78587

Ilmenite Basalt

11.5 grams

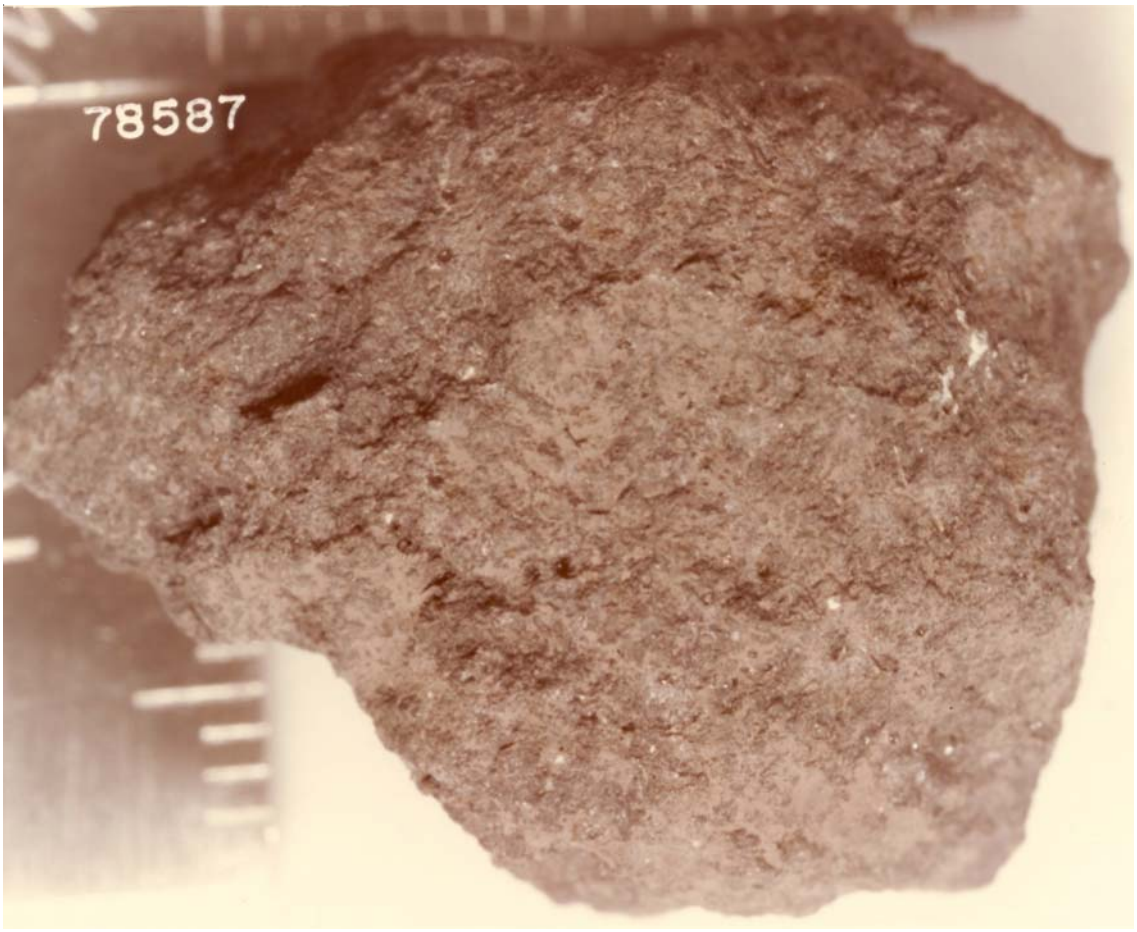


Figure 1: Photo of 78587. Mm ticks on scale. S73-33440

Introduction

78587 is an aphanitic basalt fragment picked up as a rake sample – see section on 78501.

Petrography

According to Warner et al. (1979), 78587 is a fine-grained type C, high-Ti basalt. It has skeletal ilmenite and olivine in an aphanitic groundmass (figure 2). Trace armalcolite and Cr-ulvospinel have also been reported (Warner et al. 1978).

