Gebel Kamil

Basic information	**Name:** Gebel Kamil This is an OFFICIAL meteorite name. **Abbreviation:** There is no official abbreviation for this meteorite. **Observed fall:** No **Year found:** 2009 **Country:** Egypt **Mass:** 1.6 MT
Classification history:	**Recommended: Iron, ungrouped** [explanation] This is 1 of 103 approved meteorites (plus 1 unapproved name) classified as Iron, ungrouped. [show all] Search for other: Metal-rich meteorites, Ungrouped irons, and Iron meteorites
Comments:	Approved 12 Jul 2010
Writeup	Writeup from MB 98:

Gebel Kamil [coordinates under review]
East Uweinat Desert, Egypt
Found: 19 Feb 2009
Classification: Iron meteorite (ungrouped)

History: A total of about 1600 kg of iron meteorite shrapnel (thousands of pieces), ranging in mass from < 1 to 35,000 g, plus a single 83 kg individual completely covered with well developed regmaglypts, was found in and around the 45 m diameter Kamil impact crater by an Italian-Egyptian geophysical team in February 2009 and February 2010. Ca. 800 kg of the total mass observed in the field (the regmaglypted individual inclusive) was recovered. The Kamil crater was identified by V. De Michele, former curator of the Natural History Museum in Milan, Italy. The geophysical survey was carried out within the framework of the "2009 Italian-Egyptian Year of Science and Technology".

Physical characteristics: A 634 g type specimen, measuring 88 x 70 x 55 mm, is flattened and jagged shrapnel with a rough, dark-brown external surface. The surface originally sitting in the desert soil shows some oxy-hydroxides due to terrestrial weathering.

Petrography: (M. D'Orazio, *DST-PI*; Luigi Folco, *MNA-SI*) Etched sections show an ataxitic structure interrupted on a centimetric scale by crystals of schreibersite, troilite and daubreelite enveloped in swathing kamacite. Kamacite spindles (20 ± 5 mm wide) nucleated on tiny schreibersite crystals. The spindles form small aligned

clusters and are rimmed by taenite. The matrix is a duplex plessite made of approximately the same proportion of kamacite and taenite lamellae (1-5 mm in thickness) arranged in a micro-Widmanstätten pattern. Many sections show, particularly close to the external surface, shear dislocations offsetting the plessitic matrix and the crystals of the accessory phases by several millimeters.
Geochemistry: (M. D'Orazio, *DST-PI*) Composition of the metal (ICP-MS; D'Orazio and Folco 2003) is Co = 0.75, Ni = 19.8 (both in wt%), Cu = 464, Ga = 49, Ge = 121, As = 15.6, Mo = 9.1, Ru = 2.11, Rh = 0.75, Pd = 4.8, Sn = 2.49, Sb = 0.26, W = 0.66, Re = 0.04, Ir = 0.39, Pt = 3.5, Au = 1.57 (all in ppm). Reference: D'Orazio M. and Folco L. (2003) Chemical analysis of iron meteorites by inductively coupled plasma - mass spectrometry. Geostandards Newsletter: The Journal of Geostandards and Geoanalysis 27, 215-225.
Classification: (M. D'Orazio, *DST-PI*; Luigi Folco, *MNA-SI*) Iron meteorite (ungrouped), Ni-rich ataxite, extensive shear deformation and low weathering.
Specimens: Type specimens: ca. 15 kg and one section at *MNA-SI*; ca. 5 kg at *DST-PI*. Main mass of the recovered specimens at Egyptian Geological Museum (Mineral Resources Authority), Cairo, Egypt.

Data from: MB98 Table 0 Line 0:

State/Prov/County:	East Uweinat Desert
Date:	19 Feb 2009
Mass (g):	1600000
Pieces:	thousands
Class:	Iron, ungrouped
Classifier:	M. D'Orazio, Luigi Folco
Type spec mass (g):	1500
Type spec location:	MNA-SI
Main mass:	Egyptian Geological Museum
Finder:	V. De Michele
Comments:	Submitted by Folco

Institutions and collections

DST-PI: Dipartimento di Scienze della Terra, Università di Pisa, Via S. Maria 53, 56126 Pisa, Italy (institutional address)
MNA-SI: Museo Nazionale dell'Antartide, Università di Siena, Via Laterina 8, I-53100 Siena, Italy (institutional address)
SI: Department of Mineral Sciences, NHB-119, National Museum of Natural History, Smithsonian Institution, Washington, DC 20560, USA (institutional address)

Catalogs:

References:

Published in Meteoritical Bulletin. no. 98. MAPS 45, in preparation (2010)
Find references in NASA ADS:
Find references in Google Scholar:

Geography:

Coordinates: Unknown.

Statistics:
This is 1 of 32 approved meteorites from Al Wadi al Jadid, Egypt
This is 1 of 43 approved meteorites from Egypt (plus 2 unapproved names)

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Revision history:

Revsion history This lists important revisions made to data for this record.

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