

## 3D SEISMIC SURVEYS - UPDATE

### Highlights

- North Rukwa 3D seismic survey to recommence this week
- Contractor enacting contingencies to ensure completion of 3D program
- Eastern Surveys refocussed for full 3D coverage of Chilichili leads
- Increases 3D survey area by over 50% at no additional cost
- Fast-track 3D seismic cubes now received for all 3 western Leads
- All 3 supports presence and extent of the Airborne Gravity Gradiometry defined targets; full processing continues
- On track to mature 2 drillable prospects for 2023 drilling campaign

**Noble Helium Limited (ASX:NHE)** (“Noble Helium”, “NHE” or “the Company”) wishes to advise that following Tuesday’s tragic events, the 3D seismic contractor, BGP have confirmed acquisition of the remaining 3D seismic surveys in North Rukwa will recommence later this week. Starting with the onshore component which has not been affected by the sunk vessel, the contractor is enacting contingency plans to ensure the offshore program component is completed.

The Company also wishes to advise that it has now received Fast-Track volumes for all 3 of the western 3D surveys in North Rukwa Project in Tanzania (Figure 1).

Each “Brute Stack” fast-track 3D volume for the Mbelele, Kachinga and Dagua leads clearly supports structural closure, with Mbelele and Kachinga surveys demonstrating the Rukwa Basin’s sedimentary layers climbing toward and forming a potential trap against the Basin Margin Fault (Figure 2). This trap type has a 100% success rate for oil and gas in the East African Rift basins and encouragingly each of our North Rukwa traps has an associated helium anomaly in the overlying soil gas survey data. Over the coming weeks, the full pre-stack time migration (PSTM) and pre-stack depth migration (PSDM) volumes are expected to provide full definition imaging in the subsurface.

When combined with the recently acquired Airborne Gravity Gradiometry (AGG), these 3D seismic results fully support the presence and lateral extent of the structural closures within Noble Helium’s lead portfolio. We are highly encouraged and each lead remains a potential drilling candidate for 2023.

These new datasets are being progressively integrated into our Petrel model and the 3D seismic will play a key role in the selection and farmout of our 2 preferred drilling targets for 2023.

The Company is also pleased to advise a redesign of the eastern surveys following the encouraging results from the soil gas survey and AGG over the Chilichili leads. A new broad 3D survey will be acquired to complement the 2 narrow Chilichili swaths (Figure 1). In consequence, the Kalawi, Gege and Kambale surveys will be commuted to an anticipated second phase of seismic surveys, following the recent applications for 1,474km<sup>2</sup> of additional licenses in the north Rukwa basin. The latter leads are the more logistically challenged in the portfolio and with multiple candidates already emerging from the 3D surveys, they are less likely to be considered for drilling in 2023.

This value-adding design change has been made possible by surplus equipment brought to the Rukwa survey site by BGP. The net result is a 54% increase in the total 2022 3D seismic program coverage to 123km<sup>2</sup> at no additional cost and provides previously unavailable but highly valuable technical data such as stratigraphic and geomechanical stress field information over a wide-area to assist in selecting and optimising the two best prospects for the upcoming drilling program.

**Noble Helium’s Co-Founder and CEO, Justyn Wood, commented:**

*“The tragic loss of life has deeply affected the entire team; we thank everyone for their strength and resilience.*

*“With the wet season approaching, we must remain on task and complete the program. The 3D seismic team has made great progress to date, with fast-track data now received for all the western Rukwa leads. Importantly, the 3D data has confirmed our theory that the sedimentary layers are forming closures against the Basin Margin Fault; with these options already in hand, we remain on track for drilling next year.*

*“The design change to extend the Chilichili survey has been enabled by BGP’s professionalism and attitude of partnership and will greatly contribute to identifying the **best two** drilling targets for 2023, out of the multiple extremely promising drilling targets. Our ability to work with our 3D seismic contractor BGP and pivot the focus of the 3D acquisition has assisted significantly in this analysis.*

*“I look forward to updating the market as we move to complete the 3D seismic survey.”*