The composition of pyroxene is unusual (figure 3).

Chemistry

Warner et al. (1975) reported an analysis (table and figure 4).

Radiogenic age dating

None

Mineralogical Mode

Warner et al. 1978

Olivine	8.1 %
Pyroxene	41.8
Plagioclase	27.6
Silica	4.8
Ilmenite	16.7
Metal	0.6

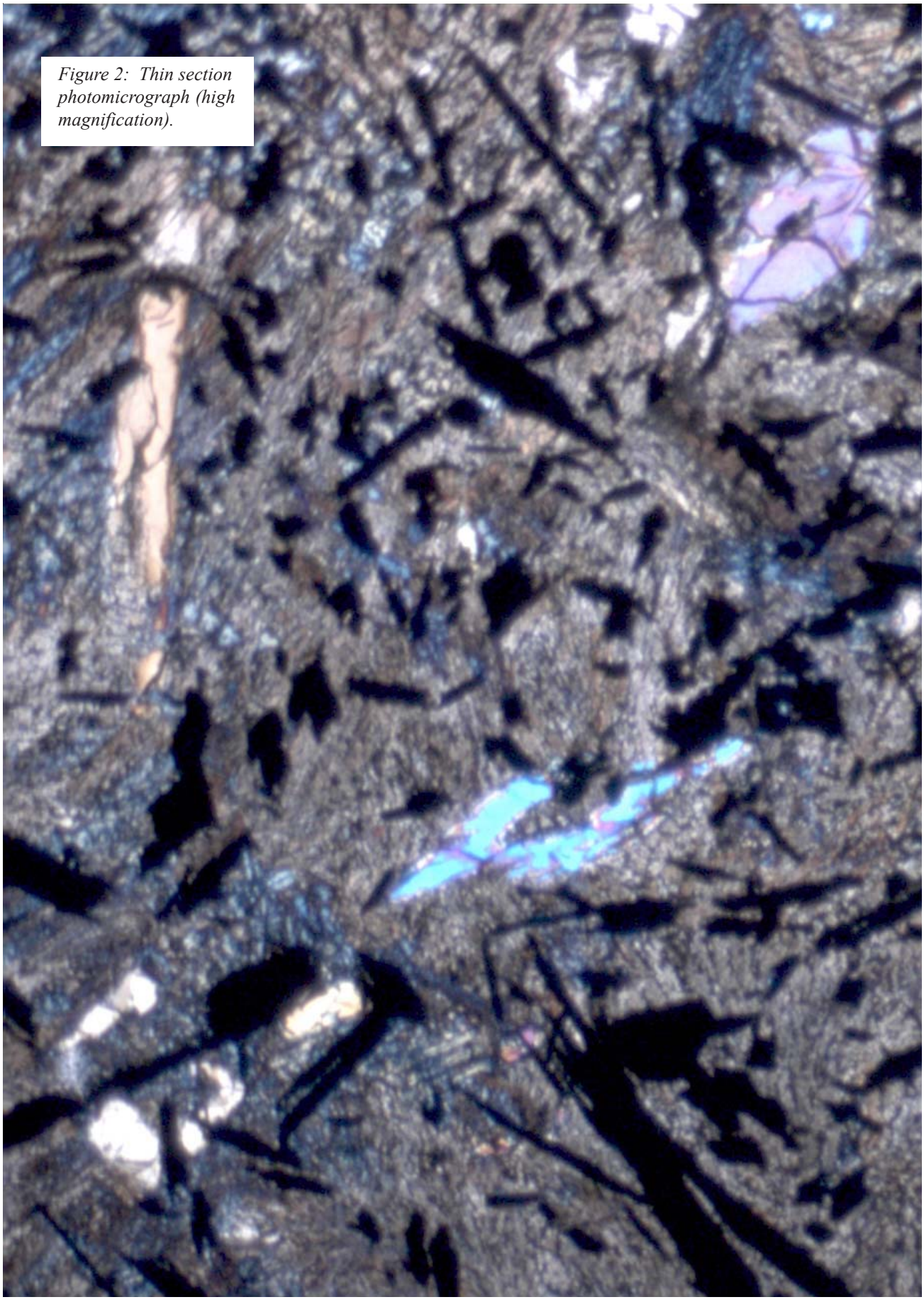


Figure 2: Thin section photomicrograph (high magnification).

