

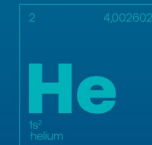
# North Rukwa: A unique, prolific helium producing system.



Shaun Scott  
Managing Director & CEO

Prof. Andrew Garnett  
Chairman

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No reserves have been assigned in connection with the Company's property interests to date, given their early stage of development. Unrisked Prospective Helium Volumes have been defined. However, estimating helium volumes is subject to significant uncertainties associated with technical data and the interpretation of that data, future commodity prices, and development and operating costs. There can be no guarantee that Noble Helium will successfully convert its helium resource to reserves and produce that estimated volume.

## Competent Person's Statement

The prospective volumes are for helium, which are not hydrocarbons. However, Netherland, Sewell & Associates, Inc. have used the definitions and guidelines set forth in the 2018 Petroleum Resources Management System (**SPE-PRMS**) approved by the Society of Petroleum Engineers as the framework to classify these helium volumes as "prospective". The SPE-PRMS is specifically designed for hydrocarbons, which helium is not, however the principles and methods for hydrocarbon gas resource estimation are directly applicable to helium gas volume estimation.

The prospective helium volumes included in this presentation should not be construed as petroleum reserves, petroleum contingent resources, or petroleum prospective resources. They represent exploration opportunities and quantify the development potential in the event a helium discovery is made. The information in this presentation which relates to prospective helium volumes is based on, and fairly represents, in the form and context in which it appears, information and supporting documents prepared by, or under the supervision of, Alexander Karpov and Zachary Long .

Alexander Karpov is an employee of Netherland, Sewell & Associates, Inc. Alexander Karpov attended Texas A&M University and graduated in 2001 with a Master of Science Degree in Petroleum Engineering, and attended the Moscow Institute of Oil and Gas and graduated in 1992 with a Bachelor of Science Degree in Petroleum Geology. Alexander Karpov is a Licensed Professional Engineer in the State of Texas, United States of America and has in excess of 26 years of experience in petroleum engineering studies and evaluations. Alexander Karpov has sufficient experience to qualify as a qualified petroleum reserves and resources evaluator as defined in the ASX Listing Rules.

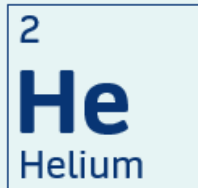
Zachary Long is an employee of Netherland, Sewell & Associates, Inc. Zachary Long attended Texas A&M University and graduated in 2005 with a Master of Science Degree in Geophysics, and attended the University of Louisiana at Lafayette and graduated in 2003 with a Bachelor of Science Degree in Geology. Zachary Long is a Licensed Professional Geoscientist in the State of Texas, United States of America and has in excess of 16 years of experience in geological and geophysical studies and evaluations. Zachary Long has sufficient experience to qualify as a qualified petroleum reserves and resources evaluator as defined in the ASX Listing Rules.

Alexander Karpov, Zachary Long and Netherland, Sewell & Associates, Inc. have each consented to the inclusion in this presentation of the matters based on this information in the form and context in which they appear.

# Why helium?

**01** The high price of helium means a little makes a lot.

## Revenue from 1,000 Mscf/day



**A\$692,000\***



**A\$12,000/day\***

\*Long term bulk helium price of US\$450 (per Kornbluth Consulting) at 0.65 conversion versus the current domestic gas cap of A\$12

