage, which represented higher grades than estimated from corresponding drill data.

Zircon reported 98% recovery to concentrate from bulk sample through conventional "rougher" and "scavenger" spiral circuits. As zircon comprises more than 75% of the projected product value this high recovery represents a significant step in confirming the commercial potential of the project.



TABLE 1: CYLONE 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 leucoxene) containing 70 - 95% TiO₂
- Altered Ilmenite - Ti-Fe oxides containing 55 - 70% TiO₂

Overall TiO₂ (rutile, leucoxene, HiTi and altered ilmenite) recovery to concentrate was 74%. The lower recovery of total TiO₂ in comparison to zircon is due to rejection of light, low value, TiO₂ bearing minerals to spiral tails and hence production of a higher value TiO₂ concentrate.

HM concentrate has been processed through laboratory wet and dry separation circuits including a hot acid leach process to successfully produce a 5kg sample of final zircon product. Premium prices can be expected on the basis of the product assay which exhibits low radioactivity levels of <350ppm U+Th.

More detailed work is planned as part of the prefeasibility study to develop preliminary process flowsheets for "wet concentrator" and "dry mineral" separation plants.

Tony Fawdon
Executive Chairman/CEO



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 is a diversified Australian mineral explorer with significant projects in heavy mineral sands, copper, base metals and gold. Based in Brisbane, Queensland, the company listed on the Australian Securities Exchange in June 2005. The Board and senior personnel have wide experience in the exploration and development phases of resource management.

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. Global zircon consumption in 2008 was estimated at 1.3 million tonnes, with China the largest single consumer followed by Western Europe, North America, Japan and other countries.