72548 – 29.3 grams
72549 – 21 grams
Impact Melt Breccia

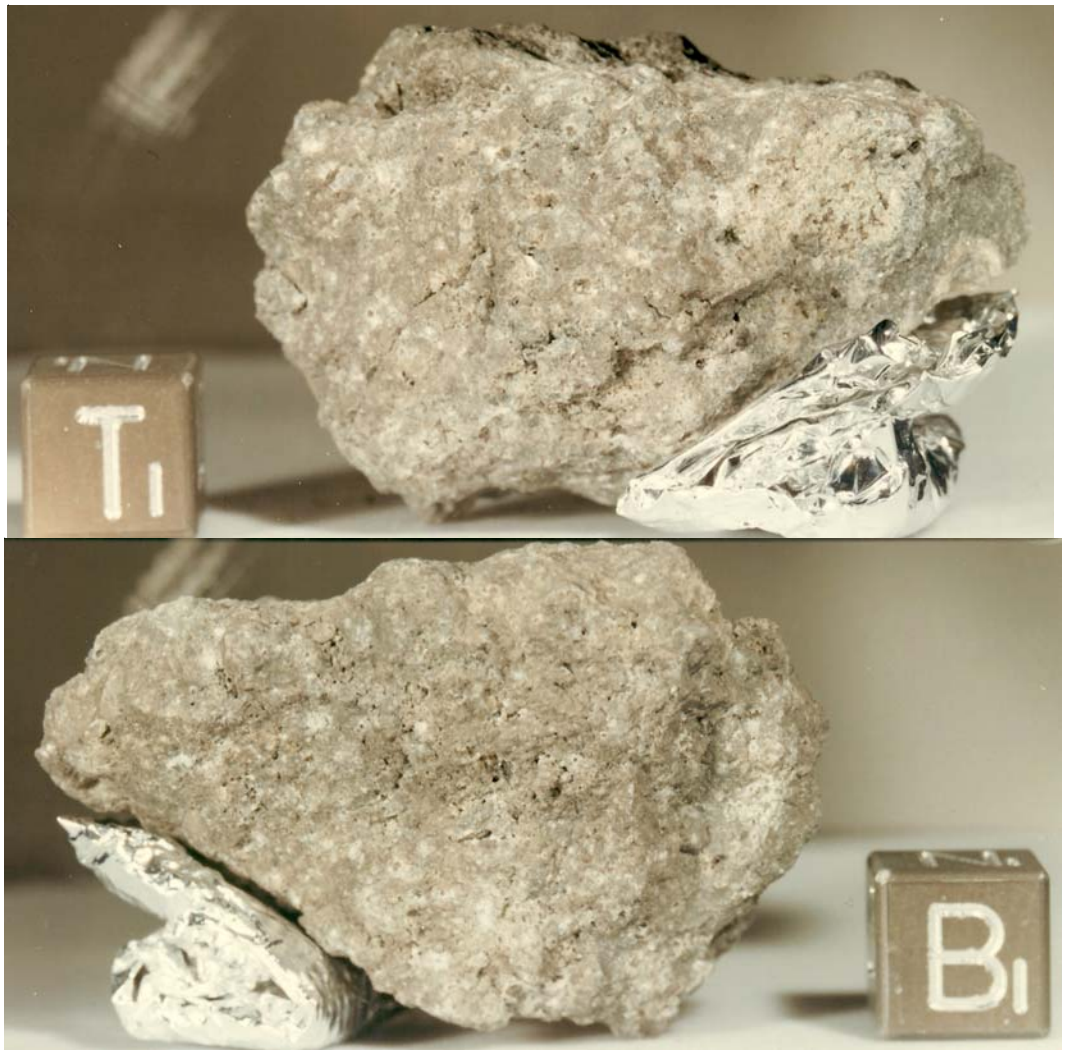
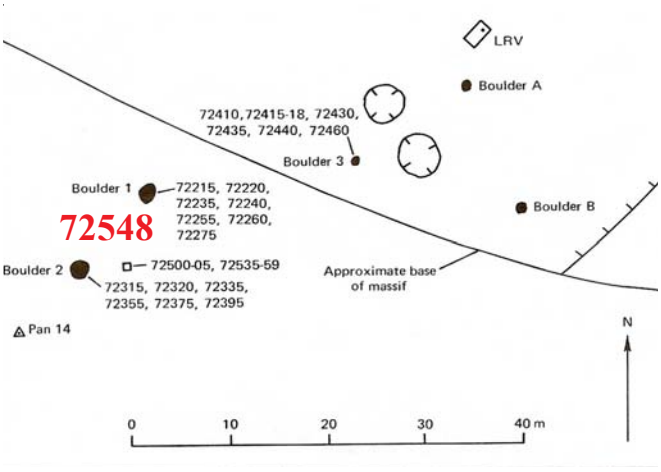


Figure 1: Photos of top and bottom of 72548. S73-19725 and S73-19726. Cube is 1 cm

Introduction

72548 and 72549 are rake samples from the South Massif (figure 2). They are described as microgranular impact melt breccias by Warner et al. (1978).



