

**76537****High-Ti Mare Basalt****26.48 g, 3.2 x 2.7 x 1.5 cm****INTRODUCTION**

Sample 76537 is a rake sample from Station 6 (Phinney et al., 1974). It is atypical Apollo 17 high-Ti mare basalt.

**PETROGRAPHY**

The B1 surface of sample 76537 is covered with micrometeorite pits and patina (Fig. 1). This fine-grained mare basalt has a variolitic texture with olivine phenocrysts and long needles of ilmenite (Fig. 2). Brown pyroxene is intergrown with plagioclase in radial clusters.

**WHOLE-ROCK CHEMISTRY**

This basalt has 13%  $\text{TIO}_2$ . It has been analyzed for major elements by Rhodes et al. (1976a) and for REE by Wiesmann and Hubbard (1975) (Table 1). It is typical of Apollo 17 high Ti basalts (Fig. 3). Nyquist et al. (1975) have reported isotopic data (Table 2).

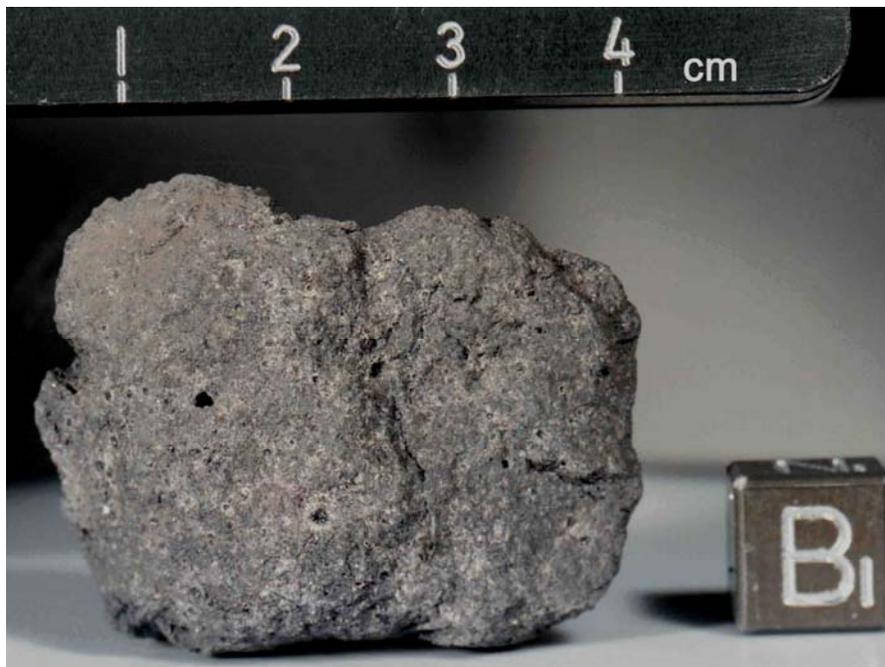


Figure 1: Photograph of cratered surface of 76537. S73-19735.

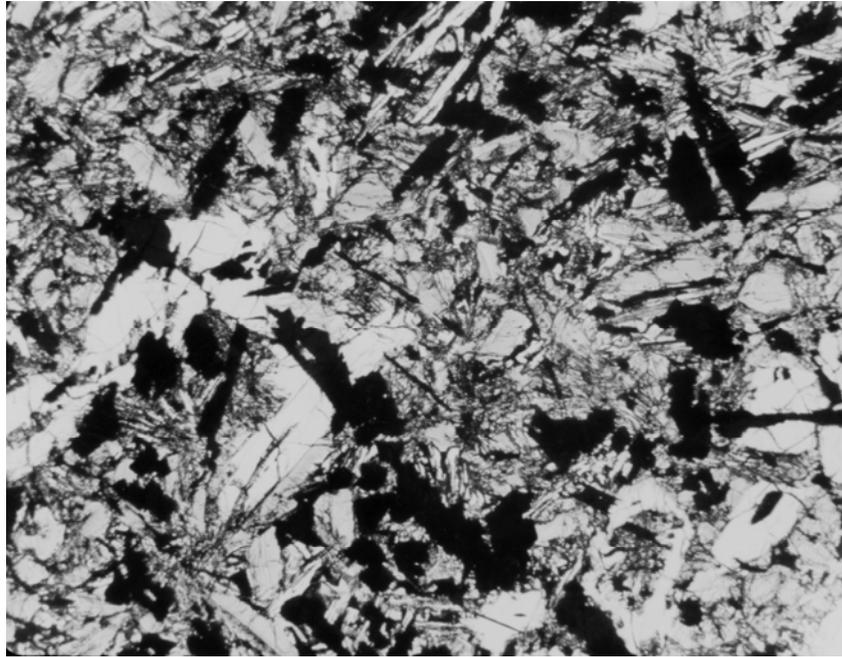


Figure 2: Photomicrograph of texture of 76537. Field of view is 2 x 3 mm.

