77077

Cataclastic Norite with Black Veinlets
5.45 g, 2 x 2 x 1.5 cm

INTRODUCTION

Sample 77077 was sampled along with the dark dike in the large "off-white" clast in the boulder at Station 7 *(see the section on the Station 7 Boulder, page 235).* This sample is friable white cataclastic norite with thin black veinlets (Fig. 1).

PETROGRAPHY

Sample 77077 is cataclastic norite equivalent to sample 77215 and the white material that is attached to the black dike 77075. Thin sections show that it is crushed with schliem of very fine material (Fig. 2). It is about half pyroxene and half plagioclase.

Warren and Wasson (1978) find that the mineralogy of the white portion of 77077 is "extremely similar" to the same lithology on 77075 and 77215, which are from the same sample location on the boulder at Station 7. All three rocks are the same crushed norite with plagioclase (An_{90-92}) and orthopyroxene ($Wo_{4-5}En_{65-70}Fs_{25-30}$).

MINERAL CHEMISTRY

Bersch et al. (1991) have precisely determined the composition of pyroxene in 77077. Hansen et al. (1979) report the trace elements in plagioclase.

WHOLE-ROCK CHEMISTRY

Warren and Wasson (1978) found that the siderophile elements were very low in 77077 (Table 1). It has the same chemical composition as 77215 and the white material attached to 77075 (Fig. 3).

Figure 1: Photograph of 77077. Scale is 1 cm. S73-17182.

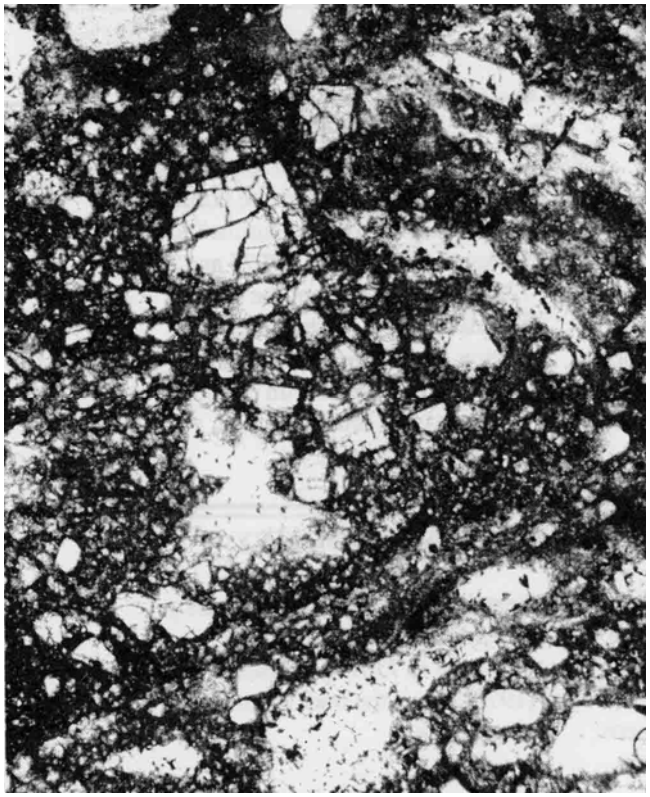

Figure 2: Photomicrograph of thin section 77077,6. Field of view is 1 x 2 mm.

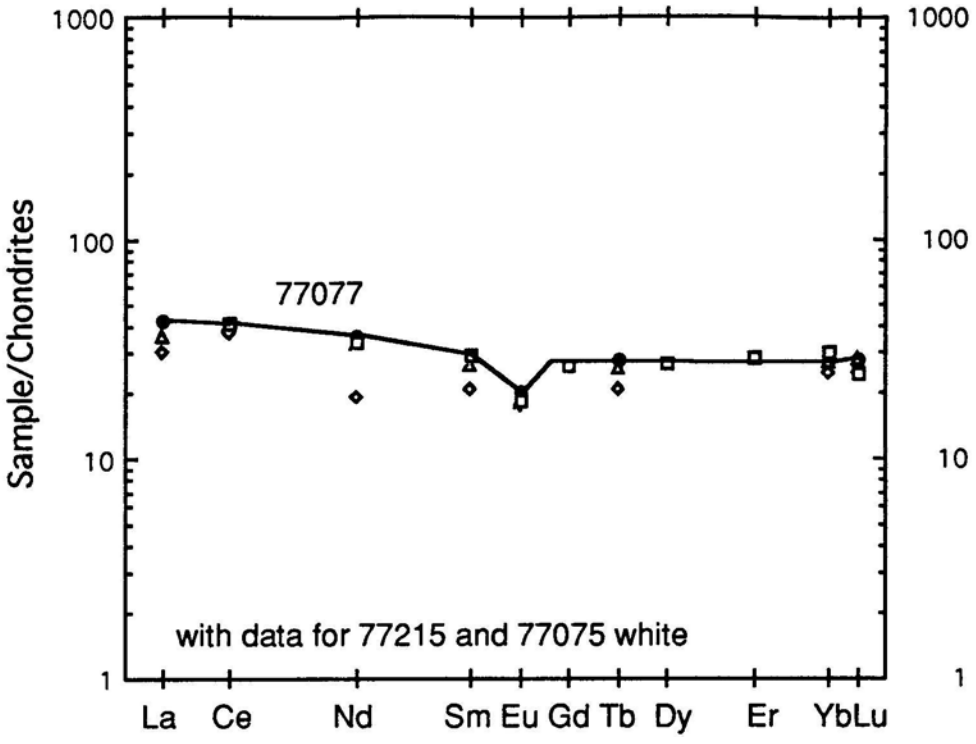

Figure 3: Normalized rare earth element data for 77077 plotted with data from 77215 and 77075 white portion. Data from Warren and Wasson (1978).

Table 1: Whole-rock chemistry of 77077.
From Warren and Wasson (1978).

Split Technique	,1 (a) INAA white
SiO_2 (wt%)	50.9
TiO_2	0.30
Al_2O_3	16.16
Cr_2O_3	0.32
FeO	8.74
MnO	0.15
MgO	10.6
CaO	9.94
Na_2O	0.44
K_2O	0.22
Nb (ppm)	
Zr	150
Hf	3.4
Ta	0.38
U	0.59
Th	2.0
Ba	220
Zn	2.84
Ni	<1.7
Co	25.2
Sc	13.8
La	9.9
Ce	25
Nd	16
Sm	4.28
Eu	1.12
Tb	1.0
Yb	4.5
Lu	0.67
Ga	5.0
Ge (ppb)	18.7
Ir	0.0029
Au	0.056