15622 MEDIUM-GRAINED OLIVINE-NORMATIVE MARE BASALT ST. 9A 29.5 g

INTRODUCTION: 15622 is a highly vesicular basalt with red-brown pyroxene and porphyritic olivine (Fig. 1). It appears to be a magnesian member of the olivine-normative mare basalt group. It was collected as part of the rake sample at Station 9A.

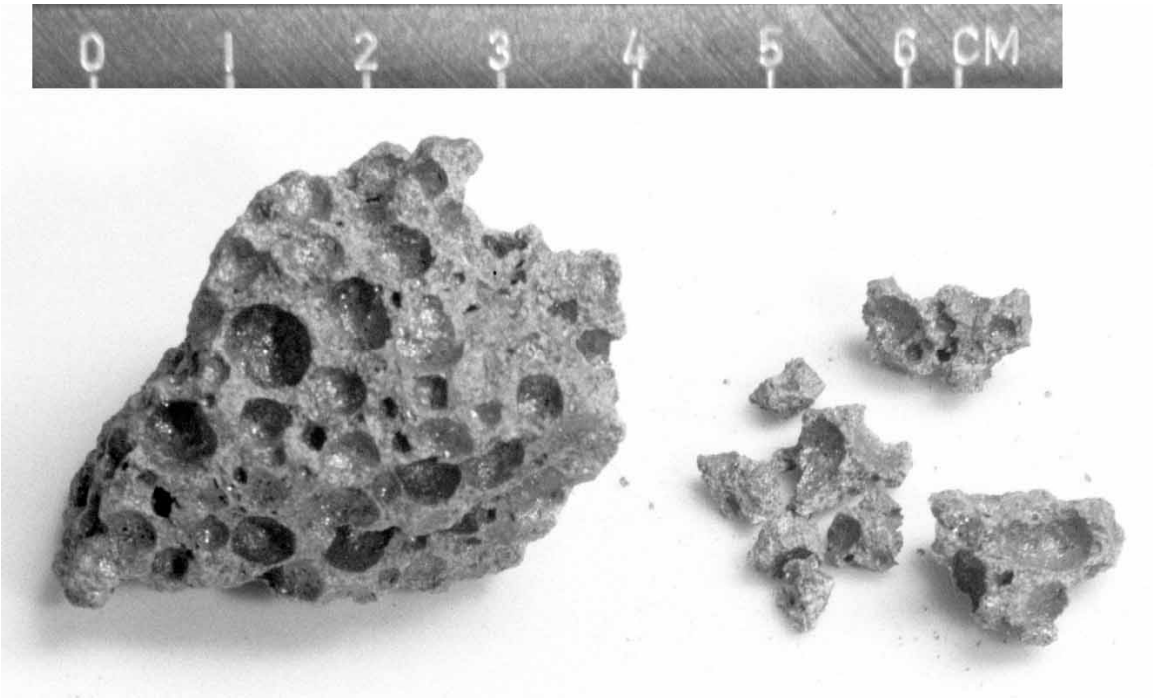

Figure 1. Post chip view of 15622. S-71-56278

CHEMISTRY: Chemical analyses are listed in Table 1 and the rare earths shown in Figure 2. Chappell and Green (1973) found it to be one of the most magnesian members of the olivine-normative mare basalt suite, but did not have the evidence to decide whether it was a primitive magma composition or a cumulate. They suggested it was the same rock as 15636, but that rock is much less vesicular and has a coarser grain size. The partial analysis of Fruchter et al. (1973) contains higher TiO_2, and has anomalously low Al_2O_3.

RADIOGENIC ISOTOPES: Compston et al. (1972) reported Rb and Sr isotopic data for a whole-rock sample. The $^{87}Rb/^{86}Sr$ (0.0274) and $^{87}Sr/^{86}Sr$ (0.70074 ± 15) extrapolate back to an initial $^{87}Sr/^{86}Sr$ of 0.69945 at 3.3 b.y., indistinguishable from other Apollo 15 mare basalts.

PROCESSING AND SUBDIVISIONS: Several small pieces were chipped from ,0 (now 27.0 g), and were partly used in varied allocations (Fig. 1).

