

14319
Crystalline-matrix Breccia
211.6 grams



Figure 1: Photo of 14319 showing rounded surface and micrometeorite craters. Sample is 8 cm long. NASA S71-29190.

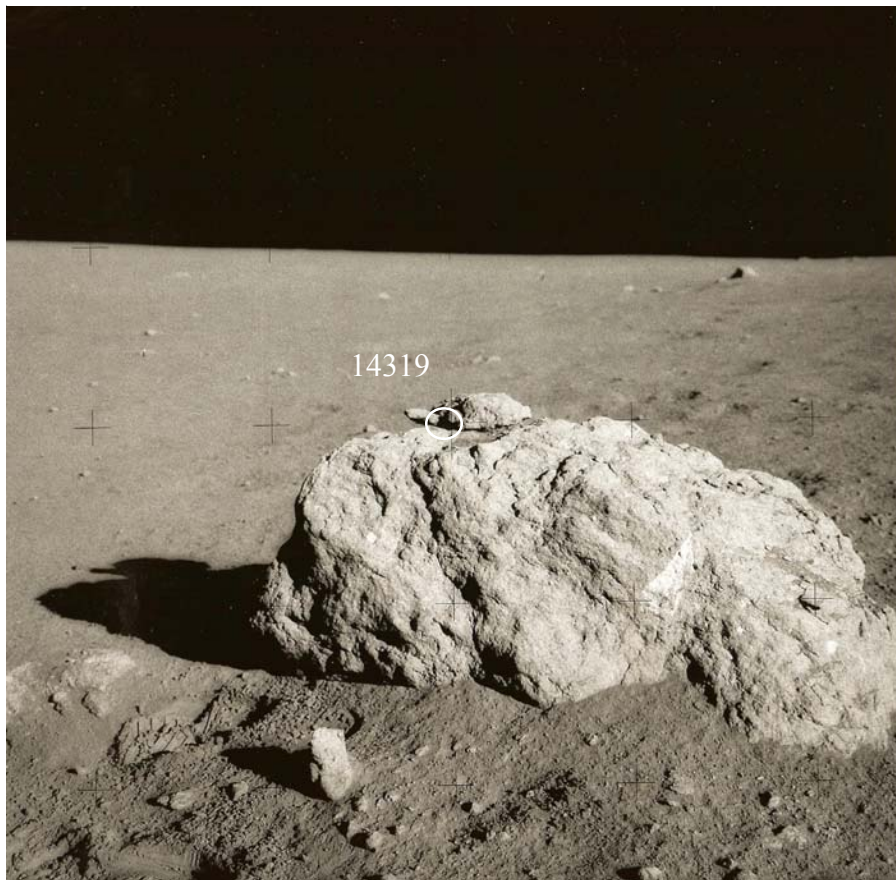


Figure 2: Photo of Turtle Rock (Station H) with Turtle Egg 14319. AS14-68-9476. (the turtle is still there).



Figure 3: Photo of broken surface of 14319. Sample is 8 cm across. NASA S71-31739.

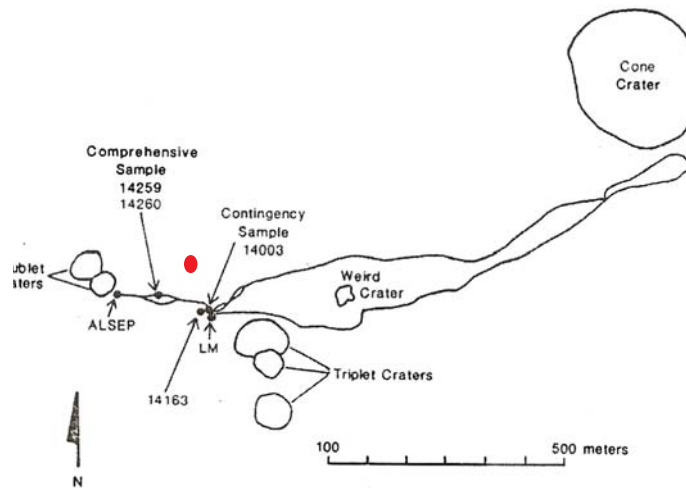


Figure 4: Map of Apollo 14 traverse with location of 14319.