**02** Helium is in growing demand for new and emerging technologies.

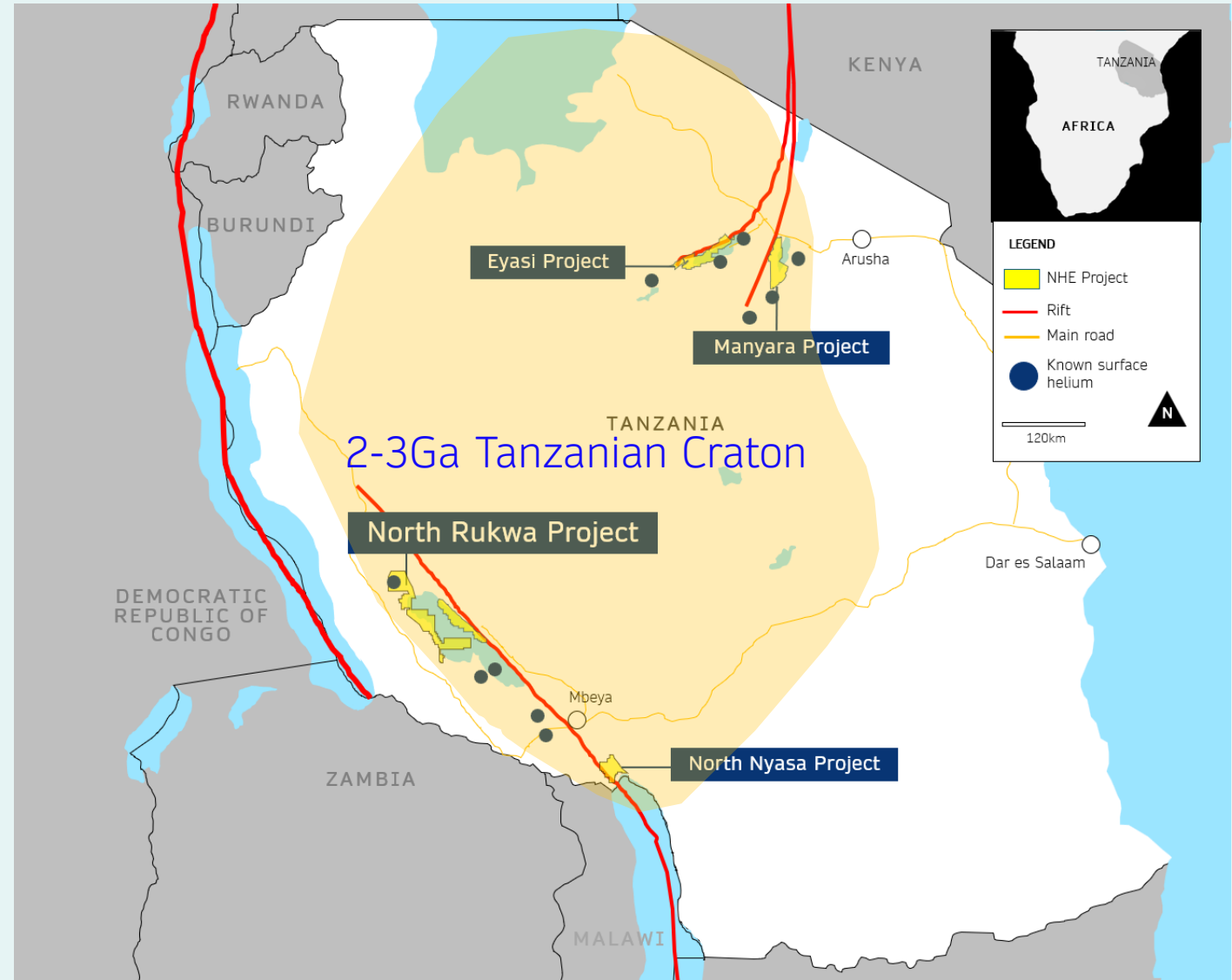
The global helium market is expected to grow from an estimated US\$5 billion in 2023 to over **US\$8 billion in 2030.**



## Why Tanzania?

**01** Tanzania is safe, politically stable and very keen to develop its natural resources.

**02** Interaction of Tanzanian Craton and East African Rift System (EARS) has created a globally unique environment for helium.

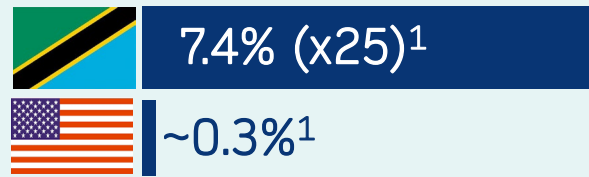


# Why North Rukwa / Nyasa Fairway?

01 Probably the world's most prolific helium province.

<sup>1</sup> 0.3% is average of all USGS He occurrences (N>16,000). 7.4% is the average of Tanzanian Type-II (crustally derived, minor methane) Helium measurements from Tanzanian hot springs and recent wells.

