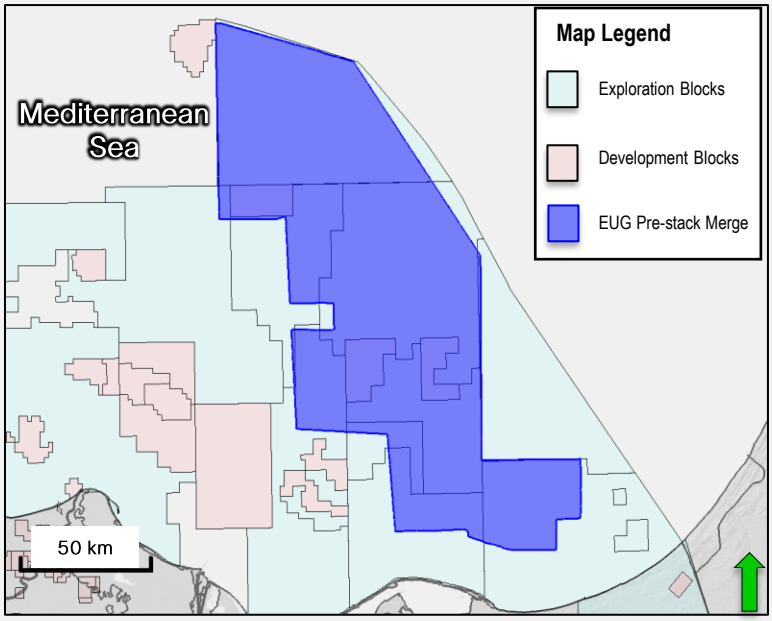
# Egypt – East Mediterranean

## 3D Pre-stack Depth Processing and Merge Phase 1

EGYPT UPSTREAM GATEWAY
MINISTRY OF PETROLEUM & MINERAL RESOURCES

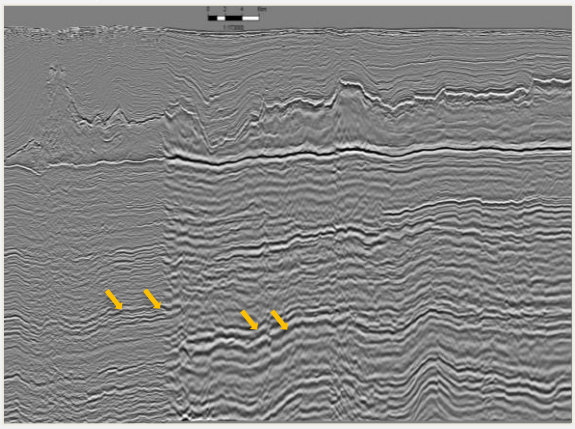
In recent years the biggest hydrocarbon discoveries in Egypt were attributed to a Nile Delta and Mediterranean Basins. Substantial deep reserves have been found in Oligo-Miocene turbidites in East Mediterranean, with high porosity and permeability as deep as 7 km in high pressure-high temperature traps. This Tertiary gas province contains some of the largest fields in Egypt. Zohr discovery (30 TCF) confirmed a new play, consisting of large stacked Miocene and Cretaceous isolated carbonate platform reefs. Understanding of the area prospectivity has advanced considerably through utilization of extensive 3D seismic surveys.



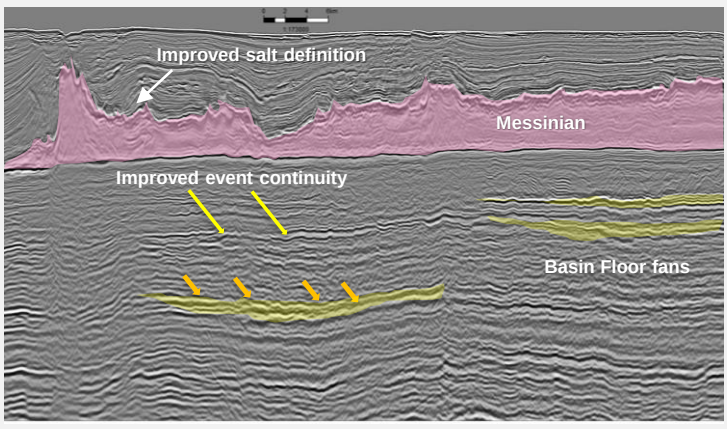

**Area of interest map**

| Key Processing Highlights |
|---|
| Broadband Processing & Adaptive Deghosting |
| GSMP |
| Salt Modelling |
| Full Waveform Inversion (FWI) Updates |
| Global CIP Tomography Updates |

Egypt Upstream Gateway has completed a 3D pre-stack depth re-processing project which includes the merge and processing of 12 input legacy surveys from field tapes to create a homogenized depth volume across 12,000 km2. The enhanced volume shows improvement over signal to noise ratio , maintains amplitude fidelity for AVO studies and improves the imaging of the stratigraphic and structural traps in the pre and post Messinian sequences. The evergreened volume enables better delineation of potential leads extending across the exploration blocks and open areas offshore Egypt.



