

14315

Sample 14315 is a breccia collected from Station H (North Boulder Field) during EVA 2. Its lunar location is documented as being 15 m SE of Turtle Rock and 70 m NW of the LM, but the lunar orientation is tentative. It was returned in weigh bag 1038.

PHYSICAL CHARACTERISTICS

Mass	Dimensions
115. g	3 x 6 x 6 cm

This coherent, gray breccia has a rounded surface and an angular flat underside.

SURFACE FEATURES

Glass-lined zap pits cover the rounded surface more densely than the flat surface, with 30 pits per square centimeter. The pits range in size from less than 0.1 to 2 mm.

There are two fracture sets orthogonal to each other, with three fractures in one set and one in another.

PETROGRAPHIC DESCRIPTION

This sample consists of 20% fragments less than 1 mm and 80% fragments larger than 1 mm. Seventy percent of the rock consists of lithic fragments greater than 0.1 mm which are entirely leucocratic and white. Two fragments of plagioclase rich material about 5 mm in size can be seen on the rounded surface. A prominent set of planar laminae of dark black glass 0.02 mm thick, about 2 mm long, and spaces 2 - 5 mm apart is an unusual feature of this rock. The glass laminae transect some grains but go around others.

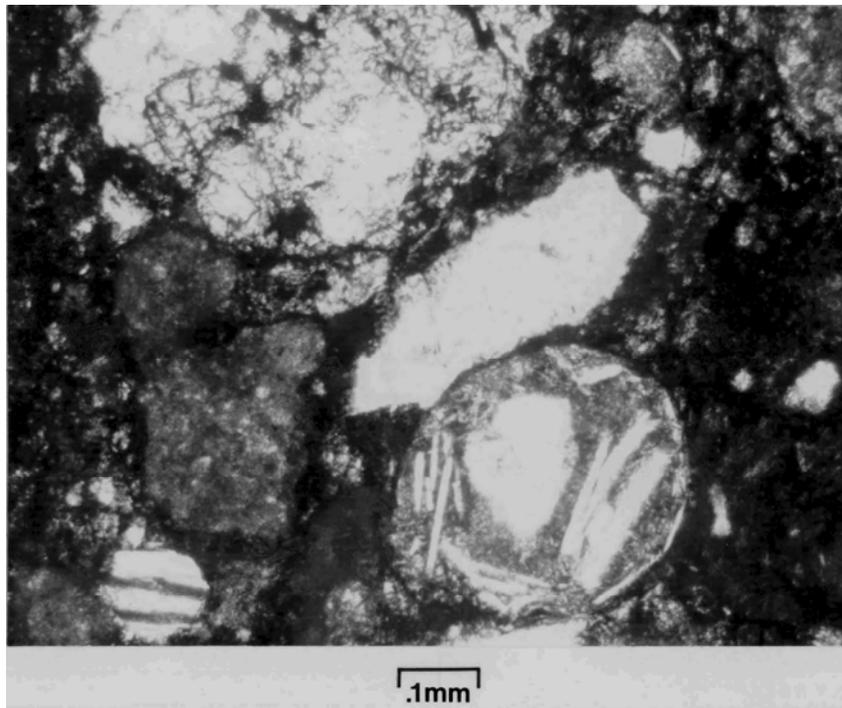
Thin section 14315,7 is very unusual in that the rock displays an interlocking mixture of mostly rounded, partly to nearly totally devitrified glass bodies, abundant chondrule-like bodies and scattered larger, highly shocked mineral and lithic fragments. The main lithic type present is microbreccia with either a very fine-grained matrix to a holocrystalline matrix. Many of the mineral fragments have been shocked to an extent that they are now very "glassy". The material cementing the fragments together is a reddish-brown, fine-grained material which shows a discontinuous pattern. One quarter of the section is a leucocratic clast which is in sharp contact with the other parts of the section.

DISCUSSION

Wilshire and Jackson (1972) describe sample 14315 as a coherent breccia with light clasts (F2). Warner (1972) places it in his metamorphic grade 3, and Chao et al. (1972) list it as a spherule-rich, transported microbreccia (3). Simonds et al. (1977) classify rock 14315 as a VMB. Nelen et al. (1972) describe sample 14315 as dense, plagioclase-rich rock with 5-10% chondrules consisting of plagioclase needles in a glassy matrix and glass spherules and fragments, most of which are devitrified. Analyses of the glasses reveal them as having a low (< 10%) iron content. One large fragment (2 x 6 mm) containing several clasts of quartz-K-feldspar intergrowth and a large rounded grain of orthopyroxene were observed. Most of the clasts were described as being olivine or plagioclase, however. Dence and Plant (1972) also observed many chondrule-like bodies and devitrified glasses of feldspathic basalt composition in sample 14315.



Width of image is approximately 6.5 cm, S-71-54204



14315,7