

70075
Vitrophyric Basalt
5.64 grams

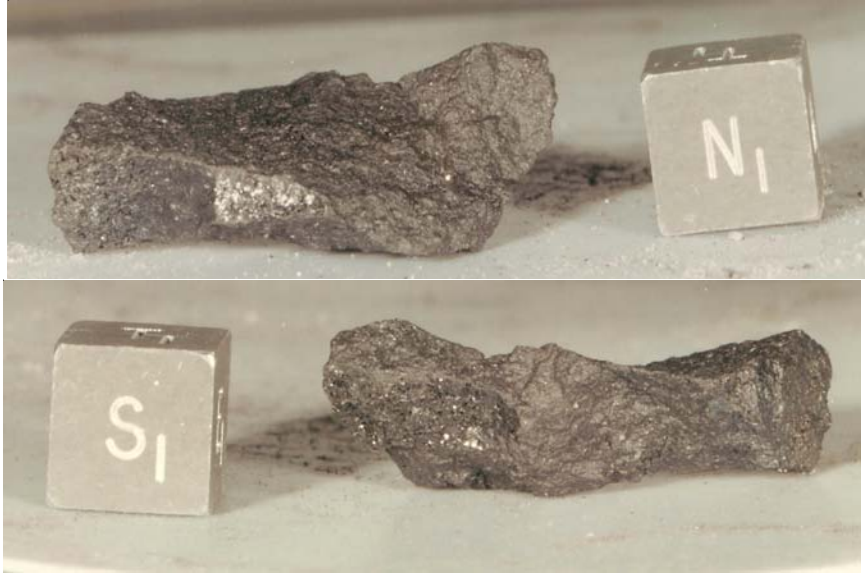


Figure 1: Photos of both sides of 70075. S73-21768 and 769. Cube is 1 cm.

Introduction

Although Butler (1973) and Neal and Taylor (1993) give a mineral mode for 70075, thin sections show that the sample is a vitrophyric basalt with only a few small phenocrysts of olivine and armalcolite armored with ilmenite.

70075 was collected near the LM.

Petrography

Warner et al. (1979) reported that the opaque “glass” matrix was actually fine-grained intergrowths of plagioclase, pyroxene and ilmenite (figure 2). Olivine composition is Fe_{70} .

Chemistry

Warner et al. (1979) determined the chemical composition of 70075 (table 1) and grouped it with type A Apollo 17 basalts (figure 4). The REE pattern indicates that it belongs to the type A basalts.

Processing

There are two thin sections of 70075.

