

15675 FINE-GRAINED OLIVINE-NORMATIVE ST. 9A 34.5 g
MARE BASALT

INTRODUCTION: 15675 is a fine-grained, olivine-bearing mare basalt (Fig. 1). The olivines form small phenocrysts. In chemistry it appears to be an average member of the Apollo 15 olivine-normative mare basalt group. It is tough with abundant zap pits (probably an equilibrium population) although one side is a fresh surface. One 3 mm pit is present. 15675 was collected as part of the rake sample at Station 9A.



Figure 1. Post-chip view of 15675. Intermediate-sized chip is ,2; others are ,1.

PETROLOGY: 15675 is a fine-grained, olivine-normative mare basalt (Fig. 2). The olivines form small, anhedral phenocrysts.

CHEMISTRY: A bulk rock chemical analysis is presented in Table 1, with the rare earths plotted in Figure 3. The sample appears to be an average Apollo 15 olivine-normative mare basalt, although the critical element Mg is not measured precisely with the INAA technique.

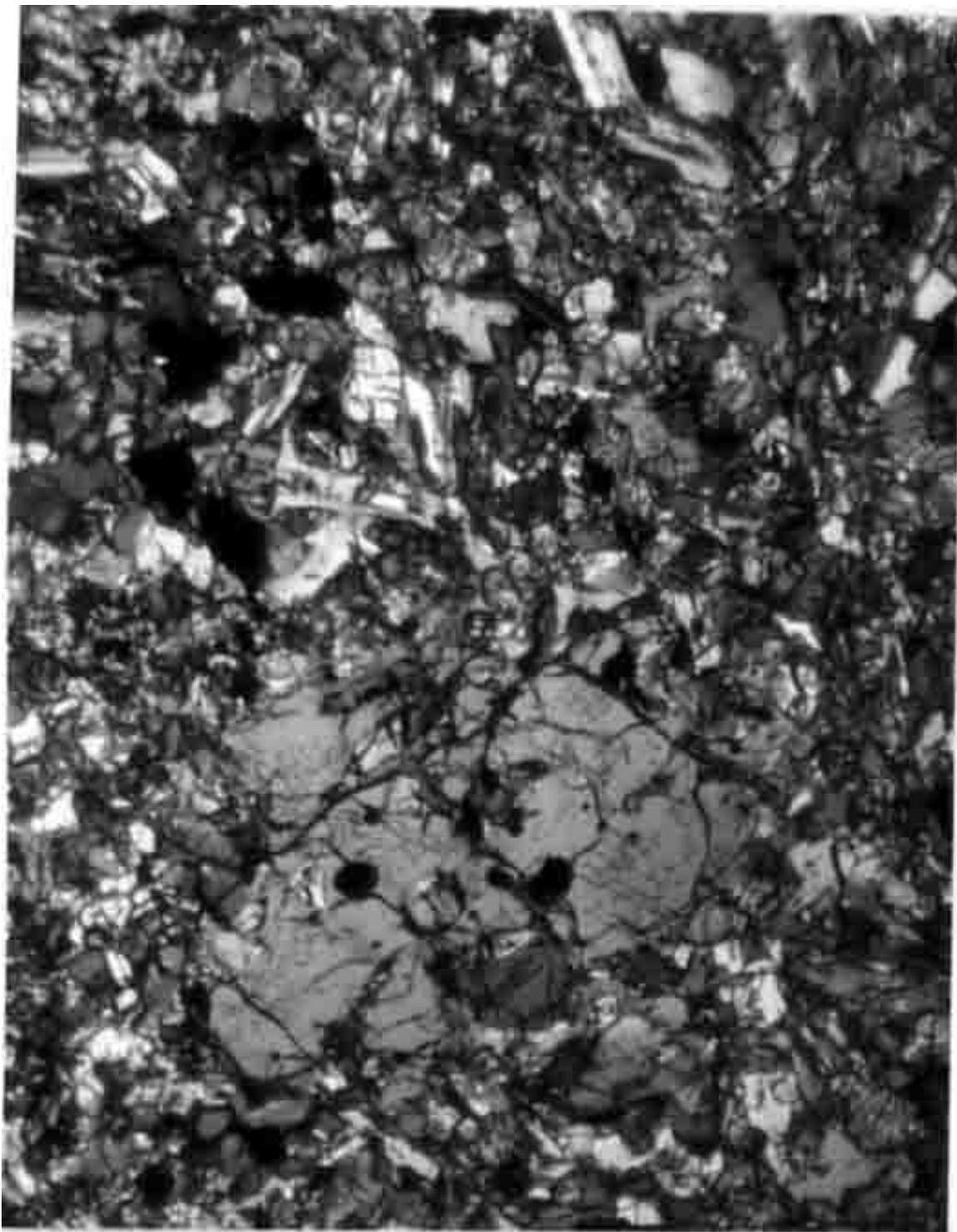


Figure 2. Photomicrograph of 15675,7.
Width about 2 mm. Crossed polarizers.

