

63535 – 6.8 grams
63536 – 1 gram
63537 – 4.8 grams
Basaltic Impact Melt

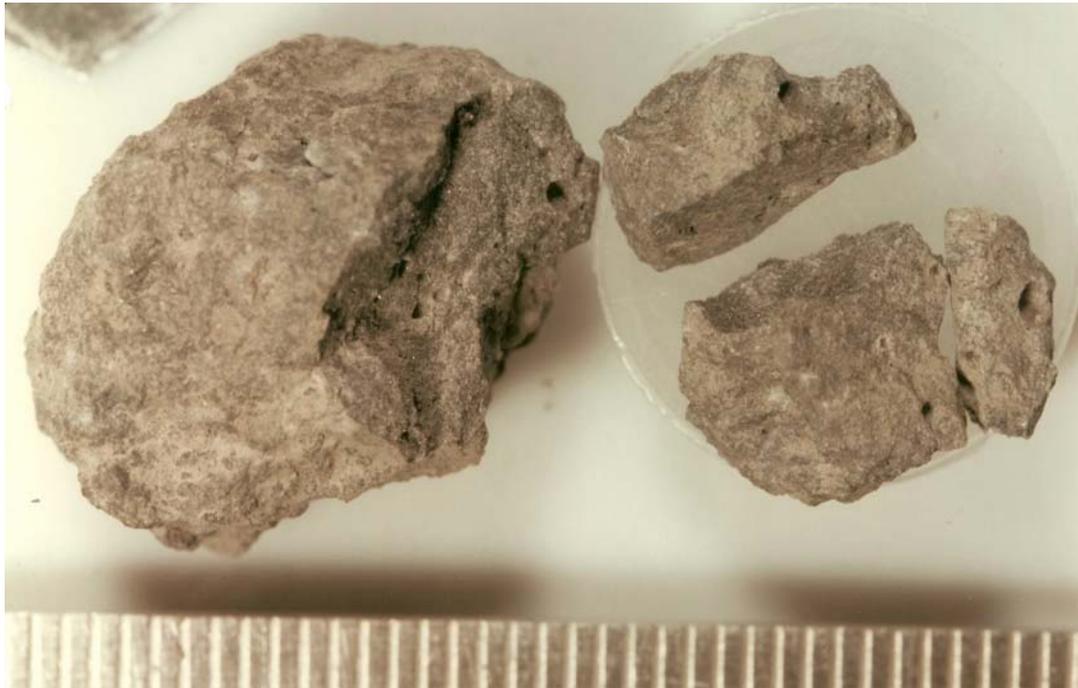


Figure 1: Photo of 63535. Scale in mm. S72-55391



Figure 2: Photos of both sides of 63537. Sample is about 2 cm long. S80-37420 and S80-37417

Introduction

Rake sample 63520 was collected beside Shadow Rock (but not in the shadow) at Station 13 near North Ray Crater – see section on 63501. It included a number of small fragments of Impact Melt Rock – some with fine-grained basaltic texture (see Warner et al. 1973).

Petrography

Although the texture of 63535, 63536 and 63537 could be termed “basaltic”, there are numerous small relic clasts that are incorporated in the matrix (figure 3). Thus it is an impact melt rock. Plagioclase laths are up to 100 microns long. Pyroxene compositions are given in figure 4.



Figure 3: Thin section photomicrograph of 63537 showing fine-grained basaltic texture.

Gooley et al. (1973) found 3.8 % Ni in metallic iron grains and lots of schreibersite (confirmed by Hunter and Taylor 1981).

Thin sections of these walnuts resemble that for 63545 (reported separately).

Chemistry

Stoffler et al. (1985) reported an analysis. Also look at the paper by Korotev (1994).

Radiogenic age dating

Norman et al. (2006) published an Ar/Ar plateau diagram for 63537 (figure 6).

Other Studies

Pearce and Simonds (1974) determined the magnetic properties.

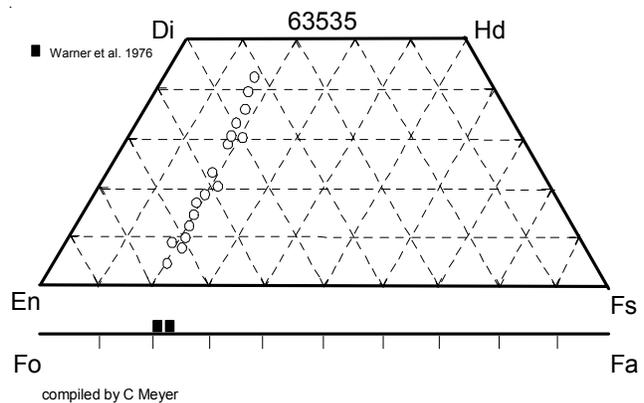


Figure 4: Composition of olivine and pyroxene in 63535 (Warner et al. 1973).

