

**14181**  
Basalt  
2.48 grams

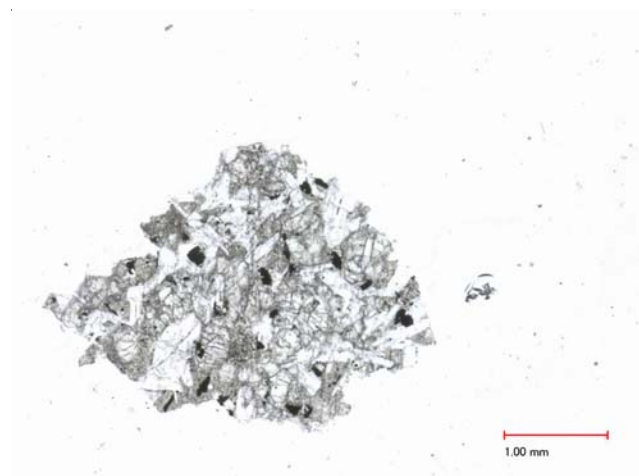


Figure 2: Photomicrographs of 14181,5 by C Meyer @50x.



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

**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).

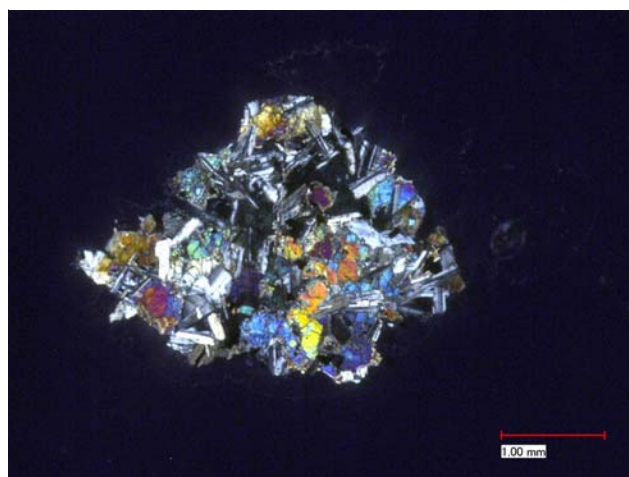
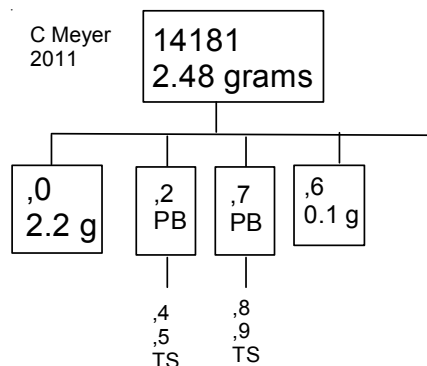


Figure 3: Photomicrographs of 14181,5 by C Meyer @50x (crossed polarizers).



**Table 1. Chemical composition of 14181.**

reference weight	Warren97	Warren86	
SiO <sub>2</sub> %		45.8	(a)
TiO <sub>2</sub>		2	(a)
Al <sub>2</sub> O <sub>3</sub>		13.8	(a)
FeO		15.6	(a)
MnO		0.23	(a)
MgO		10.1	(a)
CaO		11.3	(a)
Na <sub>2</sub> O		0.43	(a)
K <sub>2</sub> O		0.65	(a)
P <sub>2</sub> O <sub>5</sub>			
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

**References for 14181**

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