***Legacy KPSDM***




***EUG 3D pre-stack KPSDM 2021***

For further information on availability and licensing, Please contact EUG : sales@eug.petroleum.gov.eg

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## Regional Geology Products

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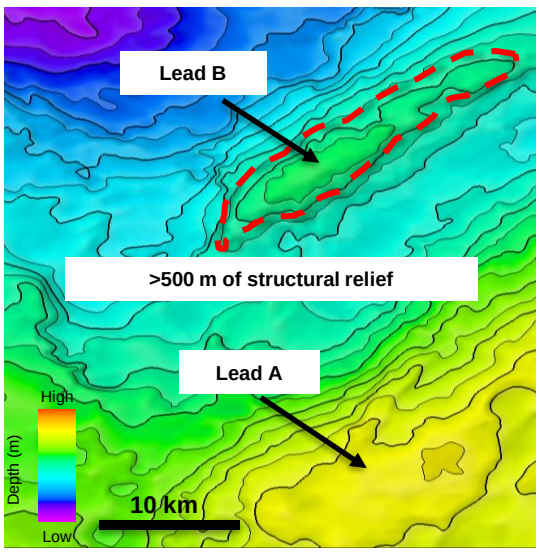
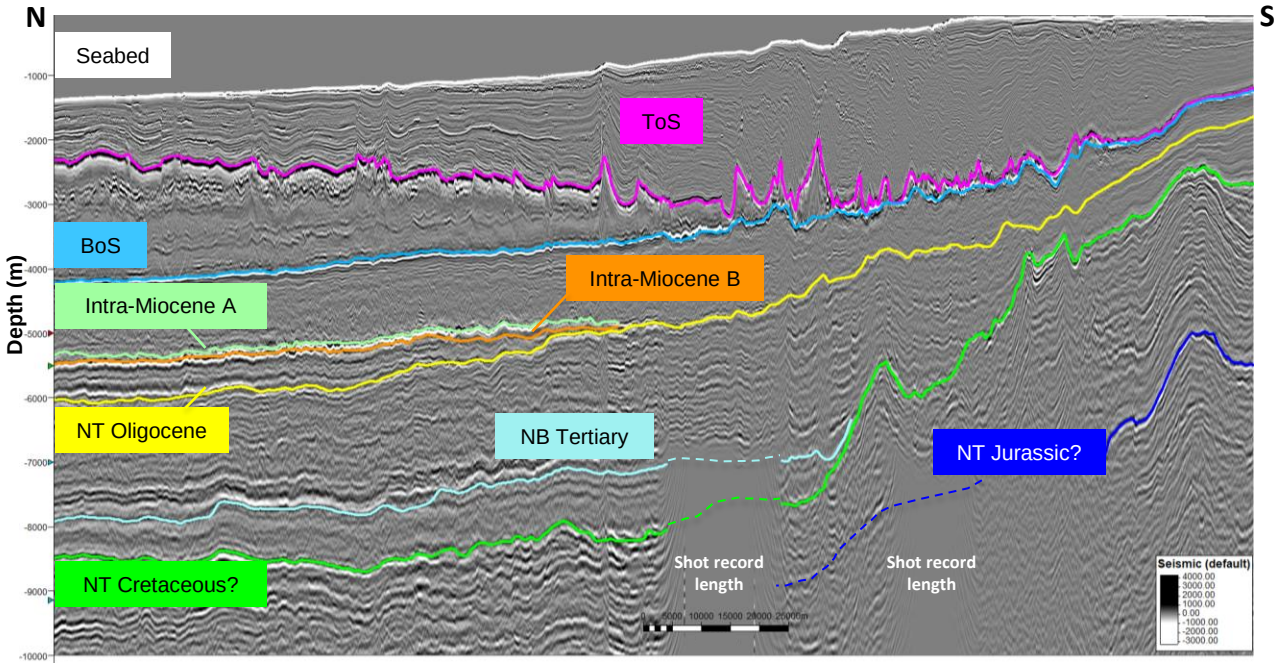
The pre-stack merge volume was used to generate regional depth maps for the key regional seismic events in the area of interest to support explorers with their regional studies and lead identification exercises. In addition, regional cross sections were constructed to help in identifying and developing play concepts across a seamless seismic dataset that facilitated tying different geological domains efficiently. The regional depth maps were used to generate thickness maps, RMS amplitude maps and lead maps.

Extensive well data set has been compiled and archived in a structured directory. Well logs were edited, spliced, depth matched and harmonized to provide a single well file that includes different suite of logs acquired for different wellbore sections per well. The available regional geology products are:

| Deliverables |
|---|
| KDM Stack |
| KDM Angle Stacks (Near, Mid, Far) |
| RTM Stack |
| Final Velocity Model and Processing Report |
| Subsurface Report & Regional Horizons |
| Database of Wells & Conditioned Digital Logs |




**Cretaceous structural leads map**




***The regional mapped depth surfaces are displayed on a north-south seismic cross section (RTM).***

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