71505

Ilmenite Basalt

29.5 grams

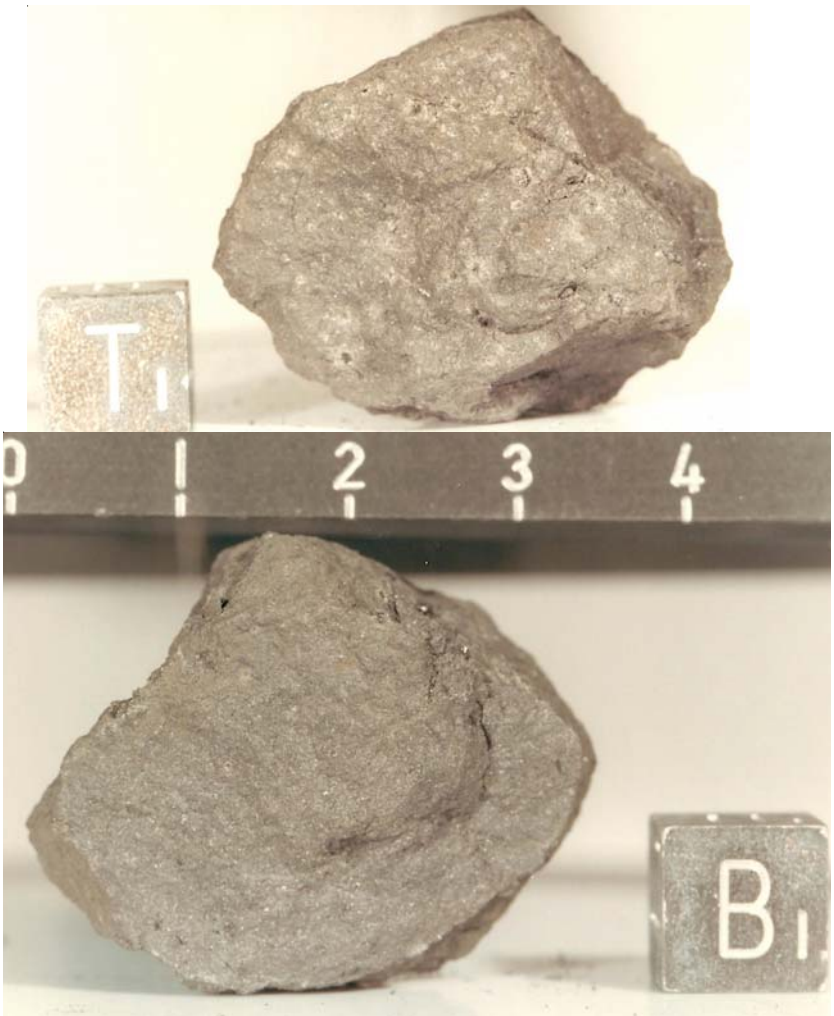


Figure 1: Photos of top and bottom of 71505. Cube and scale are 1 cm. S73-15431 and 436.

Introduction

71505 is a "walnut" sieved from the comprehensive soil 71500 taken at station 1, Apollo 17. It is rounded and has micrometeorite "zap" pits on 5 out of 6 sides.

Station 1 was located about 150 meters from Steno Crater – which is about 600 meter diameter and thought to have sampled to a depth of 120 meters (Wolfe et al. 1981). There are numerous rake samples from nearby (figure 2).

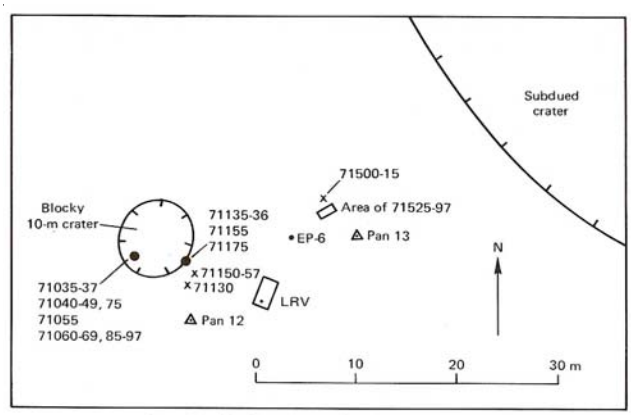


Figure 2: Map of station 1, Apollo 17.

