

# HYDROCARBON EXPLORATION IN UGANDA

## GEOPRISM: EAST AFRICAN RIFT SYSTEM PLANNING WORKSHOP

By  
Dozith Abeinomugisha  
Ministry of Energy and Mineral Development, Entebbe, Uganda



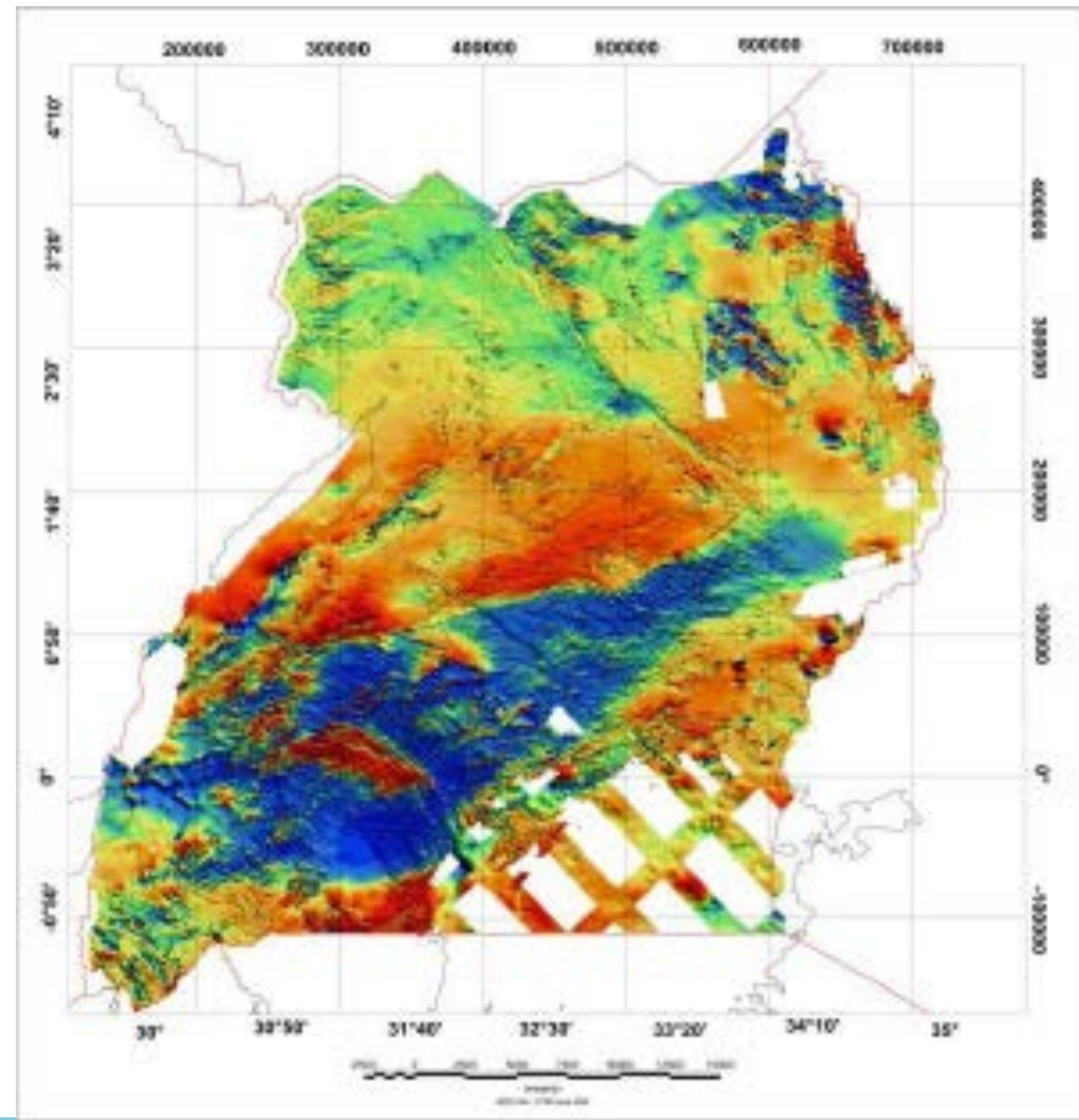
# BACKGROUND



- ❖ Petroleum Exploration started in the 1920s with documentation of oil seeps
- ❖ Various data sets have been acquired as a result of this exploration effort and include:
  - Surface Geological data
  - Magnetic and Gravity data over most parts of the country
  - 2D and 3D data sets in the Albertine Graben
  - Over 70 wells drilled

# 1. Aero-Magnetic data Project

- ❖ Aero-magnetic / Gradiometric data acquired across the country
- ❖ Interpretation ongoing
- ❖ Data available to potential investors and researchers





## 2. Harmonization of Stratigraphy Schemes

- ❖ Aimed at establishing a coherent stratigraphic scheme for the Albertine Graben and will be undertaken through:
  - Literature review and reconciliation of data from literature
  - Meetings and field excursions with earlier and present researchers
  - Field excursions for new data on exposures and established strato types
  - Analysis of samples
  - Detailed study of subsurface data
  - Integration of surface and subsurface data interpretations



# Stratigraphic Challenges



- ❖ Conflicting age dates
- ❖ Correlating wells and seismic to outcrops
- ❖ No seismic line extends to exposures to correlate the exposures to the subsurface



# Attempts to solve some challenges



- ❖ In an attempt to solve the conflicting ages, the following are ongoing,
  - Radiometric dating of the collected tuff samples in the area
  - Shallow coring to collect fresh samples from exposed formations for further analysis
  - Palynological study of well TD samples



# 3. Petroleum Systems Analysis



- ❖ New initiative kicked off this year and aimed at evaluating the thermal and burial history of the basin through
  - Modelling the petroleum system of the graben
  - Carry out a basin evaluation with respect to geo-history of the different sub-basins
  - Assessment of the tectonic history
  - Evaluate the depositional history
  - Assessment of the undiscovered oil and gas resources at both play and prospect scale
  - Assess the volumes of the hydrocarbons generated, volumes migrated and possible volumes trapped in the Albertine Graben
  - Assess the key risks with regard to the petroleum system critical at both play and prospect level

Background Photo: Burial Curve for Ngassa-2 well



# Conclusion



- Work done so far has brought a better understanding of the geology and in particular the stratigraphy of the Albertine Graben
- Depositional setting: older in the south and younger in the north
- Challenges in integrating different data sets
- Carry forward harmonisation of the stratigraphic scheme and the petroleum systems analysis to better understand the petroleum system of the basin



A scenic landscape featuring a large body of water, likely a lake or bay, in the middle ground. The foreground is dominated by rolling green hills with sparse vegetation. The sky is a clear, bright blue with a few wispy white clouds. The overall scene is bright and open.

**Thank You for  
Your Attention**