

# 14314

Sample 14314 is a breccia sample collected during the second EVA at Station H. It was collected from the fillet below Turtle Rock, 80 meters NW of the LM. The fillet slopes 2 - 3° to the flat regolith and has abundant rocks up to 30 cm in size distributed in it.

## PHYSICAL CHARACTERISTICS

Mass

115.7 g

Dimensions

7 x 5 x 3 cm

The rock is a friable breccia, medium to light gray on its fresh surface and dark brownish gray elsewhere. Approximately 40% of the surface is glass covered.

## SURFACE FEATURES

Glass-lined pits range in size from smaller than 0.1 mm to 2 mm. There are approximately 60 pits per square centimeter except on the freshly broken surface (see also Twedell et al., 1978).

There are two generations of fractures with the older fractures filled with dark glass and the younger ones slightly opened, very irregular, and closely spaced.

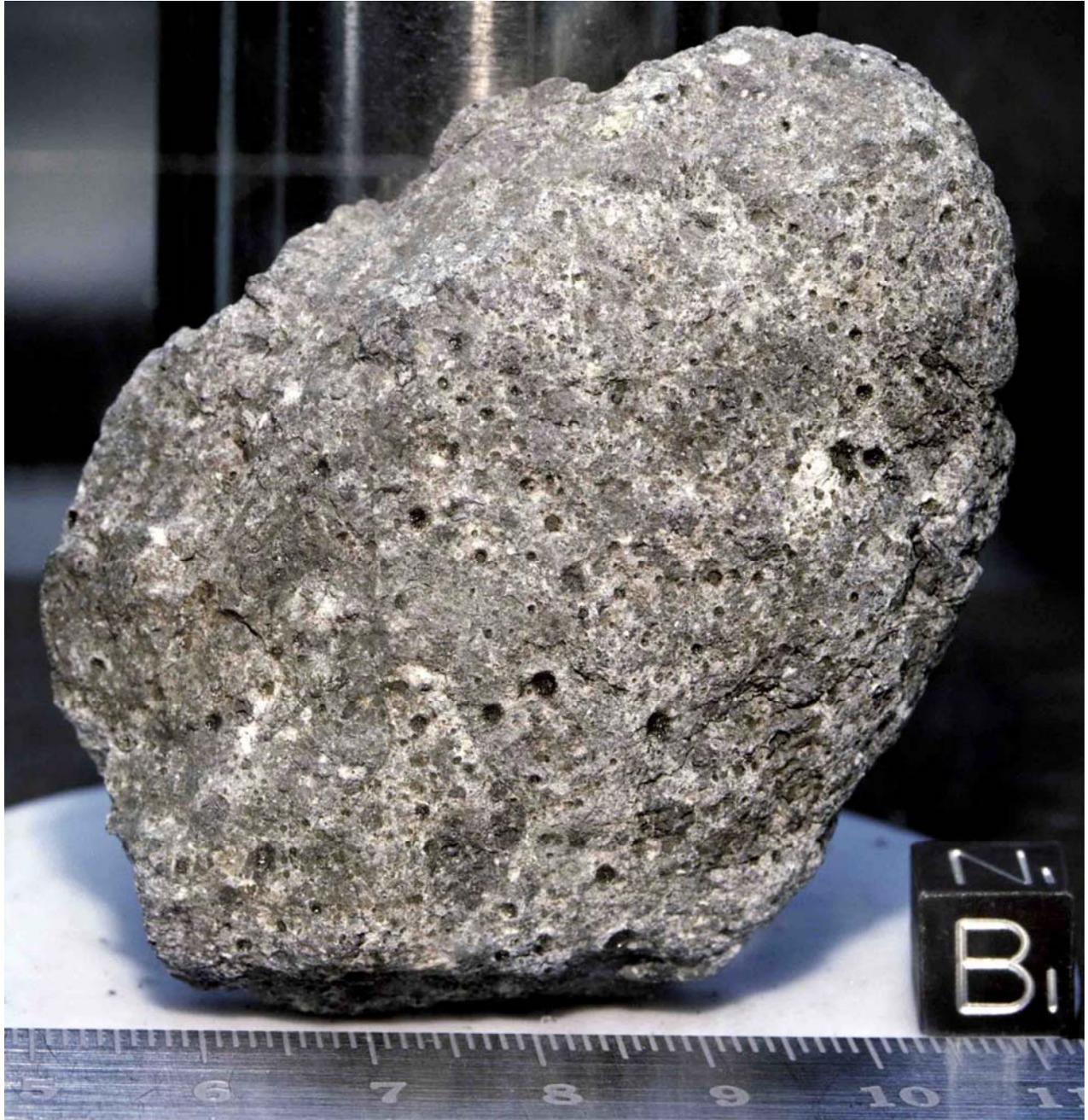
## PETROGRAPHIC DESCRIPTION

Sample 14314 is a polymict breccia which is composed of 10% leucocratic material and lithic fragments larger than 1 mm and 90% light and dark gray fragments smaller than 1 mm. Five percent of the rock is composed of mineral fragments larger than 0.1 mm. Mineral fragments consist of white to clear plagioclase, pale greenish yellow olivine, and clear cinnamon-brown pyroxene. Nine percent of the rock is composed of angular to rounded