PHYSICAL PROPERTIES: Gose et al. (1972) and Pearce et al. (1973) measured a magnetic intensity of 3.8×10^{-6} emu/g for the bulk sample, a typical value for Apollo 15 mare basalts.

PROCESSING AND SUBDIVISIONS: Three small chips were taken from ,0 (now 30.29 g) and subdivided. A thin section ,7 was made from ,4.

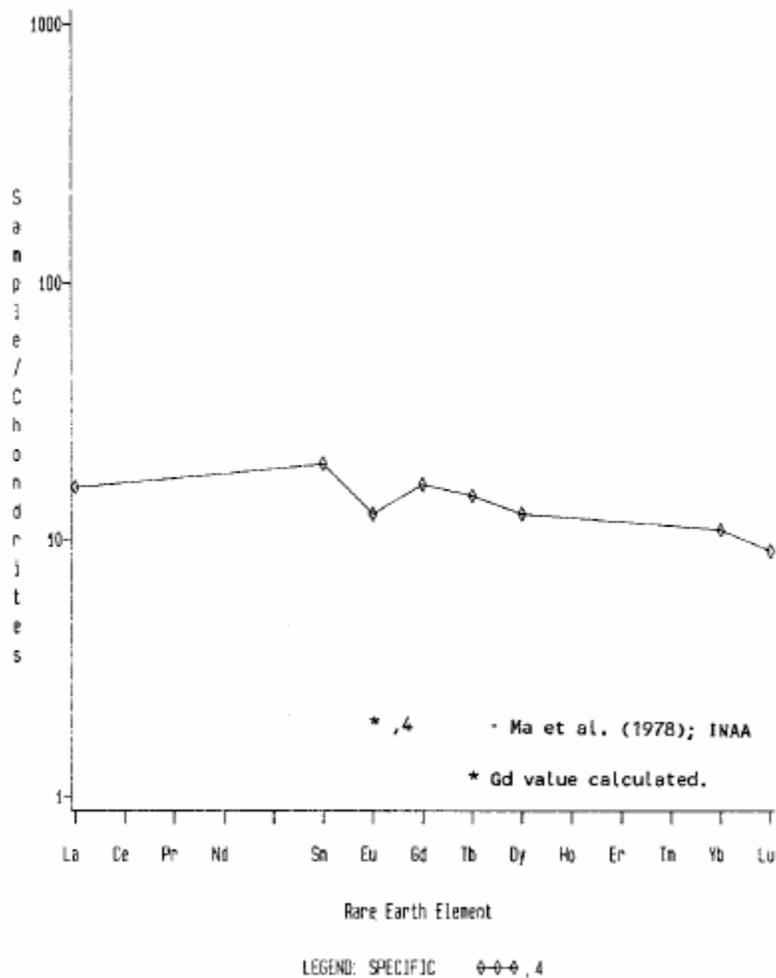


Figure 3. Rare earths in 15675,4.

TABLE 15675-1. Bulk rock chemical analysis

		.4
Wt %	SiO ₂	
	TiO ₂	2.2
	Al ₂ O ₃	9.0
	FeO	21.4
	MgO	10
	CaO	9.1
	Na ₂ O	0.262
	K ₂ O	0.044
	P ₂ O ₅	
(ppm)	Sc	42
	V	189
	Cr	3370
	Mn	2010
	Co	46
	Ni	65(a)
	Rb	
	Sr	
	Y	
	Zr	
	Nb	
	Hf	2.5
	Ba	65(b)
	Th	
	U	
	Pb	
	La	5.3
	Ce	
	Pr	
	Nd	
	Sm	3.6
	Eu	0.87
	Gd	
	Tb	0.7
	Dy	4.0
	Ho	
	Er	
Tm		
Yb	2.2	
Lu	0.31	
Li		
Be		
B		
C		
N		
S		
F		
Cl		
Br		
Cu		
Zn		
(ppb)	I	
	At	
	Ga	
	Ge	
	As	
	Se	
	Mo	
	Tc	
	Ru	
	Rh	
	Pd	
	Ag	
	Cd	
	In	
	Sn	
	Sb	
	Te	
	Cs	
	Ta	480
	W	
	Re	
	Os	
	Ir	
	Pt	
	Au	
	Hg	
	Tl	
Pb		

References and methods:

(1) Ma et al. (1978); INAA

Notes:

(a) uncertainty \pm 30 ppm

(b) uncertainty \pm 40 ppm