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Re-Evaluation of Alam El Bueib (AEB-5) Reservoir and its Impact on the Productivity of Siwa-2L Field and its Benefits in Adding New Producing Zones, Faghur Basin, Western Desert, Egypt

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This paper is an effort to prove that reviewing the Previous Petrophysical interpretations is a process worth trying. The re-evaluation, using a fine-tuned or different parameters and more important is changing our ideas and thinking out of the box, can lead to discovering new pay phenomena in mature producing wells. Siwa-2L Field was discovered in Feb.-2013, where the first well Siwa-L-1X was drilled to the Total Depth of 15500 Ft. to test the hydrocarbon potential of Safa and Desouqy Formation and the hydrocarbon shows was recorded while drilling AEB-5, Lower Safa and Desouqy Formations, and the Petrophysical analysis of the well indicated that there 50 ft Net Pay with 10 % porosity within Desouqy Reservoir only and the well put on production by initial rate 4400 BOPD; after drilled four wells and due to the high production from Siwa-2L Structure, the production rate for all wells decreased from 7000 to 1000 BOPD; so Tharwa/Apache worked on how to increase the productivity of Siwa-2L Field and re-evaluation for AEB-5 was done for many wells within Faghur Basin such as SIWA-D-1X and SIWA-L-1X Discoveries. The re-interpretation for this promising reservoir within the area indicated that there a good reservoir with good facies in The Siwa-2L Field and also, there is about 20 Ft Net Pay within AEB-5 in SIWA-L-1X (The Highest Point Within SIWA-2L Structure); depend on these results Tharwa/Apache decided to drill SIWA-2L-6 at the Highest Point within SIWA-2L Structure, the well was drilled in January,2018 to the Total Depth 15000 Ft. within The Paleozoic and the hydrocarbon shows was observed while drilling within AEB-5 and the Petrophysical Interpretation indicated 40 Ft with very good Porosity and good Facies within the AEB-5 Reservoir; the well was put on production to produce **5100** BOPD with 1 % Water Cut (W.C).

Conclusion: Results of this study have been shown that AEB-5 Reservoir well developed within SIWA-2L Structure and the re-evaluation of the Petrophysical interpretation which was done in the past by using different parameters led to increase the productivity of SIWA-2L Field from 1000 to 4000 BOPD.

Keywords: Petrophysical Interpretation, Productivity, Faghur Basin, Re-evaluation, Facies and Net Pay.