



Egypt – Western Desert

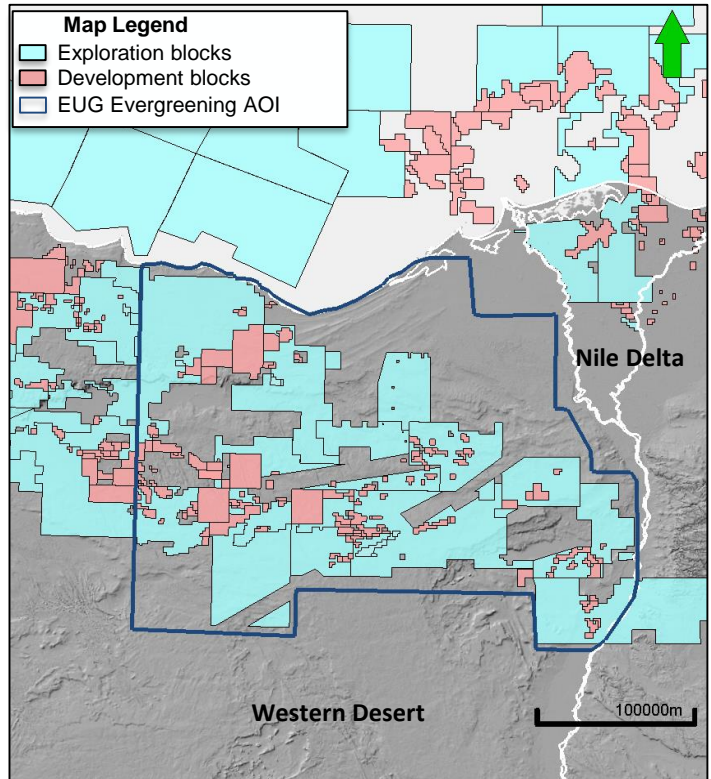


EGYPT UPSTREAM GATEWAY
MINISTRY OF PETROLEUM & MINERAL RESOURCES

3D Regional Post-Stack Merge - Phase 1

Over the last two decades improved seismic imaging shaped better understanding and uncovered new plays, with higher resolution for deeper stratigraphy and structures definition in Western Desert Basins. This extensively explored region of Egypt still holds significant potential. Recent discoveries confirmed new prospects in deep targets as Paleozoic and Jurassic where these plays are underexplored. Basin-wide high-quality 3D seismic data will be the key to unlock those opportunities.

The study area comprises key prolific basins (Alamein, Abu Gharadig, and Gindi Basin) and two structural highs (Sharib-Sheiba and Kattaniya). The area encloses several oil-producing fields (e.g., Abu Gharadig, Razzak, Alamein, Yidma, and Horus fields).



Key Processing Highlights

Reformat

Regularization

Preconditioning

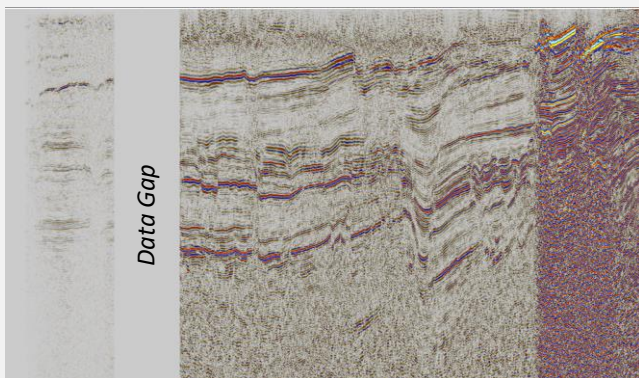
Survey Matching

Survey Merging

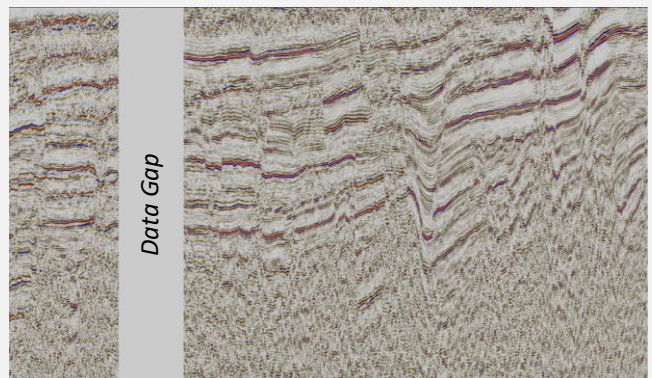
Post Stack Enhancement

Statistical Zero Phase

Egypt Upstream Gateway has completed 25,000 sq km of Regional Post Stack merge in time including the open acreage. The post stack time merged volume enables explorers to access 35+ surveys via one single merged and matched seismic cube. The enhanced volume provides an improved and holistic understanding of the Western Desert regional geology and under-explored play mapping. Seamlessly merged volume enables regional stratigraphic correlation and structural mapping of different prolific basins and lead identification.