Petrography

72548 and 72549 appear to have similar modes, mineral compositions (figures 8 and 9) and textures. They are clastic in nature but have been partially melted and recrystallized (figures 4 - 7). The crystalline matrix appears different from most impact melt rocks, but that may be unimportant.

Figure 2: Photo of broken end of 72548 showing tan breccia included in blue-grey brecia matirx. S73-19730

Figure 3: Photo of rake sample 72549 with mm scale. S73-19628

Chemistry

The only analyses reported are by broad beam electron probe analyses (table 1).

Processing

72548 has been broken into several pieces (figure 10). There are two thin sections of 72548 and 6 for 72549.

Mineral Mode (Warner et al. 1977)

	Vol. %
Matrix	80.4
Mineral clasts	16.4
Lithic clasts	3.2
Mineral clasts	
Plagioclase	10.9
Olivine/Pyroxene	5.4
Opaque	tr.
Metal/troilite	0.1
Other	
Lithic Clasts	
ANT	2.3
Devit. Anorthosite	0.3
Breccia	0.4
Other	0.2
Percent of matrix	
Plagioclase	54.4
Olivine/pyroxene	43.3
Opaque	1.7
Metal/troilite	0.1
Other	0.5

Mineral Mode (Warner et al. 1977)

	Vol. %
Matrix	84.3
Mineral clasts	14.2
Lithic clasts	1.5
Mineral clasts	
Plagioclase	10.1
Olivine/Pyroxene	4.1
Opaque	
Metal/troilite	
Other	
Lithic Clasts	
ANT	1
Devit. Anorthosite	0.2
Breccia	0.3
Other	
Percent of matrix	
Plagioclase	53.7
Olivine/pyroxene	43.7
Opaque	1.4
Metal/troilite	0.4
Other	0.8

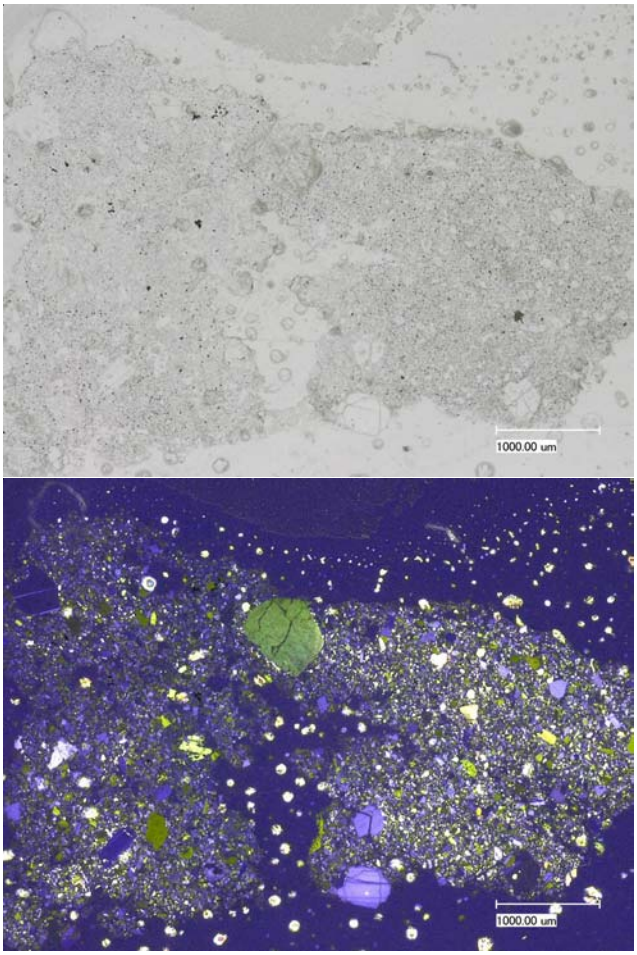


Figure 4: Photomicrographs of thin section 72548,11 by C Meyer @50x.

Figure 5: Thin section photomicrograph of 72548.

