

# New Lunar Meteorite

Sample No.: Yamato 981031  
 Location: Minami-Yamato Nunataks  
 Dimensions (cm): 6.9x4.6x3.8  
 Weight (g): 185.8  
 Weathering: A/B  
 Fracturing: B  
 Meteorite Type: Lunar Anorthositic breccia

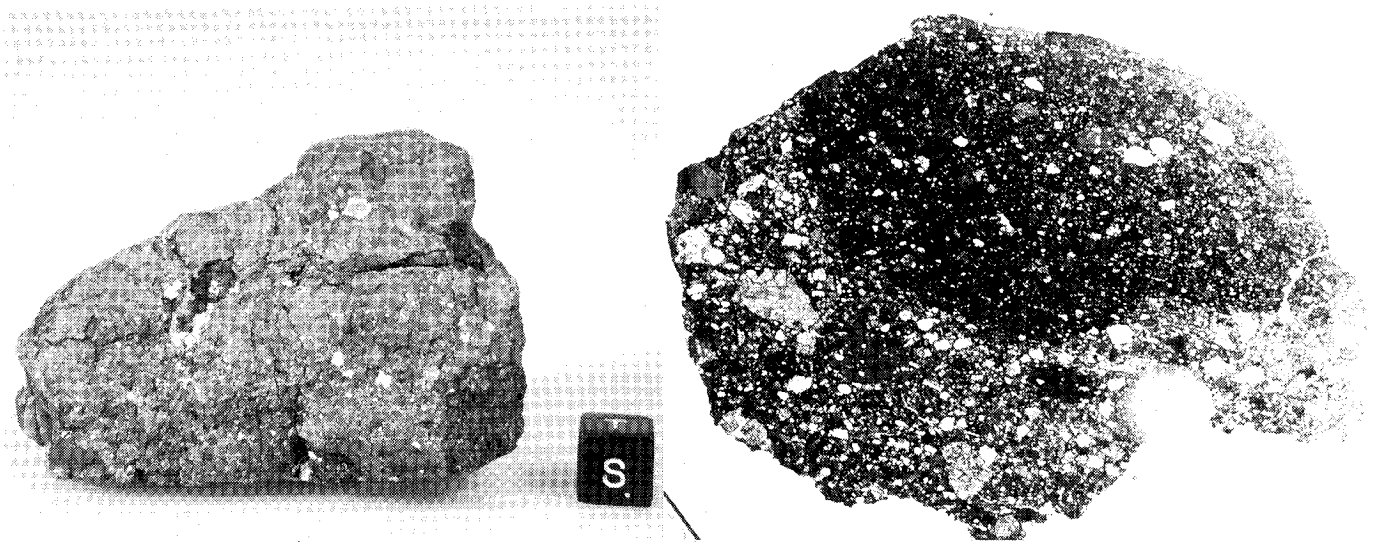
## Macroscopic Description

This lunar meteorite is approximately complete stone. The rock has some thin, yellow-green fusion crust. The outer surface consists of dark grey matrix with abundant millimeter sized clasts. Two large white clasts (10x7, 11x3 mm) are observed. Those are friable. 2/3 of original mass of both two have already been missing.

## Petrographic Descriptions

A thin section (15 mm width) shows a polymict regolith breccia with feldspar rich lithic and mineral clasts set in a dark matrix. Glass spherules and glass fragments are also observed. Microprobe analyses show that the pyroxene ranges En63.1Fs30.4Wo6.5 to En18.7Fs55.1Wo26.2. Plagioclase composition is An97.4-85.4 with one albite rich one (Ab46.7). Olivine ranges Fo68.7-59.2. The FeO: MnO ratio of pyroxenes is high, 82.1-40.3 characteristic of lunar material. Following is bulk chemical compositions of the meteorite. (analyst: Haramura H.)

SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	Cr <sub>2</sub> O <sub>3</sub>	Total
44.88	0.71	18.44	0.00	12.43	0.20	9.42	12.85	0.34	0.04	0.13	0.26	99.70



Cube = 1 cm

Plane polarized light, 15 mm width