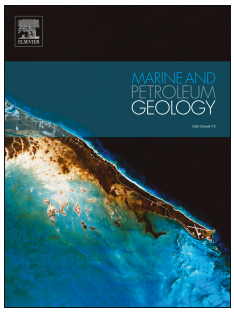
Accepted Manuscript



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PII: S0264-8172(18)30240-X

DOI: 10.1016/j.marpetgeo.2018.05.035

Reference: JMPG 3365

To appear in: *Marine and Petroleum Geology*

Received Date: 5 February 2018

Revised Date: 28 May 2018

Accepted Date: 31 May 2018

Please cite this article as: de Souza Rodrigues, R., Alves da Silva, Fernando.Cé., Deformation bands and associated structures in the tucano basin, ne Brazil: A multiscale analysis, *Marine and Petroleum Geology* (2018), doi: 10.1016/j.marpetgeo.2018.05.035.

DEFORMATION BANDS AND ASSOCIATED STRUCTURES IN THE TUCANO BASIN, NE BRAZIL: A MULTISCALE ANALYSIS

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ABSTRACT

The sandstones of the Ilhas Group in the Tucano Basin (NE Brazil), are affected by numerous swarms of deformation bands (Dbs) and associated faults, developed in different deformation events (pre, syn and post stages of sediment lithification). We select an area located west of the city of Jeremoabo and east of the Água Branca district, along the Vaza Barris River, for a multiscale structural analysis of these structures. NE-SW striking faults and swarms of Dbs are the main structures of the region but two other sets also occur, with NNW-SSE and E-W orientations. The structural analysis revealed that they are related to three deformational events, D_1, D_2 and D_3. The D_1 event generated NE-SW normal faults and a combined system of transcurrent faults and dextral (NNW-SSE) and sinistral (NE-SW) Dbs, developed under pre- to syn-lithification conditions of the sandstones. The D_2 event developed NNE-SSW oblique normal faults nucleated under post-lithification conditions. A younger deformational event (D_3) was responsible for the generation of NE-SW dextral and oblique normal faults both with associated Dbs swarm, A few NE-SW reverse and oblique reverse