

76536 – 10.3 grams
Brecciated Troctolite



Figure 1: Photo of 76536,1 S73-19600 Sample is 3 cm long.

Introduction

76536 is a rake sample from the regolith at the base of the North Massif – see section on 76501. The sample seems to be a crushed version of the troctolite 76535.

Petrography

Phinney et al. (1974) initially described the rake samples from this location and it was included in the samples to study the by the first Highland Initiative (Ryder and Norman 1979). It is off white, with hackly surface (figure 1). It has a granulated texture and is relatively coherent. It is mad up of about half plagioclase and half mafic minerals, with trace of symplectite.

Bersch et al. (1991) and Shearer and Papike (2005) reported the composition of olivine and pyroxene.

Chemistry

According to Warren and Wasson (1978), 76536 has exactly the same composition as 76535 (The troctolite). The fused bead analysis by Simonds and Warner is

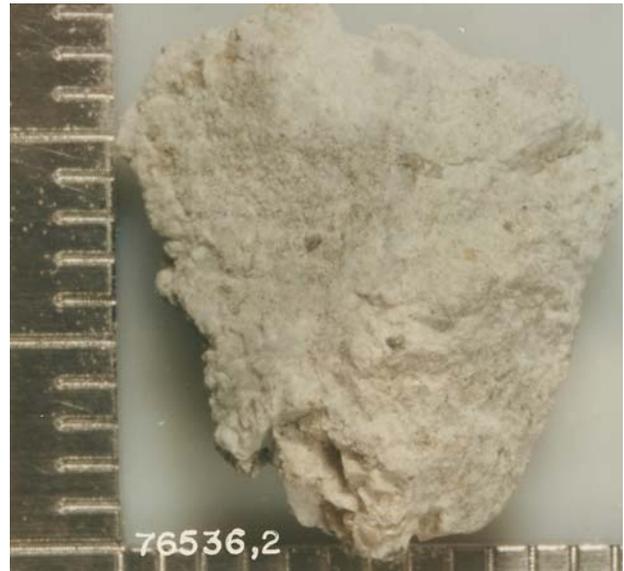


Figure 2: Photo of 76536,2. Scale is in mm. S73-19615.

worthless, and the trace elemnt analysis by Blanchard remains unpublished (it is seemingly contaminated).



Figure 3 a,b,c,d,e: Photos of pieces of 76536 each with mm scale bar:

Ebihara et al. (1992) found that the sample had low Ni, Ir and Au and is therefore “pristine”.

Radiogenic age dating

Not dated

Processing

There are only three thin sections of 76536 – all from the same potted butt.

References for 76536

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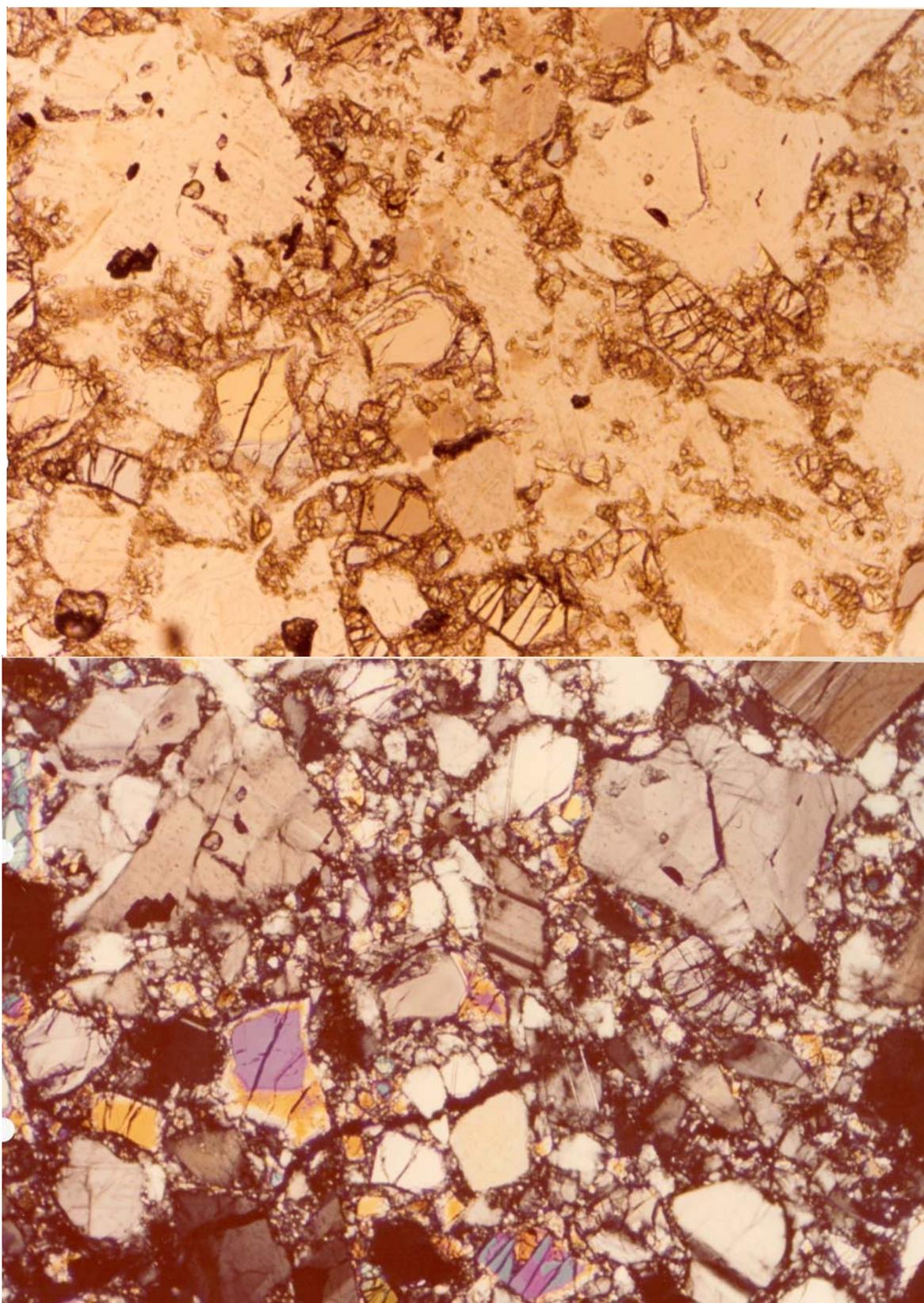


