100% Organic Drilling Fluid System

ReconAfrica is using proven, safe, effective technologies and applying rigorous safety and environmental protection standards in all aspects of our operations.

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, biodegradable, chloride-free drilling fluid system that minimizes environmental impacts. This system incorporates the latest technologies for both safe drilling and surface/subsurface environmental protection. It 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.

System Design

**Fluid system:**
- Water-Based – the best approach to protect the environment
- This Polyamine/ Polymer/PHPA system uses freshwater as the base fluid
- Plant-based products added to base fluid are organic and biodegradable

**Circulating System**
- Part of our Crown 750 drilling rig
- Includes pumps, distribution lines, separators and solids control
- To further enhance safety, third more powerful pump added

**Reserve Pit**
- Where excess fluids and cuttings are managed (along with storage tanks)
- Rocks being drilled are benign and any fluids encountered stay in ground
- Cuttings also being captured and bagged for analysis

ReconAfrica’s reserve pit contains bentonite clay/gel. When it gets wet, the molecules swell up to 13 times their dry size and create an impenetrable barrier.
Frequently Asked Questions

Why can’t I see a black liner on the pond (reserve pit)?

ReconAfrica’s reserve pit uses a bentonite clay/gel layer as a safer (and more expensive) alternative to polyurethane pit liners. We are using the same product used widely by farmers and others when their ponds start losing water. What makes bentonite clay/gel such an effective additive for this operation is that once the platelets become saturated with rain or sprayed on water, they swell to 10 to 13 times their dry size, find their way to any cracks or fractures in the pit/ponds, stick together and seal them off to form an impenetrable barrier.

While polyurethane pit linings are generally safe and still used in the industry, they are older technology, can rip during installation and overlaps can leak if not installed correctly. We install a layer of black liner at the top of the reserve pit simply to prevent erosion.

How do you know the reserve pit system is working?

ReconAfrica always has a full-time expert on-site, testing the reserve pit fluid properties on a regular basis. There are also experienced geologists on-site examining the cuttings every 3 metres to understand the formations that are being penetrated, to measure and monitor their properties. As expected, we have not seen any flow or loss of fluid into the ground from the pit.

What will you do with the used drilling fluids once each well is complete?

ReconAfrica will recycle 100% of the drilling fluids and re-use the fluids during drilling operations for the remaining conventional stratigraphic wells.

When drilling is complete, the fluid can be used to fertilize soils. We are currently working with local agricultural authorities to test this process. All our drilling fluid products are organic and biodegradable, promoting nitrogen levels which are an essential nutrient for plant, crop and grass growth. We plan to use this on our own sites and share this excellent topsoil enhancement with nearby farmers.

Our focus is on sustainable development. ReconAfrica will adhere to the most stringent standards and practices to protect the land, the water, the wildlife and Namibia’s social well-being. That’s our commitment and responsibility.

Where do the cuttings go once captured from the drilling fluid system?

ReconAfrica is having the cuttings analyzed by international and nationally-based environmentally focused laboratories. Half of the cuttings set aside for the Namibian government for future study.

Contact Us:

For general inquiries about ReconAfrica’s work in Namibia, please email: admin@reconafrica.com
For media inquiries or requests for information, please email: media@reconafrica.com
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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.