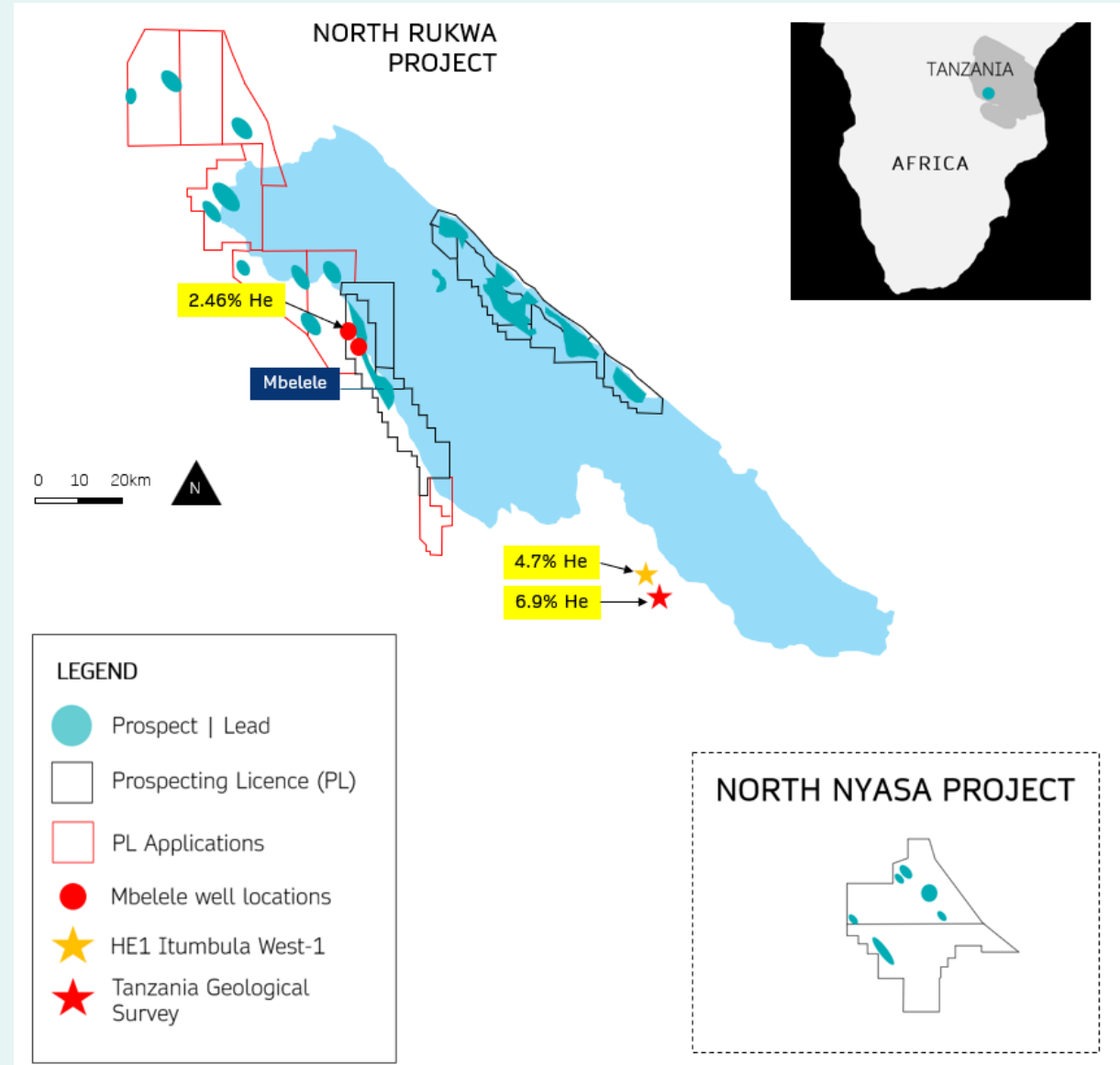
## Average helium percentage



## Maximum helium percentage



New, proprietary NHE work indicates very significant increase in He% with depth



# Why North Rukwa / Nyasa Fairway?

## 02 Best licences in the world's most prolific helium province.

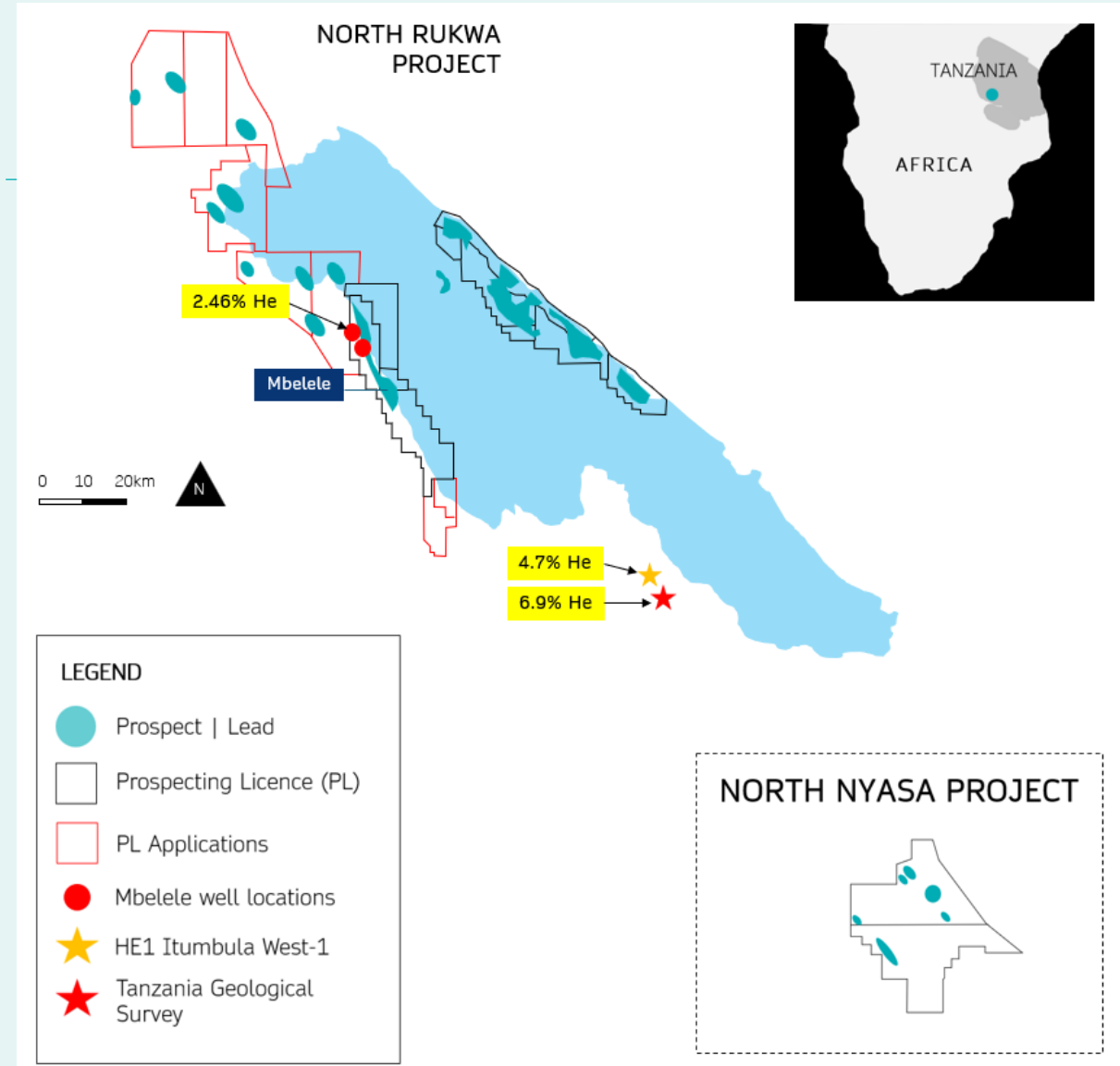
- 100% NHE licenses >2,500km<sup>2</sup> Prospecting Licences<sup>3</sup>
- Very rich U-He source in basement for >2 billion years (and possibly even more U in Karoo sediments<sup>2</sup>).
- Primary receiving reservoirs (Karoo) in contact and in place for >220 million years.

Notes:

<sup>1</sup> 0.3% is average of all USGS He occurrences (N>16,000). 7.4% is the average of Tanzanian Type-II (crustally derived, minor methane) Helium measurements from Tanzanian hot springs and recent wells.

<sup>2</sup> Along trend, onshore NW Lake Nyasa the Kayelekera Uranium deposit is in Karoo sediments.

<sup>3</sup> Another ~850km<sup>2</sup> applications made and recommended and 1,600km<sup>2</sup> additional under application