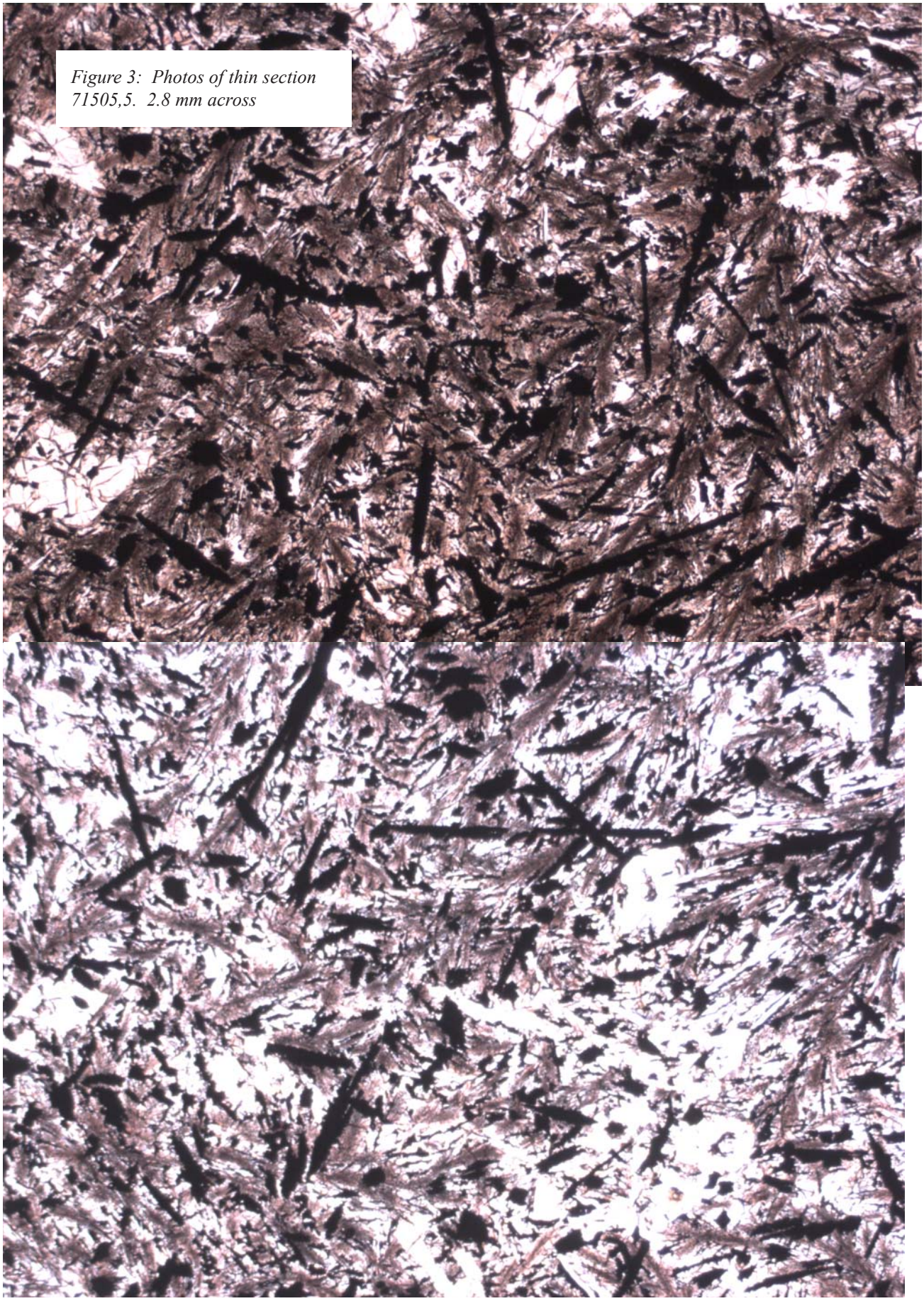


Figure 3: Photos of thin section 71505,5. 2.8 mm across

