

# Best Practices: Exploratory Drilling

## Exploring the Kavango Basin

ReconAfrica is exploring oil and gas potential in Northeast Namibia and Northwest Botswana in a geological area referred to as the Kavango Basin. We have been selected to work with the Namibian government and local officials to plan and drill three conventional exploratory stratigraphic wells in Namibia that will determine whether there is a working petroleum system in the basin.

ReconAfrica is using proven, safe, effective technologies and applying rigorous safety and environmental protection standards in all aspects of our operations in Namibia. This means we are protecting wildlife, aquifers and watercourses by implementing best practices in drilling, well casing, drilling fluid systems and safety.

## Stratigraphic Drilling Program

ReconAfrica has received permission from the Government of Namibia to drill the nation's first onshore conventional exploratory wells in several decades. Three stratigraphic wells will be drilled to depths of approximately three kilometres to provide a more complete picture of the geological formations in the area.

Any and all samples taken are owned and managed by Namibia's Ministry of Mines and Energy.

## Exploratory Drilling Sites

ReconAfrica is not drilling near migratory routes nor any other area that would adversely impact wildlife. Our first drilling site is located approximately 40 km from the boundary of the Khaudum National Park; 55 km south of Rundu; 50 km south of the Kavango River; and about 260 km from the Okavango Delta in Botswana. Our second drilling site is 16 km north of the first site.

Additionally, the project has set no-go buffer zones to protect the environment and wildlife that include a 10-km setback from the Okavango River and a 20-km setback from the Okavango Delta in Botswana.

## ReconAfrica's Conventional Drilling Equipment

When the Namibian government committed to a working partnership with ReconAfrica, we purchased new conventional drilling equipment (a drill 'rig') which was delivered to the first test well site in Northeast Namibia.

The rig is a conventional drilling unit rated to drill up to approximately 3,960 metres (13,000 feet) and has been outfitted with a best-in-class top-drive system (for better drilling rates) and additional equipment to ensure safe operations in the Kalahari Desert.

## Drilling and Casing the Well

When drilling, ReconAfrica protects each well, using one of the most important components in the drilling process – casing. The multiple layers of cement and steel casing provides the structural integrity necessary to prevent fluids from escaping the well walls.

For the stratigraphic test wells, the wells have at least three casing and cement layers that are designed and installed to protect the area's aquifers. The conductor casing runs from ground

level to a depth of 40 metres and protects the top of the well-hole from erosion while drilling the second or 'surface' casing. The surface casing is then installed to a depth of 305 metres to fully seal the aquifers in the area.

## ReconAfrica's Conventional 100% Organic Drilling Fluid System

When a well is drilled, drilling fluid is used to cool the drill bit and carry the rock cuttings to the surface. ReconAfrica is using a 100% organic, water-based drilling fluid system that minimizes environmental impacts. This system incorporates the latest biodegradable water-based technologies for both safe drilling and surface/subsurface environmental protection. This system is the most expensive of water-based approaches.

We have intentionally avoided older and lower-cost systems, such as lining the fluid reserve pond with plastic, which can present significant challenges – both operationally and environmentally – during the reclamation phase. The water-based system we have opted to use has been approved for use by stringent regulatory regimes for many projects in North America, Australia, Middle East, other parts of Africa and in Europe.



## Frequently Asked Questions

### Many reports say ReconAfrica is fracing. Is this true?

ReconAfrica is conducting a conventional oil exploration program. To date, ReconAfrica has been granted licence by Namibia to explore and confirm the resource; we have no licence to produce or frac. And if this exploratory phase confirms an environmentally and economically viable reserve, Namibian authorities will determine if and how it will extract that resource.

### When do you expect to complete the stratigraphic test well drilling program?

ReconAfrica received approval, in the form of an Environmental Clearance Certificate, for stratigraphic wells and completed the first well in April 2021, with the second well to be drilled soon thereafter. Drilling of the third well will begin only after we submit updates to the required government documentation.

### Do you expect to strike oil when drilling the stratigraphic test wells?

The exploratory stratigraphic wells are not intended to produce flowing oil. We are only analyzing the rocks to determine if there is a working petroleum system in the basin.

### How will you know the aquifer is not harmed?

The well casing and drilling techniques we use ensure that there is no impact on aquifers. The wells are fully contained before we introduce our 100% organic water-based drilling fluid system. That system includes measures at the surface to ensure there is no possibility of contamination of water sources above or below the surface.

Additionally, we are drilling water wells at each exploratory well location to identify and analyze aquifers that are present, provide water for our operations and provide adjacent aquifer monitoring during drilling. Following our exploratory drilling program, the potable water wells will belong to the community.



## About ReconAfrica

ReconAfrica is a Canadian-based oil and gas company working collaboratively with national governments to explore oil and gas potential in Northeast Namibia and Northwest Botswana – the Kavango Basin.

To date, ReconAfrica has been granted licences by Namibia and Botswana to explore and confirm the presence of their resources; we have no licence to produce oil or to engage in hydraulic fracturing ('fracing').

This project aims to prove a potential reserve that could lead to economic stimulus, funding local and regional jobs and other socio-economic benefits such as increased infrastructure, potable water access and investments in environmental and wildlife conservation.

Should oil and gas be discovered, the traditional authorities and elected governments of Namibia and Botswana will determine how they will manage those resources.

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