



Green helium for a
high-tech world.

ASX Release

6 December 2023

Mbelele results clarification

- **Free gas column of mixed helium and nitrogen at crest of Mbelele structure**
 - **Potential to underwrite monetisation plans**
 - **Helium-rich fluids within deeper high quality stacked reservoirs provide significant upside as a resource play**
 - **North Rukwa a prolific helium province**
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Noble Helium Limited (ASX:NHE) (“Noble Helium” or “the Company”) provides the following further information to Monday’s update on drilling results at Mbelele at the Company’s North Rukwa Helium Project in Tanzania.

Data collected from drilling the Mbelele-1 well indicates a 10-15 metre column of **free gas** within the upper part of the Mbelele structure, consisting of a mixture of helium and nitrogen. While as previously advised a sample of the gas could not be collected, this interval encountered the highest helium readings in mud-gas for the entire drilling program and the Company is now working with NSAI with a view to satisfying the requirements under the guidelines of the SPE-PRMS for declaration of a conventional helium discovery. The Company considers the free gas as potentially material to its early monetisation plans and intends to revisit this gas intersection as soon as possible with a small, low-cost rig for sampling and flow testing.

Gas-phase helium was further recovered at surface from fluid samples taken from deeper reservoirs beneath the free gas column within the Mbelele structure. As the fluid samples were brought to surface, they depressurised naturally and gas came out of solution (‘exsolved’) into free gas, which was then calculated to contain Nitrogen and 2-3% Helium (after correction for air contamination). This represents the minimum amount of helium contained within the fluid sample. Evidence indicates all of the reported reservoir intersections at Mbelele-1 and Mbelele-2 contain these helium-enriched fluids. Not only did each reservoir have helium shows in mudgas, in numerous cases exsolution bubbles with elevated helium were identified in the mud system while drilling, demonstrating high levels of gas saturation.

Combined with their high saturations, helium content and significant thickness, these high-quality and permeable reservoirs represent a new play type in North Rukwa and potentially significant upside as an unconventional resource within the Mbelele structure. While waiting on lab results to confirm helium concentrations within the fluid samples, the Company is working with the Centre for Natural Gas at the University of Queensland with a view to satisfying the requirements of the SPE-PRMS for an unconventional discovery.

The results to date confirm the North Rukwa as a prolific helium-producing province and enhance the prospectivity of the Company's mapped prospects and leads.

This announcement has been authorised for release on ASX by Noble Helium's Board of Directors.

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Forward-looking statements

This announcement may contain certain “forward-looking statements”. Forward looking statements can generally be identified by the use of forward-looking words such as, “expect”, “should”, “could”, “may”, “predict”, “plan”, “will”, “believe”, “forecast”, “estimate”, “target” and other similar expressions. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Forward-looking statements, opinions and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance.

Competent Persons Statement

The technical information provided in this announcement has been compiled by Mr. Ashley Howlett, Exploration Manager, Professor Andrew Garnett, Non-Executive Director, and Mr. Justyn Wood, Chief Executive Officer, all of Noble Helium Limited. The resource estimates have been prepared in accordance with the definitions and guidelines set forth in the Petroleum Resources Management System, 2018, approved by the Society of Petroleum Engineers.

Mr Howlett is a qualified geologist with over 20 years technical, and management experience in exploration for, appraisal and development of, oil and gas resources. Mr Howlett has reviewed the results, procedures and data contained in this announcement and consents to the inclusion in this announcement of the matters based on the information in the form and context in which it appears.

Cautionary Statement for Prospective Resource Estimates

With respect to the Prospective Resource estimates contained within this report, it should be noted that the estimated quantities of gas that may potentially be recovered by the future application of a development project relate to undiscovered accumulations. These estimates have an associated risk of discovery and risk of development. Further exploration and appraisal is required to determine the existence of a significant quantity of potentially moveable helium.

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Noble Helium is answering the world’s growing need for a primary, ideally carbon-free, and geo-politically independent source of helium. Located along Tanzania’s East African Rift System, the Company’s four projects are being advanced according to the highest ESG benchmarks to serve the increasing supply chain fragility and supply-demand imbalance for this scarce, tech-critical and high-value industrial gas.

Our flagship North Rukwa Project has an independently certified, summed unrisked mean Prospective Helium Resource of 176 billion cubic feet (equivalent to approximately 30 years’ supply). The project lies within the Rukwa Basin, which has the potential to be the world’s third largest helium reserve behind USA and Qatar.

Priced at up to 50 times the price of LNG in liquid form, helium is now essential to many modern applications as an irreplaceable element in vital hi-tech products such as computer and smartphone components, MRI systems, medical treatments, superconducting magnets, fibre optic cables, microscopes, particle accelerators, and space rocket launches – NASA is a major consumer. Rising demand and constrained supply are fuelling growth prospects within the global marketplace, particularly for cleaner “green helium” sourced from non-carbon environments. At present, more than 95% of the world’s helium is produced as a by-product of the processing of hydrocarbon-bearing gas.

Additionally, Noble Helium has commissioned the first ever Helium Atlas, with an exclusive five-year agreement allowing the Company to identify additional prospective areas to target for diversification. The Atlas uniquely positions Noble Helium as a world leading helium explorer.