Introduction

14319 is the “Turtle Egg” from top of “Turtle Rock” at the North Boulder Field (station H) about 100 meters northwest of the LM (Swann et al. 1977). It is a blocky, angular rock with a highly irregular surface. There is a low density of glass-lined zap pits on 3 faces of the rock which are somewhat rounded. The rest of the surface has no pits. One face is extremely fresh. Several irregular fractures cut the rock at a variety of angles. The rock is a coherent breccia that is broken apart along fractures. Clasts make up to 30 percent of the rock and dark clasts are by far the dominant type. Some of these have white clasts within them.

Nava was the consortium chief for 14319.

Petrography

Figure 5 shows that clasts are well incorporated into matrix. Simonds et al. (1977) classify 14319 as crystalline-matrix breccia as are other samples of this boulder (figure 6). Hunter and Taylor (1983) determined the mineral composition of a large plagioclase clast with minor olivine and spinel (An_{94} ; Fo_{67}).

Chemistry

Philpotts et al. (1972) determined the composition.

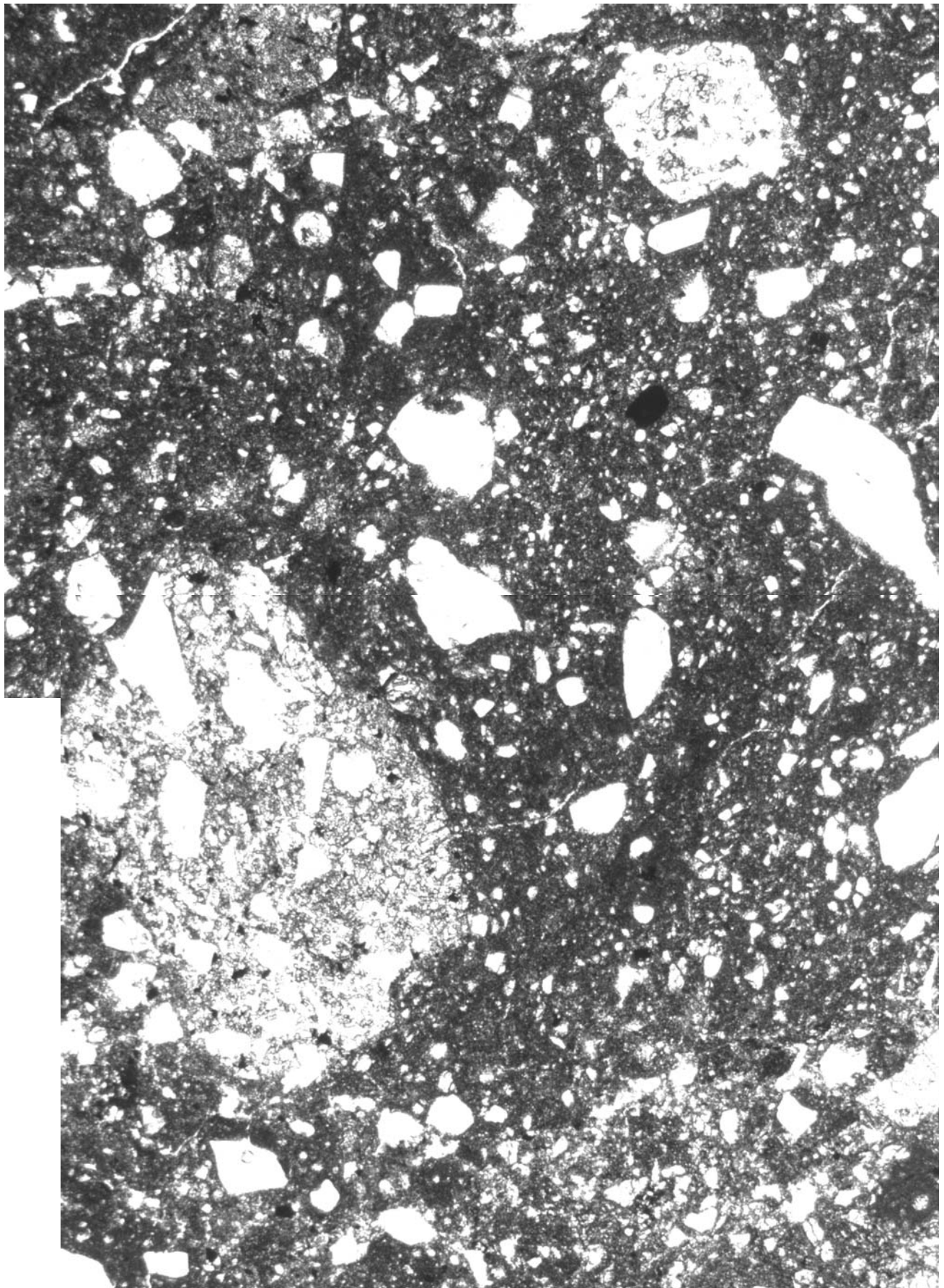


Figure 5: Photomicrograph of thin section 143219,5 by C Meyer. Scale = 2.8 mm across.

