Antarctic Meteorite Newsletter

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SPECIAL EDITION

ANNOUNCING..

The Availability of a New Martian Meteorite

This special edition of the Antarctic Meteorite Newsletter announces the discovery and availability of a new nakhlite, MIL 03346. This 715.2 g sample was collected during the 2003-2004 field season in the Miller Range of the Transantarctic Mountain, Antarctica. The black pyroxenite was immediately recognized by the field team as interesting, and upon hand and thin section examination, it was clear that this sample is a new nakhlite, the 7th known in world collections.

This newsletter presents the macroscopic and thin section descriptions of the sample. To obtain a piece of this new meteorite for study, sample requests must be made by filling out the request form found at this link:

http://curator.jsc.nasa.gov/curator/antmet/samreq.htm

Requests must be received by *September 3, 2004*.

A periodical issued by the Meteorite Working Group to inform scientists of the basic characteristics of specimens recovered in the Antarctic.

Edited by Cecilia Satterwhite and Kevin Righter, NASA Johnson Space Center, Houston, Texas 77058

Sample Request Deadline
September 3, 2004

MWG Meets
September 23-24, 2004

Sample no:	**MIL 03346**
Location:	Miller Range
Dimensions (cm):	10 x 6 x 5.5
Weight (g):	715.2
Weathering:	B
Fracturing:	B
Meteorite Type:	Nakhlite
Field Number:	13205

Macroscopic description (Kathleen McBride):

60% of the exterior is covered with black "wrinkled" appearing fusion crust. The areas without fusion crust are a black crystalline material with vugs. The binocular microscopic view of the exterior surface appears melted or fused together. The interior reveals a coarse grained, dark green to blackish crystalline matrix with a granular texture. This nakhlite is unbrecciated and homogeneous with interlocking grains and minor rust.

Thin Section (,2) Description: Tim McCoy, Cari Corrigan, Linda Welzenbach

The section is dominated by lathy to equant clinopyroxene that reaches 2mm in maximum dimension. Mesostasis occupies approximately 20% of the rock and contains skeletal iron-titanium oxides. Clinopyroxenes have core compositions of Fs_{21} Wo_{40} with rims reaching Fs_{49} $Wo_{34.}$ Olivine was not observed. The meteorite is a nakhlite. Its pyroxenes are compositionally similar to Lafayette, but it is richer in mesostasis and is unusual for nakhlites in lacking olivine.

View of MIL 03346,0 showing black fusion crust with vugs, as well as lighter interior exposed on the left side.

Plane polarized light view of MIL 03346, 2 showing clinopyroxene crystals and dark mesostasis. Scale bar is 1 mm.