

**BAJO HONDO, A VERY PUZZLING CRATER IN CHUBUT, PATAGONIA, ARGENTINA.**

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**Introduction:** Bajo Hondo is a very puzzling crater in Chubut Province, Patagonia, Argentina, ( S 42°15' W 67° 55').

Diameter: 4.8 kilometers. It has a 100-150 meters raised rim and several decametric blocks are visible on its Western rim.

Its proportions match perfectly those of a simple impact crater. Bajo Hondo is located in the Somuncura Plateau, 10 km. SE to the Talagapa stratovolcano.

The whole Somuncura Plateau is composed of volcanic rocks, mainly Oligocene-Miocene basaltic floods and ignimbrite deposits. Bajo Hondo has been interpreted in the past as a collapsed basaltic caldera , [ 1,2 ].

The same happened in the case of Lonar Lake, India: a 1.8 kilometers well confirmed impact crater in the Deccan Basaltic plateau, [ 3 ]. However close examination of satellite LANDSAT images and aerial photographs of Bajo Hondo reveals possible flaws in that interpretation. A reported volcanic cone on the Western rim is probably just a collapsed part of that rim. The association of lava floods to Bajo Hondo is also doubtful. Probably the reported ones were erupted by Talagapa and not by Bajo Hondo itself.

Rocks exposed on Bajo Hondo's rims are clearly piroclastic: basaltic breccia, glass bombs and glassy scoriae.

Those rocks are present in Lonar Lake's rim,[ 3 ].

Explosive origin is evident. The question is: Volcanic or Impact? Bajo Hondo is probably too big to be a Maar.

The author believes it is in fact a misinterpreted gigantic simple impact crater. If it is in fact an impact then Bajo Hondo is very important because it would be a gigantic simple crater and at the same time an impact crater in basaltic rocks. The site demands more research.

**References:** [ 1 ] Ardolino A. and Delpino D.: ( 1986 ), Revista Asociacion Geologica Argentina ( RAGA ), 41( 3-4), pp. 386-396, ( In Spanish ); [ 2 ] Ardolino A. : ( 1987), "Descripcion Geologica de la Hoja 42 f, Sierra de Apas ", in Boletin N° 203 Direccion Nacional de Minería y Geología, Buenos Aires, 91 pps., ( in Spanish ); [ 3 ] Fredriksson K. et al. (1973), Science 180, pp. 862-864.