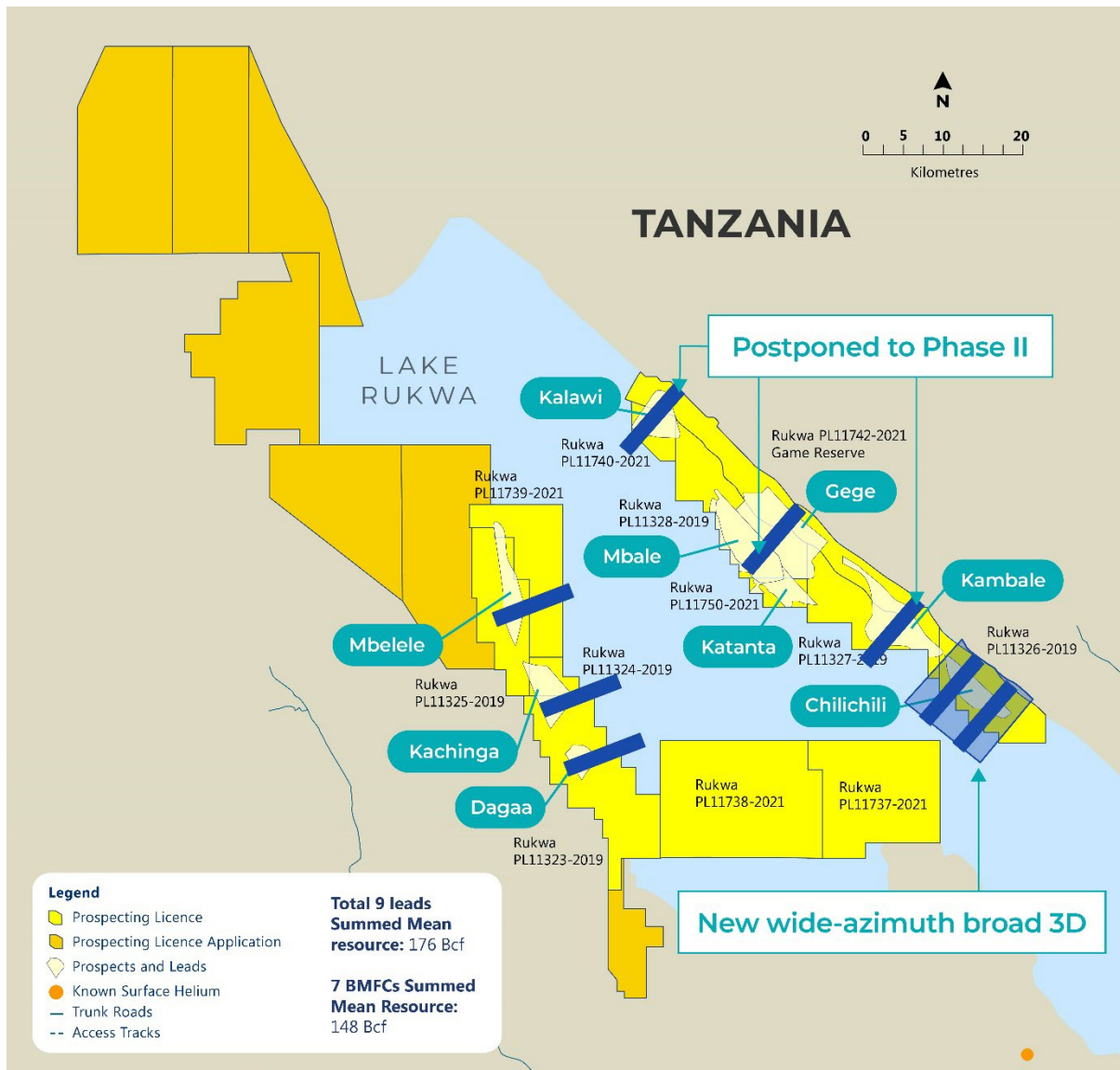


Figure 1. North Rukwa Project Tenement and approximate 3D Seismic Swath Locations

