

CLASSIFICATION AND MINERALOGY OF A NEW ORDINARY CHONDRITE FROM HASSI EL GASSI (SOUTHERN ALGERIA).

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Introduction: According to the the Meteoritical Bulletin Database of the Meteoritical Society (June 2014), 739 classified meteorites have been found in Algeria. Most of them were found in the Sahara, considered as one of the best areas in the world for recovering meteorites. We present here the discovery, classification and mineralogy of a new ordinary chondrite recovered in Hassi el Gassi area (Southern Algeria) where no meteorites have been previously found.

Circumstances of the discovery and macroscopic characteristics of the meteorite: The meteorite, weighing 165 g, was found on April 06, 2008 by Mr. Mohand Ait Kassi in Hassi el Gassi area, located about 80 km south of Hassi Messaoud (Southern Algeria). The stone is covered with a black fusion crust and the interior is stained brown. On cut surface, the meteorite displays flecks of metals and indistinct chondrules.

Analytical procedures: A polished thin section of the meteorite has been prepared and examined microscopically and by scanning electron microscopy. The mineral compositions were performed on the CAMECA SX100 electron probe micro-analyzer at the University of Montpellier 2.

Results: Major mineral phases of the meteorite are olivine and orthopyroxene, and minor phases include troilite, FeNi metal, clinopyroxene and chromite. The compositions of olivine and orthopyroxene are homogeneous. The mean fayalite content in olivine is 19 mole% (Fa₁₉) and the mean ferrosilite content in low-Ca pyroxene is 15.2 mole% (Fs₁₅) (Wo = 1.4 mole%), which are consistent with H chondritic compositions of ordinary chondrites [1]. The composition of chromite shows a Fe/(Fe+Mg) of 0.82 in good agreement with data for H chondrites [2]. The uniform silicate composition and the scarcity of chondrules indicate that the meteorite belongs to petrologic type 6 [3].

Conclusion: Based on its mineralogical composition and textural features, the meteorite recovered in Hassi el Gassi is classified as an H6 chondrite. This meteorite represents the first recorded meteorite from Hassi el Gassi area in Algeria.

References: [1] Hutchison R. 2007. *Meteorites : A Petrologic, Chemical and Isotopic Synthesis*. Cambridge Planetary Science. 524 p. [2] Wlotzka F. 2005. *Meteoritics & Planetary Science* 40:1673–1702. [3] Van Schmus W.R., Wood J.A. 1967. *Geochimica et Cosmochimica Acta*, 31: 747-765.