

Carbonate Reservoir Rocks from the Bahamas Continental Margin

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At present, carbonate rocks related to the Bahamas continental margin are located on the surface in sub parallel thin bands forming the Tecto Stratigraphic Units called Cayo Coco, Remedios, Colorados, Camajuaní y Placetas. The large cuban oil fields of Varadero and Boca de Jaruco, as well as other small fields are related to these sediments.

Carbonate reservoirs have porosity formed in low to moderate energy environment with episodic high-energy environment close to the platform reaching turbulent stage in slope areas. Porosity is intramicritic occluded by some minerals. Reef derived rocks have biomicritic and intrabiomicritic porosity. The porosity was not occluded but was affected by recrystallization.

Some diagenetic processes worsened primary porosity. The main processes are calcite deposition and dolomitization. Compaction affected porosity twice; once during the deposition in the original basin and the second during tectonic stacking by thrusting.

The diagenetic processes that enhance porosity are mainly fracturing and recrystallization, paleokarst and leaching, since the eogenesis, also affected a large volume of rocks. Idiomatic dolomitization improves intercrystalline porosity.

The clasification of reservoirs considers sedimentation environment and diagenetic processes. We divided carbonate section in three periods from Oxfordian to Maestrichtian.

Most of the carbonate reservoirs in Cuba related to the development of Bahamas Continental Margin have good quality, regardless the depositional environment and show high porosity and permeability.