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DIATREME Resources

ASX ANNOUNCEMENT

22 January 2025

NSP environmental studies progress to final stages

- **Northern Silica Project's (NSP's) Environmental Impact Statement (EIS) studies progress to final stages of impact assessment and mitigation following receipt of final Terms of Reference.**
- **12 months of continuous monthly background data for surface and groundwater collected, marking completion of most significant long-term data, including groundwater pumping test.**
- **Diatreme targeting lodgement of draft EIS with Coordinator-General for adequacy check by late Q2, 2025, pending further consultation and engagement in first half.**

Emerging silica sands developer, Diatreme Resources Limited (**ASX:DRX**) has further advanced the environmental approvals process for its flagship Northern Silica Project (NSP) in Far North Queensland, amid continued demand for low iron, high purity silica sand for the fast-growing solar energy industry.

PROJECT FINAL TERMS OF REFERENCE

The Final Terms of Reference (FToR) were released for the project on 20 September 2024 by the Office of the Coordinator-General (OCG) (refer ASX release 23 September 2024), following the public notification and comment period of the draft Terms of Reference which occurred between 3 June and 8 July 2024. The public notification period was an important step in the EIS process, providing an opportunity for stakeholders and the public to ensure that potential project impacts are adequately investigated and mitigated through the EIS framework.

Following further review on works undertaken prior to receipt of the FToR, Diatreme has been able to significantly progress the EIS studies and assessments in parallel to receiving the final assessment framework.

EIS UPDATE

The NSP now has 12 months of continuous monthly background data required to satisfy the requirements under the FToR for surface and groundwater, marking completion of the most significant long-term data collection required.

Baseline studies and works completed to date as per the FToR include:

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Terrestrial Ecology (flora and fauna):

- Littoral rainforest (LRF) vegetation communities – Mapping, ground truthing and habitat assessment
- Targeted assessment of skink species *Ctenotus rawlinsoni* (Cape Heath ctenotus)
- Assessment of migratory species and shore birds
- Fixed field observations, noise, photography and trapping

Aquatic ecology:

- Seasonal dry and wet season electrofishing
- Stygofauna sampling and analysis

Water sampling and analysis:

- Monthly surface water and groundwater sample collection and analysis
- Full suite pesticide analysis
- On-site reject water and slurry characteristics, flocculation & coagulation assessment and return water quality characterisation

Groundwater assessments:

- Pumping flow rate and draw down tests
- Continuous bore pressure logging (groundwater levels) and hydrostatic slug testing
- Drilling of additional groundwater bores to test for deep and perched aquifer systems
- Hydrogeological modelling

Marine data collection:

- Sub-sea scanning, habitat mapping and photography
- Wave action, ocean current, sediment and water analysis
- Underwater noise assessment

Cultural Heritage:

- Initial on-site survey conducted across the project area with the Dingaal Clan
- Initial Clan meetings to discuss heritage, values, story places and connection to country

Social Impact and Engagement:

- Open community information sessions in Hope Vale and Cooktown as well as clan specific information sessions
- Initial community surveys conducted on project development, impact and mitigations

General:

- Soils sample collection and analysis – Geology verification and Potential Acid Sulphate Soils (PASS) assessment
- Flood modelling – Mining and infrastructure areas
- Climate change assessment

Diatreme's CEO, Neil McIntyre commented: *"The past year has been extremely busy in advancing the EIS process for our flagship project, which will ultimately ensure the best possible project for the region and our stakeholders.*

"It is very pleasing that Diatreme has now completed background water data collection, conducted a wide range of ecological surveys on-site, commenced our cultural heritage engagement and surveys with the Dingaal People and moved into impact assessments and mitigations.

"We have now commenced writing the draft EIS and look forward to continuing to engage and consult with affected communities and government, ensuring the NSP is developed sustainably and delivers genuine benefits to the communities of Hope Vale and Far North Queensland.

"With the technical studies now well advanced, Diatreme will be seeking to lodge the Draft EIS for adequacy check to the OCG and Commonwealth Government by mid-2025, pending the results of further consultation and engagement in the first half of this calendar year."

