# **Exploration Opportunity Offshore Egypt**

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A Clearer Image | www.pgs.com

### Exploration Opportunity Offshore Egypt Regional setting





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# Exploration Opportunity Offshore Egypt Outline



- Regional setting
- Egypt's West Mediterranean Sea area provinces
- Seismic examples and comparisons
- Petroleum systems
  - Shelf Area
  - Matruh Canyon
  - Herodotus Basin
  - Nile Delta extension
- Summary

#### Exploration Opportunity Offshore Egypt Regional setting



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#### Exploration Opportunity Offshore Egypt Geophysical data





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#### Exploration Opportunity Offshore Egypt Geophysical data





# Exploration Opportunity Offshore Egypt Gravity data



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#### Exploration Opportunity Offshore Egypt Provinces





#### Exploration Opportunity Offshore Egypt Shelf Area – Legacy stack



Herodotus Fold Belt

#### Exploration Opportunity Offshore Egypt Shelf Area – Reprocessed stack



Herodotus Fold Belt

#### **Exploration Opportunity Offshore Egypt** Shelf Area – New data stack

4000.0

Potential migration pathways from Cretaceous and Jurassic Syn-Rift source rocks Herodotus Fold Belt

**Herodotus Basin** 

Matruh Canyon

Mersa Matruh-1

1.500

2.000

2.500

.500

5.500

Transform margir

Shelf area

# **Exploration Opportunity Offshore Egypt**





#### Exploration Opportunity Offshore Egypt Herodotus Basin – Kiwi well





- The Herodotus Basin is a Tertiary sag basin as a result of the opening of the Neo-Tethys during Mid-Jurassic to Early Cretaceous times and is characterized by the presence of Messinian Salt over nearly the entire area.
- The biogenic gas in the Herodotus Basin is deep due to the low geothermal gradient (20-25degC/km).
- Pre-salt structures are observed in the Herodotus Basin.
- A Miocene sandstone fairway is proven in the western flank of the Nile Delta.
- Kiwi exploration well proved high quality sst. in Oligocene.

### **Exploration Opportunity Offshore Egypt** Herodotus Basin – Reprocessed stack









#### **Exploration Opportunity Offshore Egypt** Herodotus Basin – Deep water fan systems (Oligocene-Miocene)

Isopach with coherancy reveal multiple entry points & the clear definition of two separate fan systems – Bidinghal & Basel. The extent of the Bidinghal fan is controlled by the underlying Mesozoic fault terraces & is an organised, layered package.

> Bidinghal Entry Points

> > **Basel Fan**

The Basel Fan originates from the south outside the 3D area & is a younger, thicker and higher energy system. Internally the seismic is less organised with a deeply erosive base.

Size

0.00

3946.00

9000.00

Min

Seed Point

6301.00

4733.00

0.00

Vol:Volumes/st0802psdm\_area2\_kir\_mig15

0247.00

000.00



Herodotus Fold Belt Herodotus Basin Transform margin Shelf area Side-Banal-1 Matruh Canyon Herse Matruh-1



# **Exploration Opportunity Offshore Egypt** Time imaging vs. Depth imaging



p001q03\_fromde\_indepth\_VER-24\_SUBLINE

17000.00

XLINE

(ms)

Time

7500.00 8000.00 8500.00 9000.00 9500.00 10000.00 10500.00

2500.00 3000.00 3500.00 4000.00 4500.00 5000.00

# Exploration Opportunity Offshore Egypt Time imaging vs. Depth imaging



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# Exploration Opportunity Offshore Egypt Summary



- A new exploration opportunity has been presented. EGAS preparing for a 2017 bid round.
- Reprocessing of legacy seismic 2D data provides a better understanding of the exploration potential in Egypt's West Mediterranean Sea.
- This data is now available together with more new MC2D data and enable an early assessment of the HC potential.
- Several trends and leads have been revealed in the data:
  - Faulted Cretaceous and Jurassic strata in the Shelf Area
  - Growth faults and raft structures in the Matruh Canyon
  - Miocene-Oligocene turbidite sandstones beneath the Messinian Salt in the Herodotus Basin
  - Possible carbonate build-ups observed in the survey Similar to the Zohr discovery
  - Potential DHIs in the east of the survey indicating an extension of the Nile Delta Play