

15614 COARSE-GRAINED OLIVINE-NORMATIVE ST. 9A 9.70 g
MARE BASALT

INTRODUCTION: 15614 is an olivine-bearing mare basalt which is very vesicular (Fig. 1). In chemistry it is an average to magnesian Apollo 15 olivine-normative mare basalt. It was collected as part of the rake sample at Station 9A.

PETROLOGY: 15614 is a vesicular, olivine-bearing mare basalt with a coarse gabbroic texture (Fig. 2).

CHEMISTRY: A bulk chemical analysis is listed in Table 1 and the rare earths shown in Figure 3. The sample is an Apollo 15 olivine-normative mare basalt. On the basis of TiO_2 and MgO it would appear to be an Mg-rich member of the group, but the MgO is imprecisely determined.

PHYSICAL PROPERTIES: Gose et al. (1972) and Pearce et al. (1973) measured a natural magnetic intensity of 5.4×10^{-6} emu/g, a value typical for Apollo 15 mare basalts.

PROCESSING AND SUVDIVISIONS: Chipping produced several chips numbered ,1 and one chip numbered ,2 (Fig. 1). ,2 was used for chemical analysis and to make thin section ,5. ,0 is now 7.40 g.

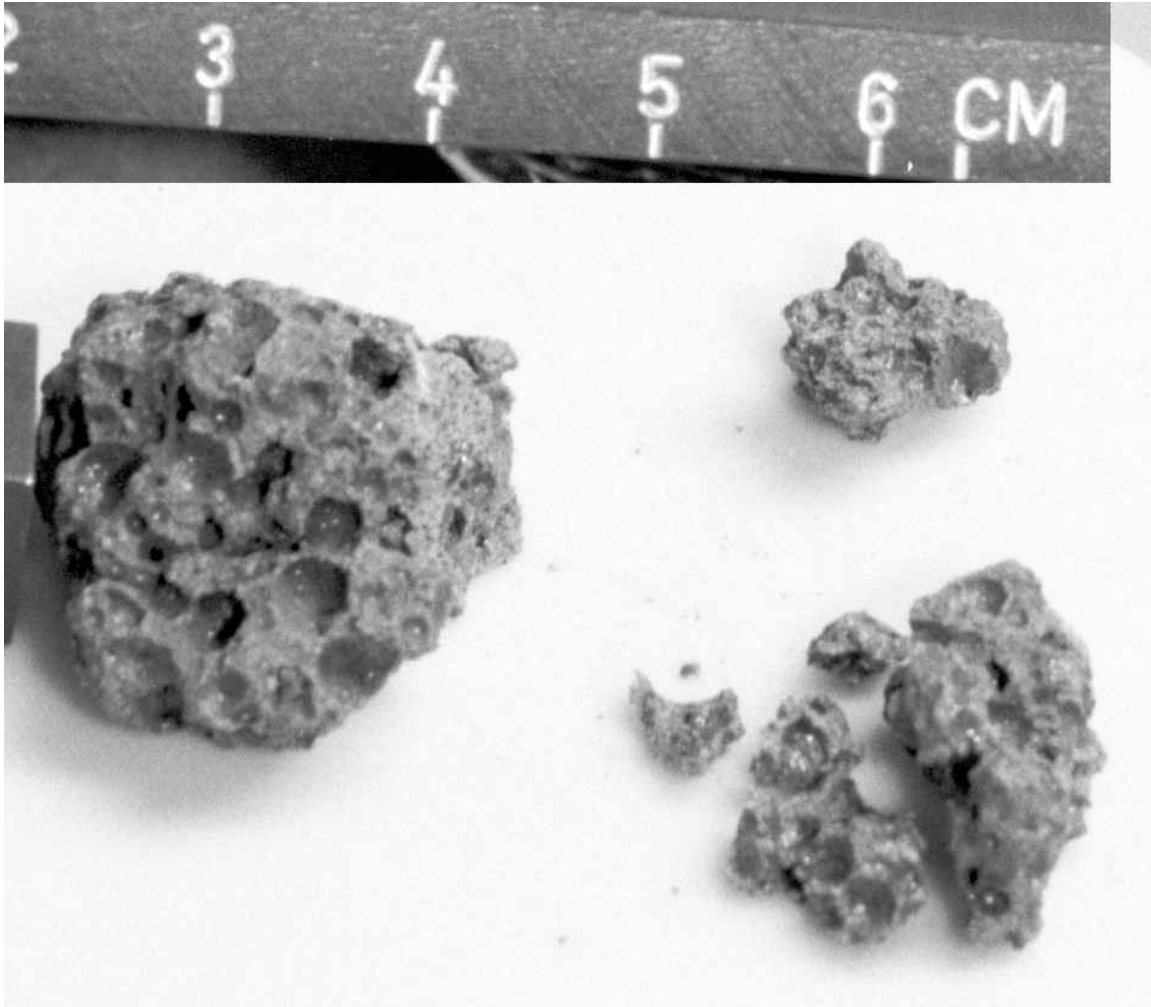


Figure 1. Post-chip view of 15614. S-71-56156

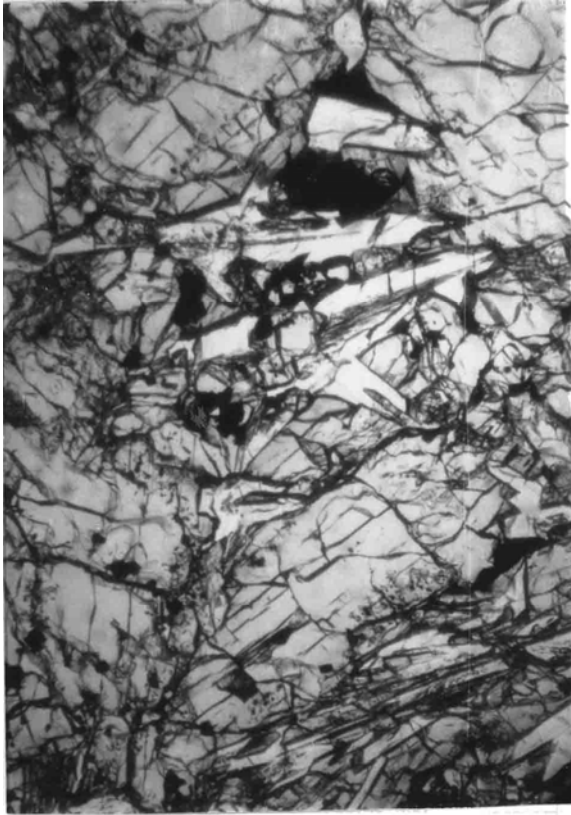


Fig. 2a

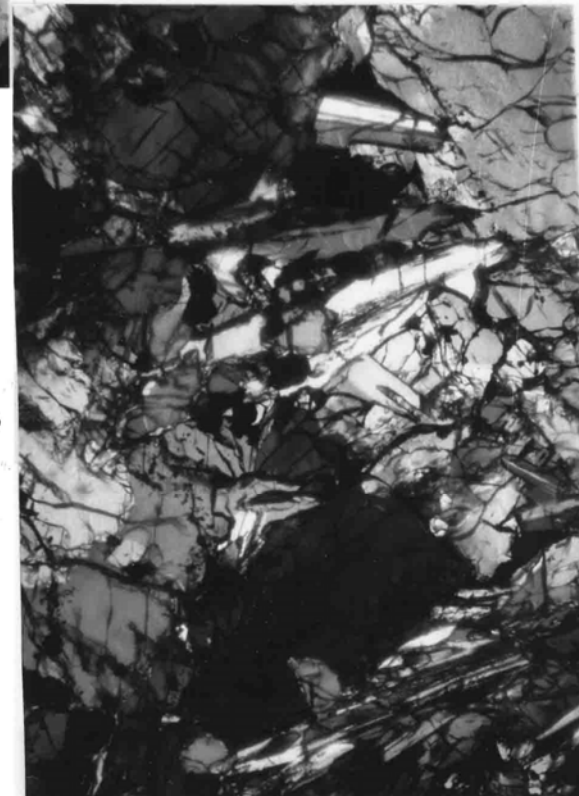


Fig. 2b

Figure 2. Photomicrographs of 15614,5.
a) Transmitted light; b) crossed polarizers. Widths about 2 mm.