Figure 4: Photomicrographs of thin section 76536,14. Field of view is 1.4 mm. S79-27691 and 292

Table 1. Chemical composition of 76536.

reference weight	Warren78	Ebihara91	Simonds81
SiO ₂ %	42.4 (a)		43.54 (c)
TiO ₂			0.07 (c)
Al ₂ O ₃	26.3 (a)		21.01 (c)
FeO	3.6 (a)		4.94 (c)
MnO	0.04 (a)		
MgO	13.6 (a)		17.42 (c)
CaO	13.3 (a)		11.76 (c)
Na ₂ O	0.29 (a)		0.28 (c)
K ₂ O	0.04 (a)		0.06 (c)
P ₂ O ₅			
S %			
sum			
Sc ppm	1.8 (a)		
V			
Cr	530 (a)		
Co	20 (a)		
Ni	5 (a)	55.3 (b)	
Cu			
Zn	1.13 (a)	0.42 (b)	
Ga			
Ge ppb	2.4 (a)	2.73 (b)	
As			
Se		4.56 (b)	
Rb		0.724 (b)	
Sr			
Y			
Zr			
Nb			
Mo			
Ru			
Rh			
Pd ppb		1.9 (b)	
Ag ppb		0.18 (b)	
Cd ppb	2.3 (a)	3.3 (b)	
In ppb	2.1 (a)	1.41 (b)	
Sn ppb			
Sb ppb		0.37 (b)	
Te ppb		0.97 (b)	
Cs ppm		0.456 (b)	
Ba	49 (a)		
La	1.9 (a)		
Ce	4.1 (a)		
Pr			
Nd	2.5 (a)		
Sm	0.65 (a)		
Eu	0.78 (a)		
Gd			
Tb	0.13 (a)		
Dy			
Ho			
Er			
Tm			
Yb	0.44 (a)		
Lu	0.062 (a)		
Hf	0.36 (a)		
Ta	0.031 (a)		
W ppb			
Re ppb	0.004 (a)	0.004 (b)	
Os ppb		0.19 (b)	
Ir ppb	0.051 (a)	0.026 (b)	
Pt ppb			
Au ppb	0.02 (a)	0.011 (b)	
Th ppm	0.2 (a)		
U ppm		0.052 (b)	

technique: (a) INAA, (b) RNAA, (c) fused bead e probe

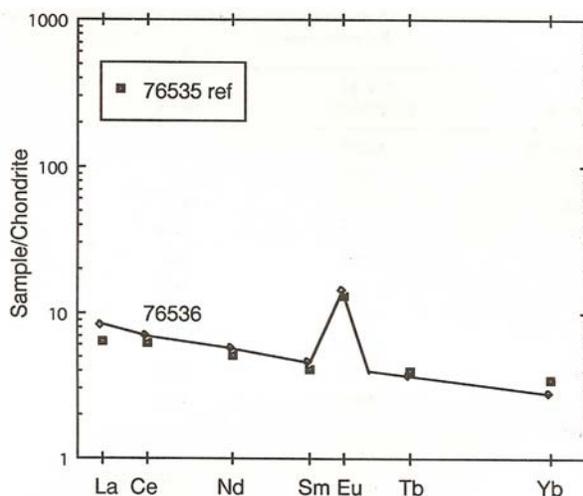


Figure 5: Normalized rare-earth-element diagram comparing 76536 with 76535.

Phinney W.C., Simonds C.H. and Warner J. (1974) Description, Classification and Inventory of Apollo 17 Rake Samples from Station 6. Curator's Catalog, pp. 46.

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