

78516**Dark Matrix Soil Breccia****3.18 g, 1.5 x 1.0 x 1.0 cm****INTRODUCTION**

Sample 78516 was collected as part of a soil sample at Station 8. It is a friable soil breccia and contains orange glass beads.

PETROGRAPHY

Butler (1973) described 78516 as friable, medium grey, matrix-rich breccia with clasts generally of millimeter size composing less than

5%. Small clasts are generally white plagioclase, mare basalt, black aphanite, and orange glass (Fig. 1).

The thin section of 78516 shows that it contains a senate distribution of small mineral fragments in brown glass matrix (Fig. 2). Orange glass beads are a distinctive feature.

Jerde et al. (1987) have determined that the maturity (I_s/FeO) of 78516 is submature.

Sample 78518 appears to be the same material.

WHOLE-ROCK CHEMISTRY

Jerde et al. (1987) have reported the chemical composition of 78516 (Table 1 and Fig. 3). It has a composition almost exactly like that of the soil from which it was collected (78501), and it has a high Ir content.

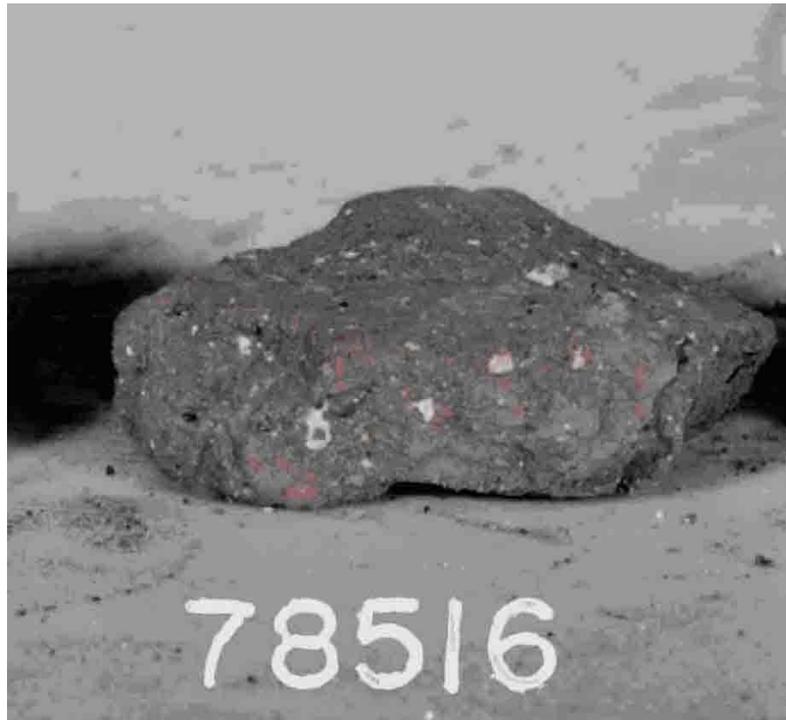


Figure 1: Photograph of 78516. Cube is 1 cm. S7348607.

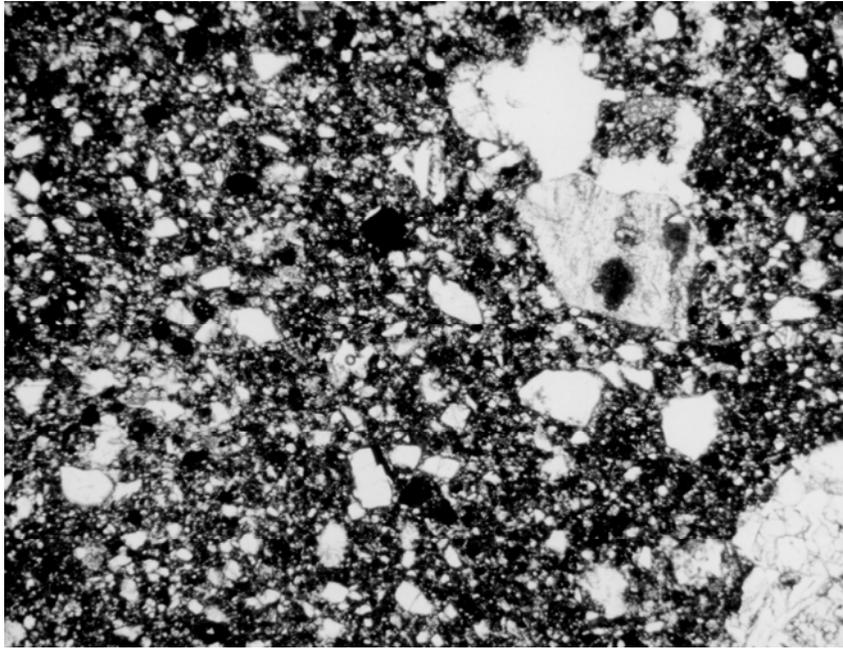


Figure 2: Photomicrograph of thin section 78516,3. Field of view is 3 x 4 mm.

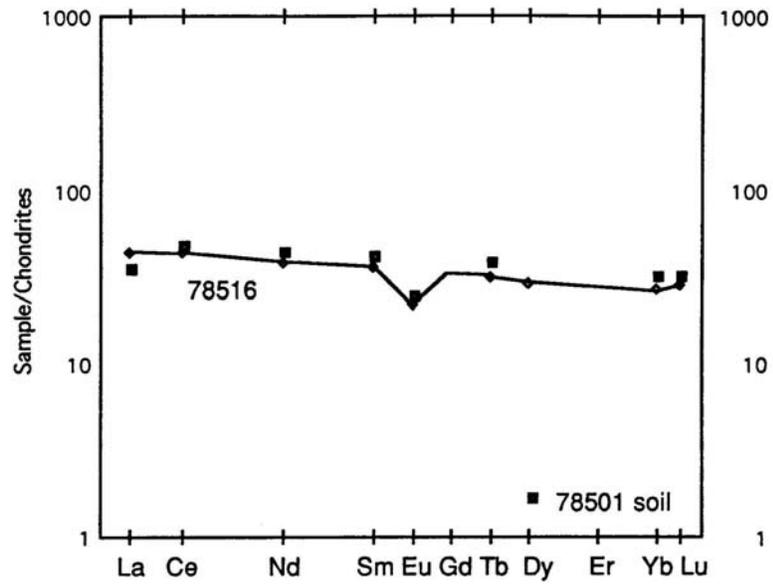


Figure 3: Normalized rare earth element diagram for 78516. Data from Jerde et al. (1987).

Table 1: Whole-rock chemistry of 78516.
From Jerde et al. (1987).

Split Technique	,1 INAA	Split Technique	,1 INAA
SiO ₂ (wt%)	44.51	Ni	250
TiO ₂	2.47	Co	35.7
Al ₂ O ₃	18.09	Sc	26.1
Cr ₂ O ₃	0.31	La	10.1
FeO	10.41	Ce	26
MnO	0.16	Nd	17
MgO	10.94	Sm	5.3
CaO	11.75	Eu	1.21
Na ₂ O	0.41	Gd	
K ₂ O	0.11	Tb	1.14
Nb (ppm)		Dy	6.9
Zr	190	Er	
Hf	3.9	Yb	4.3
Ta	0.52	Lu	0.67
U	0.44	Ga	4.4
Th	1.79	Ge (ppb)	
Sr	180	Ir	10.7
Ba	100	Au	<4
Cs	0.32		