

ASX ANNOUNCEMENT

20 March 2012

POSITIVE PREFEASIBILITY STUDY RESULTS BOOST CYCLONE ZIRCON PROJECT

Highlights

- **Prefeasibility study (PFS) shows potential for world-class Cyclone Zircon Project to mine 10 million tonnes per annum ore for 10 years, yielding approx. 147,000 tonnes per annum heavy mineral (HM) concentrate.**
- **Highest grade zircon deposit in Western Australia, containing 760,000 tonnes zircon.**
- **Capital investment of \$223 million, with average annual sales revenue of \$191 million and annual NPAT of \$78 million.**
- **Net present value of \$194 million and internal rate of return of 32%, with payback period of 2.1 years (based on realistic base case).**
- **Strong fundamentals for main mine products of zircon (66% ZrO₂) and titanium products HiTi87 (86.6% TiO₂) and HiTi67 (67.3% TiO₂), with constrained global supply and upward pricing pressures.**
- **Estimated average annual production rates from MSP:**

Zircon	65,000 tonnes
HiTi87	10,000 tonnes
HiTi67	46,000 tonnes
- **Diatreme to launch Definitive Feasibility Study (DFS), planned for completion in 2013. Mining expected to start in 2015, pending final approvals.**
- **Positive discussions continue with industry based players in assessing partnership opportunities as they arise.**

Continues overleaf

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

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Diatreme Resources Limited (ASX:DRX) announced today a positive prefeasibility study for the Cyclone Zircon Project, boosting the prospects for Western Australia's biggest new zircon deposit.

The PFS has shown the potential for the Cyclone Project to mine 10 million tpa of ore for 10 years. Expected annual production of 147,000 tpa heavy mineral concentrate would yield an average of 65,000 tpa zircon, 46,000 tpa HiTi67 and 10,000 tpa HiTi87.

With the initial discovery of the Cyclone Deposit in 2007, and progressive exploration over the past four years, the Company upgraded its resource estimate in January 2012 to Measured and Indicated status (JORC). This was followed closely in February 2012 with the release of Cyclone's maiden Ore Reserve (JORC).

Diatreme's Executive Chairman, Tony Fawdon, said Cyclone was of world significance as the highest grade zircon deposit in WA, having the potential to generate significant exports, royalties and jobs.

"The PFS has demonstrated the potential for Cyclone to become a company-making project for Diatreme. On an annual basis, the project would generate sales revenue of \$191 million a net operating profit after tax of \$78 million, contribute \$28 million a year to government tax revenue and \$7 million in government royalties."

The Cyclone Project is located within the northern Eucla Basin, an emerging zircon province of global significance, being 25 kilometres west of the South Australian border and 230 kilometres north of the transcontinental railway.

Conventional technology will be used for the project, with concentrate proposed to be trucked 240 kilometres to Forrest, WA, where it would be loaded and transported by rail to an appropriate seaport. The concentrate would be stored in containers at the seaport before being loaded into vessels for bulk shipping to a mineral separation plant overseas, possibly China.

Water supply for the project is expected to be sourced from a deep aquifer in the Officer Basin, a large sedimentary basin underlying the project area with known substantial aquifers.

Based on estimates, the PFS financial forecasts include a base case net present value of \$194 million and an internal rate of return of 32%, with a payback period of just 2.1 years.

The PFS results are underpinned by strong fundamentals for the three proposed mine products comprising zircon, HiTi87 (86.6% TiO₂) and HiTi67 (67.3% TiO₂). These products would be sold into overseas markets, where current forecasts are for limited supply of zircon and titanium feedstocks and continued high prices.

The forecasts are based on a strategy of building the proposed mineral separation plant in China and marketing the products in that country, resulting in estimated long-term prices of US\$2,100 per tonne for zircon, US\$1,200/t for HiTi87 and US\$400/t for HiTi67.

Diatreme has recently signed a Negotiation Protocol for seeking to develop a mining agreement with the Native Title holders, the Pila Nguru, on whose land the Cyclone Deposit is located.

"Diatreme is committed to engaging with the local community, and where possible, employing locals and using local suppliers to build this important project for Australia," Mr Fawdon said.



Having successfully delivered a substantive and positive PFS, Diatreme will now commence the Definitive Feasibility Study (DFS). This will incorporate test drilling for water within the underlying sedimentary rocks of the Officer Basin, and conducting environmental, flora and fauna surveys for the mine site and proposed haulage roads.

Bulk sample collection for detailed plant design and environmental surveys are already underway as part of the DFS, which is planned for completion in 2013.

“Having received considerable interest in the project from leading industry players, Diatreme continues to hold discussions regarding investor partnerships. Based on heavy mineral demands, the Company aim to secure project financing in 2013 and undertake project construction and development over 2013/2014. Depending on receipt of necessary approvals, the Company expects first production by 2015.”

The project will propel Diatreme into the mid-tier category of mineral sands producers, backed by a highly experienced and effective geological and engineering team.

“The Cyclone Project is the right project in the right sector, and at the right time,” Mr Fawdon said.

“There is potential for extension of the Cyclone mine life due to adjacent deposits and new discoveries. With Diatreme’s additional suite of attractive mineral sand, copper and base metal projects, the Company is well positioned to generate substantial growth in shareholder value.”

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For further information:

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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 owns the world-class Cyclone Zircon Deposit in Western Australia, situated within the recognised Eucla Basin province, along with extensive areas of ground prospective for heavy mineral sands, copper, base metals and gold.

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About zircon

Zircon is a mineral 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.

About titanium

Titanium is a strong, lustrous, corrosion-resistant metal, commonly occurring within rutile and ilmenite.

Approximately 93% of world titanium minerals are used to produce TiO₂ pigment, a white powder with high opacity and brilliant whiteness used in the production of paint, plastic, paper and inks.