

61549
Mafic Impact Melt
3.76 grams



Figure 1: Photo of 61549. Tick marks are 1 mm. S72-55347

Introduction

61549 was collected as a rake sample near Plum Crater – see section on 61500. It is a coherent dense impact melt with microlites of mafic minerals in aphanitic matrix. It is similar to 63506.

Petrography

Warner et al. (1973) termed 61549 “metabasalt with meta-norite clast”. “The texture of this rock reflects the metamorphism. The matrix of the rock consists of prismatic to skeletal olivine crystals (Fo_{83}) and H-shaped, skeletal plagioclase tablets set in a groundmass of anhedral pyroxene and fine-grained plagioclase (figure). Immersed in this matrix are abundant plagioclase relics, few pink spinel relics and one large meta-norite.”

The composition of mafic minerals in 61549 are given by Warner et al. (figure 2).

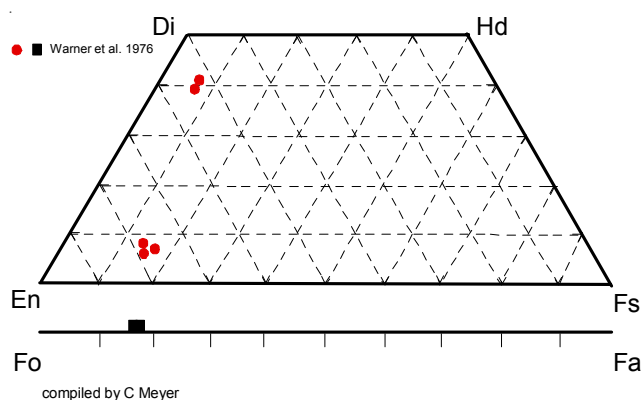


Figure 2: Mafic minerals in 61549.

Chemistry

Preliminary (table 1).

Radiogenic age dating

None

Figure 3: Photomicrograph of thin section of 61549 by C Meyer. Field of view is 2 mm.

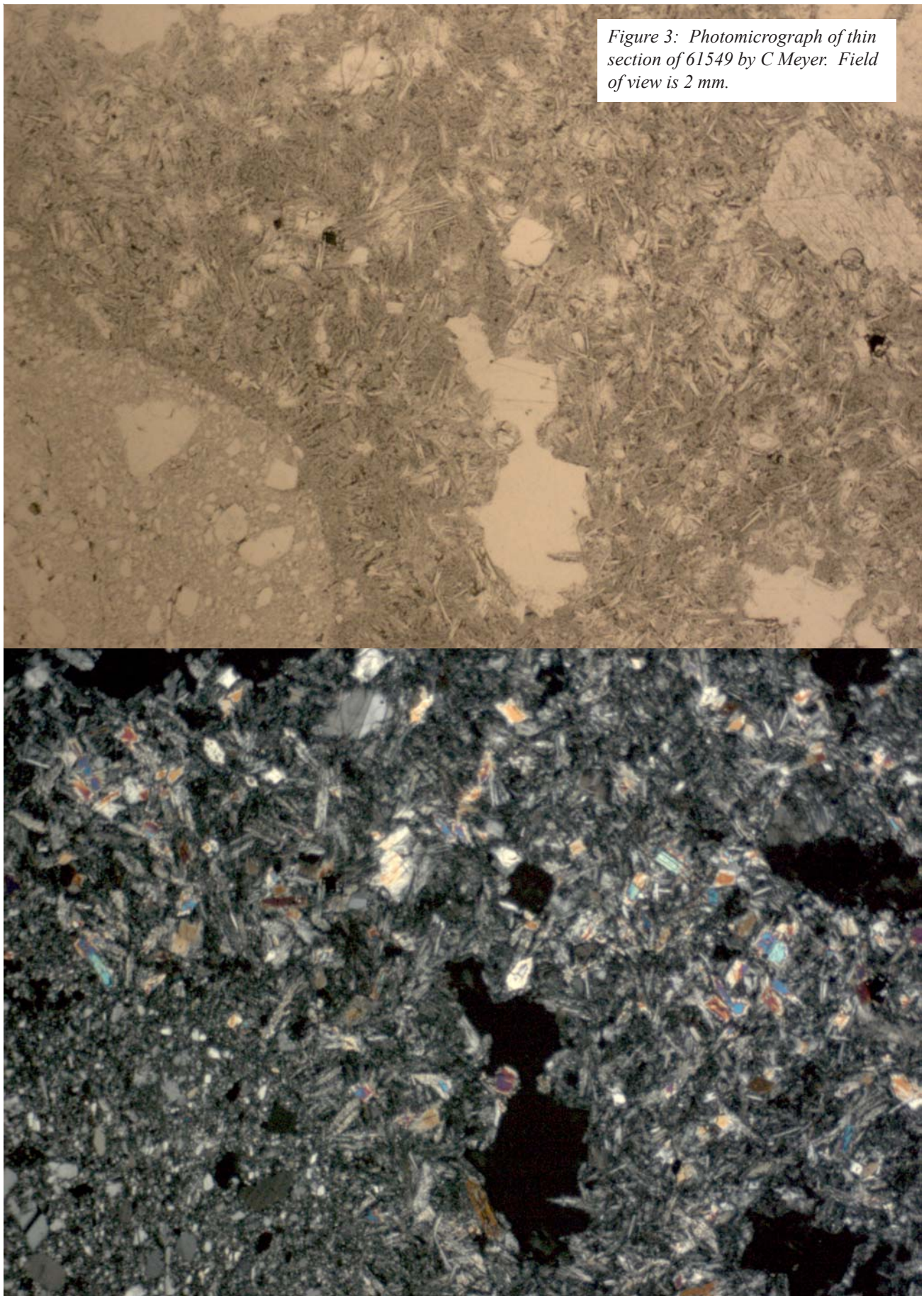


Table 1. Chemical composition of 61549.

reference weight	Ryder82	
SiO2 %	45.7	(a)
TiO2		
Al2O3	20.7	(a)
FeO	6.2	(a)
MnO		
MgO	14.6	(a)
CaO	11.5	(a)
Na2O	0.46	(a)
K2O	0.18	(a)
P2O5		
S %		
sum		
Sc ppm	8.6	(a)
V		
Cr		
Co	32	(a)
Ni		
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	17.4	(a)
Ce		
Pr		
Nd		
Sm	8.1	(a)
Eu	1.1	(a)
Gd		
Tb		
Dy		
Ho		
Er		
Tm		
Yb		
Lu	0.86	(a)
Hf		
Ta		
W ppb		
Re ppb		
Os ppb		
Ir ppb		
Pt ppb		
Au ppb		
Th ppm		
U ppm		

technique: (a) preliminary data

References for 61549

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