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Central Atlantic Salt Basins Correlation

The Central Atlantic rift basins opened in Late Triassic to Hettangian times. Red bed clastic sequences were followed by salt deposition during rifting, with the salt limited to rift basins. Restoration of 590 km of right lateral shear along the Gibraltar Fracture Zone and 120 km of right lateral shear on the South Atlas Fault zone, along with close matching of oceanic fracture zones in Mauritania and the US margin, produces a good alignment of the Guadalquivir-Betic Salt Basin in Spain with the Middle Atlas Salt Basin of Morocco. The Moroccan Deepwater Salt basin is aligned with, and continues northward to the Newfoundland Salt Basins. The Moroccan and Iberian salt basins contain several separate troughs, similar to the Newfoundland basins. Salt in the Georges Bank Basin extends much farther south than the published southern limit of the Moroccan Salt Basin. Our rift correlation suggests that the salt may continue farther south in deepwater along the Western Sahara to Skaymat. A small salt basin has also been discovered farther south, in the Baltimore Canyon Trough on the US margin. This salt basin may be continuous northward to Georges Bank, but has remained undetected with salt trapped below anhydrite layers. Hence, if the salt can be correlated across to Africa it may continue down to Pointe Noir on the Western Saharan margin. Farther South, the Guinea Bissau-Senegal salt basin trend extends southward into the conjugate margin of Suriname (S. America), where recent seismic data has suggested thin salt may be present in a NE-SW trending rift. Salt continues still farther south into the Andes via the Takutu Basin where Early Jurassic salt has been proven in Brazil and Guyane Francaise.