

The Egyptian Red Sea:

Potential Newly Imaged by Regional PSDM Seismic



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Red Sea – New Insights from New PSDM







3. Regional Plays a. Gulf of Suez b. Arabian Margin



New PSDM seismic





First Images – Typical Basin Shoulder Detachment









First Images – Complex Salt Geometry and Composition





First Images – Compressional Features Basin Centre







1. Tectonic Context

2. Exploration & Data

3. Regional Plays

4. Red Sea New Potential

1. Tectonic Context

Key Moments of the Red Sea Tectonic Evolution





Bosworth et al. (2005)

Crustal Distribution – Integrate Regional, Vintage and New Data







Petroleum Story – Red Sea System and Plays





1. Tectonic Context 2. Exploration & Data

3. Regional Plays

4. Red Sea New Potential

2. Exploration & Data

Well Exploration





New 2D PSDM Seismic



1. Tectonic Context

2. Exploration & Data

3. Regional Plays

4. Red Sea New Potential

3. Regional Plays (Gulf of Suez and Saudi Arabia Margin

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Gulf of Suez – Stratchart

Main differences:

Late Miocene subsidence or rifting

Late Cretaceous Carbonates or Shale





Saudi Arabia Margin

Main differences:

Late Miocene salt and sand volumes

Early Miocene Carbonates or Shales





Tectonic Context
2. Exploration & Data

3. Regional Plays

4. Red Sea New Potential

4. Red Sea Potential (new PSDM, work in progress)

Red Sea New PSDM – Study Objectives (work in progress)

- a. Seismic interpretation
- b. Well calibration 1D modelling
- c. Source rock modelling 2D modelling
- d. Structural correlation in integrated 3D model



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WesternGeco

Reservoir Thickness Variability (work in progress)



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Schenk (2018)

Source Rock Modelling (work in progress)





Source rocks

Rudeis (shallow)

Rudeis (deep)

Belayim

Dakhla

Duwi

Trap in Supra-Salt – Post-Salt Timing





Trap in Supra-Salt – Post-Salt Timing









Trap in Supra-Salt and Sub-Salt







Possible Source Rocks (work in progress)





Calibration and Source Rock Modelling

Traps formed prior 14 Ma – possibly charged with Oil cracked to Gas, but is it sealed? Traps formed after 14 Ma (salt tectonics) – may be charged by Gas, or Oil which spilled by Gas...





Images blurred for Confidentiality



Winter (2018)

Trap Charge Scenario – Example





Red Sea – New Insights from New PSDM





Thank you



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