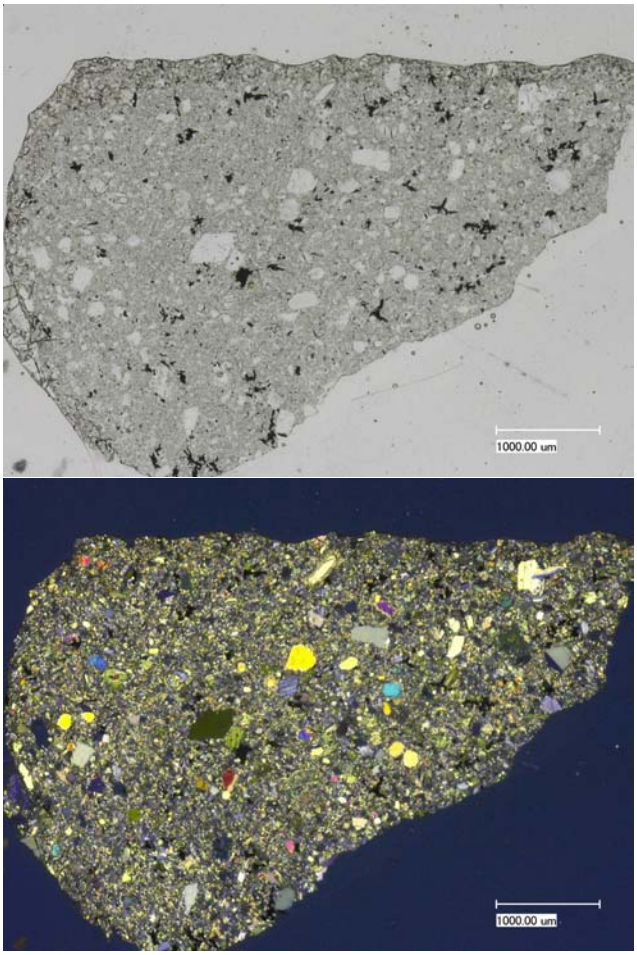


Figure 6: Photomicrographs of thin section 72549,7 by C Meyer @50x.

Figure 7: Thin section photomicrograph of 72549.

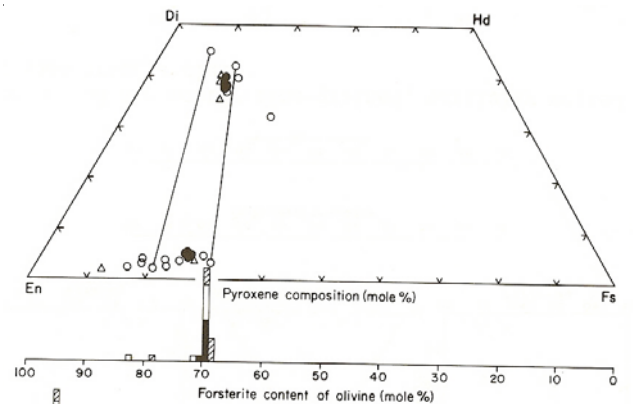


Figure 8: Pyroxene and olivine compostion of 72548 (Warner et al. 1978).

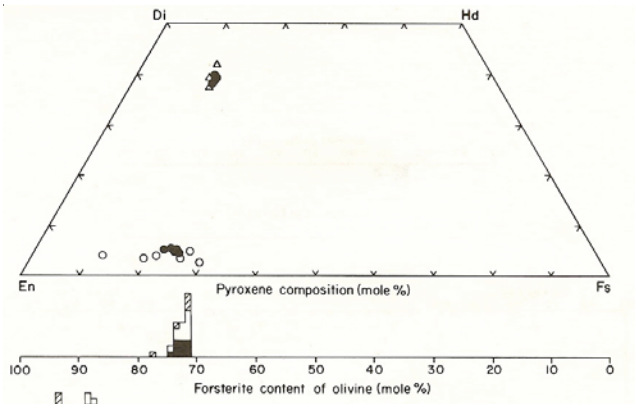


Figure 9: Pyroxene and olivine compostion of 72549 (Warner et al. 1978).