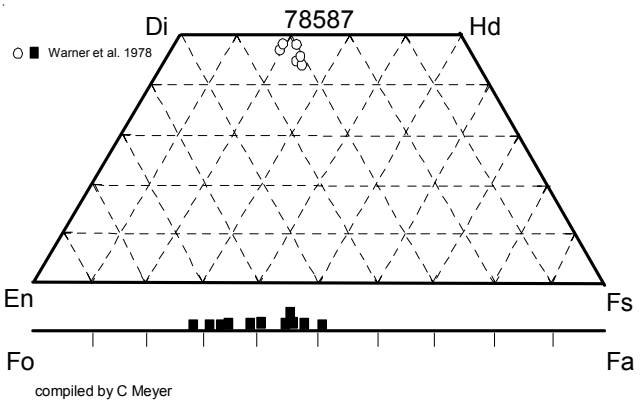


Figure 3: Composition of olivine and pyroxene phenocrysts in 78587.

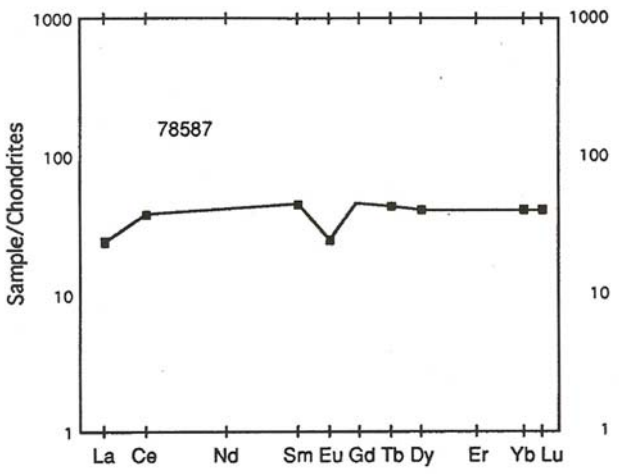
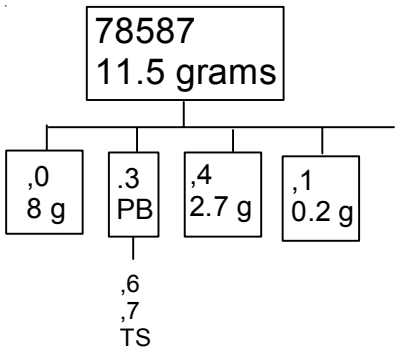


Figure 4: Normalized rare-earth-element diagram for 78587.

Processing

There are 2 thin sections.



References for 78587

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Table 1. Chemical composition of 78587

reference	Warner78	
weight	Warner75	
SiO2 %		
TiO2	12.2	(a)
Al2O3	8.8	(a)
FeO	19.4	(a)
MnO	0.24	(a)
MgO	7	(a)
CaO	10.3	(a)
Na2O	0.37	(a)
K2O	0.05	(a)
P2O5		
S %		
sum		
Sc ppm	81	(a)
V	90	(a)
Cr	2566	(a)
Co	20.3	(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	5.7	(a)
Ce	23	(a)
Pr		
Nd		
Sm	6.6	(a)
Eu	1.41	(a)
Gd		
Tb	1.6	(a)
Dy	10	(a)
Ho		
Er		
Tm		
Yb	6.7	(a)
Lu	1	(a)
Hf	6	(a)
Ta	1.6	(a)
W ppb		
Re ppb		
Os ppb		
Ir ppb		
Pt ppb		
Au ppb		
Th ppm		
U ppm		

technique: (a) INAA