78587

High-Ti Mare Basalt
11.48 g, 2.5 x 2.0 x 1.2 cm

INTRODUCTION

Sample 78587 is a dark black, aphanitic mare basalt from the large rake sample at Station 8 (Fig. 1).

PETROGRAPHY

Keil et al. (1974) describe sample 78587 as very fine-grained and rich in opaques. Warner et al. (1978f) classify this sample as olivine-microporphyritic ilmenite basalt. It has skeletal olivine and skeletal, acicular ilmenite microphenocrysts in an extremely fine-grained, wholly crystalline groundmass (Fig. 2). Sparse microphenocrysts of armalcolite and chromian ulvospinel are present (Fig. 3).

MINERAL CHEMISTRY

The mineral compositions were reported in Warner et al. (1978f) (Fig. 4).

WHOLE-ROCK CHEMISTRY

Warner et al. (1975b) have analyzed 78587 (Table 1 and Fig. 5). It has high Ti and typical rare earth element abundance.

The low Hf content of 78587 indicates that it is a Type B Apollo 17 basalt (see appendix).

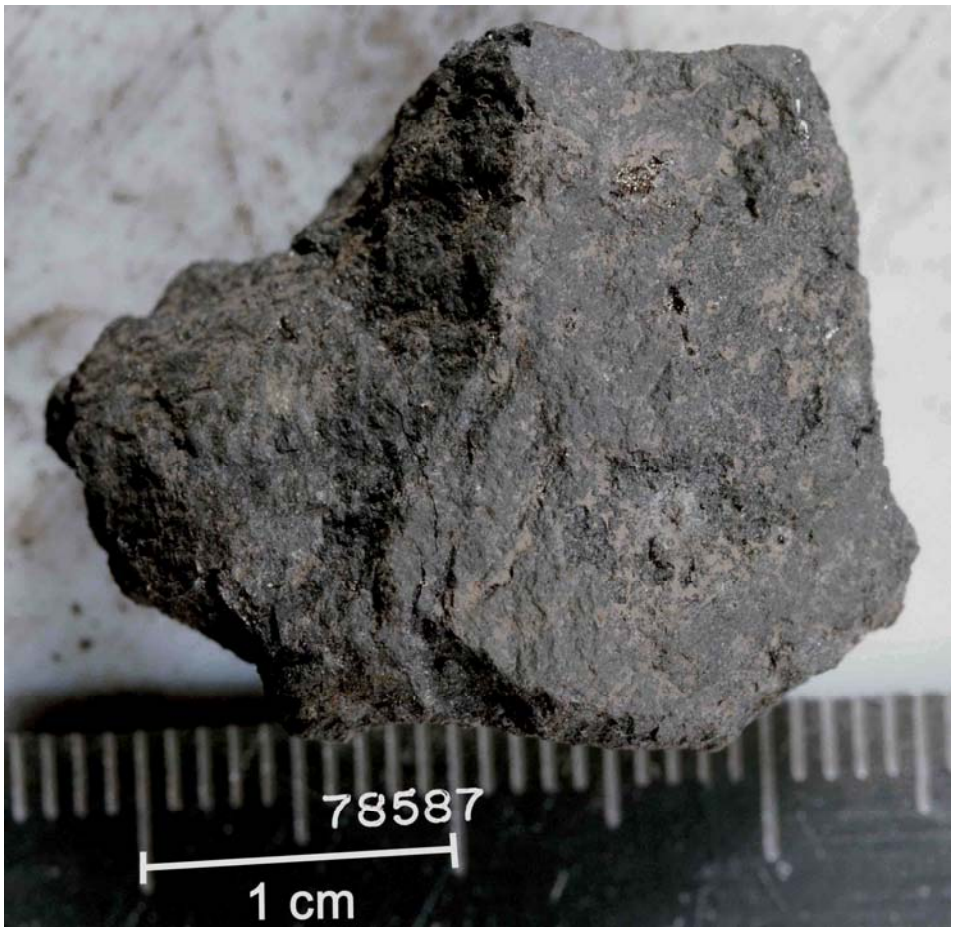

Figure 1: Photograph of 78587. Scale is 1 cm. S73-21030.

Figure 2: Photomicrograph of thin section 78587,6 Field of view is 3 x 4 mm.