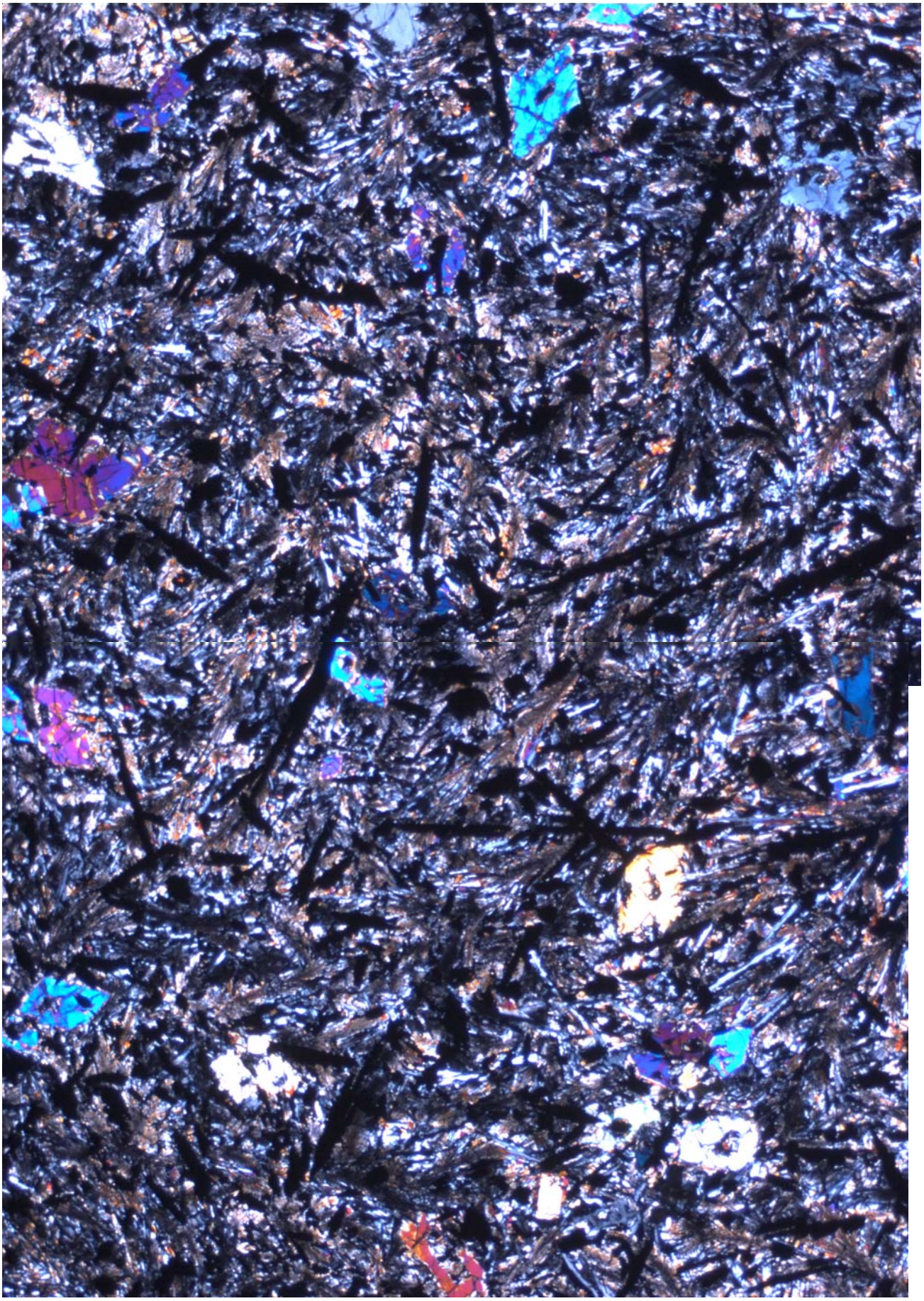


Table 1. Chemical composition of 71505.

