<u>INTRODUCTION</u>: 15630 is a medium-grained, olivine-bearing mare basalt which is very vesicular (Fig. 1). The olivines do not form conspicuous phenocrysts. In chemistry, it is an average olivine-normative mare basalt. It is tough, angular, and lacks zap pits. 15630 was collected as part of the rake sample at Station 9A.

<u>PETROLOGY</u>: 15630 is an olivine microgabbro similar to 15606, 15612, etc. (Fig. 2). The olivine is not conspicuously phenocrystic.

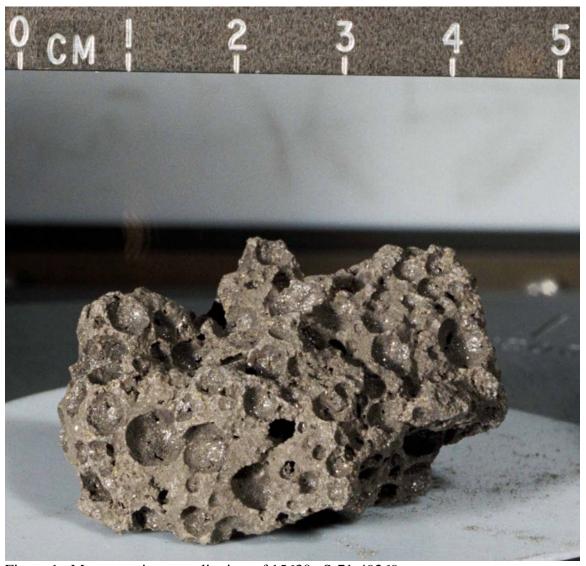


Figure 1. Macroscopic, pre-split view of 15630. S-71-49269

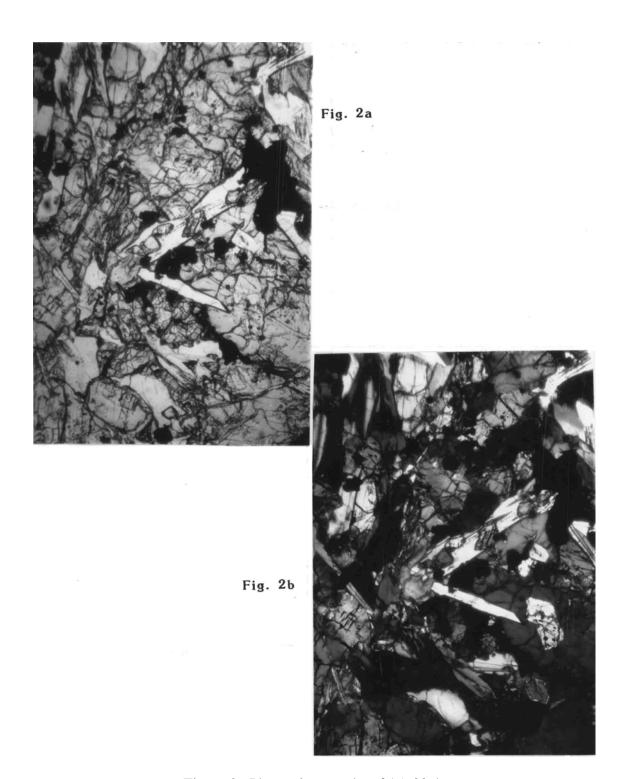


Figure 2. Photomicrographs of 15630,4. Widths about 3 mm. a) transmitted light; b) crossed polarizers.

<u>CHEMISTRY</u>: A bulk rock chemical analysis is listed in Table 1 and the rare earths shown in Figure 3. Apart from the low TiO₂, the sample is a fairly average Apollo 15 olivine-normative mare basalt.