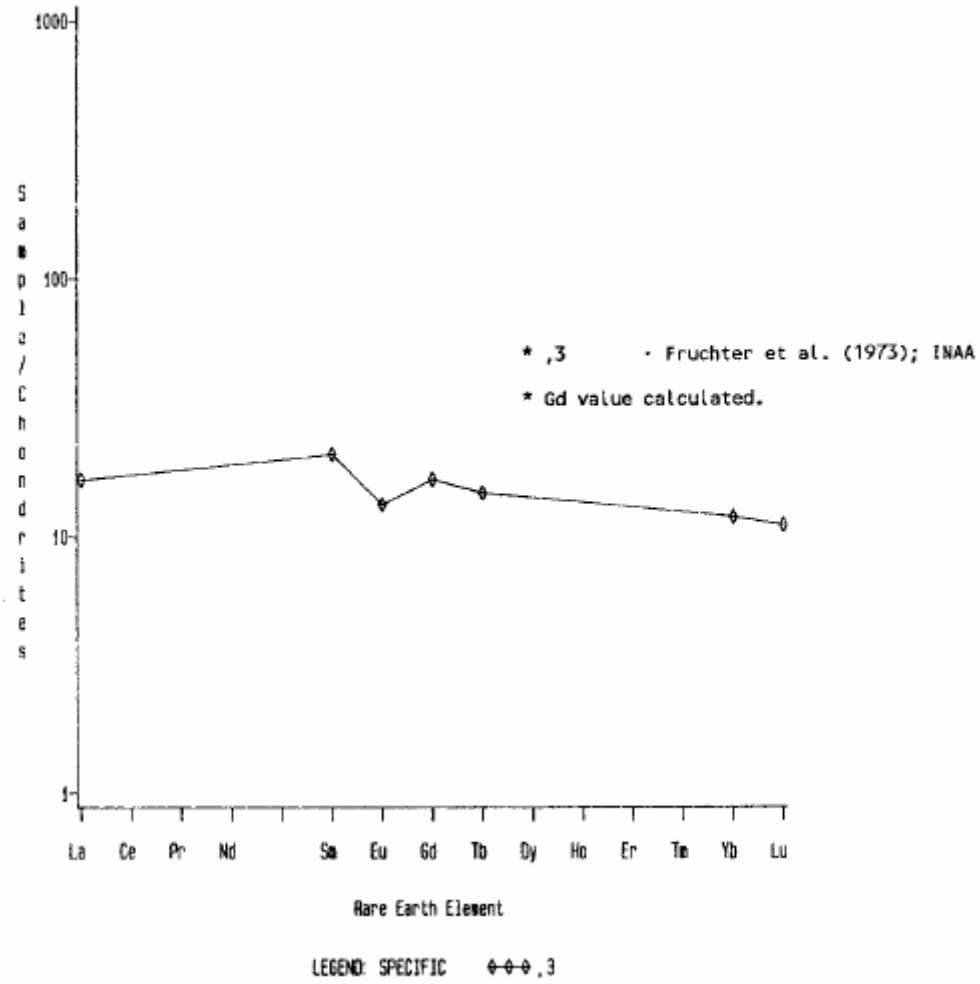

Figure 2. Rare earths in 15622,3.

TABLE 15622-1. Bulk rock chemical analyses

		,3	,5	,5
Wt %	SiO2		43.98	
	TiO2	2.94	2.29	
	Al2O3	7.84	8.46	
	FeO	21.8	22.73	
	MgO		11.64	
	CaO		9.19	
	Na2O	0.257	0.29	
	K2O		0.05	
	P2O5		0.08	
(ppm)	Sc	40		
	V			
	Cr	6060	5550	
	Mn		2400	
	Co	56		
	Ni			
	Rb			0.89
	Sr			93.8
	Y			
	Zr			
	Nb			
	Hf	2.6		
	Ba			
	Th			
	U			
	Pb			
	La	5.5		
	Ce			
	Pr			
	Nd			
	Sm	3.8		
	Eu	0.92		
	Gd			
	Tb	0.7		
	Dy			
	Ho			
	Er			
	Tm			
	Yb	2.4		
	Lu	0.38		
	Li			
	Be			
	B			
	C			
	N			
	S		500	
	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	430		
	W			
	Re			
	Os			
	Ir			
	Pt			
	Au			
	Hg			
	Tl			
	Bi			
		(1)	(2)	(3)

References and methods:

(1) Fruchter et al. (1973); INAA
(2) Chappell and Green (1973); XRF
(3) Compston et al. (1972); ID/MS