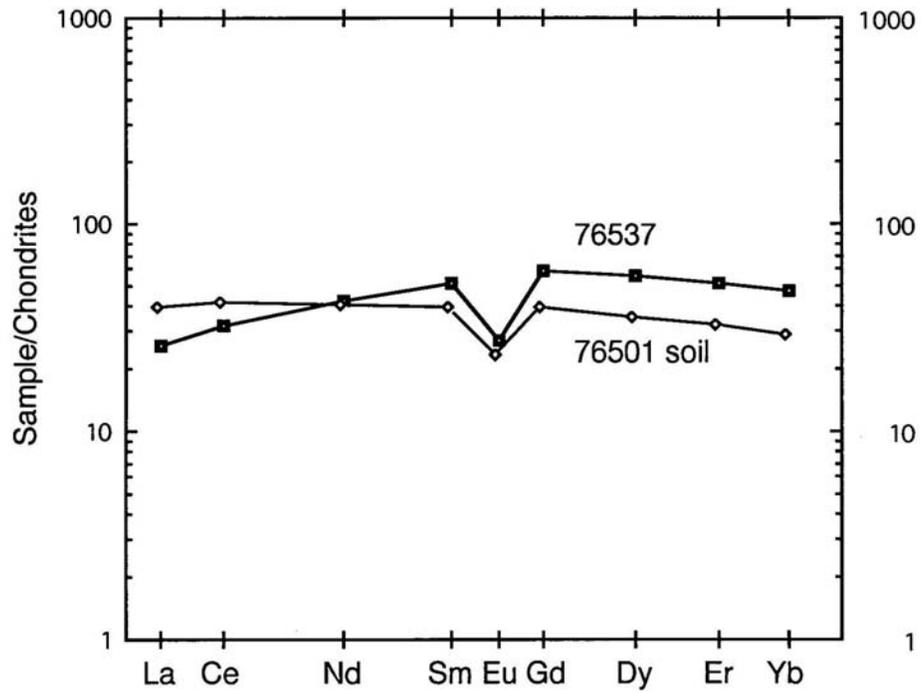


Figure 3: Normalized rare earth element diagram for mare basalt sample 76537. Data from Wiesmann and Hubbard (1975).

**Table 1: Whole-rock chemistry of 76537.**  
From Rhodes et al. (1976a); Wiesmann and Hubbard (1975).

Split Technique	,1 XRF, IDMS	Split Technique	,1 XRF, IDMS
SiO <sub>2</sub> (wt%)	38.25	Th	0.45
TiO <sub>2</sub>	13.05	Sr	131
Al <sub>2</sub> O <sub>3</sub>	8.69	Rb	0.41
Cr <sub>2</sub> O <sub>3</sub>	0.37	Li	8.4
FeO	19.60	Ba	66.5
MnO	0.29	La	6.01
MgO	8.01	Ce	19.4
CaO	10.67	Nd	18.9
Na <sub>2</sub> O	0.40	Sm	7.51
K <sub>2</sub> O	0.05	Eu	1.51
P <sub>2</sub> O <sub>5</sub>	0.11	Gd	11.5
S	0.15	Dy	13.6
Nb (ppm)		Er	8.21
Zr	201	Yb	7.61
U	0.13		

**Table 2: Rb-Sr composition of 76537.**  
Data from Nyquist et al. (1975).

Sample	76537,1
wt (mg)	47
Rb (ppm)	0.410
Sr (ppm)	131
<sup>87</sup> Rb/ <sup>86</sup> Sr	0.0091 ± 4
<sup>87</sup> Sr/ <sup>86</sup> Sr	0.69973 ± 7
T <sub>B</sub>	4.8 ± 0.8
T <sub>L</sub>	5.3 ± 0.8

B = Model age assuming I = 0.69910 (BABI + JSC bias)  
L = Model age assuming I = 0.69903  
(Apollo 16 anorthosites for T = 4.6 b.y.)