

Kenya Beckons Explorationists To Join East Africa Safari

The role of small to medium-sized oil companies cannot be overstated, especially when it comes to finding oil and gas in frontier areas. Northwestern Africa's Mauritania and Central America's Belize have joined the ranks of producing nations thanks to the tenacity of independents. Uganda is apparently up next, as Australia's Hardman Resources has made two discoveries in the Albertine Graben that appear to be the first commercial oil wells in East Africa south of the Sudan. Canada's Heritage Oil has followed suit, testing another Ugandan wildcat at more than 4,000 barrels of oil a day.

Meanwhile, in December, eyes turned toward neighboring Kenya where Australia's Woodside Energy was drilling a deep-water wildcat in the Indian Ocean. Woodside maintains Kenya is the most prospective part of East Africa, with "several large geologic structures similar to those found on Australia's Northwest Shelf."

The Swahili word "safari" means "journey." Known for its magnificent migrating herds of wildlife, Kenya also is home to more than 31 million people and, it seems, potentially vast hydrocarbon reserves that are leading several companies to search for oil.

The Pomboo 1 well was spudded on Dec. 2 in the Indian Ocean, 125 kilometers northeast of Lamu, Kenya. Drilling in 2,200 meters of water on Block L-5, the wildcat is not only the first drilling in Kenya since 1992, but also is Kenya's deepest water well and only the fourth such venture to be drilled off the entire eastern coastline of Africa.

The second prospect to be drilled is Sokwe South in Block L-7. Large Cretaceous-age structural traps were identified by 2,840 km of 2-D seismic acquired by Woodside in 2004, and were high graded for drilling by another 725 km of seismic acquired in 2005. Fifty prospects and leads have been identified in blocks L-5 and L-7, several of which have direct hydrocarbon indicators. According to partner Dana Petroleum, both the Pomboo and Sokwe prospects have the potential to contain more than 1 billion barrels of oil in place. Estimated drilling cost is \$120 million with Pomboo given a success probability of 12 percent.

Of the 30 wells previously drilled in Kenya, 16 were in the Lamu Basin, which lies both on- and offshore. Among those is Kenya's deepest water well prior to Pomboo, Total's Simba 1, which was abandoned in 1978 at 3,604 meters. Drilled in 920 meters of water, Total's well had both oil and gas shows.

Imminent exploration is on tap for another three Lamu Basin blocks: L-6, L-8 and L-9. Once again, Australian companies are at the helm. Perth-based Pancontinental Oil and Gas is farming out Block L-6 to Gippsland Offshore Petroleum Ltd., and is farming out blocks L-8 and L-9 to Origin Energy. Seismic acquisition was being planned over blocks L-8, L-9, and the deepwater portion of Block L-6. In addition, gravity data is to be acquired over the onshore and shallow-water portion of Block L-6. Pancontinental says more than 40 leads have

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been mapped in Blocks L-8 and L-9. Nine of those are believed to have the potential for more than 500 million barrels of oil, while four are said to have billion-barrel potential.

Woodside and Pancontinental's Lamu Basin licenses are among the 11 production-sharing contracts the Kenyan government has signed since 2000. In December, the National Oil Corporation of Kenya proposed a new subdivision of Kenya's unlicensed exploration acreage, increasing the number of open onshore blocks to 27. Fifteen of these are in the Lamu Basin: four are onshore, six are in shallow water, and five are in deep water.

Kenya's potential does not end with the Lamu Basin, however. The country also boasts the Anza Graben, Mandera Basin, Lotkipi Basin, and Tertiary Rift Basin. The latter consists of at least nine sub-basins in the East African Rift System of western Kenya, one of which was drilled by Shell in the early 1990s.

Abandoned in January 1993 at a total depth of 2,950 meters, Loperot 1 was the last well drilled in Kenya prior to Woodside's spud in December. It recovered waxy 29.4-degree API crude at 1,100 meters in the Miocene and minor amounts of 16-degree oil below 952 meters in the Lower to Middle Miocene. The well proved the existence of two excellent source rocks: Lower Miocene lacustrine shales and Oligocene-Lower Miocene fluvio-lacustrine shales. The heavy mud used to restrain high formation pressures possibly prevented a true assessment of the potential find. NOCK estimates the structure may contain 300 million barrels of oil.

Kenya has four open blocks in the East African Rift System and two apiece in the Anza Graben, Mandera and Lotkipi basins. While these blocks are available through direct negotiation, Kenya has not ruled out the possibility of holding a future licensing round. □



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