reference	Warner79	
weight	Ma79	
SiO2 %		
TiO2	10.5	(a)
Al2O3	9.6	(a)
FeO	19.2	(a)
MnO	0.252	(a)
MgO	7	(a)
CaO	10.3	(a)
Na2O	0.367	(a)
K2O	0.048	(a)
P2O5		
S %		
sum		
Sc ppm	86	(a)
V	87	(a)
Cr	2094	(a)
Co	18	(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	5.9	(a)
Ce	21	(a)
Pr		
Nd	22	(a)
Sm	7.8	(a)
Eu	1.57	(a)
Gd		
Tb	1.9	(a)
Dy	13	(a)
Ho		
Er		
Tm		
Yb	7.6	(a)
Lu	1.09	(a)
Hf	6.9	(a)
Ta	1.6	(a)
W ppb		
Re ppb		
Os ppb		
Ir ppb		
Pt ppb		
Au ppb		
Th ppm		
U ppm		

technique: (a) INAA

Petrography

71505 is a fine-grained ilmenite basalt with eroded, skeletal olivine phenocrysts and needles of ilmenite set in a feathery intergrowth of plagioclase-pyroxene. Neal and Taylor (1993) described the groundmass as "variolitic". In any case this specimen represents a chilled margin of a lunar lava flow.

Mineral compositions have not been reported.

Chemistry

Ma et al. (1979) and Warner et al. (1979) reported an analysis 71505 (table 1 and figures 4 and 5). The Ti content is lower than for most Apollo 17 basalts, and the REE pattern is similar to type B basalts.

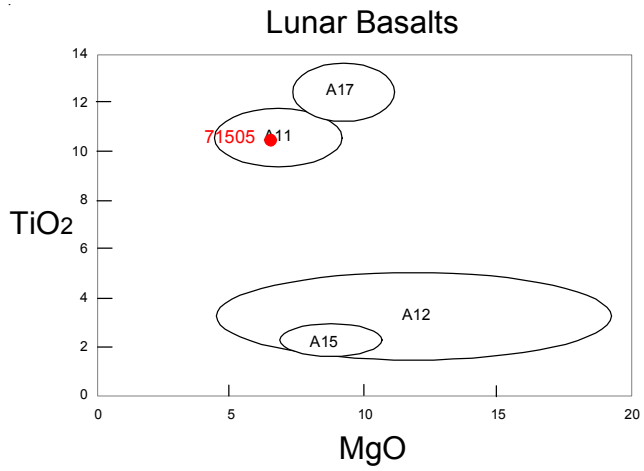


Figure 4: Compositionof 71505 showig low Ti campared with most Apollo 17 basalts.

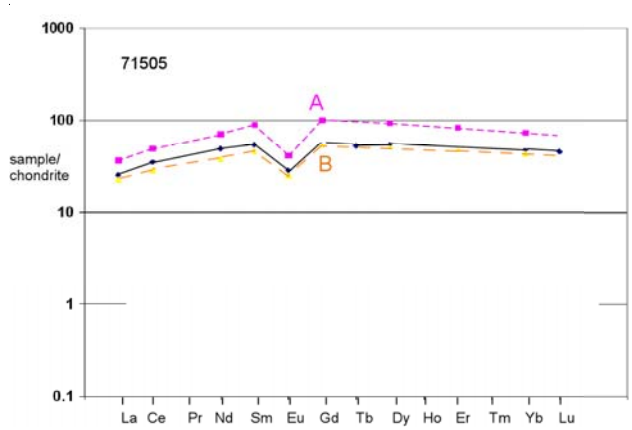
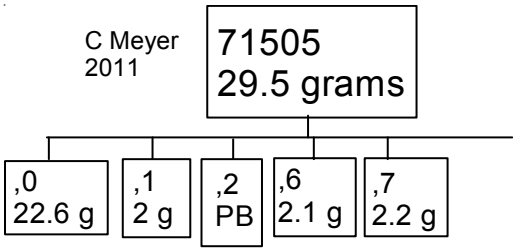


Figure 5: Normalized rare-earth-element diagram for 71505 and type A and B basalts.

Radiogenic age dating
None

Processing
There is only one thin section of 71505.



References for 71505

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