

# ASX

## ANNOUNCEMENT

19 March 2026

### Cyclone metallurgical testwork completed, shows project upside

- Mineral Technologies has completed Mineral Separation Plant (MSP) testwork and flowsheet optimisation for Diatreme's Cyclone Project, resulting in significantly increased product yields
- Previous Wet Concentrator Plant (WCP) testwork on an 8-tonne bulk sample representing the first three years of the mine plan achieved 76.5% recovery of heavy minerals to heavy mineral concentrate (HMC), up 21.6% on previous work
- Forecast life of mine HMC production up 58.3% to 3.2Mt; zircon production up 6.8% to 866kt over mine life; titanium concentrate production up 95.6% to 1.6Mt over mine life
- Diatreme continues to engage with potential project partners (offtake and/or investment) for zircon-rich heavy mineral sands project in Western Australia

**Diatreme Resources Ltd (ASX:DRX)** has successfully completed metallurgical testwork for its wholly owned Cyclone Project, with the results showing substantial improvements in projected product yields, strengthening the development outlook for the zircon-rich heavy mineral sands project in WA's Eucla Basin.

Mineral Technologies has finalised MSP testwork and flowsheet optimisation, delivering major gains in processing performance and product recovery. This follows earlier WCP testwork on an 8-tonne bulk sample, representing the first three years of mining, which achieved 76.5% heavy mineral (HM) recovery to HMC, a 21.6% improvement over previous testwork.

#### Major production uplift confirmed

Completion of the MSP program has resulted in significant forecast increases in life of mine output:

- HMC production: up 58.3% to 3.2 Mt
- Zircon production: up 6.8% to 866 kt
- Titanium concentrate production: up 95.6% to 1.6 Mt

Diatreme continues to progress discussions with potential project partners, including offtake and investment groups, while evaluating the most appropriate pathway for advancing Cyclone in light of the transformed production profile. Cyclone's produced minerals are zircon and titanium, which, subject to success of further downstream processing, have been identified as important to the U.S. government's focus on securing strategic critical minerals.

Diatreme’s CEO Neil McIntyre commented: *“The final stage of testwork confirms that targeting higher mineral recoveries through the latest processing technologies is the right approach for Cyclone. These significantly enhanced yields increase the likelihood of progressing the project under favourable market conditions and add meaningful value to discussions with potential project partners. Our focus remains on generating increased value for shareholders from this project located in the world-class Eucla Basin”.*

### Updated production comparison (2026 vs 2016 studies)

Product	2016 Study (t)	2026 Study (t)	Increase (%)
HMC	2,015,294	3,189,646	58.3
Zircon	810,371	865,775	6.8
TiO <sub>2</sub> products (total)	834,838	1,632,603	95.6
Waste minerals	370,084	691,268	86.8

These improvements reflect optimisation of the WCP flowsheet, which enabled greater recovery of valuable minerals while accepting a slightly lower HMC grade. The 2026 program achieved 90.8% HM in HMC, a strategic shift that allowed the MSP to more selectively separate valuable mineral species using enhanced electrostatic, magnetic, and gravity separation technologies. The value uplift from increased mineral recovery is expected to outweigh the increased waste content in concentrate.

### Testwork summary

WCP testwork completed in 2025 at Mineral Technologies’ pilot-scale facility in Carrara (Qld) delivered a major step change in HM recovery, increasing to 76.5% from 54.9% in earlier work.

The subsequent MSP flowsheet development program demonstrated:

- Efficient separation of TiO<sub>2</sub> and ZrO<sub>2</sub> mineral suites
- High overall recoveries through enhanced dry separation technologies
- Elimination of the previously required hot acid leaching step due to improved product purity

The 2025 HMC sample (90.8% HM) contained 34.8% TiO<sub>2</sub> and 27.8% Zr(Hf)O<sub>2</sub>. Dry separation split the HMC into two clean concentrate streams (51% TiO<sub>2</sub> and 49% ZrO<sub>2</sub>), achieving 97.4% TiO<sub>2</sub> recovery and 89.2% Zr(Hf)O<sub>2</sub> recovery.

