60629

Ferroan Anorthosite

4.9 grams

Figure 1: Photo of 60629 showing black glass attached to anorthosite. Scale marked in mm. S73-20484

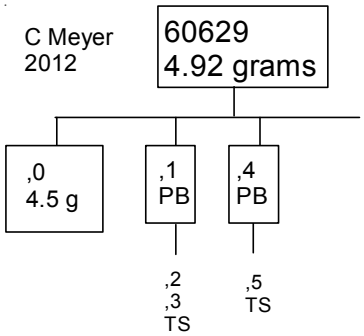
Introduction

60629 was found as a rake sample from the regolith near the LM.

Petrography

Dowty et al. (1974) and Warner et al. (1976) reported that 60629 was an anorthosite with attached black glass. The anorthosite has a cataclastic texture (figure 2). The pyroxenes in 60629 indicate that this sample is ferroan anorthosite (figure 3).

The black glass attached to 60629 was analyzed by See et al. (1986) and Morris et al. (1986).



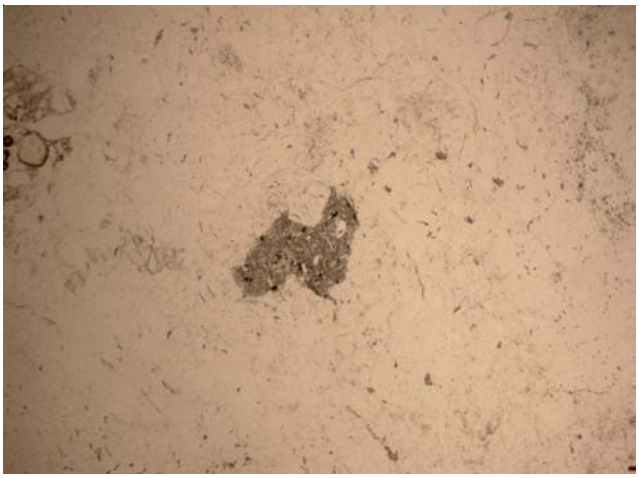


Figure 2: Phot of thin section 60629,2 showing shocked plagioclase with trapped melt inc. by C Meyer 2 mm

Chemistry

The composition of the anorthositic part of 60629 was determined by Dowty et al. (1974) and See et al. (1986).

Processing

There are two thin sections for 60629.

Table 1. Chemical composition of 60629

			glass	interior		glass	
reference	Dowty74		See 86	See 86		Morris86	
weight							
SiO2 %	44.6	(a)	45.54	43.94	(b)		
TiO2	0.01	(a)	0.3	0.03	(b)		
Al2O3	35.1	(a)	28.4	33.5	(b)		
FeO	0.36	(a)	4.24	1.63	(b)	6.28	(c)
MnO			0.05		(b)		
MgO	0.26	(a)	5.18	1.76	(b)		
CaO	19.2	(a)	16.28	18.51	(b)		
Na2O	0.41	(a)	0.63	0.36	(b)	0.58	(c)
K2O	0.02	(a)	0.08	0.03	(b)		
P2O5	0.03	(a)					
S %							
sum							
Sc ppm						6.15	(c)
V							
Cr						776	(c)
Co						66	(c)
Ni						1321	(c)
Cu							
Zn							
Ga							
Ge ppb							
As							
Se							
Rb							
Sr							
Y							
Zr							
Nb							
Mo							
Ru							
Rh							
Pd ppb							
Ag ppb							
Cd ppb							
In ppb							
Sn ppb							
Sb ppb							
Te ppb							
Cs ppm							
Ba						174	(c)
La						10.27	(c)
Ce						23.4	(c)
Pr							
Nd							
Sm						4.43	(c)
Eu						1.15	(c)
Gd							
Tb						0.94	(c)
Dy							
Ho							
Er							
Tm							
Yb						3.02	(c)
Lu						0.43	(c)
Hf						3.21	(c)
Ta						0.35	(c)
W ppb							
Re ppb							
Os ppb							
Ir ppb							
Pt ppb							
Au ppb							
Th ppm						2.34	(c)
U ppm						0.52	(c)

technique: (a) Broad beam e. probe, (b) e probe, (c) INAA

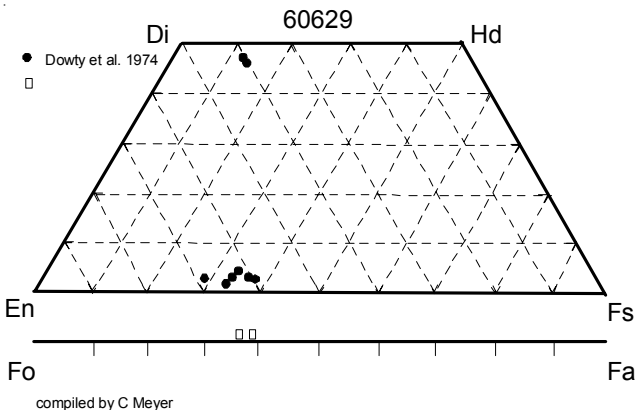


Figure 3: Composition of pyroxene and olivine in 60629 (Warner et al. 1976).

References for 60629

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