Figure 1: *Left – Aquatic Ecology works being undertaken in typical tannin-stained freshwater streams. Right – Helicopter undertaking water sampling during wet season in remote water bodies.*

Figure 2: *On-site ground truthing, identification and mapping of Littoral Rainforest Regional Ecosystems.*

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Figure 3: *Initial on-site survey conducted across the project area with the Dingaal Clan*

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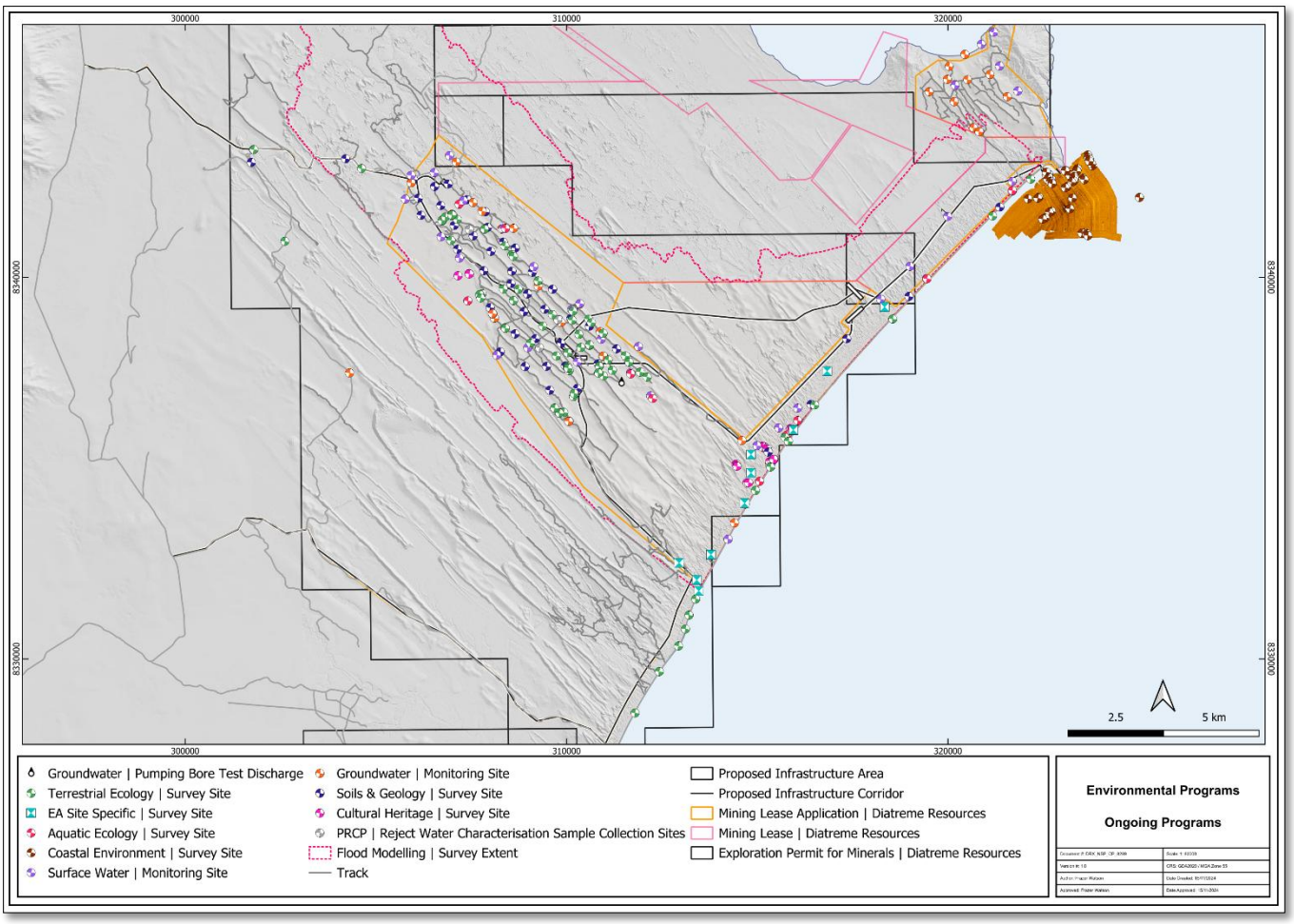

Figure 4: *NSP Study and data collection sites*

GROUNDWATER PUMPING TEST

A significant milestone was achieved in August 2024 with the completion of a groundwater pumping test, an essential step in advancing the NSP's groundwater impact assessment. The test involved a step rate test followed by a continuous 72-hour constant rate test, along with recovery monitoring.

