

### Study of Carbonate Contents in the Shelf Sediments off the Nile Delta

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The carbonate content of the Nile sediments between El-Agami and El-Arish were studied (Figure 1.). The method described by Presley (1975) was used for determination of total carbonate content. Mineralogical analysis were performed using XRD.

Obviously, the carbonate content of the sediments between Rosetta and El-Arish are comparable to the previous results in the same area, and to the other data in similar areas. East of Rosetta, the carbonate content varies between 0.823 % and 8.85 % with an average of 2.48 %. On the other hand, the carbonate content of the sediments in the area west of Rosetta increases gradually west-ward with an average of 55.32 %.

Carbonate minerals occurred in the area west of Rosetta ( off El-Agami and Abu-Qir ). The Most dominant mineral was aragonite, followed by calcite, Mg-calcite and quartz . On the other hand quartz , feldspar and mica are, in order, the most dominant minerals in the area between Rosetta and El-Arish . Carbonate minerals in the area west of Rosetta are possibly derived by erosion from coastal formations. The formation of aragonite may be engendered by strontium, in addition to the possibility of inorganic precipitation through biological processes. This is in accordance with the results and conclusions obtained by Emelyanov (1972) ; El-Sayed (1974,1981,1985) ; El-Wakeel and El-Sayed (1978) ; Stoffers et al. (1980);.

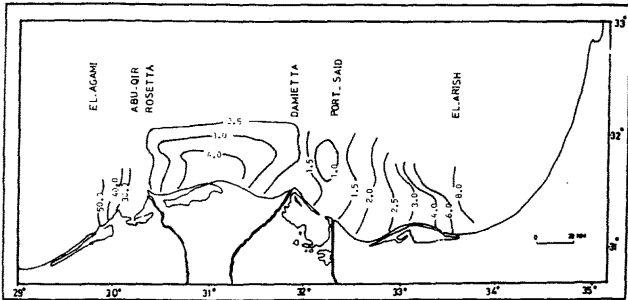


Figure 1. Areal distribution of total carbonate in the surficial sediments of the study area ( % ).

Conspicuously , on the basis of carbonate content and mineralogical data, the study area can be divided into two zones ; El-Agami/Abu Qir zone and Rosetta/El-Arish zone. The former zone is characterized by high content of carbonate reaching about 84 % in the inner shelf area off El-Agami. The area between Rosetta and El-Arish is mainly covered with Nile sediments and is characterized by low carbonate content. The increasing of carbonates east of Port Said is due to the gradually increase by deposition from the water ; in addition the area off Sini is subjected to some supplementary contribution from sea cliffs and the seasonal streams of Sinai.

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