lithic fragments, 98% of which are leucocratic. Silicate boundaries are indistinct suggesting shock effects. Angular, dark brown to black glass fragments make up 2% of 14314. The matrix in many cases grades into the clasts. The matrix is a seriate mixture of mineral fragments and small lithic shards with very little dark, fine-grained material.

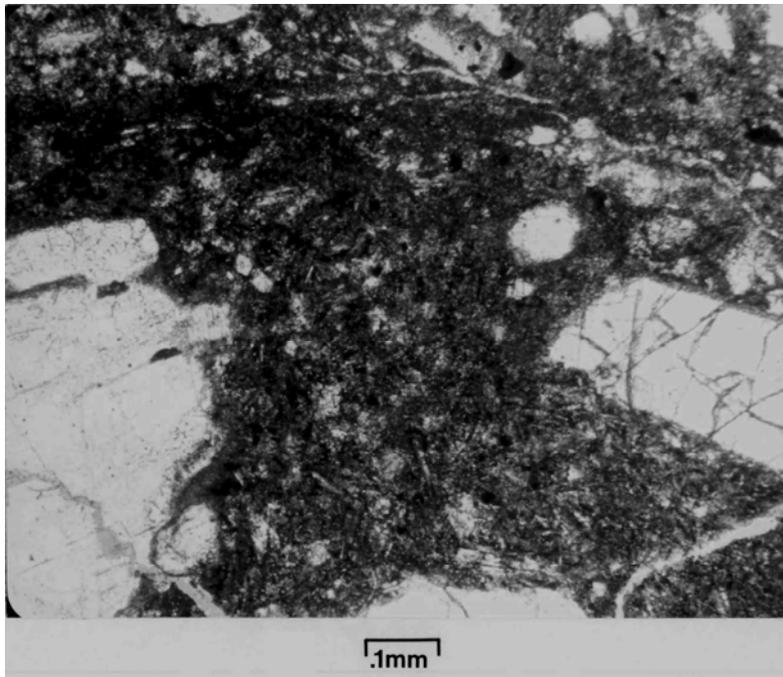
Thin section 14314,10 shows an abundance of highly shocked, large, pyroxene fragments and clasts interspersed with a few lithic clasts. The predominant lithic clast type is a plagioclase-rich cumulate and numerous types of fine-grained breccias. There are olivine grains in the cumulates and in many of the pyroxene and plagioclase grains.

## DISCUSSION

Wilshire and Jackson (1972) list sample 14314 as an F<sub>4</sub> (coherent with dark clasts). Warner (1972) places it in his high grade metamorphic category (7), and Chao et al. (1972) describe it as a shocked, strongly annealed, Fra Mauro breccia. Simonds et al. (1977) list it in their CMB category. In their analysis of Fra Mauro samples, Dence and Plant (1972) describe sample 14314,13 as containing a wide variety of clasts including mineral fragments, mare basalt, and annealed glass, predominantly of Fra Mauro basaltic composition, enclosing smaller amounts of potassic granite.



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