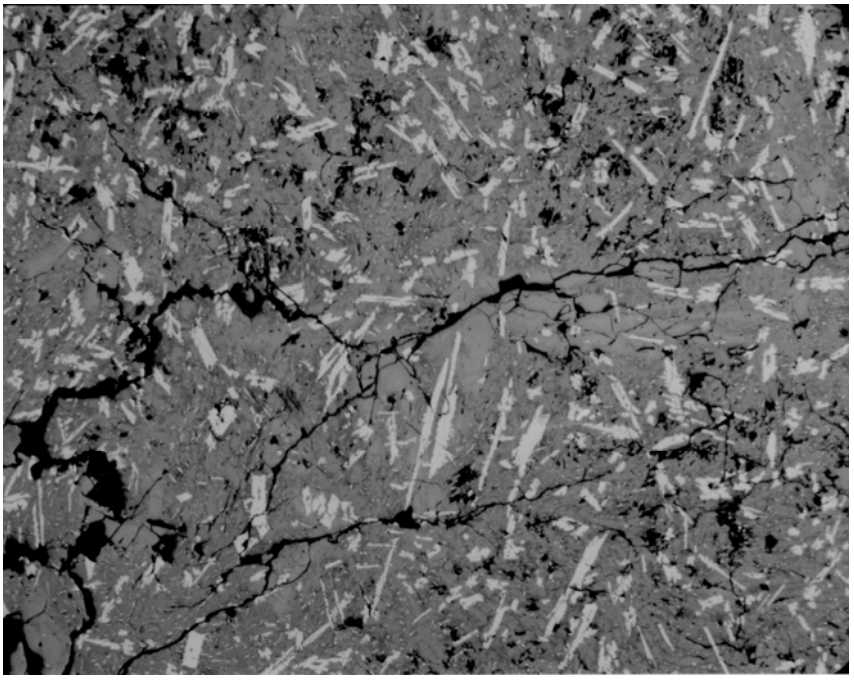

Figure 3: Photomicrograph in reflected light of same area as Fig. 2.