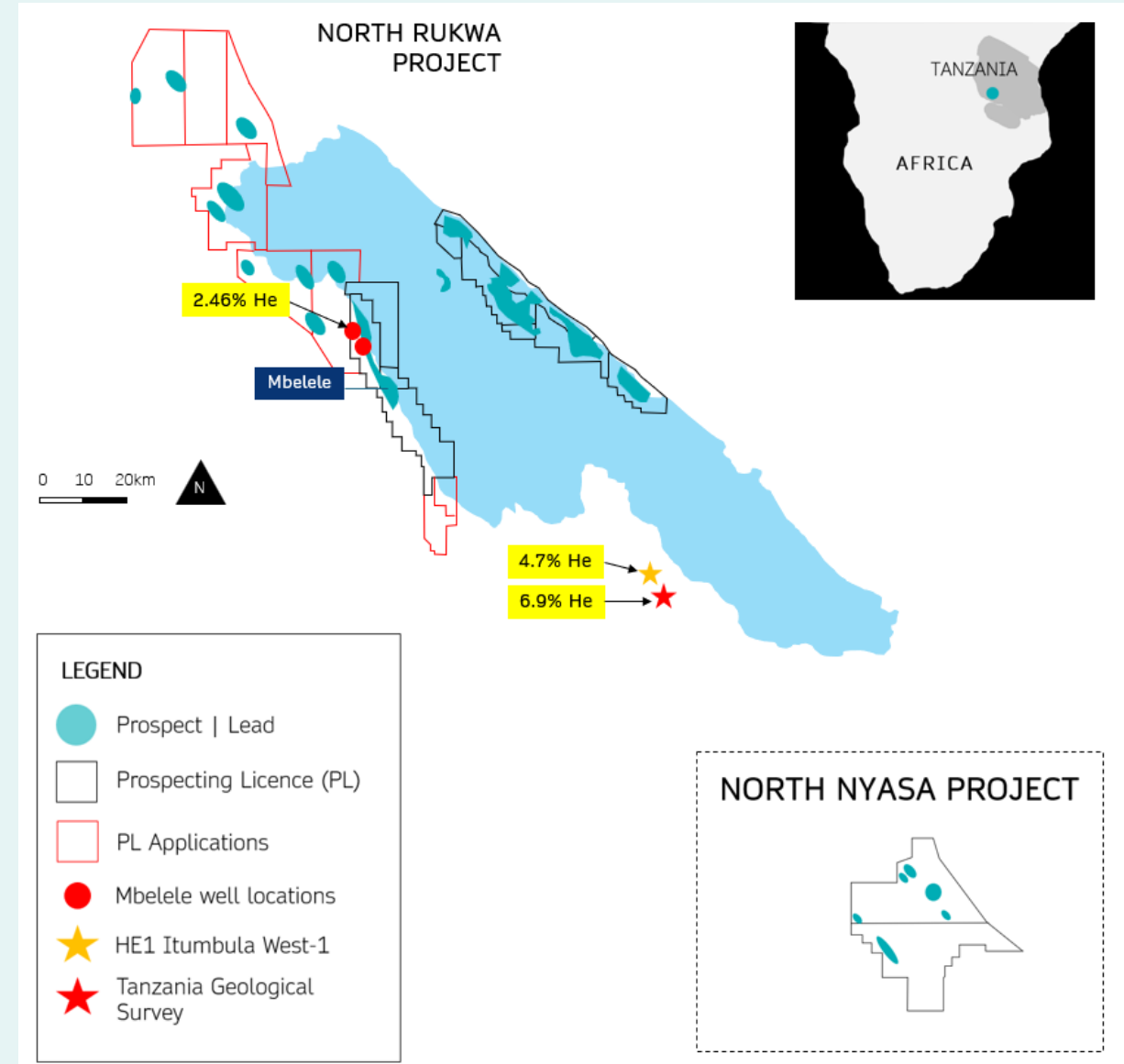


# Why North Rukwa / Nyasa Fairway?

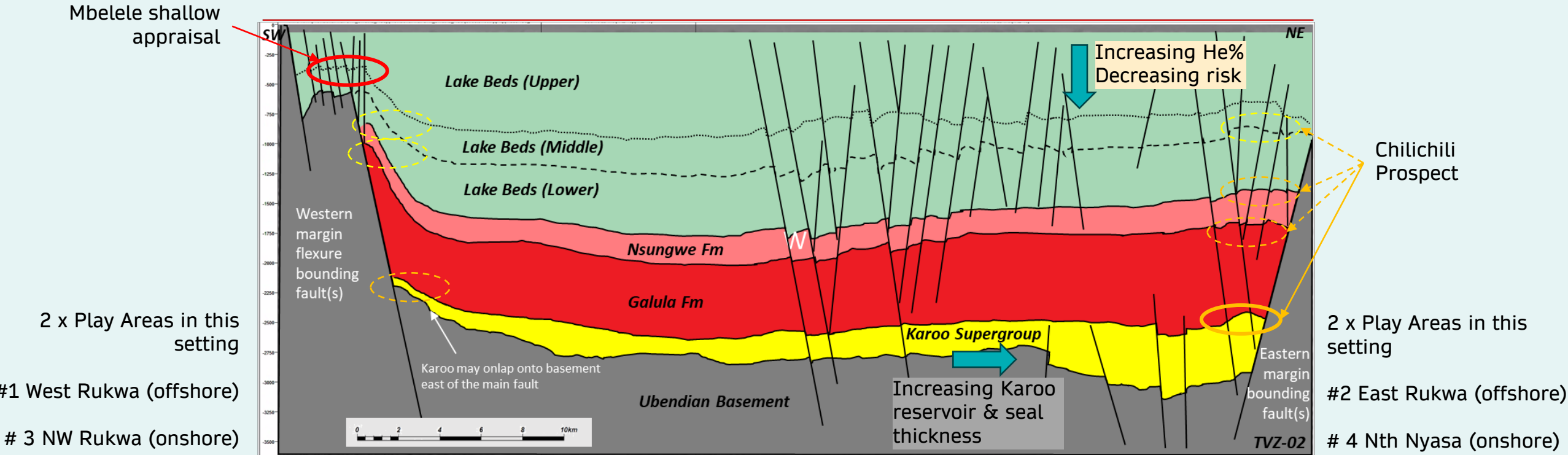
## 03 A portfolio of options – more than one ‘roll of the dice’

<sup>1</sup> Prospects are geotechnically mature for a drilling target. Chilichil (East Rukwa) is deemed lowest risk to date, Leads typically require more seismic data.

- 2 x independent onshore areas and 2 x independent offshore (Lake) areas.
- 4 x main stacked plays (reservoir-seal pairs) – including permeable reservoirs.
- Multiple structures (trapping geometries at multiple levels).
- 1 x appraisal target (Mbebele shallow, Q3 2024).
- 3 x drill-ready prospects<sup>1</sup>
- >10 x Leads<sup>1</sup>



