64559

Impact Melt Breccia

21.8 grams

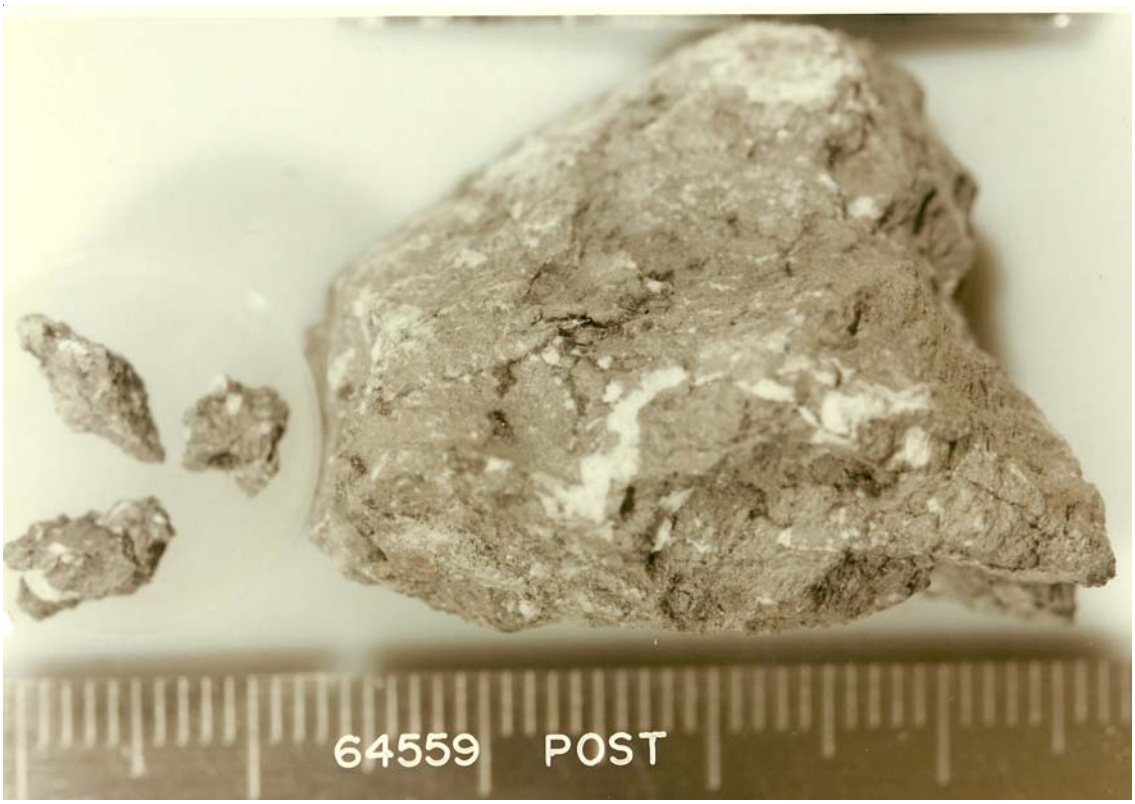


Figure 1: Photo of 64559. Cm/mm scale. S72-55387.

Introduction

64559 is a rake sample from Stone Mountain – see section on 64501. It appears to be a piece of the dark lithology that is part of the abundant dimict breccias from that location (64535 etc).

Petrography

The texture of 64559 is that of a basalt, but since it includes clasts of anorthite, it is an impact melt breccias (figure 2)

Chemistry

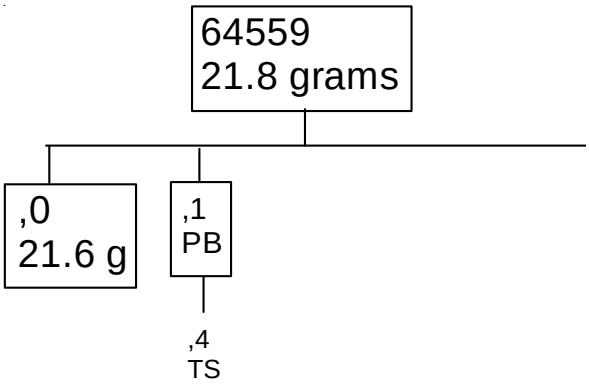
The composition of 64559 is similar to that of dark lithology of the dilithologic breccias from station 4 (table). It is trace element rich. Most important is that the Ni, Ir and Au are high indicating that it is an impact melt rock.

Other Studies

Pearce and Simonds 1974) studied the magnetic properties. Gooley et al. (1973) reported the Ni and Co in the metallic iron.

Processing

There is only one thin section.