Composition of Legacy surveys



Regional Post-Stack Merge



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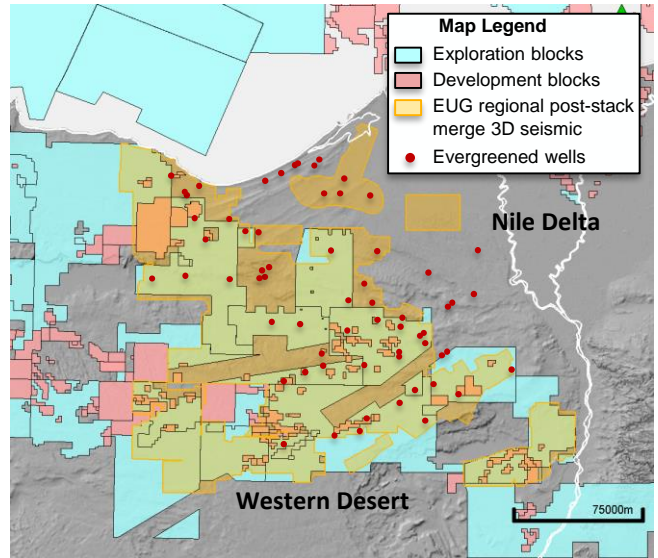
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3D Regional Post-Stack Merge - Phase 1

The EUG Evergreening is built on continuously updating raw and unconditioned data based on new technology, new subsurface understanding of the exploration trends and new plays being discovered. The study's objective is to promote potential blocks that enable successful exploration ventures to aid in the preparation and implementation of Bid Rounds in order to attract new investments.

To achieve the study objective, in 2020, EUG undertook the task of combining 36 available seismic volumes into one seamlessly post-stack merged volume covering the entire eastern part of the Western Desert. This allowed, for the first time, a regional study that addresses 1) the potential of plays to be extended beyond heartlands, and 2) how existing fields are interrelated. This merge included applying contemporary technologies in bandwidth extension, image enhancement, and data matching to the various legacy datasets.

The different log runs are spliced, conditioned and edited to correct for obvious very short intervals defects such as cycle skips and erroneous extremely low / high readings on the sonic logs caused by bad hole condition. Depth shift analysis was performed based on the degree of conformity between various log curves.



36 merged 3D seismic volumes and exploration wells with conditioned digital logs

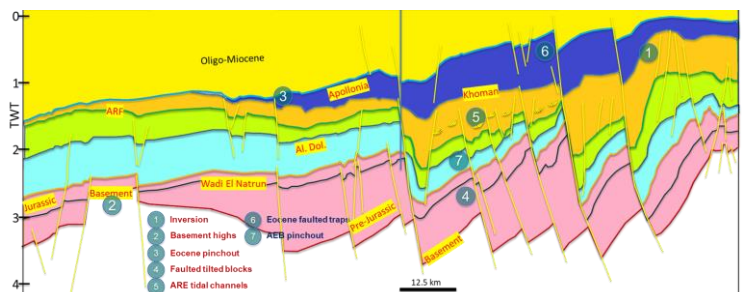
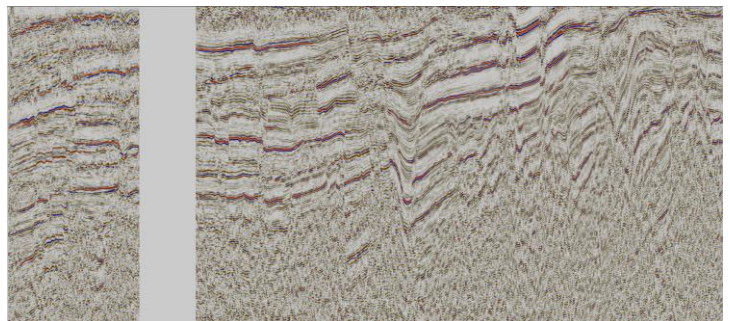
Deliverables

3D Regional Post-Stack Time Merge

Processing Report

Data Mining Inventory for Wells

Database of Wells & Conditioned Digital Logs



Regional geological Interpretation of structural styles