HYDROCARBON EXPLORATION IN UGANDA

GEOPRISM: EAST AFRICAN RIFT SYSTEM PLANNING WORKSHOP

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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 stratotypes
  - 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
Thank You for Your Attention