

Mineral resources in the Portuguese continental shelf

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ABSTRACT

Since its formation in 2004, the Task Group for the Extension of the Continental Shelf (EMEPC) has been collecting hydrographic, geological and geophysical data to support the extension of the continental shelf beyond 200 NM. In 2008, the EMEPC acquired a 6,000 m rated ROV named “Luso” and has been cooperating with several national and international institutions to increase and improve its operational capabilities to conduct research on deep-sea minerals. The Portuguese continental shelf corresponds to a broad area of the seafloor encompassing different physiographic domains: the mid-Atlantic ridge system, abyssal plains and numerous seamounts. From 2008 to the present, the mid-Atlantic ridge and seamounts have been the most visited sites with the ROV “Luso”. Several hydrothermal vent sites are known to occur along the mid-Atlantic ridge to the south of the Azores archipelago and mostly within the Portuguese EEZ. Vent fields were also discovered in the extended continental shelf, namely the Rainbow and the Moytirra sites located to south and to the north of the Azores archipelago, respectively. The most studied seamounts correspond to those forming the Great Meteor chain and the Madeira-Tore rise. All these visited sites are related either with the occurrence of polymetallic sulphides or cobalt rich Fe-Mn crusts and the opportunities to further pursue their exploration will be discussed.

Keywords: Continental shelf; ROV “Luso”; Polymetallic sulphides and Fe-Mn crusts.