

78548 – 15.95 grams
78549 – 16 grams
Soil Clods

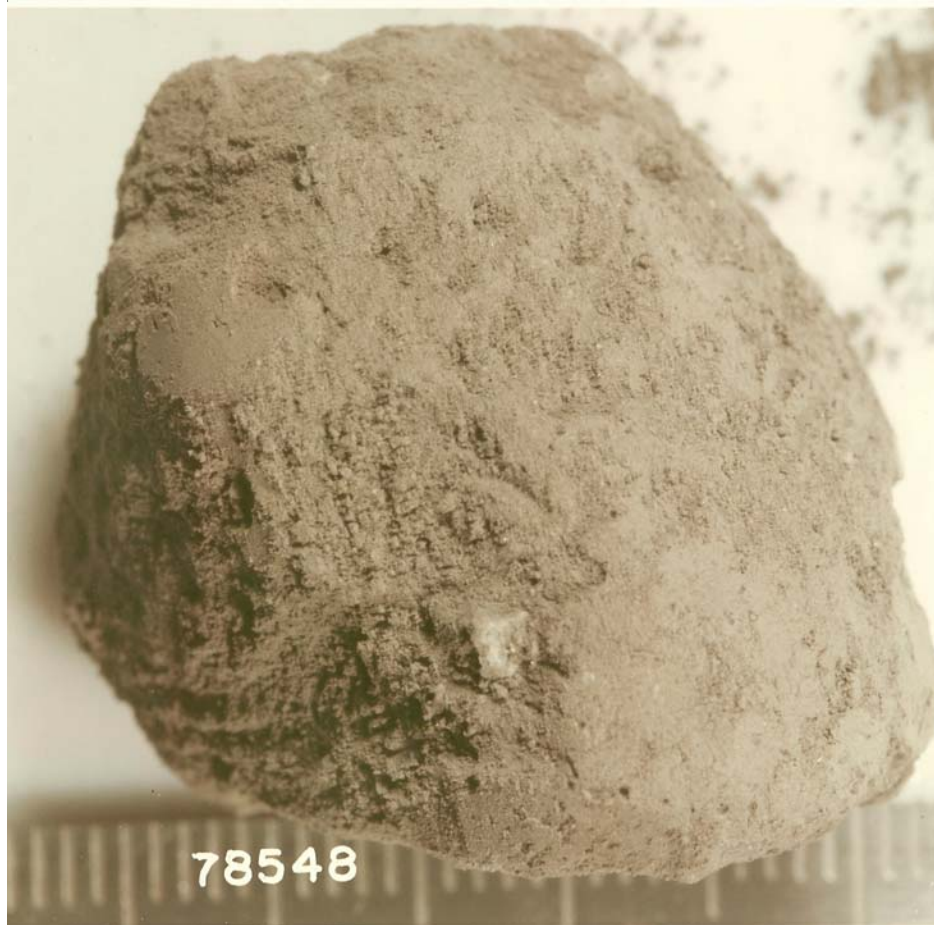


Figure 1: Photo of 78548. Scale in cm. S73-21022.

Introduction

78548 and 78549 are very friable breccias, that appear to be the equivalent of the local soil where they were collected. They broke up into fines during processing (figures 4 a, b). These particle should be studied in direct comparison to the soil (78501).

Petrography

Meyer (1994), Keil et al. (1974) and Warner et al. (1978) included these particles in their catalogs. Both fragments contained small clasts of mare basalt, feldspathic breccias and other soil components. 78548 was found to have pale green glass, while 78549 included agglutinates.

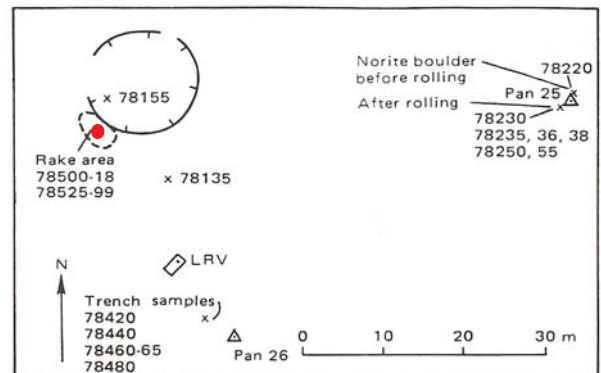


Figure 2: Location where 78548 was collected.



Figure 3: Photo of 78549. Scale in mm. S73-33421



Figure 4 a: Grains from 78548 (Warner et al. 1978).

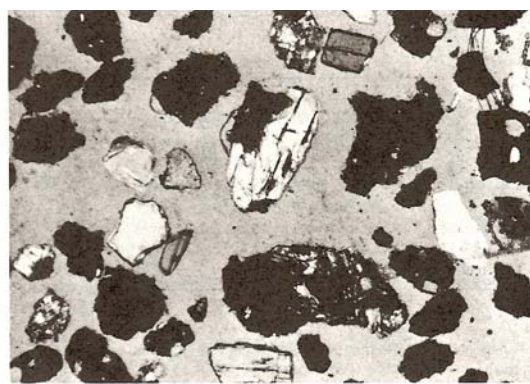


Figure 4b: Grains from 78549 (Warner et al. 1978).

