14181

Basalt
2.48 grams

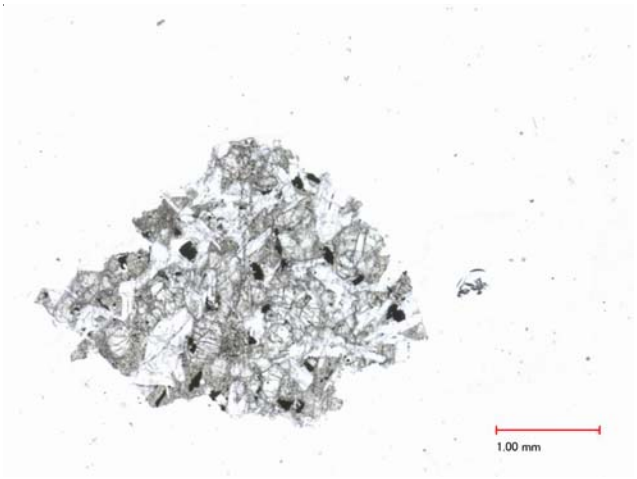

Figure 2: Photomicrographs of 14181,5 by C Meyer @50x.

Figure 1: Photo of 14181. Sixe is 1.3 cm. S71-26895.

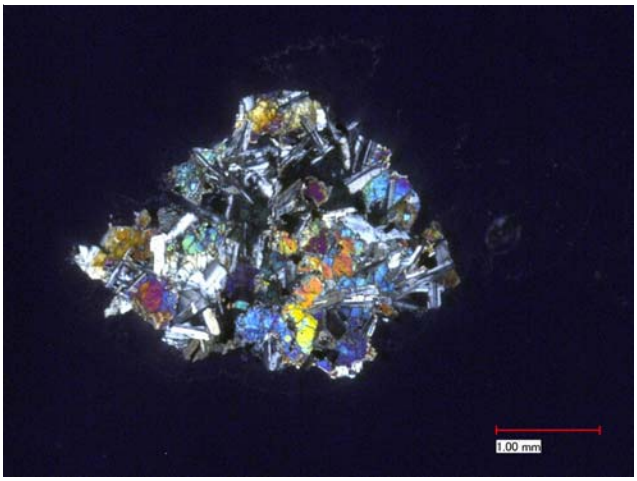

Figure 3: Photomicrographs of 14181,5 by C Meyer @50x (crossed polarizers).

Introduction

14181 was probably collected as part of a comprehensive sample near the ALSEP station. It is a small chip of high-K, mare basalt.

Petrography

14181 has a subophitic basaltic texture (figure) with prominent plagioclase laths partially intruding clinopyroxene. Plagioclase varies in composition for An84-An94 (Warren et al. 1985). There are a few small grains of olivine (Fo37) and pyroxene analyses are typical of mare basalt. Other phases include K-feldspar, ilmenite and chromite.

According to Phinney et al. (1975), 14169-14188 may be parts of 14303/4, and indeed this kind of basalt is frequently found as clasts in Fra Mauro breccias (thus predating the Imbrium impact).

Chemistry

Warren et al. (1985, 1997) reported only part of their analysis of 14181 (table 1).

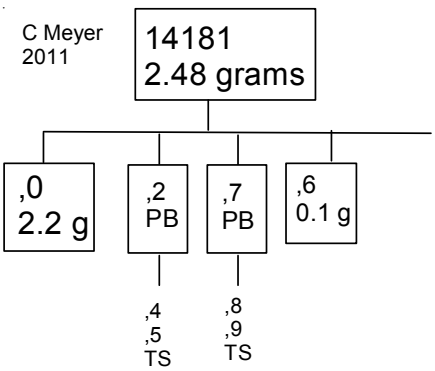

Table 1. Chemical composition of 14181.

reference	Warren97		Warren86	
weight				
SiO2 %			45.8	(a)
TiO2			2	(a)
Al2O3			13.8	(a)
FeO			15.6	(a)
MnO			0.23	(a)
MgO			10.1	(a)
CaO			11.3	(a)
Na2O			0.43	(a)
K2O			0.65	(a)
P2O5				
S %				
sum				
Sc ppm			57	(a)
V				
Cr			3080	(a)
Co	28.7	(b)	28.7	(a)
Ni	4	(b)	4	(a)
Cu				
Zn				
Ga			3.3	(a)
Ge ppb	175	(b)	175	(a)
As				
Se				
Rb			20.6	(a)
Sr			73	(a)
Y				
Zr			46	(a)
Nb				
Mo				
Ru				
Rh				
Pd ppb				
Ag ppb				
Cd ppb				
In ppb				
Sn ppb				
Sb ppb				
Te ppb				
Cs ppm			0.65	(a)
Ba			138	(a)
La			5.2	(a)
Ce			14.4	(a)
Pr			8.7	(a)
Nd				
Sm				
Eu				
Gd				
Tb				
Dy				
Ho				
Er				
Tm				
Yb				
Lu				
Hf				
Ta				
W ppb				
Re ppb	3	(b)		
Os ppb	11	(b)		
Ir ppb	1.5	(b)		
Pt ppb				
Au ppb	0.15	(b)		
Th ppm				
U ppm				

technique: (a) INAA, (b) RNAA

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