SHELL-BEDS TAPHONOMY OF THE MIOCENE PUERTO MADRYN FORMATION (ARGENTINA): BATHIMETRIC MEANING.

1 DEL RÍO, C. J., 2 SCASSO, R. A. and 3 MARTÍNEZ, S. 1 C. I. R. GEO, Buenos Aires, Argentina; 2 Universidad de Buenos Aires. Argentina; 3 Facultad de Ciencias. Montevideo, Uruguay.

Sedimentary facies analysis along with taphonomy of indigenous shell-beds allowed to recognize three sedimentary cycles in the middle part of the Puerto Madryn Formation. This unit is an overall regressive sequence that records deposition in wave to tide-dominated, inner shelf environments. At the base of each cycle there are 15 meters thick, intertidal to subtidal heterolithic sandbar deposits with sparse fossils. A thin (0,2 meters) shell-bed, composed by the lunulate echinoid Monophoraster darwini in life position, appears at the top of the sandbars, together with a highly bioturbated surface of Skolithos and Ophiomorpha. These represent sandy-bottoms situated closely behind the wave-breaking zone. Overlying it, a 0,7 meters thick environmentally condensed, amalgamated, shell-supported coquina ends the cycle. It is made up by two mixed pectinid assemblages: one from sandy soft-bottoms placed close to wave base level and typified by Amusium paris and Flabellipecten piramidesensis, and the other, constituted by shell-gravel taxa from shallow offshore environments, swept by strong tide currents, and dominated by “Chlamys” actinodes and “Aequipecten” paranensis. These assemblages represent the deepest deposition attained during the accumulation of the cycle under omissional conditions caused by dynamic bypassing .