

Betwixt the magma and salt – initial insights into the continent-ocean transition along the Angolan margin

TYRONE ROONEY¹, DOUGAL A JERRAM^{2,3}, LOUIS JACOBS⁴ AND ANTÓNIO OLÍMPIO GONÇALVES⁵

¹Michigan State University

²DougalEARTH Ltd.

³University of Oslo

⁴Southern Methodist University

⁵Universidade Agostinho Neto

Presenting Author: rooneyt@msu.edu

The continent-ocean transition represents a fundamental shift in the mechanism of extensional strain accommodation, i.e., away from plate-stretching and towards more focused magmatic intrusion. Despite the importance of this region to understanding the eventual development of an oceanic spreading center, it is difficult to study these regions as they are typically buried under substantial quantities of post-rift sedimentation. The Angolan margin provides an unusual opportunity to study the continent-ocean transition, where the rocks are exposed subaerially. Here we present the initial results of a new project focused on unlocking the secrets of the continent ocean transition in this region by probing the conditions of melt generation and magma evolution using the magmatic record. Our study locale is just north of the Florian Fracture Zone and represents a transitional region between the magma-rich seaward dipping reflector dominated systems to the south, and the magma poor salt-rich systems to the north. In this contribution, we synthesize existing data, present newly acquired data, and undertake initial interpretations on syn- and post-breakup volcanics from along this margin.)