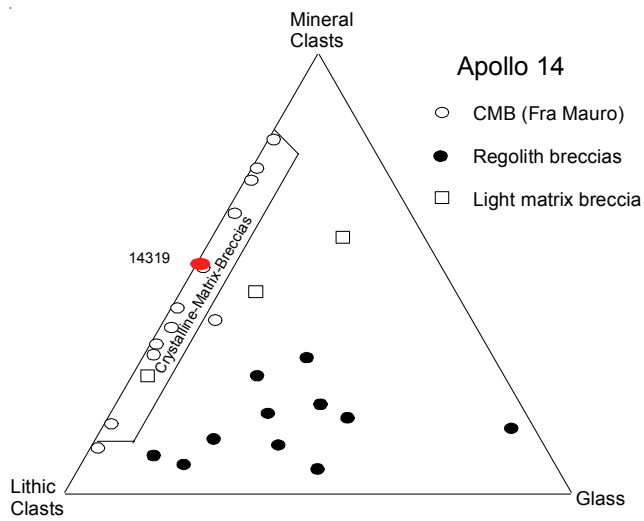


Figure 6: Simonds diagram for Apollo 14 breccia.

Processing

14319 was returned in weigh bag 1038 and first opened in Crew Reception Area, before entering NNPL for description (figure 8). There are 20 thin sections for 14319.

Table 1. Chemical composition of 14319.

reference weight	Philpotts72	
SiO ₂ %	47.7	49.3 (a)
TiO ₂	1.63	1.82 (a)
Al ₂ O ₃	16.4	15.76 (a)
FeO	10.03	9.76 (a)
MnO	0.12	0.12 (a)
MgO	10.71	10.12 (a)
CaO	10.33	9.67 (a)
Na ₂ O	0.86	0.84 (a)
K ₂ O	0.69	1.05 (a)
P ₂ O ₅	0.83	0.6 (a)
S %		
sum		

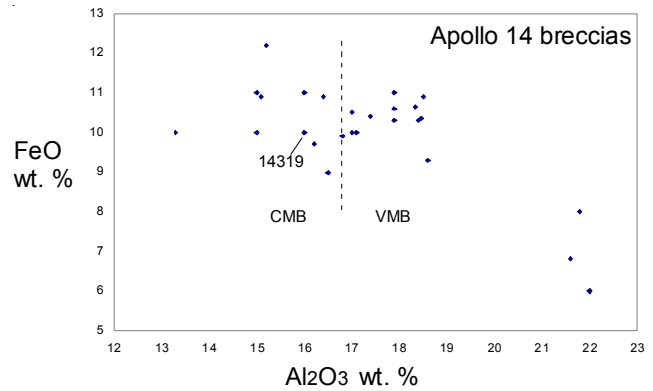
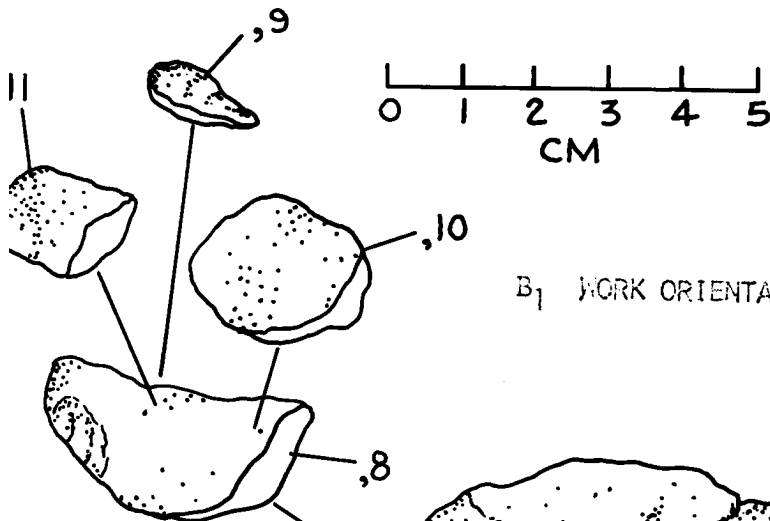
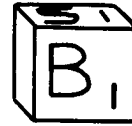
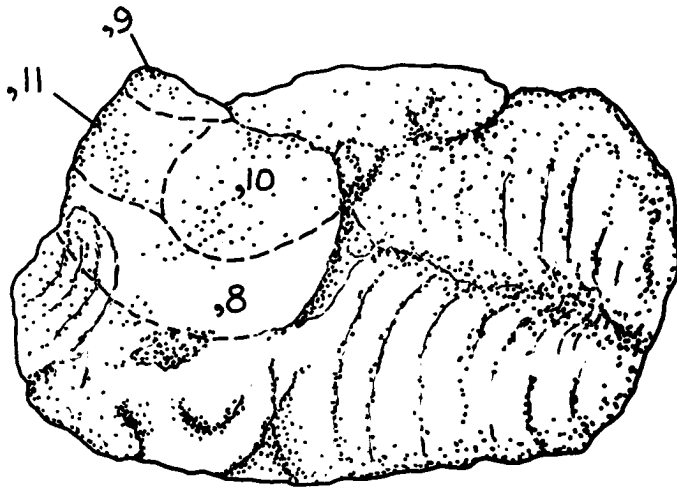


