78535

Dark Matrix Breccia
103.4 g, 2 pieces: 6.0 x 5.0 x 4.1cm; 1.5 x 1.5 x 0.5 cm

INTRODUCTION

Sample 78535 is a coherent soil breccia that was collected as part of a large rake sample at Station 8 (Fig. 1). 78535 appears to be similar to 78546, which is perhaps the best studied of this group of soil breccias.

PETROGRAPHY

Butler (1973) describes 78535 as moderately coherent, medium grey, matrix-rich breccia with clasts composing less than 5% of the rock. Clasts are predominantly white and consist of plagioclase and mare basalt. Keil et al. (1974) and Warner et al. (1978f) have also described 78535 in their catalogs.

In thin section, the breccia matrix consists of abundant small mineral clasts together with dark brown glass that firmly cements the rock (Fig. 2). Warner et al, found abundant mineral, glass, and lithic clasts. Lithic clasts include anorthosite and mare basalt. Orange and devitrified orange glass spherules are common.

Warner et al. (1979) have studied the glass compositions in 78535.

WHOLE-ROCK CHEMISTRY

Laul and Schmitt (1975c) have reported the chemical composition of 78535 (Table 1). The chemical composition is almost exactly like that of the local soil (78501) (Fig. 3).

SIGNIFICANT CLASTS

Fig. 1 shows a relatively large (8 mm), chalky white clast that apparently has not been studied.

Figure 1: Photograph of 78535. Scale is 1 cm. S73-21429.

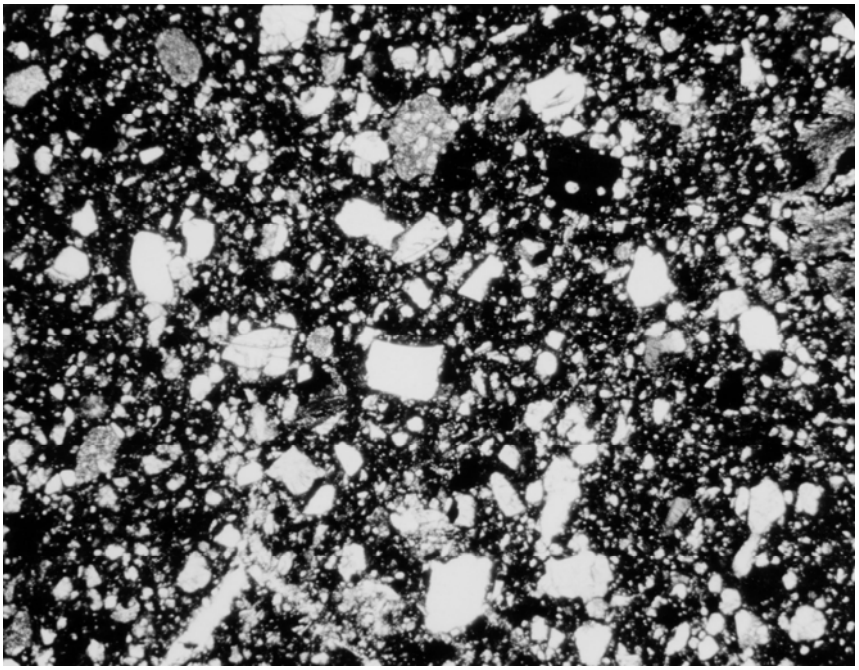

Figure 2: Photomicrograph of thin section of 785.35,7. Field of view is 3 x 4 mm.

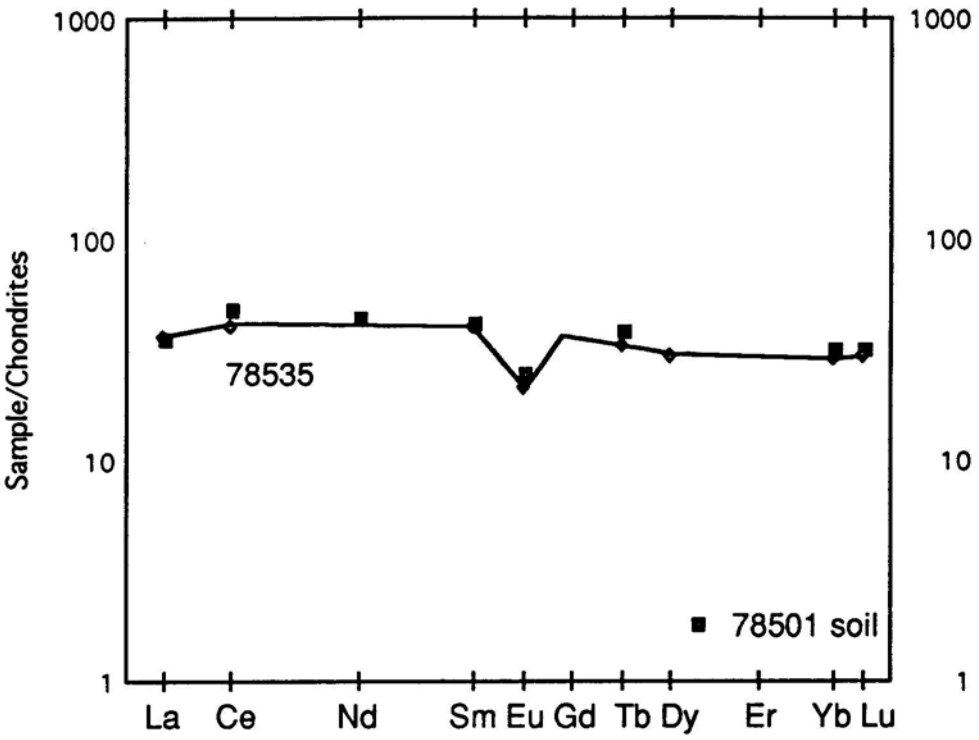

Figure 3: Normalized rare earth element diagram for 76535 compared with data from local soil. Data from Laul and Schmitt (1975c).

Table 1: Whole-rock chemistry of 78535.
From Laul and Schmitt (1975c).

Split	,3
Technique	INAA
SiO_2 (wt%)	–
TiO_2	3.9
Al_2O_3	17.2
Cr_2O_3	0.30
FeO	11.3
MnO	0.14
MgO	9.7
CaO	11.6
Na_2O	0.38
K_2O	0.09
Nb (ppm)	
Hf	4.4
Ta	0.75
U	–
Th	1.0
Ba	–
Ni	200
Co	30.7
Sc	32
La	8.3
Ce	24
Nd	
Sm	5.9
Eu	1.2
Gd	
Tb	1.2
Dy	7.2
Er	
Yb	4.7
Lu	0.72
Ge (ppb)	
Ir	
Au	