TABLE 15614-1. Bulk rock

		.2
Wt %	SiO ₂	
	TiO ₂	2.0
	Al ₂ O ₃	8.8
	FeO	21.3
	MgO	11
	CaO	8.9
	Na ₂ O	0.250
	K ₂ O	0.034
	P ₂ O ₅	
(ppm)	Sc	38
	V	218
	Cr	4685
	Mn	2070
	Co	52
	Ni	70(a)
	Nb	
	Sr	
	Y	
	Zr	
	Nb	
	Hf	2.4
	Ba	55(b)
	Th	
	U	
	Pb	
	La	5.2
	Ce	
	Pr	
	Nd	
	Sm	3.4
	Eu	0.76
	Gd	
	Tb	0.6
	Dy	4.0
	Hb	
	Er	
	Tm	
Yb	2.0	
Lu	0.27	
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	390
	W	
	Re	
	Os	
	Ir	
	Pt	
	Au	
	Hg	
	Tl	
	Pb	

(1)

References and methods:

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

Notes:

(a) ± 30 ppm
 (b) ± 25 ppm

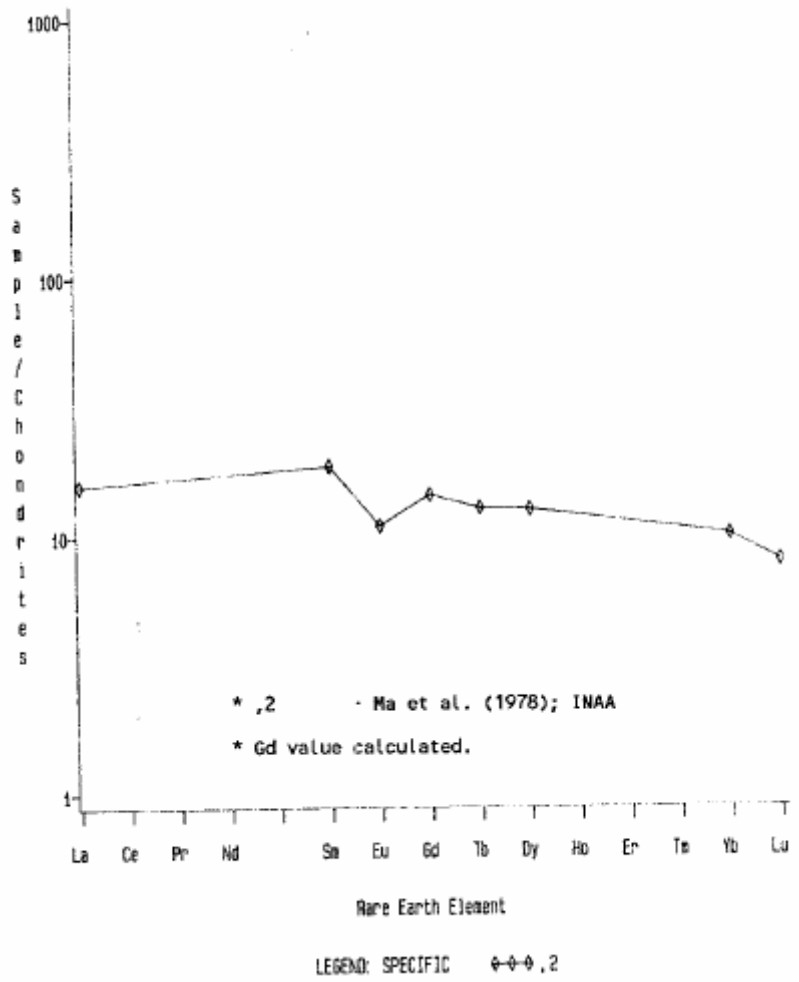


Figure 3. Rare earths in 15614.