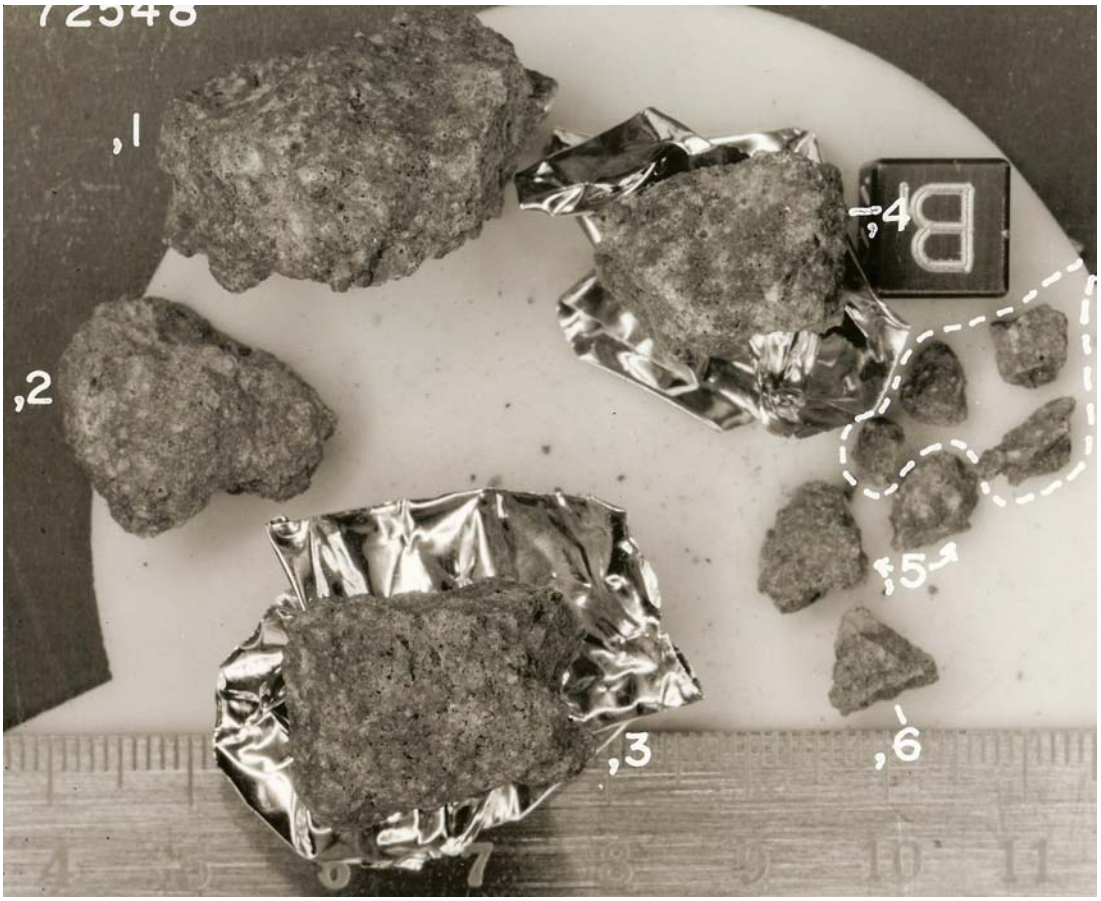
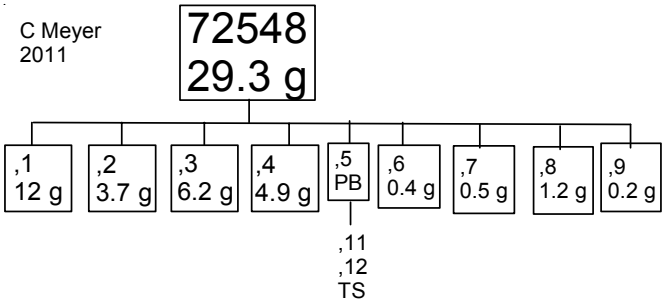


Figure 10: Processing photo of 72548, showing subdivisons. Cube is 1 cm. S74-19023



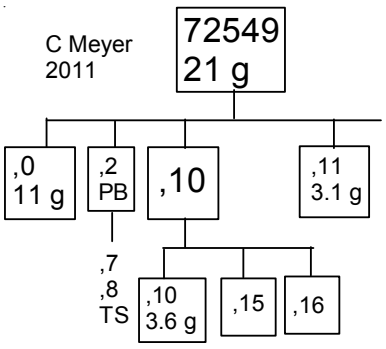


Table 1. Chemical composition

	72548	72549	
reference	Warner77		
weight			
SiO2 %	48.1	48.8	(a)
TiO2	1.47	0.95	(a)
Al2O3	20.3	19.1	(a)
FeO	7.4	7.8	(a)
MnO	0.11	0.11	(a)
MgO	9.3	11.2	(a)
CaO	12.1	12	(a)
Na2O	0.6	0.58	(a)
K2O	0.27	0.27	(a)
P2O5	0.15	0.35	(a)
S %			
sum			
Cr ppm	1026	1026	(a)

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