# Illustrative fairway cross-section with 4 x stacked plays (colours)



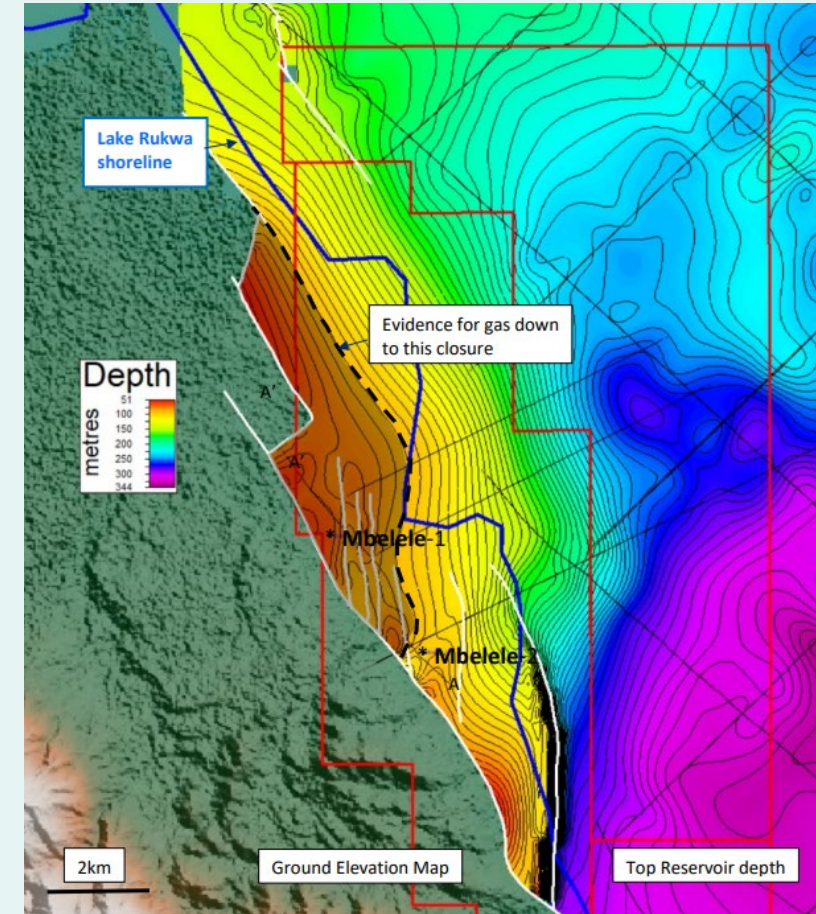
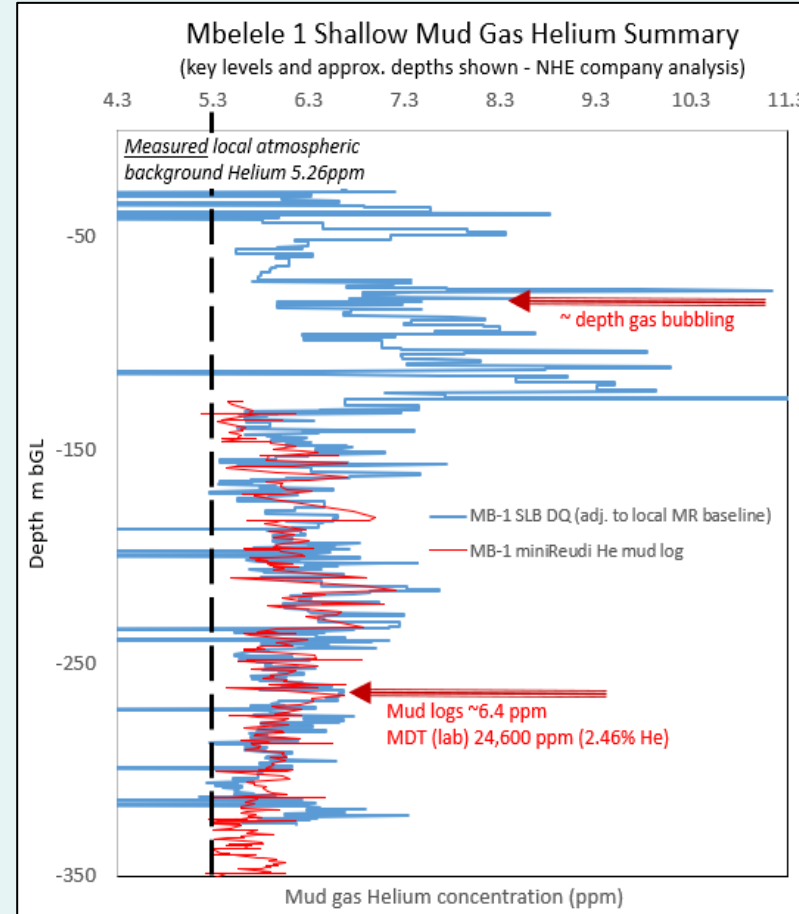
## Rukwa-Nyasa Helium Play Fairway