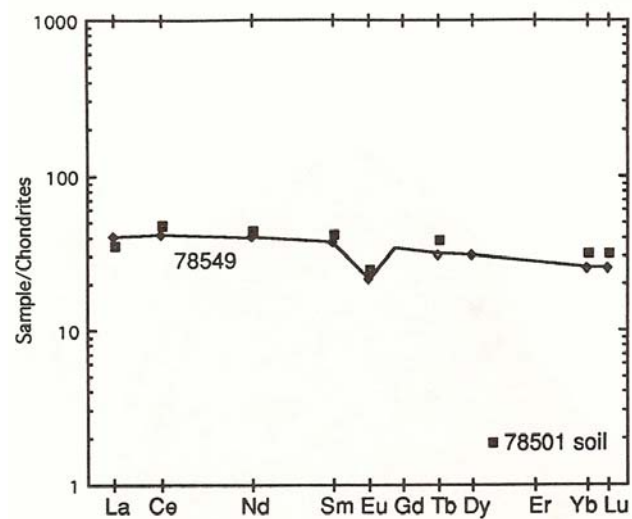
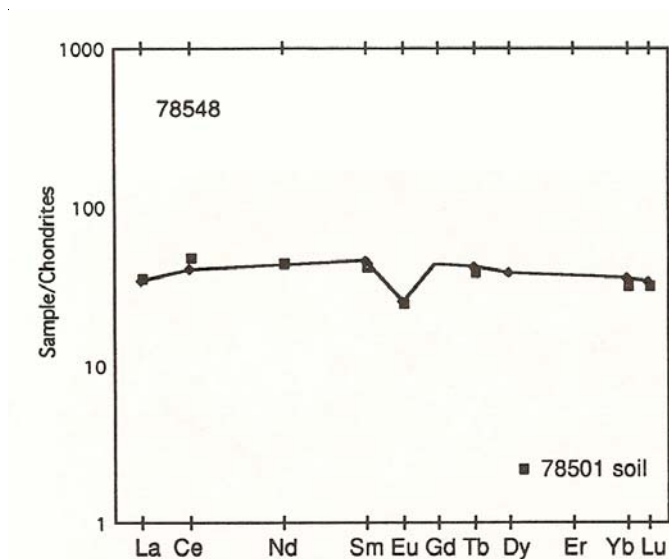
Chemistry

The chemical analyses of these two soil clods are slightly different, but not that different from the soil collected with them (Laul and Schmitt 1975).

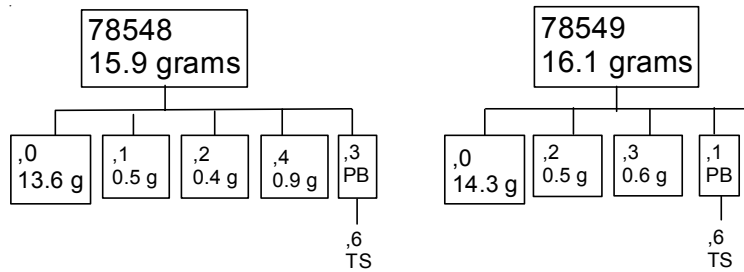
Table 1. Chemical composition of 78548 and 78549

	78548	78549	
reference	Laul75		
weight			
SiO ₂ %			
TiO ₂	5.2	2.6	(a)
Al ₂ O ₃	16	18	(a)
FeO	13.2	11.4	(a)
MnO	0.17	0.14	(a)
MgO	10	10	(a)
CaO	11.3	11.9	(a)
Na ₂ O	0.41	0.39	(a)
K ₂ O	0.09	0.1	(a)
P ₂ O ₅			
S %			
sum			
Sc ppm	41	26	(a)
V			
Cr	2326	2011	(a)
Co	31.2	41.8	(a)
Ni	120	300	(a)
Cu			
Zn			
Ga			
Ge ppb			
As			
Se			
Rb			
Sr			
Y			
Zr			
Nb			
Mo			
Ru			
Rh			
Pd ppb			
Ag ppb			
Cd ppb			
In ppb			
Sn ppb			
Sb ppb			
Te ppb			
Cs ppm			
Ba			
La	7.9	9.4	(a)
Ce	24	25	(a)
Pr			
Nd		18	(a)
Sm	6.6	5.4	(a)
Eu	1.4	1.2	(a)
Gd			
Tb	1.5	1.1	(a)
Dy	9.3	7.3	(a)
Ho			
Er			
Tm			
Yb	5.7	4.3	(a)
Lu	0.81	0.6	(a)
Hf	5	4.3	(a)
Ta	0.9	0.63	(a)
W ppb			
Re ppb			
Os ppb			
Ir ppb		10	(a)
Pt ppb			
Au ppb		3	(a)
Th ppm	0.8	1.2	(a)
U ppm		0.4	(a)

technique: (a) INAA



Figures 5 a,b: Normalized rare-earth-element diagrams for 78548, 78549 soil clods as compared with soil 78501.



References for 78548 and 78549

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