

November 29, 2018

“Exploration History Northwestern Kenya: 1980 to Present”

Abstract

As an industry, we face two big challenges: finding oil, and then profitably getting it out of the ground to market. This talk is a bittersweet story about an international frontier exploration effort in Kenya taking place over a span of 40 years.

In the early 1980's Amoco Production Company embarked on an aggressive exploration program in East Africa. It followed on the heels of company success in the North Sea and the Gulf of Suez, both prolific rift basins. From 1984 to 1990, the focus was on Kenya, acquiring data, drilling multiple stratigraphic test wells and three exploratory wells. Cretaceous and Tertiary potential reservoirs and world class source rock were confirmed by the effort. Seal, trap and thermal maturity were the main uncertainties. Without commercial success after 5 years the acreage was farmed out to Shell. Shell was equally unsuccessful.

However, over 20 years later in 2012, Tullow Oil, partnering with Africa Oil and Total, drilled discovery well Ngamia-1 in the Lokichar Basin. More than 200 meters of net reservoir sands with good permeability inferred from MDT sampling were reported. The first of six DST's flowed 281 barrels of 30 degree API oil. This basin-opening well prompted 3D seismic and more drilling. To date, over 30 wells have been drilled and 11 discoveries made in two different play types. Tullow reports to shareholders the basin may contain 1.2 billion BBLs of discovered resource. Oil production from the Lokichar Basin by 2023 is forecast to be 150,000 BOPD.

Plans are in place to build production facilities as well as an export pipeline to Kenya's east coast. This discovery has made a significant impact on the country of Kenya and the local Turkana population.

However, challenges and uncertainties abound in this remote area far from industry services. Development costs are high and large issues loom such as local cooperation, wealth-sharing, and pipeline engineering across an active rift, to name a few.

Our Presenter

Denise M. Stone



Denise is a petroleum Geological Consultant. She specializes in reservoir description, operations and field studies of conventional oil fields. Her current interest areas are the Cook Inlet of Alaska and recent activity in East Africa.

Prior to becoming a consultant in 2003, she spent 18 years with Amoco and BP, holding various senior technical positions. Prior to that, she worked for Superior Oil/Mobil and Union Oil of California. Her industry experience is in both international and domestic exploration and production.

She has a BS degree in Geology from Texas Christian University and a MS in Geology from Memphis State University.

Denise has held many leadership and volunteer positions at AAPG and she is a Past President of the Houston Geological Society.

Most recently, she was lead the editor and author in AAPG Memoir 104: Oil and Gas Fields of the Cook Inlet Basin, Alaska.