

The Sardinian Continental Platform Sampling Campaign: First Results and Indications on the Investigations carried out.

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ABSTRACT

This paper details the results of sampling campaigns of the seabottom, carried out during the period 1977-1980 in the Sardinian continental platform. 632 surface sediment samples and 274 cores were collected. Part of the samples collected were analyzed in the laboratory, with the aim of identifying the useful minerals contained therein of a mining interest.

RESUME

Ce mémoire se réfère aux résultats des campagnes d'échantillonnage du fond marin, effectuées pendant la période 1977-1980 sur la plateforme continentale de la Sardaigne. On a recueilli 632 échantillons superficiels de sédiment et 274 carottes. Une partie des échantillons recueillis a été examinée au laboratoire dans le but d'identifier les minéraux utiles contenus.

The sampling work of the Sardinian continental shelf and the examination and analysis of the samples had the character of a preliminary research of the heavy minerals associated with elements Zr, Ti, Fe and Sn and with the light elements. The possibility that other heavy mineral species as well as commercially important trace elements (rare earths, etc.) occur has still to be further investigated.

The results of the examination of the data so far obtained, from the investigation of the surface samples and cores, indicate that heavy elements are mostly found in the finer size fractions: this is the reason why the authors focused their attention on these fractions. The abundance of the fine fractions and the grades of the commercial elements contained therein can be taken as indexes of the importance which must be attributed to the various deposits. A fundamental corre-

spondence can furthermore be observed between the evidence of minerals brought to light in the past by the present authors, at the end of the reconnaissance and investigation of all the Sardinian coastal sandy deposits and those discovered during the prospection of the continental shelf. In particular, up to now it has been observed that the mineralogical phases recognized in the samples of the shelf are the same as those recovered from the adjacent coastal sandy deposits. Differences are found, on the other hand, in the grain sizes. Species such as Cassiterite, characterized by a noticeable commercial importance, occur, in the shelf sediments, in grains of smaller size than those encountered in the coastal sands.

At the present state of the research, the zones of the shelf (with probable extension to inland occurrences as well) which merit attention on account of the evidence of minerals contained therein would seem to be the following:

- a) - Continental shelf comprised between Torre di Cala d'Ostia and Capo Sperone, for the presence of Cassiterite, Ilmenite, Magnetite, Hematite, Titanomagnetite, Rutile, Monazite, as well as traces of Ni, V, Co.
- b) - Continental shelf between Capo San Lorenzo and Capo Carbonara for the presence of tin (recognized in the form of Cassiterite in the zone north of Capo Ferrato), Ilmenite, Rutile, Anatase, Leucoxene, Magnetite, Monazite, Hematite, Titanomagnetite, Zircon.
- c) - Continental shelf comprising the archipelago composed of the island of La Maddalena, Santo Stefano and Caprera, with extensions to the north and to the south of that archipelago, for the presence of Co and of indications of Monazite.
- d) - Continental shelf comprised between Capo Testa and Castelsardo, for the presence of Magnetite, Ilmenite, Hematite, Leucoxene, Anatase, Rutile, Titanomagnetite, Zircon, Monazite, Cassiterite.
- e) - Continental shelf comprised between the Isola della Tonnara and Torre Argentina, for the presence of Titanomagnetite, Magnetite, Hematite, Ilmenite, Zircon, Monazite, Quartz.

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