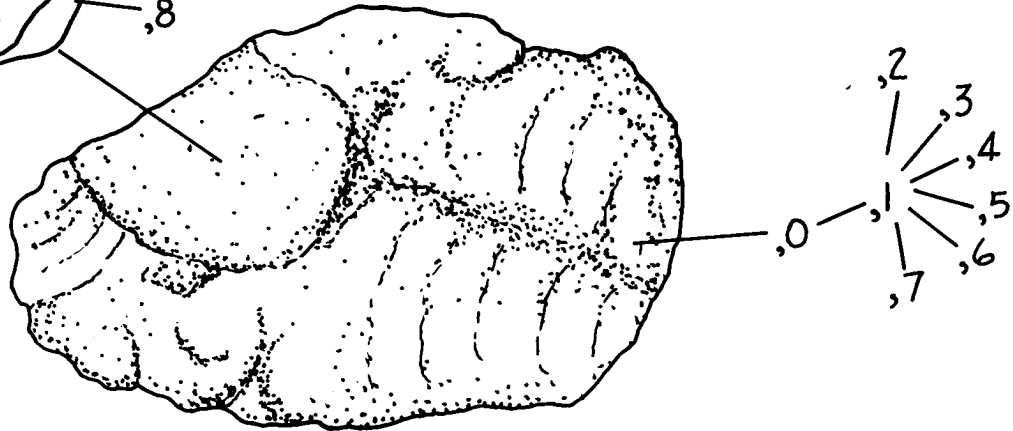
Figure 7: Composition of 14319 compared with Apollo 14 breccias.



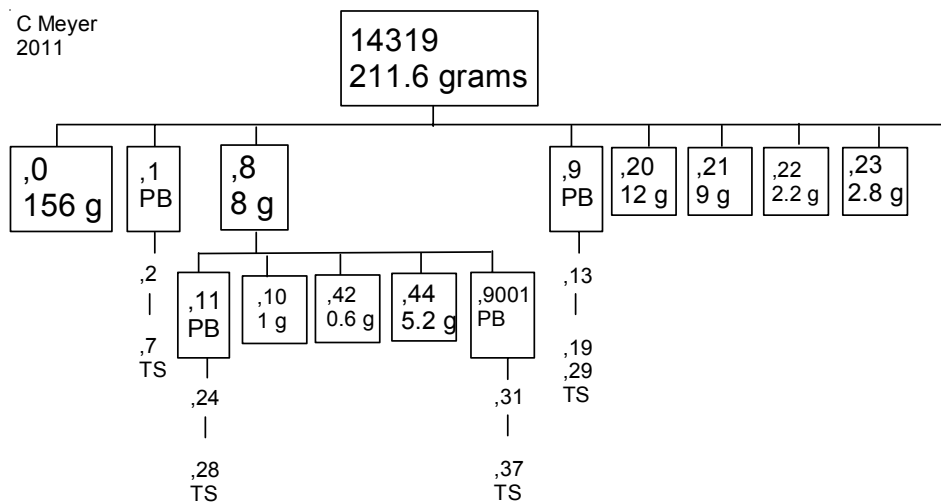
Figure 8: Ed Mitchell explaining where he collected the grab samples.



B₁ WORK ORIENTATION (LRL "MUG" PHOTOGRAPHY).



C Meyer
2011



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