Further processing produced:

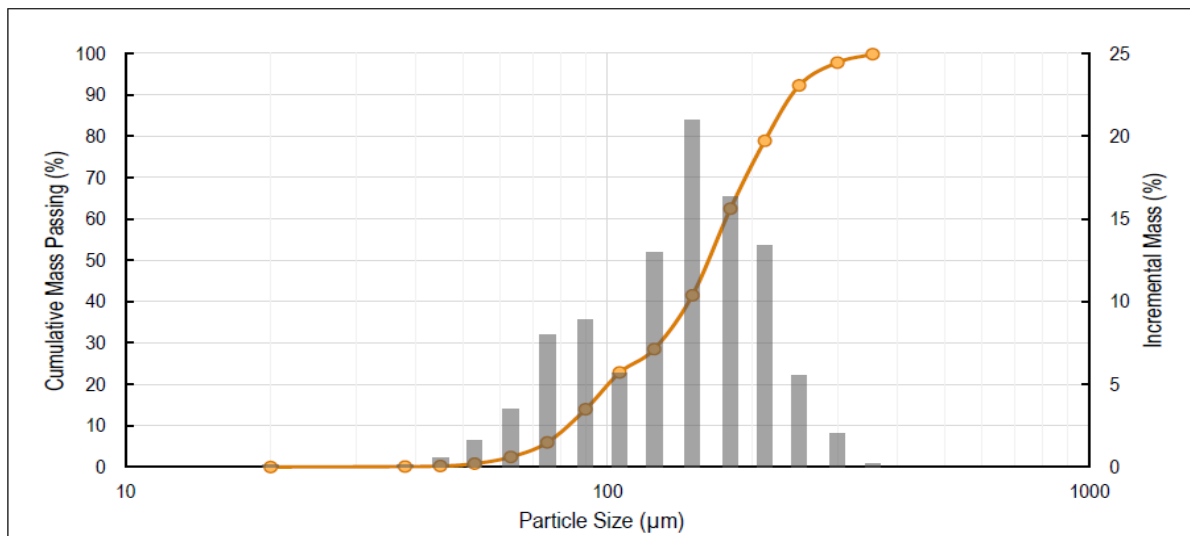
- Altered ilmenite at 66.0% TiO<sub>2</sub>
- HiTi product at 79.5% TiO<sub>2</sub>
- Combined TiO<sub>2</sub> products grading 69.3% TiO<sub>2</sub> and accounting for 46.6% of HMC mass, recovering 95.1% of total TiO<sub>2</sub>

Zircon processing stages delivered a 76.7% recovery of  $Zr(Hf)O_2$  with a 33.1% mass yield, achieving a final zircon product grading 65.4%  $Zr(Hf)O_2$ , 0.11%  $Fe_2O_3$ , and 0.42%  $TiO_2$  — meeting standard specifications without chemical processing.

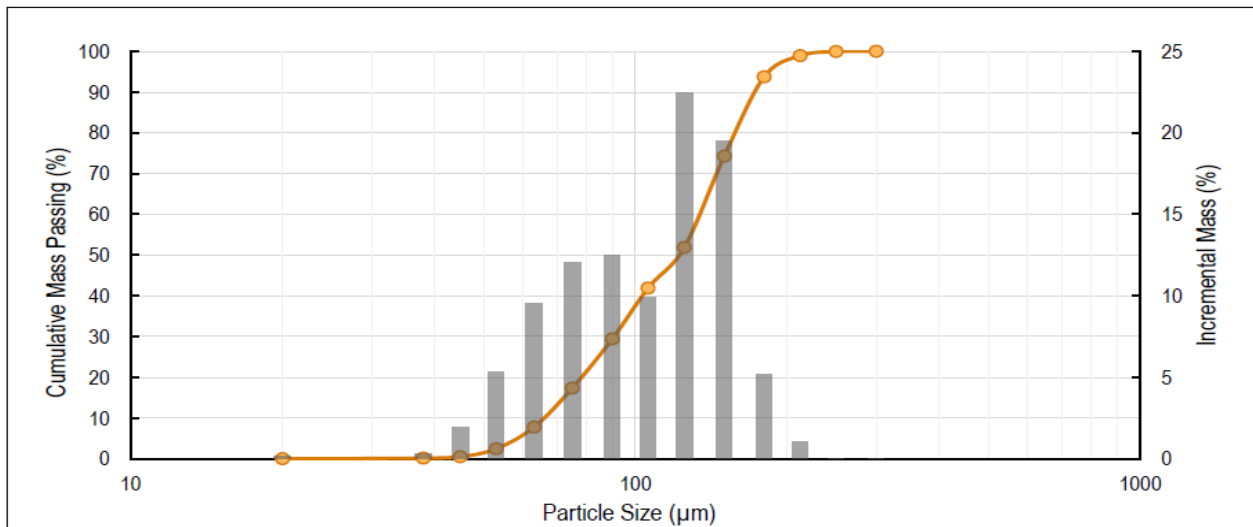
The MSP mass and assay balance is summarised in the following table:

Description	%wt wrt MSP Feed	Assay					
		$TiO_2$	$Fe_2O_3$	$SiO_2$	$Al_2O_3$	$ZrHfO_2$	$CeO_2$
		%	%	%	%	%	%
<b>Combined Ti Product</b>	<b>46.6</b>	<b>69.3</b>	<b>14.7</b>	<b>7.17</b>	<b>1.54</b>	<b>1.91</b>	<b>0.02</b>
<i>Ilmenite (alt)</i>	35.3	66.0	18.4	6.80	1.61	1.00	0.02
<i>HiTi Concentrate</i>	11.3	79.5	3.11	8.33	1.32	4.75	0.02
<b>Zircon1+2+3</b>	<b>33.1</b>	<b>0.42</b>	<b>0.11</b>	<b>33.0</b>	<b>0.35</b>	<b>65.4</b>	<b>0.01</b>
<b>Rejects</b>	<b>20.3</b>	<b>7.46</b>	<b>1.28</b>	<b>57.7</b>	<b>2.96</b>	<b>28.0</b>	<b>0.05</b>
	100.0	33.9	7.13	26.0	1.44	28.2	0.02

### Combined Product Particle Size Distribution



### Zircon Particle Size Distribution



### Microscope view of Cyclone zircon product



This testwork program concentrated on refining the MSP processing circuits through targeted enhancements, including the adoption of emerging technologies, circuit reconfiguration, and advanced mineral separation methods. This metallurgical study has resulted in significantly improved yields of HMC from ore, and ZrO<sub>2</sub> and TiO<sub>2</sub> products from HMC.

The following table shows the estimated increase in production for the 13.8 year mine life of the Cyclone Project based on the increased yields from the latest WCP and MSP metallurgical testwork. The table is a comparison of the current updated mineral product estimates with the product estimates in the “Project Enhancement and Update

Study” undertaken by Sedgman Limited and announced to the ASX on 15 June 2016, titled “Cyclone Study Reaffirms Project Profitability.”

**Cyclone Life of Mine Production Forecasts (2026 v 2016)**

PRODUCT	2016 Study (tonnes)	2026 Study (tonnes)	Increase (%)
HMC	2,015,294	3,189,646	58.3
Zircon	810,371	865,775	6.8
TiO <sub>2</sub> Products (total)	834,838	1,632,603	95.6
Waste minerals	370,084	691,268	86.8

The optimised flowsheet for the WCP resulted in a 58.3% increase in HMC production, including an increase in the recovery of waste minerals. Previous work targeted a high grade HMC with 97% HM and resulted in relatively lower recoveries of valuable HM.

The 2026 testwork accepted the lower 90.8% HM in the HMC to obtain higher recovery of valuable minerals, which could then be more selectively separated using the optimised MSP flowsheet. This strategy is supported by initial indications that the value of the additional minerals recovered exceeds the costs associated with the higher proportion of waste minerals in the HMC.

The 2016 and 2026 product estimates are both based solely on the current Cyclone Probable Ore Reserve estimate that is presented in the following table.

