



EGYPT UPSTREAM GATEWAY
MINISTRY OF PETROLEUM & MINERAL RESOURCES

Western Desert:

**3D Regional Post-Stack Merge –
Integrated Technical Evaluation of
The Carbonates Potential**



Egypt – Western Desert



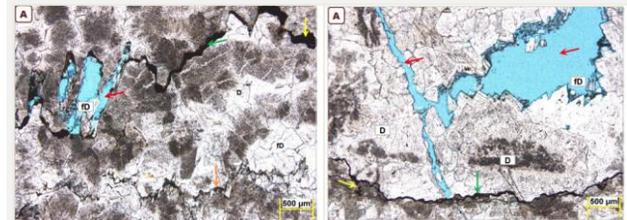
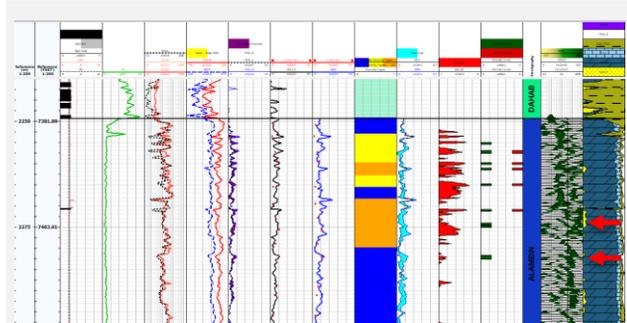
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Integrated Technical Evaluation of The Carbonates Potential

Although the Western Desert Basin has seen considerable exploration in recent decades, companies have only lately begun to investigate the hydrocarbon potential in low permeability formations that could be unlocked using horizontal drilling and hydraulic fracturing. These innovations may also increase recovery factors in the basin's conventional structures.

The Western Desert is under-explored for carbonates given the reasonable reservoir size spreading over an area of several thousands square kilometers and it is characterized by high to mid porosity and low permeability limestone.

The workflow started with an integrated formation evaluation that aims to identify possible promising zones based on wireline and mud logs. It then moved on to integrating borehole images with available core data and thin sections to analyze and interpret the reservoir lithofacies. Finally, structural mapping was completed using a combination of seismic features, including edge detection, coherence, and sweetness to understand the carbonate discoveries and characterize sweet spots.



Integrated Petrophysical evaluation

Deliverables

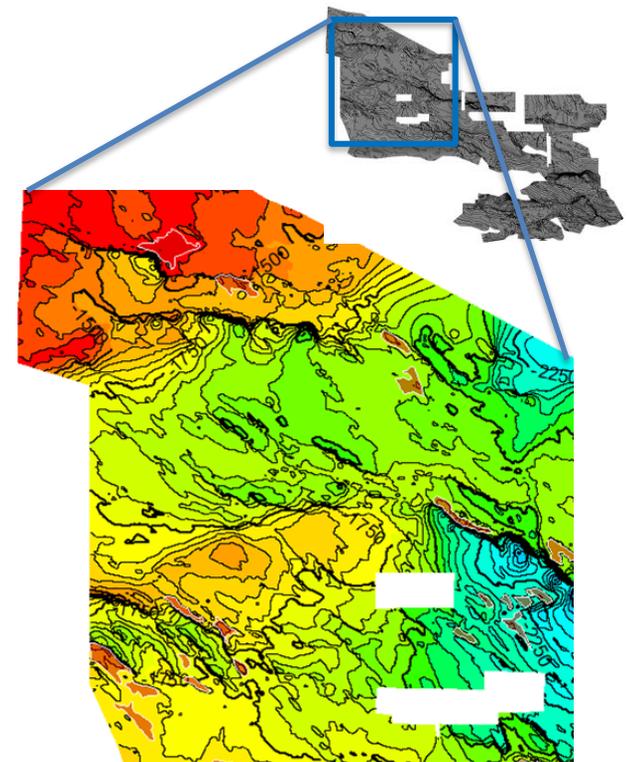
TWT structure maps

Attributes maps

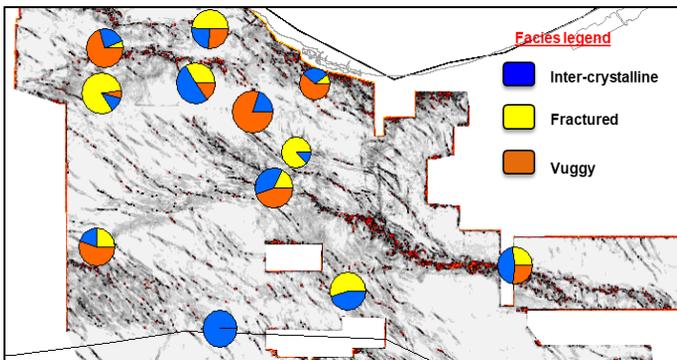
Petrophysical Parameters Maps
& Well Correlation Panels

Depositional environment and facies classification
(GDE maps)

Lead polygons



TWT Structure Map, Zoomed In



Semblance Horizon Slices highlighting main structural/fracture trends with well data reservoir findings