## Portfolio of opportunities



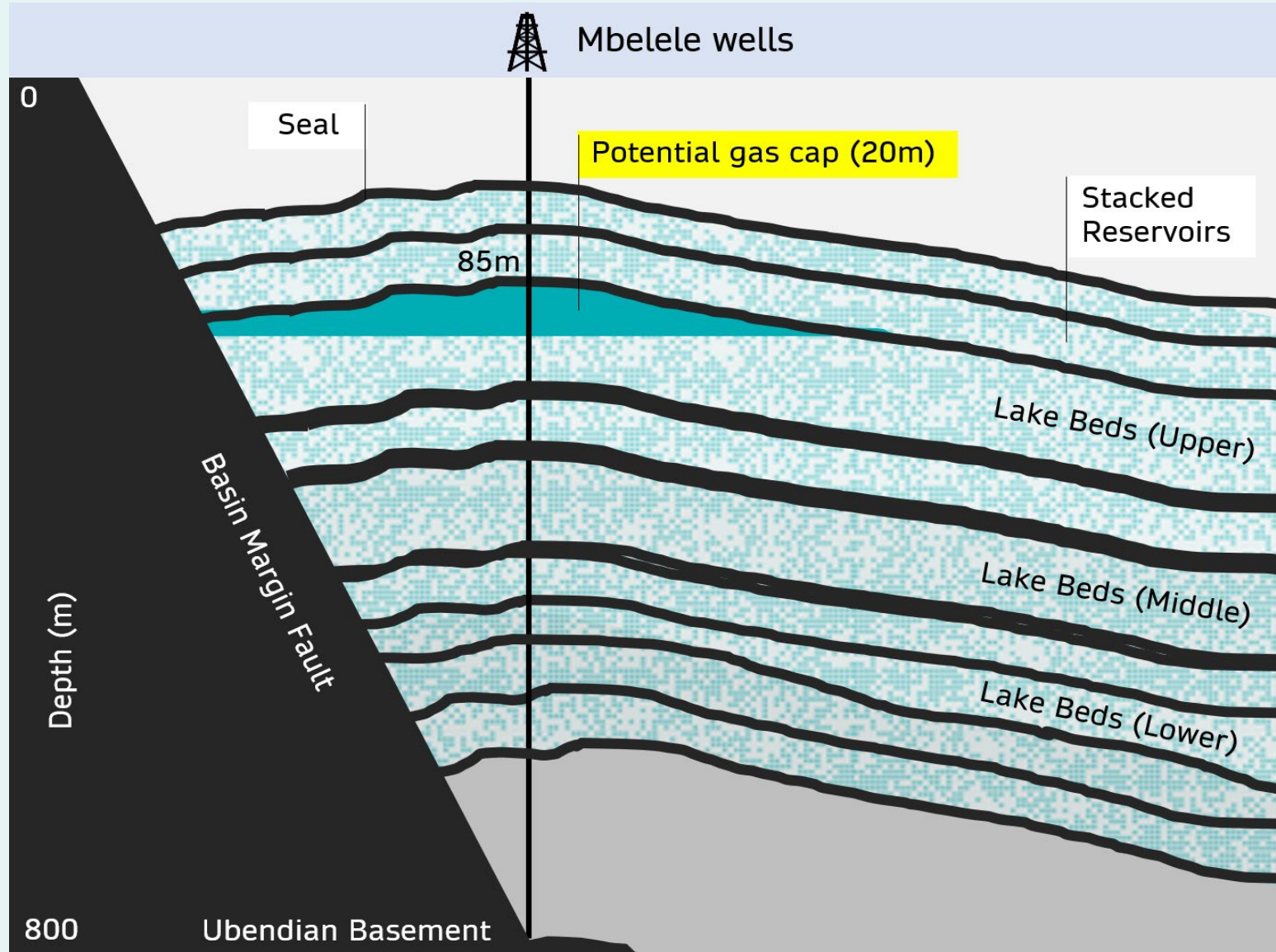
# Mbelele shallow appraisal: current data points.

- Gas bubbling in mud returns from ~80m.
- Gas bubbling ceased on mud weight increase.
- Pressure change from mud weight increase indicative of ~20m gas column.
- Helium significantly above background in mud gas ~75m to 125m.
- Modelling shows commercial flow potential.



## Mbelele shallow appraisal: probable free gas cap.

- Starting around 85m.
- Structure approximately 9km by 3km.
- Estimated 20m free gas column.
- Very high permeability and excellent porosity ie very high flow potential.
- Structure completely onshore of Lake Rukwa and easily accessible.



# Mbelele shallow appraisal: plan.

## WHAT ARE WE GOING TO DO:

- Drill an off-set well to Mbelele-1 to test the identified probable free gas zone
- Drilling to approximately 125m
- Using a specially designed well-head that will allow us to undertake all the required test work

## HOW ARE WE GOING TO DO IT:

- Contracting with a low-cost Tanzanian drilling rig
  - Meterage not day-rate structure
  - Simple mobilisation & de-mobilisation
- UDSM engaged to undertake on-site testing

## WHEN ARE WE GOING TO DO:

- Mbelele is a remote location with several causeway creek crossings required to access
- The crossing are damaged during the wet season and Tan-Roads is currently repairing
- As soon as it is safe to access the rig will be mobilised to site



The photos show on going renovation at the bridge which connected Lwanji and Mtowisa village at this time, pedestrians and small vehicles are using diversion road which created by Tan-road

# Mbelele Prospect: Commercialisation.

## Mbelele has the potential to tick all the boxes required for successful commercialisation:

- ✓ Helium concentration.
- ✓ Reservoir with high flow potential.
- ✓ Easy land access.
- ✓ Supportive regulatory environment
- ✓ Off take partner.



Indicative footprint of small-scale helium processing facility.

## Post successful well test:

- Finalise design and commercial arrangements (~6 months):
  - Field development plan.
  - Gas separation and liquification plant (GSLP) design.
  - Off take agreement.
- Construct and install (~18 months):
  - GSLP.
  - Drill Wells and field development.
- Field development will be low cost, with GSLP funded by Off Taker and repaid through gas sales.

# Contact

T: +61 7 3369 6299

E: [info@noblehelium.com.au](mailto:info@noblehelium.com.au)

## Registered Office

Noble Helium Limited  
Level 10, 127 Creek Street  
Brisbane QLD 4000