**Cyclone Probable Ore Reserve**

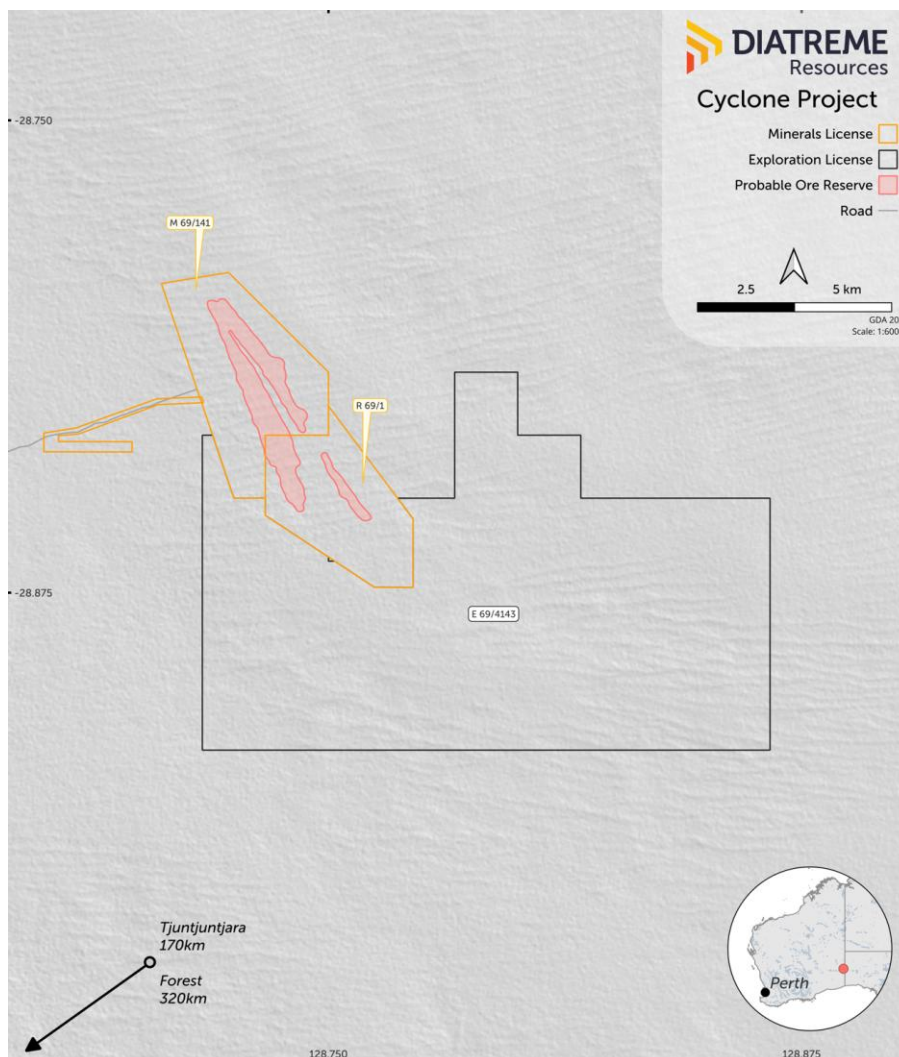
Ore Reserve	HM % of ore	Zircon % of HM	Rutile % of HM	Leucoxene % of HM	HiTi % of HM	Alt Ilm % of HM	SiTiOx % of HM
138Mt	2.6%	28	3	7	23	13	22
<b>Mineral % of ore</b>		0.72	0.07	0.17	0.59	0.32	0.57

**Note:** Diatreme is not aware of any new information or data that materially affects the Probable Ore Reserve estimate. All material assumptions and technical parameters underpinning the estimate as set out in the announcement ‘Cyclone project study reaffirms project profitability’ dated 15 June 2016 continue to apply and any changes are not sufficient to materially affect the estimate. Diatreme confirms that the form and context in which the Competent Person, being Mr Phil McMurtie’s, (a director of Tisana Pty Ltd (a consultant to Diatreme)) findings are presented have not materially changed.