Data collected from this test will now be incorporated into the numerical groundwater model being developed for the site. This test is critical for evaluating potential groundwater impacts and informing decisions about future mitigation strategies.

Groundwater pumping tests are considered the most reliable method for understanding how an aquifer might respond to operational stress, especially in the context of climate variability. The test provides a robust foundation for predicting potential impacts, ensuring that environmental concerns are adequately addressed in accordance with industry and regulatory guidelines.

In particular, the test has provided valuable insights into the characteristics of the aquifer, such as transmissivity and storage capacity. This information allows Diatreme to understand how groundwater levels may respond to extraction and determine the potential extent of groundwater drawdown.

Importantly, the data will also help assess whether groundwater extraction from the NSP could interact with Groundwater Dependent Ecosystems (GDE's) such as springs and wetlands adjacent to the mining panels and potential interactions with coastal springs and the Great Barrier Reef (GBR). Evaluating these impacts is crucial to ensuring the project does not adversely affect surrounding water resources.

In addition to its environmental importance, the data from the pumping test offers significant operational planning and design benefits. This will allow for better design and planning of the project's water supply systems, ensuring that extraction rates are sustainable over the long term. These operational insights reduce the risk of over-extraction, enabling efficient water management and improving the overall resilience of the project's water supply strategy.

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Figure 5: *Groundwater pumping test site*

Figure 6: *Groundwater pumping test bore and flowmeter*

EPBC REFERRAL AMENDEMENT

As the project's planning and EIS investigations have progressed, an alternate material slurry pipeline and stockpile alignment near the Port of Cape Flattery has been identified. This could potentially provide a lower environmental impact from the current planned alignment through greater avoidance of coastal vegetation communities, offering a more direct route from the processing facility to the port.

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As shown in the image below, the route identified would transect through Diatreme's 'Casuarina' MLA100309. While MLA100309 is a future silica mining site within Diatreme's EPM that was originally excluded from the NSP's project footprint when the EPBC Controlled Action was issued (EPBC 2023/09485), Diatreme has now sought, and been granted, a variation to its Controlled Action decision in accordance with section 156B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The effect of this decision by the Federal Government is to allow Diatreme to include the Casuarina MLA100309 into the NSP project footprint for the potential purpose of using this MLA as an infrastructure corridor for the slurry pipeline to support the project.

