REMOTE SENSING AND FIELD ANALYSIS OF A PROBABLE IMPACT CRATER IN MENDOZA ARGENTINA.

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A crater was detected by oblique aerial photo in the western edge of Argentina. LANDSAT and CBERS images corrected to precision level depicted the structure in latitude S34:15:41 and longitude W69:32:52. The spatial attributes extracted from the Remote Sensing data show the typical features of an astrobleme: flank, ring, wall and floor. The crater is perfectly circular with a 600 meters ring. The ring is designed over thick dried soils with lack of land use coverage. The structure lies over sediments that fill late orogenic Andean basins of Quaternary age. These sedimentary basins surrounded the Andean ridges in the western Argentina and are pontuated by early Holocenic volcanic centers of basic, ultrabasic and alkaline rocks. Scientific literature [1] shows that a very similar crater known as Wabar was mapped in South Arabia. This crater is recognized as an impact site. The small craters of the moon show exactly the same landscape as can be observed in [2]. The same can be observed from the Mars Pedestal Crater. Pedestal displays remarkable similarities in shape and size with the crater of Mendoza. A field campaign was pursued last November together with geologists the Geological Survey of Argentina. The survey has confirmed the presence of a rim crater lying between several volcanic necks. The crater walls are sustained by dark rock of volcanic origin. The rim and the outer rim is occupied by blocks of i)polymitic breccia; ii)centimetric sized clasts of silica glass and iii)brecciated clasts of basalt, all these material are together within a carbonatic matrix. Polimitic breccia and silica glass indicates to an astroblem. Carbonatic matrix suggests a criptovolcanic process. Petrographic and soil analysis are going on and a second field campaign is being scheduled. The Mendoza Crater could be the youngest known meteorite Crater in South America. The suggested age for the probable impact could be the Early Holocene because the late Pleistocene retreating glaciers could have damaged or even destroyed the structure.

References: [1] Wyn, J.C and Shoemaker, E.M. 1997. Sky&Telescope 94(5): 44-49. [2}Bowker, D.E. and Hughes, J.K. 1971. Lunar Orbiter Photographic Atlas of the Moon. Langley Research Center.