TABLE 15630-1. Bulk rock chemical analysis

Sicc			,1	
Al 203	Wt &	SiO2		
PeO 20.8 May				
May				
CaO		FeO		
Na 20				
(PPP) SC 39 V 225 Cr 5355 Mn 2080 Cb 53 Ni 70(a) Rb Sr Y 2r Nb Hf 2.4 Ba 80(b) Th U Pb La 5.4 Ce Pr Nd Sn 3.5 Bu 0.79 Gd 0.7 Dy 4.3 Hb E B C N S S F C Th V Ca Rb				
P205				
(ppm) Sc				
V 225 Cr 53355 Mn 2080 Ob 53 Ni 70(a) Rb St Y 2r Nb Hf 2.4 Ea 80(b) Th U Pb La 5.4 Ce Pr Nd Sn 3.5 Bu 0.79 Gd Tb 0.7 Dy 4.3 Hb Ex Th U D D D D D D D D D D D D D D D D D D	(ppm)			
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Solution				
Ni 70(a) Rb St Y Zr Nb Hf 2.4 Ea 80(b) Th U Pb La 5.4 Ce Pr Nd Sm 3.5 Du 0.79 Gd 0.7 Dy 4.3 Ho Er Th D 0.27 Li Be B C N S S S F Cl Br Cl B				
State				
Sr			70(4)	
Y 2r 8b Hf 2.4 Ba 80(b) Th 1				
2r				
## 2.4 Ba 80(b) Th U Pb La 5.4 Ce Pr Nd Sm 3.5 Du 0.79 Gd Th 0.7 Dy 4.3 Bb Er Th Th Th Th Th Th Th Th Th Th				
## ## ## ## ## ## ## ## ## ##		Nib		
## ## ## ## ## ## ## ## ## ##		Hf	2.4	
U PP		Ba 3	BO(b)	
Pho La				
La				
Ce Pr Nd Sm 3.5 Du 0.79 Od 0.7 Dy 4.3 Ho Dr Th Vb 2.1 Lu 0.27 Li Be B C N S F C1 Br Ou 2r Ca F C1 Br Cu Ca Ca Ca Ca Ca Ca Ca Ca			5.4	
Nd Sn 3.5 B1 0.79 Gd Tb 0.7 by 4.3 B0 Ex Tm Yb 2.1 L1 0.27 L1 Be B C N S S F C1 Br O1 2h At Ga Ge As Se No Te En Rh Fd Aq O3 In Sh Sb Te C5 Ta 470 W References and methods: C6 Ir Pt A1 A2 A3 A470 W References and methods: (1) Ma et al. (1978); INAA Ra1 Ra1 Ra1 Ra2 Ra2 Ra3 Ra3 Ra4 Ra4 Ra4 Ra5 Ra5 Ra5 Ra6 References and methods: (1) Ma et al. (1978); INAA Ra1 Ra1 Ra2 Ra3 Ra4 Ra3 Ra4 Ra4 Ra4 Ra5 Ra5 Ra5 Ra5 Ra6 Ra6 Ra6 Ra7 Ra				
Sn 3.5 Di 0.79 Od 0.79 Od 7b 0.7 Dy 4.3 Ho Ex 7b 2.1 Li 0.27 Li Be B C C N S F C1 Br C1 Br C1 Br C2 R R R R R R R R R R R R R R R R R R				
Di				
Gd Th				
Th			0.19	
Dy 4.3 Ho Er Thm Yb 2.1 Li 0.27 Li Be B C N S F C1 Br C1 Br C1 Br C2 At Ga Ge As Se Mo Tc Ri			0.7	
Ho Pr Thm Yb 2.1 In 0.27 Lin 0			4.3	
The Yb 2.1 Li 0.27 Li Be B C N S F C1 Br C1 Br C2 N S S F C1 Br C3 Ta Ga Ge As Se Mo Te Ri		Ho		
Yb 2.1 Li 0.27 Li Be B C N S F Cl Br Cl Cl Br Cl				
In 0.27 Li Be B C N S F Cl Br Ou 2n (ppb) I At Ga Ge As Se Mo Te Cs Ta 470 W Re References and methods: Os Ir Pt Au Hg Notes:			- 3.1	
Li Be B B C N S F C1 Br C1 Br C2 2n (ppb) I At Ga Ge As Se Mo Tc Rn Pd Ag C3 In Sn Sc Te C4 C5 Ta 470 W Re References and methods: C5 Ir Pt Ai Hg Notes: T1				
De B C C N S F C C E E E E E E E E			0.27	
B C N S S F C1 Br C1 Br Ou 2r				
N S F C1 Br C2 Br C2 C3 C4 C5 C5 C5 C5 C5 C5 C5				
S F C1 Br C1 Br O1 Zn (ppb) I At. Ga Ge As Se Mo Te R1 R1 R1 R2 R3 Se Ta A70 W Re References and methods: Cs Ir Pt As R1 R1 R1 R2 R2 R3 R4 R5		C		
C1 Br O1 Zn O1 Zn (ppb) I At Ga Ge As Se Mo Tc R1 Rh Pd Aq O3 In Sh Sb Te Cs Ta 470 W Re Re References and methods: Os Ir Pt AI Hig Notes:		N		
C1 Br O1 Zn O1 Zn (ppb) I At Ga Ge As Se Mo Tc R1 Rh Pd Aq O3 In Sh Sb Te Cs Ta 470 W Re Re References and methods: Os Ir Pt AI Hig Notes:		S		
Br Oi 2n		c).		
On 2n				
At		Ou		
At Ga Ge As Se Mo To To Ru				
Ga Ge As Se Mo The Ra: Rh Rd Aq OS In Sb Te Cs Ta 470 W Re References and methods: Cs Ir (1) Ma et al. (1978); INAA Re References:	(ppb)			
Ge As Se Mo Te Ri Rh Pd Ag O3 In Sn Sc Te Cs Ta 470 W Re References and methods: Os Ir (1) Ma et al. (1978); INAA Ri Hig Notes:				
As Se Mo No Te Ra: Ra: Ra: Ra: Ra: Ra: Ra: Ra:				
Mo Te Ru Rh Rd Aq OS In Sh Sh Te Cs Ta 470 W Re References and methods: Os Ir Pt Au Hig Notes:				
Te Ru				
Rn Rh				
Rh Fd Aq OS In Sh Te Cs Ta 470 W Re References and methods: Os Ir (1) Ma et al. (1978); INAA Hg Notes:				
Pd Ag O3 In Sn Sn Sc Te Cs Ta 470 W References and methods: Os Ir (1) Ma et al. (1978); INAA Rai Hig Notes:				
Ag OS In Sn Sb Te Cs Ta 470 W Re Os Ir (1) Ma et al. (1978); INAA Re Hg Notes:				
In 8n 8n 8b Te Cs Ta 470 W References and methods: Os Ir (1) Ma et al. (1978); INAA Rig Notes:				
Sh Sb Te Cs Ta 470 W Re Cs Ir (1) Ma et al. (1978); INAA Pt Au Hg Notes:				
Sb Te Cs Ta 470 W Re Cs Ir Pt Au Hg Notes:				
Te				
Cs Ta 470 W Re References and methods: Os Ir Pt Au Hig Notes:				
Ta 470 W Re References and methods: Os Ir (1) Ma et al. (1978); INAA Pt Au Hg Notes:				
References and methods: Os Ir Pt As Hig Notes:			470	
Os Ir Pt As: Hig Notes:				
Ir (1) Ma et al. (1978); INAA Pt Au Hg Notes:				References and methods:
Pt Au Hg Notes:				(1) Ma et al. (1070), 7074
Au Hig <u>Notes</u> : Ti				(1) LW SC 91: (12/8)) INW
Hg <u>Notes</u> :				
T1 Bi (a) +30 ppm (b) +55 ppm		Hig		Notes:
(1) (a) +30 ppm (b) +55 ppm				4-3
(1) (D) +35 bim		B1	777	(a) +30 ppn
			141	(p) ±33 blus