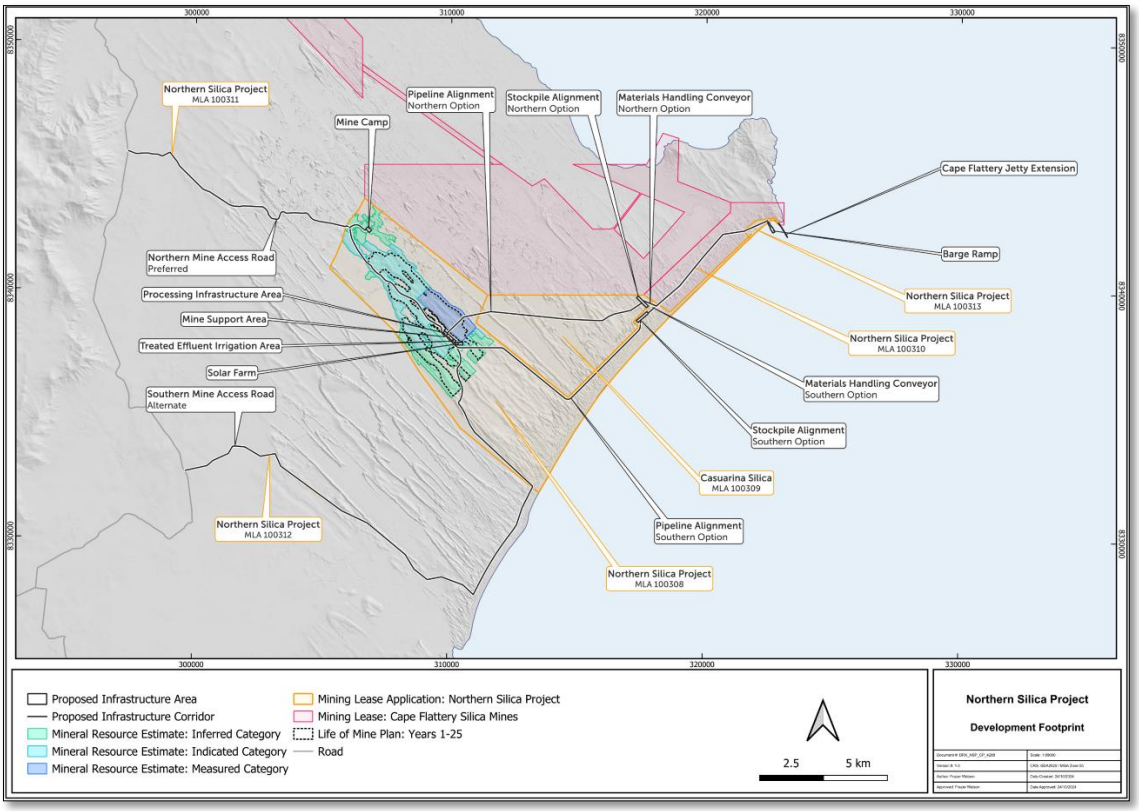

Figure 7: *Updated project footprint including Casuarina MLA100309*

PROJECT ENGINEERING AND FEASIBILITY STUDIES

Various engineering studies and works were also undertaken during 2024, focusing on supporting information required for the project's EIS. These works included further refinement of the mining methodology and sequencing, final land forming, and reject sand management.

This approach was undertaken to ensure that the EIS is well-informed while allowing the findings from the EIS technical investigations to guide the final project footprint needed for the next phase of formal engineering for the project's Feasibility Study. This strategy has prevented rework as environmental constraints and offsets are developed to mitigate impacts on areas of environmental and cultural significance, while also addressing the fundamental requirements for the next phase of Feasibility Studies, and the assessment needed for a determination of Ore Reserves.

The timing for undertaking the next phase of studies continues to be assessed as the final project footprint informed by environmental and cultural assessments is determined. The Company will further update and inform the market as these matters progress.

COMMUNITY ENGAGEMENT

Engagement with the local community remains a priority for Diatreme. The Company's Hope Vale office continues to serve as a base for both the Community Team and the field team when in Hope Vale. The Community Team is on-ground to support and facilitate engagement with community members by attending and facilitating the Social, Cultural and Heritage assessment works for the EIS. The team also continues to participate in various community sponsorships and events.

Figure 8: *Various community events*

Diatreme has also undertaken several project community information sessions across Hope Vale and Cooktown to ensure the communities and townships surrounding the project are well informed and able to provide input into the NSP's development.

Figure 9: *Community information sessions*

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This announcement is authorised for release by the Board.

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About Diatreme Resources

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 recently acquired Cape Flattery Silica Project. Both the Northern Silica and Cape Flattery projects have been designated "Coordinated Projects" by the Queensland Government and are strategically located near the export focused Cape Flattery Port.

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. Diatreme also owns 100% of the Clermont Copper-Gold Project in central Queensland.

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

Diatreme's silica sand resources will contribute to 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

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ASX releases referenced for this release:

- Quarterly Activities Report – 28 October 2024
- Final Terms of Reference released for NSP EIS – 23 September 2024
- Draft Terms of Reference for EIS released – 31 May 2024

Diatreme confirms that it is not aware of any new information or data that materially affects the information included in the original releases and that all material assumptions and technical parameters underpinning the estimates in the original releases continue to apply and have not materially changed. Diatreme confirms that the form and context in which the competent person's findings are presented have not been materially modified from the original releases.

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This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position and performance are also forward-looking statements.

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