ABSTRACT

The Interoceanmetal Joint Organization (IOM) carries out an exploration of laying grounds of polymetallic nodules in the area allotted by the International Seabed Authority (ISA). The most interesting metals in the nodules from the economic point of view have been considered manganese, nickel, copper and cobalt. A big lack of the Rare Earth Elements (REE) is observable on the world metal market in the past years. Several reports indicated REE as a critical mineral, particularly the EU Report “Critical raw materials for the EU” (2010). Polymetallic nodules are a possible source of REE. Therefore we are facing a new challenge – to re-evaluate the polymetallic nodules as a possible REE source.

KEY WORDS:  Interoceanmetal Joint Organization; International Seabed Authority; polymetallic nodules; Rare Earth Elements.

INTRODUCTION

A principal purpose of this paper is an actual overview, concerning the possibility to utilize the REE content in polymetallic nodules, taking into consideration an actual demand of REE. One possible source of the REE could be the polymetallic nodules, at present explored in the tropical part of the Pacific Ocean (Fracture Zone Clarion - Clipperton) by IOM and other ISA contractors.

INTEROCEANMETAL JOINT ORGANIZATION AND OTHER CONTRACTORS OF THE INTERNATIONAL SEABED AUTHORITY, THEIR AIMS AND ACTIVITIES

The IOM is one of the pioneer investors in “the Area”, situated in the eastern equatorial Pacific (Fig. 1, ISA webpage). The exploration areas of the other investors (consortia or states) are visible on Figure 1 too.

“The Area” is administrated by the ISA, an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea. The ISA is the organization through which States Parties to the Convention shall, in accordance with the regime for the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction (the Area) established in Part XI and the Agreement organize and control activities in the Area, particularly with a view to administering the resources of the Area.

The ISA, which has its headquarters in Kingston, Jamaica, came into existence on 16 November 1994, upon the entry into force of the 1982 Convention. The ISA became fully operational as an autonomous international organization in June 1996 (ISA webpage).

For IOM and other investors in the Area a first principal task was to carry out an exploration of laying grounds of polymetallic nodules (Franzen, 2011). The most interesting metals in the nodules from the economic point of view have been considered manganese, nickel, copper and cobalt. However, REE were already in the focus of IOM work in late the 1990ies (Kotlinsky et al., 1997).