<u>PHYSICAL PROPERTIES</u>: Gose et al. (1972) and Pearce et al. (1973) reported a natural magnetic intensity (NRM) of 3.3×10^{-6} emu/g for the bulk sample. This value is typical for Apollo 15 mare basalts.

<u>PROCESSING AND SUBDIVISIONS</u>: In 1977, chipping produced two chips, one of which remains with ,0. The other (,1) was used for chemical analysis and also produced the thin section ,4. ,0 is now 22.46 g.

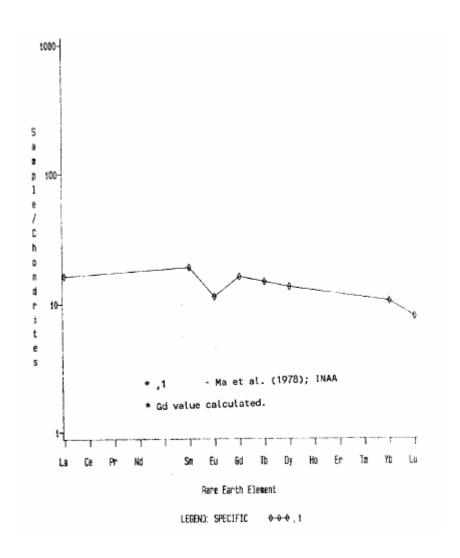


Figure 3. Rare earths in 15630