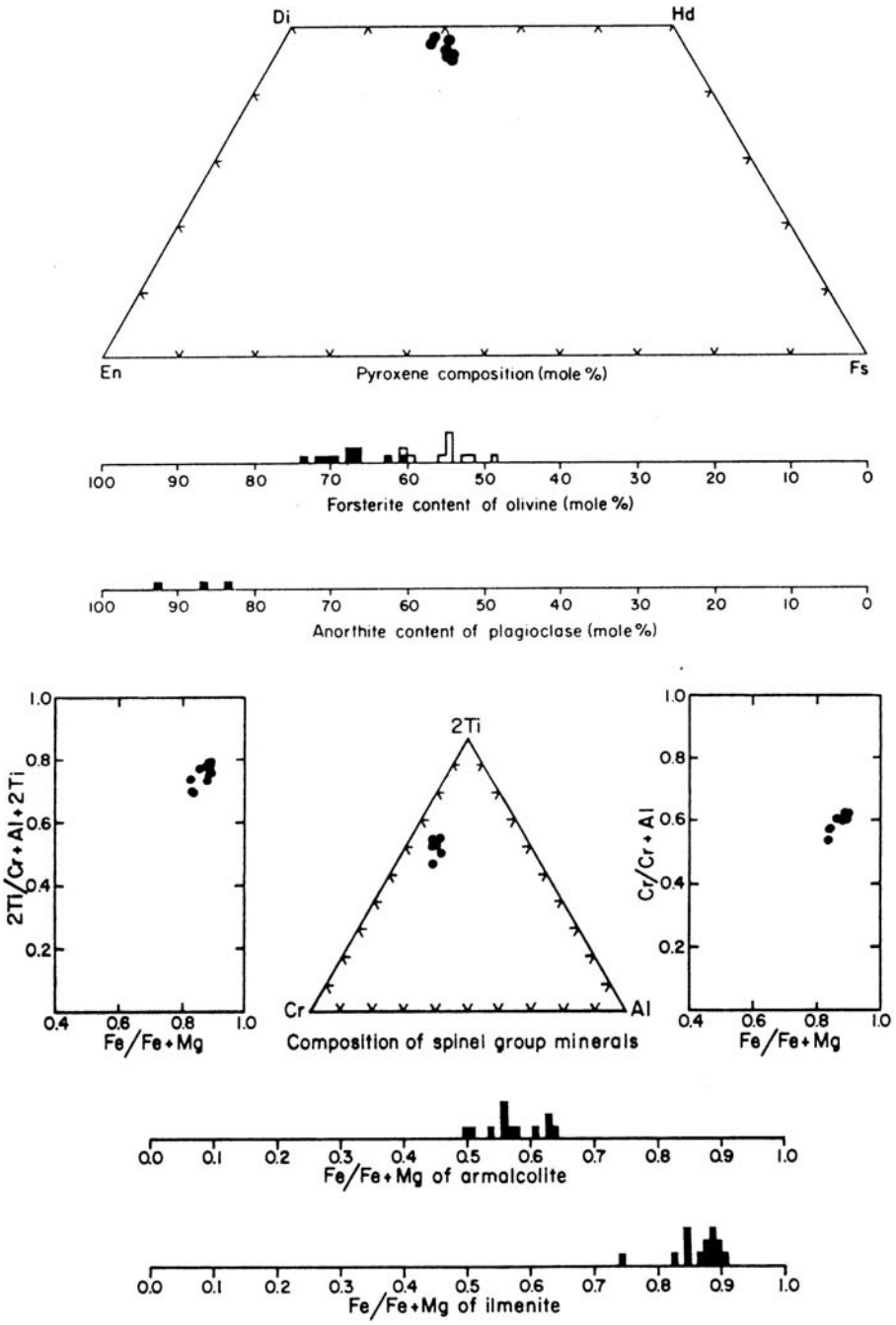

Figure 4: Mineral compositions for 78587. From Warner et al. (1978f).

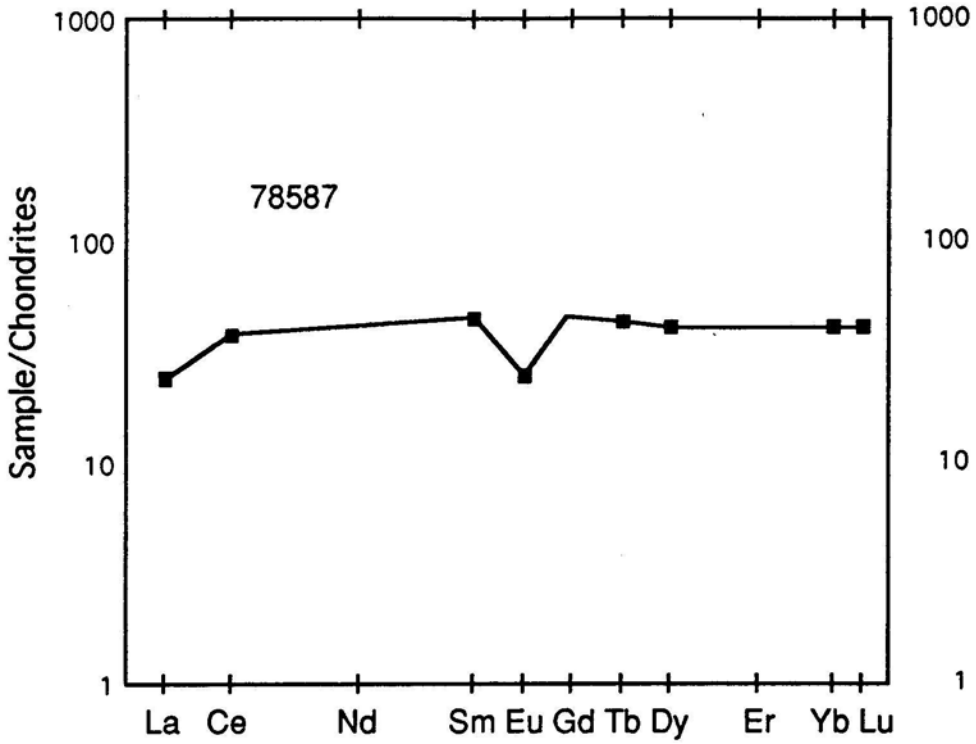

Figure 5: Normalized rare earth element diagram of 78587. Data from Warner et al. (1975b).

Table 1: Whole-rock chemistry of 78587.
From Wamer et al. (1975b).

Split Technique	,3 INAA
SiO_2 (wt%)	–
TiO_2	12.2
Al_2O_3	8.8
Cr_2O_3	0.375
FeO	19.4
MnO	0.235
MgO	7.0
CaO	10.3
Na_2O	0.37
K_2O	0.046
Nb (ppm)	
Hf	6.0
Ta	1.6
Ni	
Co	20.3
Sc	81
La	5.7
Ce	23
Nd	
Sm	6.6
Eu	1.41
Gd	
Tb	1.6
Dy	10
Er	
Yb	6.7
Lu	1.0
Ge (ppb)	
Ir	
Au	