The 2026 MSP life of mine product tonnes have been estimated using the calculated production for three years based on the bulk sample results which has been compared with the 2016 three-year production estimates. The difference between the two production estimates provided production improvement factors for each product that were then applied to the 2016 annual production estimates. This method considered the variability of oversize material and slimes in the ore which results in a variable annual tonnage of product sized ore from which valuable minerals are separated. The annual variability of the HMC and valuable HM grades were also applied when estimating the life of mine production forecast.

There are additional opportunities to refine the MSP flowsheet that would require additional testwork when the project advances to the final phase of feasibility studies:

- Further optimisation of the zircon scavenging circuit has the potential to reduce the 12–13% zircon losses in reject streams, through additional retreat stages, refined splitter settings, or alternative electrostatic plate configurations.
- Additional investigation into reducing TiO<sub>2</sub> in zircon including fine cleaning of zircon using increased IRMS intensity, selective HTR tuning, or screening.
- Reduction of SiO<sub>2</sub> and Zr(Hf)O<sub>2</sub> entrainment in the HiTi product would involve additional pre-screening or density based separation testwork prior to final HTR and IRMS stages before production of the HiTi product.
- Integrated pilot scale trials would validate mass balances, recirculating loads, and separation efficiency under commercial plant conditions.
- Sensitivity analysis on feed variability should also be undertaken to confirm flowsheet robustness. Variability sample testing would be required.



**Cyclone Project location, WA**

This release has been authorised by the Board of Diatreme.

**Neil McIntyre**

Chief Executive Officer

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## About Diatreme Resources Limited

Diatreme Resources (ASX: DRX) is an emerging Australian producer of mineral and silica sands based in Brisbane. Our key projects comprise the Northern Silica Project and Galalar Silica Sand Project in Far North Queensland, located adjacent to the world's biggest silica sand mine at Cape Flattery, together with the Cape Flattery Silica Project. Both the Northern Silica and Cape Flattery projects have been designated "Coordinated Projects" by the Queensland Government and all are strategically located near the silica sand export focused Cape Flattery Port.

The NSP has been designated a Major Project by the federal government, currently the only **such Major Project declared for Queensland**. This reflects the significance of the low iron, high purity silica sand project in the context of critical minerals, both for Queensland and Australia.

In Western Australia's Eucla Basin, Diatreme's Cyclone Zircon Project is considered one of a handful of major zircon-rich discoveries of the past decade.

Global material solutions group Sibelco is Diatreme's development partner on its silica projects portfolio. Sibelco has invested circa \$49 million into both the silica sands project and Diatreme at the corporate level and is an important partner in all aspects of the projects' development.

Diatreme's silica sand resources will support global decarbonisation by providing the necessary high-grade, premium quality silica for use in the solar PV industry. The Company has a strong focus on ESG, working closely with its local communities and other key stakeholders to ensure the long-term sustainability of our operations, including health, safety and environmental stewardship.

Diatreme has an experienced Board and management, with expertise across all stages of project exploration, mine development and project financing together with strong community and government engagement skills.

For more information, please visit [www.diatreme.com.au](http://www.diatreme.com.au)

## Competent Persons Statement

The information in this report, insofar as it relates to Ore Reserves at the Cyclone Project is based on information compiled by Mr Phil McMurtrie, who is a director of Tisana Pty Ltd (a consultant to Diatreme Resources Limited), and a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie 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 McMurtrie 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, insofar as it relates to Bulk Sample Preparation and Metallurgical Testwork is based on, and fairly represents, information and supporting documentation reviewed by Mr Philip McMurtrie, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie takes responsibility for the metallurgical testwork reported within this announcement. Mr McMurtrie is a mining engineer and a consultant to Diatreme Resources Limited. Mr McMurtrie 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 McMurtrie consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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## References to previous ASX releases

- Quarterly Activities/Appendix 5B Cash Flow Report – 29 January 2026
- Cyclone metallurgical testwork shows improved recoveries – 23 October 2025
- Cyclone project study reaffirms project profitability – 15 June 2016