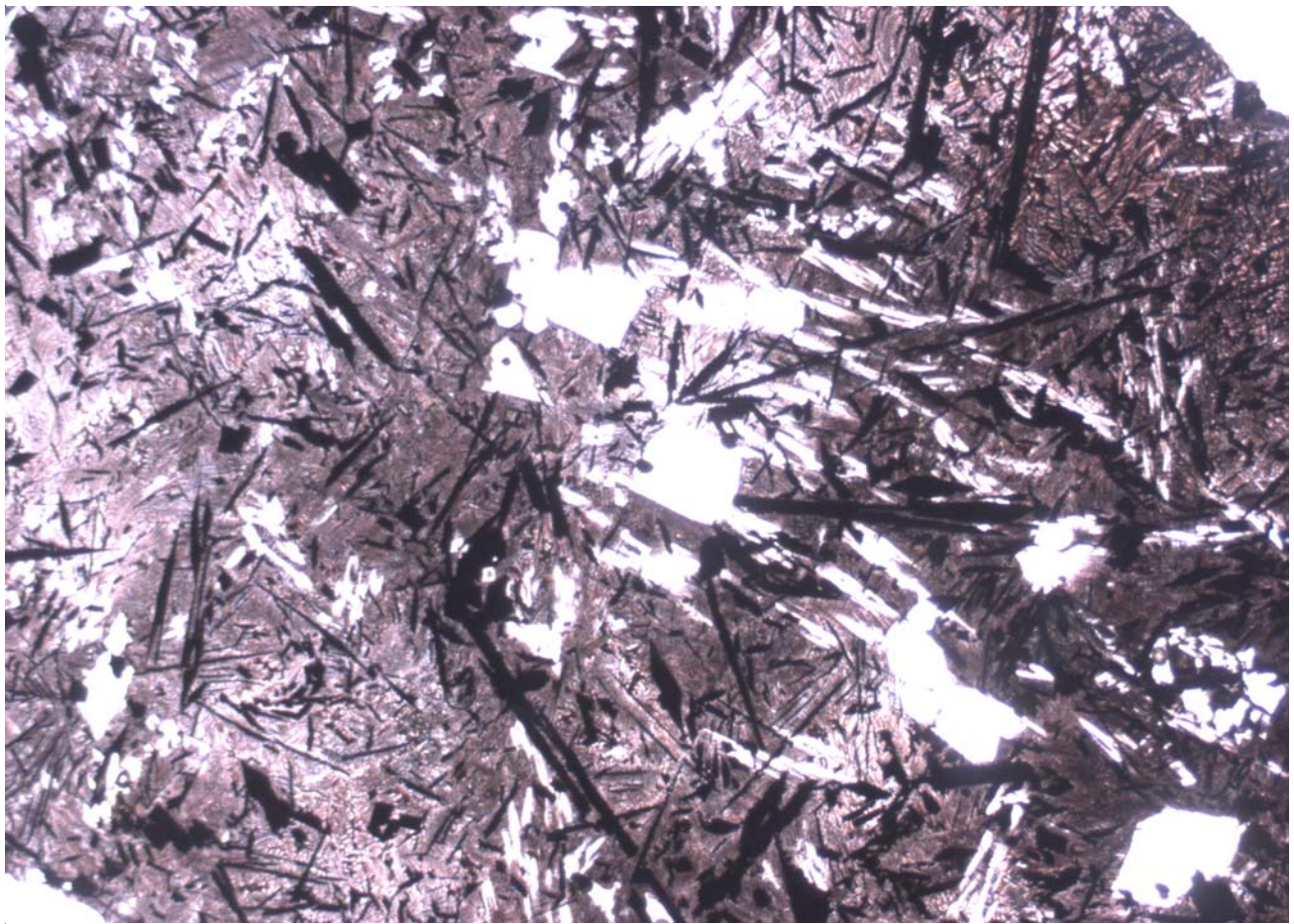


Figure 2: Photomicrographs of thin section 70075,4. 2.8 mm across



Table 1. Chemical composition of 70075.

reference weight	Ma77 Warner79	
SiO ₂ %		
TiO ₂	12.1	(a)
Al ₂ O ₃	9.3	(a)
FeO	19.4	(a)
MnO	0.253	(a)
MgO	8	(a)
CaO	10.3	(a)
Na ₂ O	0.417	(a)
K ₂ O	0.067	(a)
P ₂ O ₅		
S %		
sum		
Sc ppm	86	(a)
V	86	(a)
Cr	2800	(a)
Co	19	(a)
Ni		
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		
La	6.9	(a)
Ce	27	(a)
Pr		
Nd	28	(a)
Sm	10.9	(a)
Eu	2.21	(a)
Gd		
Tb	2.8	(a)
Dy	18	(a)
Ho		
Er		
Tm		
Yb	10.4	(a)
Lu	1.53	(a)
Hf	9	(a)
Ta	2.1	(a)
W ppb		
Re ppb		
Os ppb		
Ir ppb		
Pt ppb		
Au ppb		
Th ppm		
U ppm		
technique:	(a) INAA	

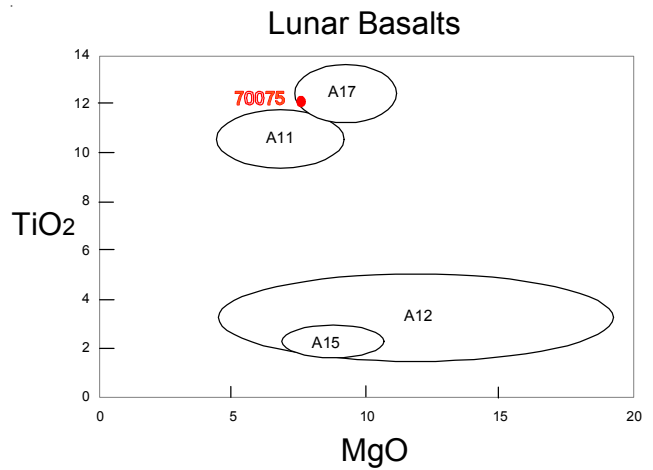


Figure 3: Composition of Apollo basalts.

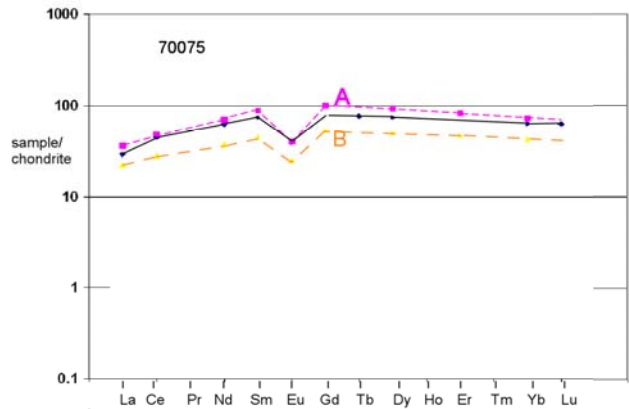
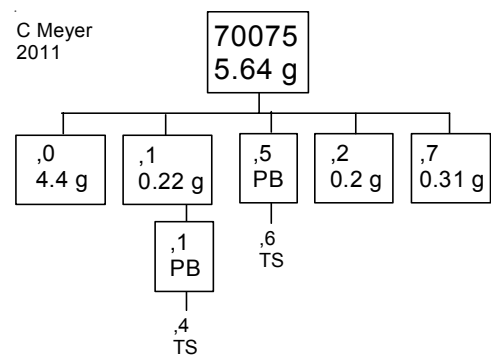


Figure 4: Normalized rare-earth-element diagram for 70075 and type A and B basalts.



References for 70075

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