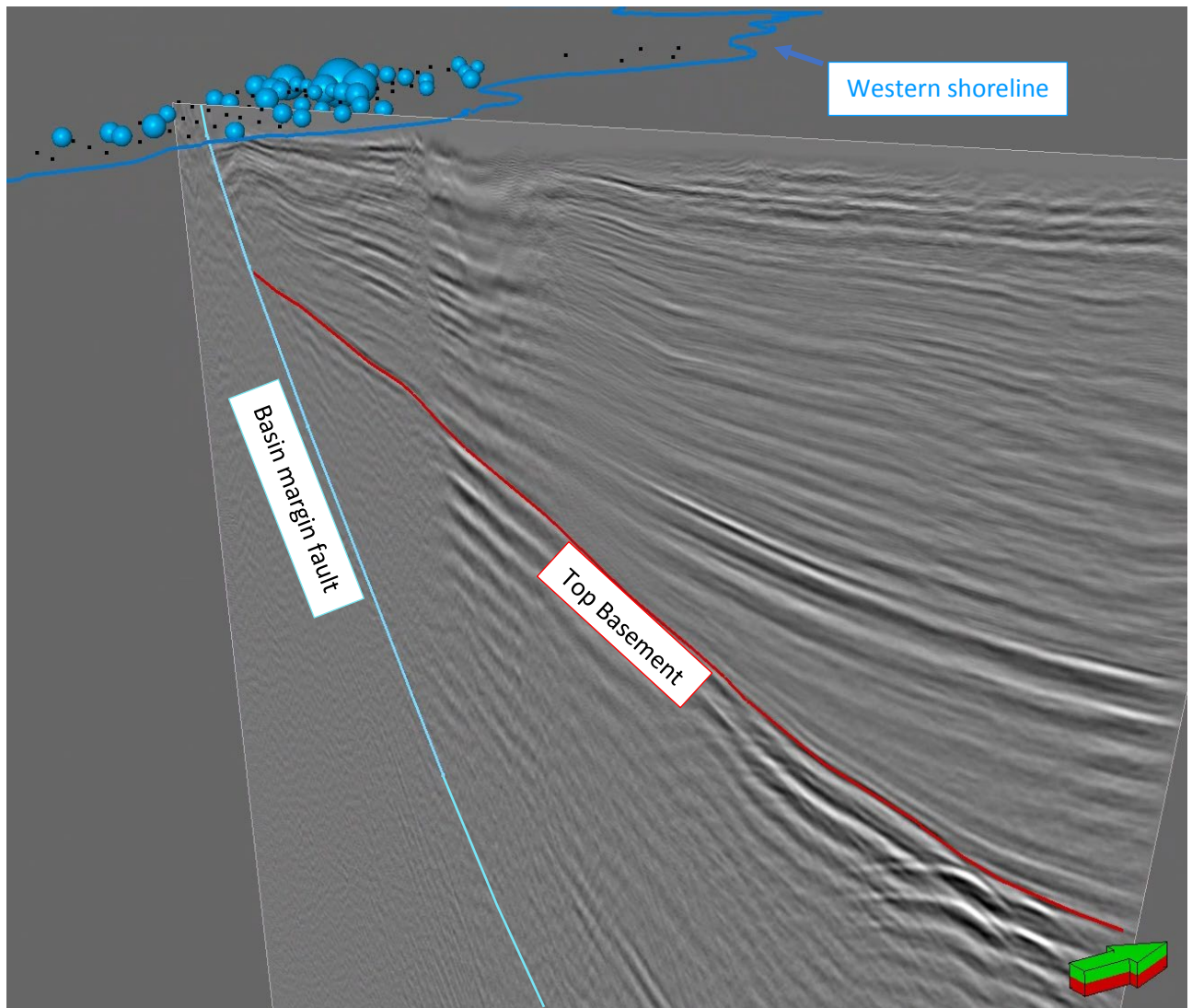


Figure 2. Mbebele 3D swath fast-track centreline, visualised in 3D. Note sedimentary package above basement climbing to form a trap against the Basin Margin Fault, with overlying cluster of anomalous soil gas helium samples up to 35% above background (blue dots)

