

Hydrocarbon Assessment of the Deep Water Argentine Margin*

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Abstract

The Argentine continental margin is a typical example of a volcanic rifted margin with voluminous extrusions of magmatic material which form the seaward dipping reflector sequence (Hinz et al., 1999). The study area is located south of the RioGrande Ridge and north of the Falkland-Agulhas Fracture Zone ([Figure 1](#)). Regarding hydrocarbon exploration the Argentine margin is virtually unexplored with few wells on the shallow shelf but none at the continental slope. The area was not included in the USGS World Petroleum Assessment 2000 addressing the Pelotas Basin and the Falkland Plateau assessment unit (Klett et al., 2000). This part of the Argentine margin was chosen to assess its hydrocarbon potential. Based on 2-D seismic reflection and refraction data a structural model was built comprising 13 horizons from the Moho to the sea floor. On the continental side the model includes syn-rift sediments with Lower Cretaceous sediments (Neocomian black shales) as possible source rocks and on the oceanic side Aptian-Albian black shales are assumed as main source rocks. The wells Puelche, Ranquel, Estrella, Cruz del Sur, Corona Australis, and Pejerre are located within the study area in water depth of less than 150 m. They are all situated in the Colorado Basin. Deep water wells do not exist in the study area. The petroleum system model is supplemented with data from analog basins like the Orange Basin from the conjugated African margin.

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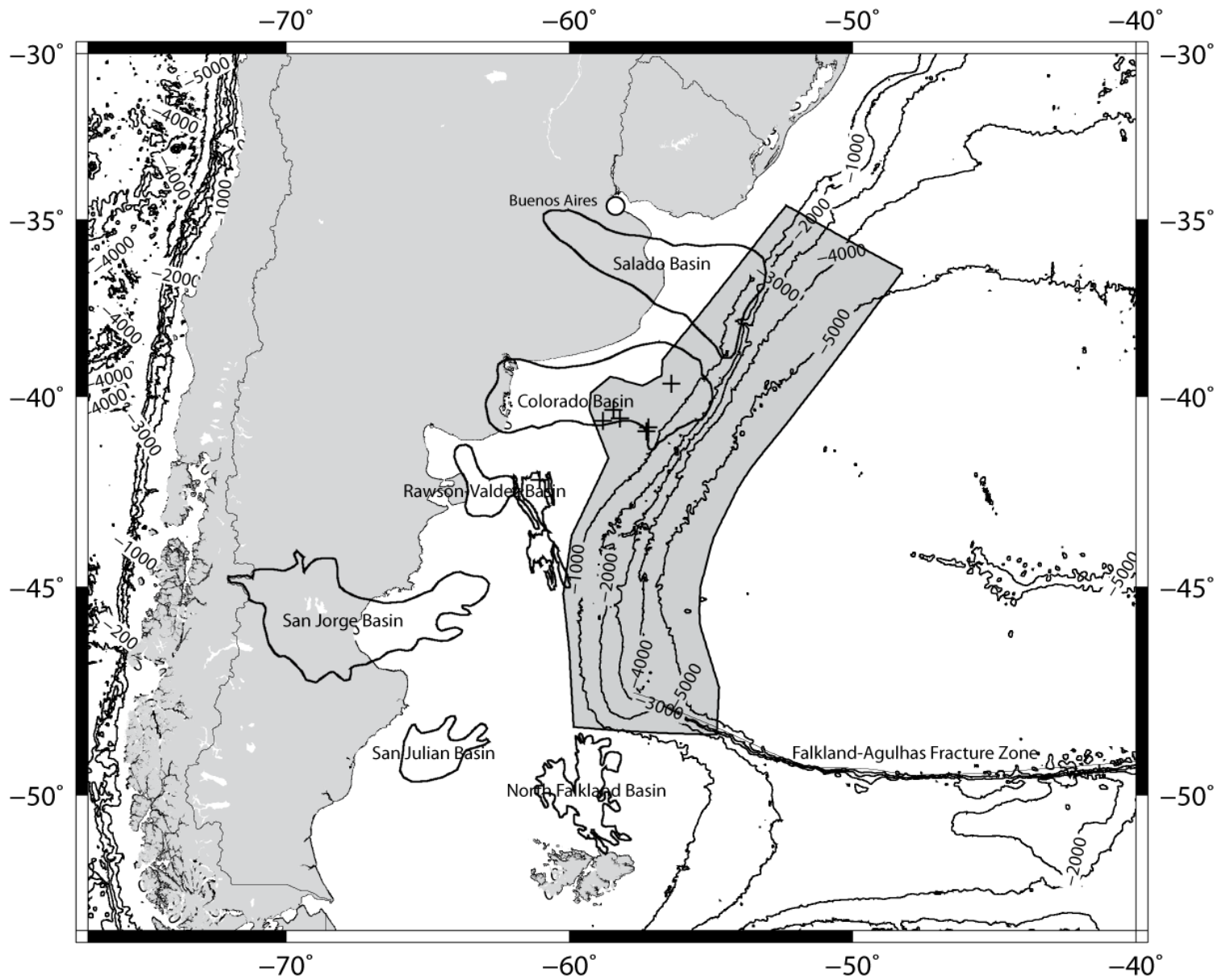


Figure 1. Location of study area (model area in the offshore is shown in grey). Crosses indicate wells. Water depth from SRTM30plus (Smith and Sandwell, 1997).