

# Unlocking Tanzania's Helium Province

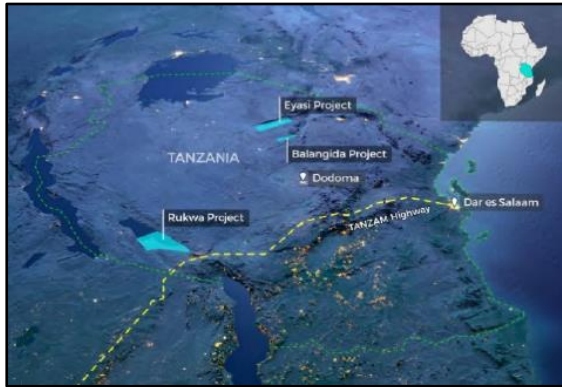


Fig 1. Helium One licensed basins in Tanzania

## Introduction

Helium One was founded in September 2015. The Company's focus is to explore, develop, and ultimately, become a producer of high-grade helium for the international market, a critical material essential in modern technologies.

Helium One holds 2,964km<sup>2</sup> of exploration licences in highly prospective helium provinces in Tanzania (fig 1). The Company holds 100% of these licences and has exclusive rights to develop the assets. There are three distinct licensed areas within the Company's portfolio encompassing the Rukwa, Eyasi and Balangida Permian-Tertiary Rift Basins.

All three of these basins are known to contain helium occurrences with reports of hot springs containing nitrogen-helium mix dating back to the 1950s (Tanganyika Geological Survey). These seeps have been sampled in the field and sent to labs at The University of Oxford and Woods Hole Oceanographic Institute (WHOI) confirming up to 10% He concentrations.

Helium (<sup>4</sup>He) is actively being generated today by the radiogenic decay of uranium, thorium and their daughter products, hosted within Archaean/Proterozoic granites of the Basement rocks. Most likely source of the helium is through recent thermal perturbation of the stable ancient craton surround the rift basins (Ballantine and Barry, 2016). The Helium System model predicts that the helium migrates along faults and fractures in these active rift systems, and into structural trapping styles setup over basement highs, synrift geometries and hangingwall and footwall plays. Good to excellent reservoir quality is predicted in continental fluvial-deltaic reservoirs of both the Permo-Triassic Karoo, Cretaceous Red Sandstone Group and more recent Tertiary Lake Bed

Formation. Reservoir-seal potential has been identified at multiple levels, with a 130m Karoo top seal and intraformational lacustrine seals within the Lake Bed Formation (fig 2).

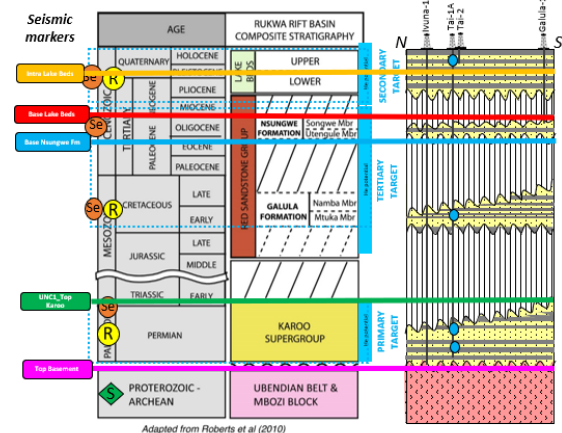


Fig 2. Stratigraphy of the Rukwa Rift Basin, Tanzania

In Q2 2021, Helium One acquired ~200 lkm of 2D onshore seismic over their licenses in the Rukwa Rift Basin (fig 3) and identified a robust structure closure in the Tai prospect. Tai-1/-1A was drilled in Q3 2021 to a depth of 1121m MD and encountered multiple helium shows in all targeted formations. Wireline logging of the uppermost Karoo indicated good reservoir potential with 15-20% porosities. Due to deteriorating hole conditions, no complete logging was carried out and no gas samples recovered to surface.

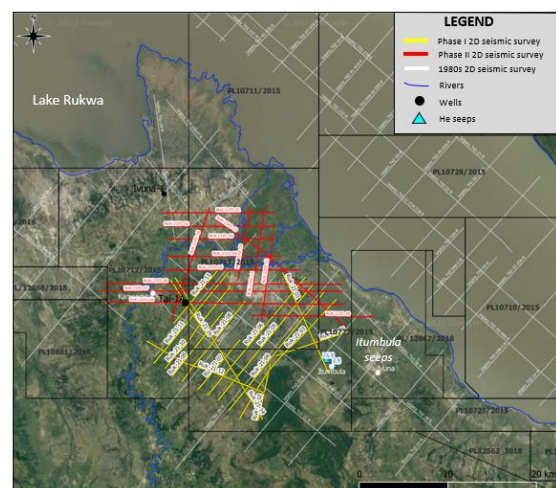


Fig 3. 2D seismic acquisition in the Rukwa Rift

Helium One have since acquired an additional 200 lkm of 2D seismic in the Rukwa Basin, undertaken a multi-spectral satellite spectroscopy study (MSS) across the Rukwa, Eyasi and Balangida basins as well as conducted additional fieldwork in Balangida Basin. The company are currently gearing up for a 2022 Phase II Drilling campaign in the hope to refine their understanding of the helium potential in the region and accelerate exploration activity in a helium-focused province.