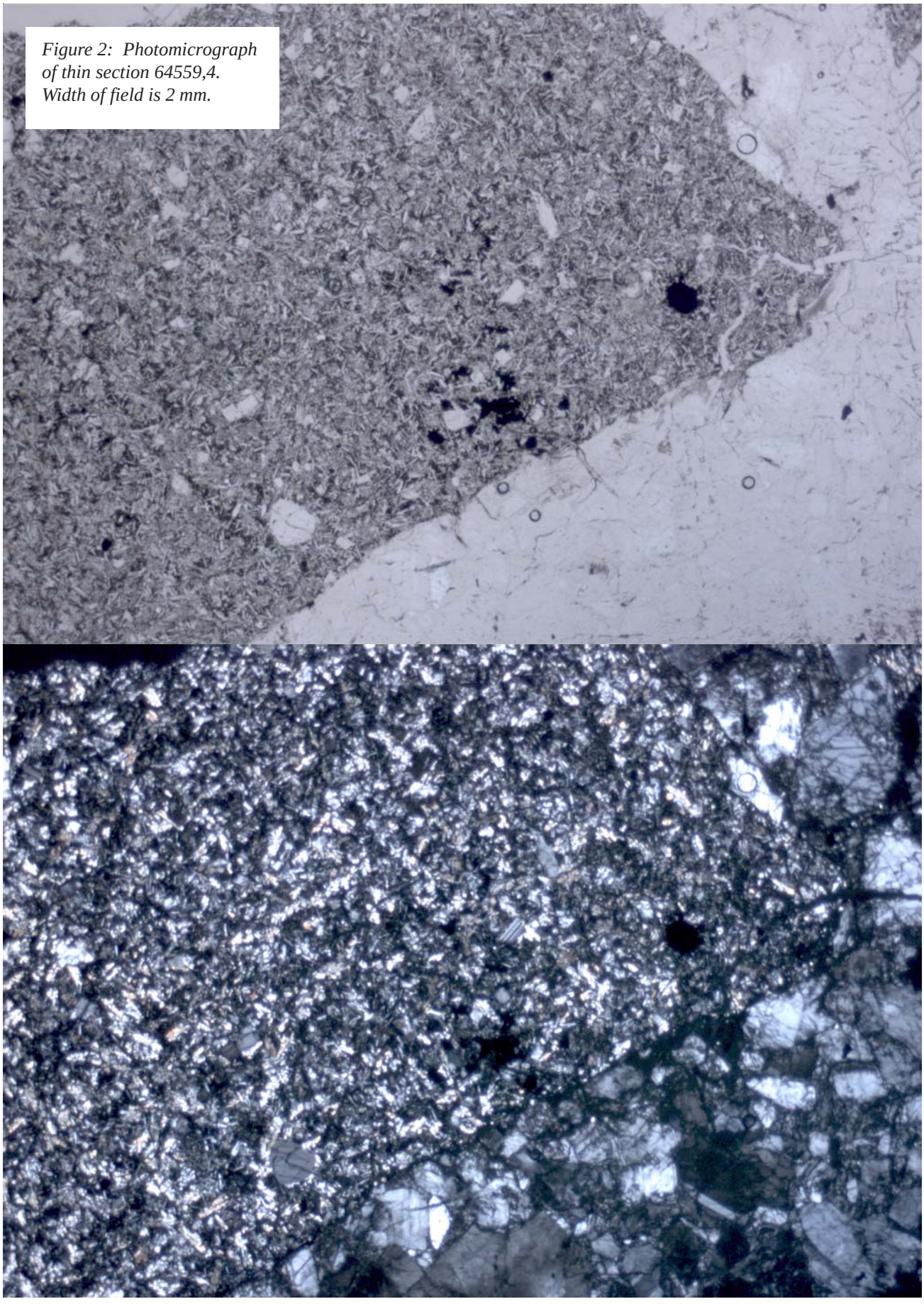


Figure 2: Photomicrograph of thin section 64559,4. Width of field is 2 mm.

Table 1. Chemical composition of 64559

reference	McKinley83			
weight				
SiO2 %			47.6	(b)
TiO2	0.9	(a)	0.8	(b)
Al2O3	20.7	(a)	21.6	(b)
FeO	9.4	(a)	5.68	(b)
MnO	0.085	(a)	0.08	(b)
MgO	11.6	(a)	10.4	(b)
CaO	12.1	(a)	12.7	(b)
Na2O	0.506	(a)	0.54	(b)
K2O	0.19	(a)	0.22	(b)
P2O5				
S %				
sum				
Sc ppm	11.3	(a)		
V	32	(a)		
Cr		(a)		
Co	94	(a)		
Ni	1560	(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	300	(a)		
La	29.2	(a)		
Ce	75	(a)		
Pr				
Nd	47	(a)		
Sm	13.8	(a)		
Eu	1.67	(a)		
Gd				
Tb	2.63	(a)		
Dy	15.1	(a)		
Ho				
Er				
Tm				
Yb	8.96	(a)		
Lu	1.31	(a)		
Hf	9.3	(a)		
Ta	1.2	(a)		
W ppb				
Re ppb				
Os ppb				
Ir ppb	42	(a)		
Pt ppb				
Au ppb	36	(a)		
Th ppm	4.3	(a)		
U ppm	1.2	(a)		

technique: (a) INAA, broad beam e probe

References for 64559

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