

## **New Eyes on Ultra-Deep Waters Offshore Egypt**

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### **Abstract**

With the recent announcement of the super-giant Zohr discovery by Eni in the deep waters of the Shorouk concession offshore Egypt, attention is once again on the Eastern Mediterranean as significant supplier of natural gas.

PGS is in the process of reprocessing existing seismic data covering the offshore western sector of Egypt, and will provide a merged survey. The post stack merge of multiple 2D and 3D surveys offshore Egypt covers an aerial extent of approximately 75000 km<sup>2</sup>, and will allow definition of geological features on a regional scale. Several trends and leads are revealed by the existing data and leads can be found in different geological settings. These include faulted Cretaceous and Jurassic strata in the shelf/hinge area; growth faults and raft structures in the Matruh Canyon; Miocene turbidite sandstones beneath the Messinian Salt in the Herodotus Basin; Miocene Carbonates analogous to the super-giant Zohr discovery and the Pliocene sandstones play in the proximity of the Nile delta.

Successful experience with re-processing seismic data from nearby datasets in similar geological settings has shown a recognizable uplift in imaging beneath the Messinian Salt. The re-processing of data in the Herodotus Basin will enhance the image and make it possible to identify potential Miocene turbidite and carbonate leads beneath the Messinian Salt.

Based on an improved understanding of both the geology and processing techniques in this area, a new acquisition project utilizing PGS` dual-sensor towed streamer technology will provide additional data. The data will give optimal imaging and thus a better understanding of the under-explored offshore western desert area.

The recent Zohr gas discovery in pre-salt Miocene carbonates makes the offshore western desert area very attractive for exploration. This discovery confirms a working petroleum system and de-risks the source presence, which was assumed to be the highest risk in the basin.

Both the regional extent and the re-processed upgrade of the merged legacy data will help define new play types and thus help understand the under-explored area. An enhanced understanding and a potential denser data set will certainly improve the identification of leads/prospects offshore Egypt and potentially unlock similar success as in nearby discoveries.