*This announcement has been authorised for release on ASX by the Company's Board of Directors.*

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## Disclaimer

### Forward-looking statements

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## About Noble Helium

Noble Helium is a Tanzania-focused helium explorer looking to provide carbon-free and geopolitical-free helium to the global market for this scarce, tech-critical and high-value industrial gas. Noble Helium has a substantial landholding of premium helium exploration acreage totalling 5,464km<sup>2</sup> across four key project areas in the East African Rift System (EARS) basins of Tanzania: North Rukwa, North Nyasa, Eyasi and Manyara.

The Company's flagship project, North Rukwa, already has an independently certified, summed unrisked mean Prospective Helium Resource of 176 billion cubic feet (equivalent to approximately 30 years' supply), with the benefit of legacy oil and gas exploration data. Rukwa Basin has the potential to be the world's third largest helium reserve behind USA and Qatar.

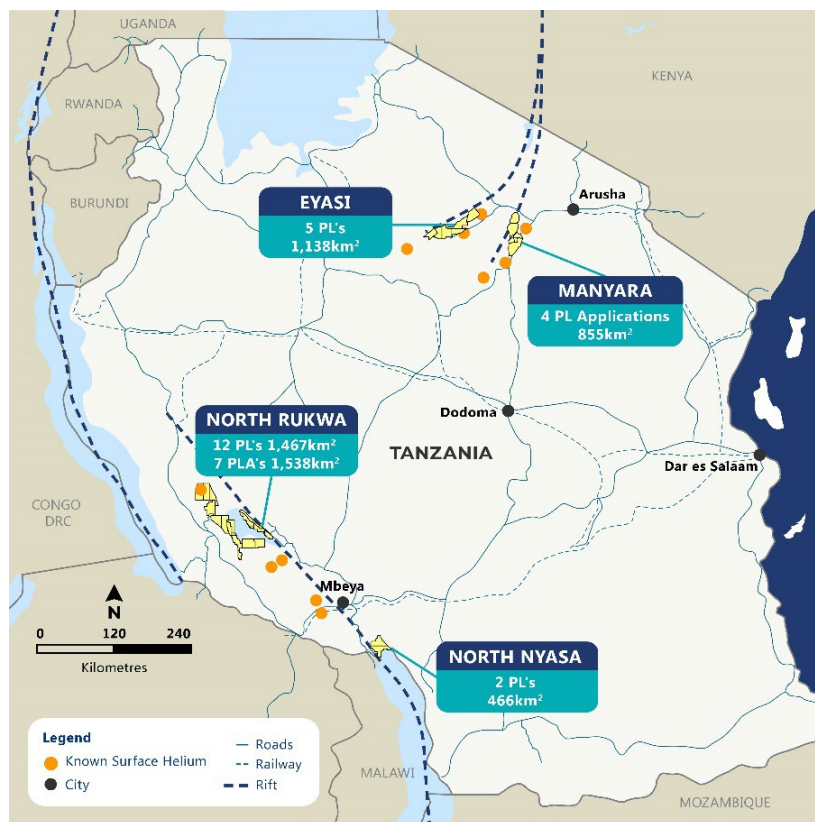


Figure 3 – Noble Helium Project Locations

The potential for helium to have been retained within the rift basins of Tanzania is considered significant. After the first oil discoveries in Uganda in 2006, in which Noble Helium's CEO played a key role, a succession of oil and gas exploration wells in the EARS basins of Uganda and Kenya demonstrated an extraordinary discovery rate of 80%, or 4 in 5 from over 30 wells. More than 4 Billion BOE has been proven, and both countries are now progressing to commercial production.

Neighbouring Rukwa Basin explorer Helium One Global plc has recently announced plans to redrill its Tai-1 well, which demonstrated multiple helium shows from surface to basement in August 2021. Tai-1 is located 30km to the south of the Company's licences.

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 helium Atlas uniquely positions Noble Helium as a world leading helium explorer.