Table 1. Chemical composition of 63535

reference weight	Stoffler85	
SiO ₂ %	44.4	(a)
TiO ₂	0.67	(a)
Al ₂ O ₃	22.4	(a)
FeO	6.3	(a)
MnO	0.06	(a)
MgO	12.2	(a)
CaO	13	(a)
Na ₂ O	0.45	(a)
K ₂ O	0.22	(a)
P ₂ O ₅	0.15	(a)
S %		
sum		
(a) broad beam e. probe		

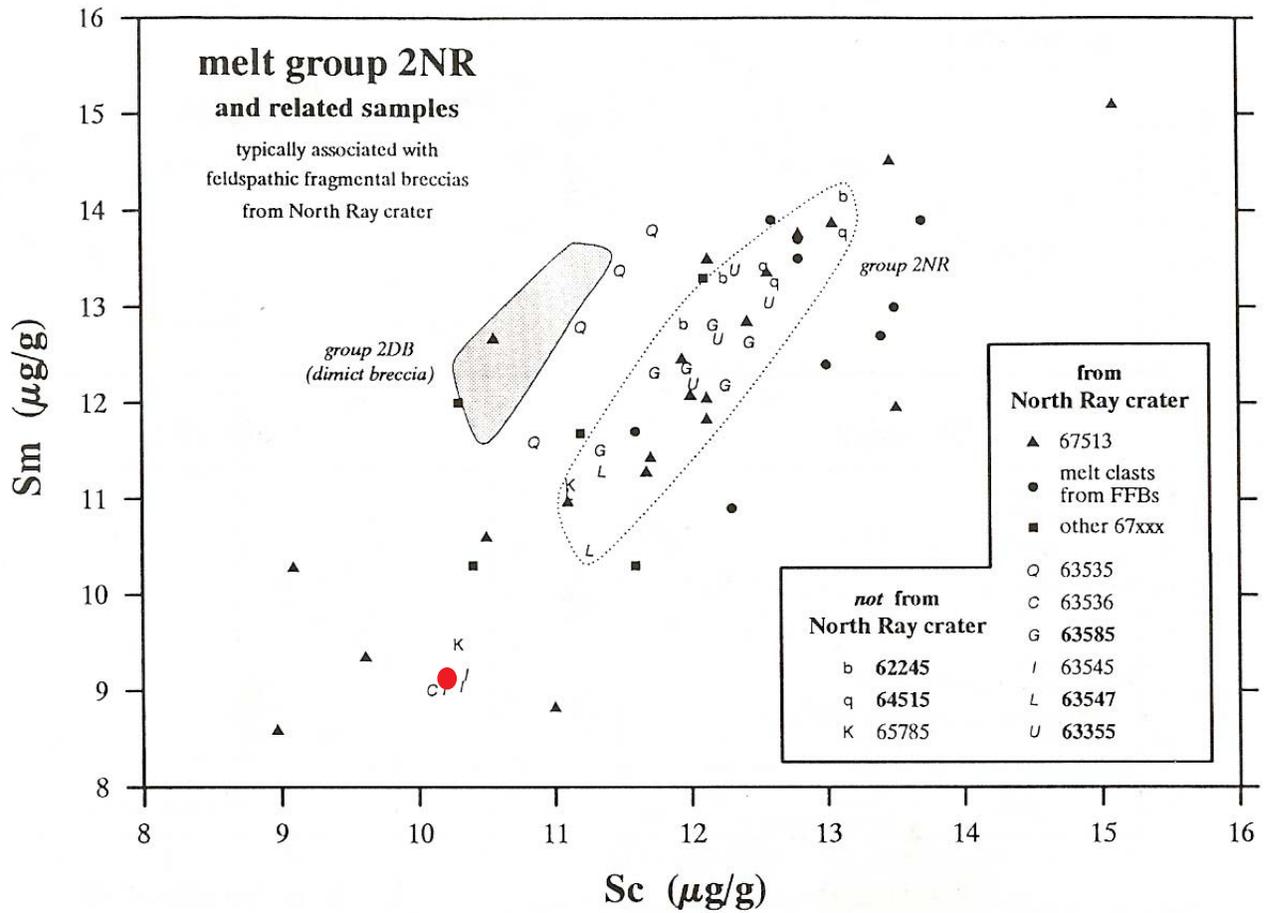


Figure 5: Randy Korotev must have unpublished data for A16 impact melts or he wouldn't be able to make this diagram.

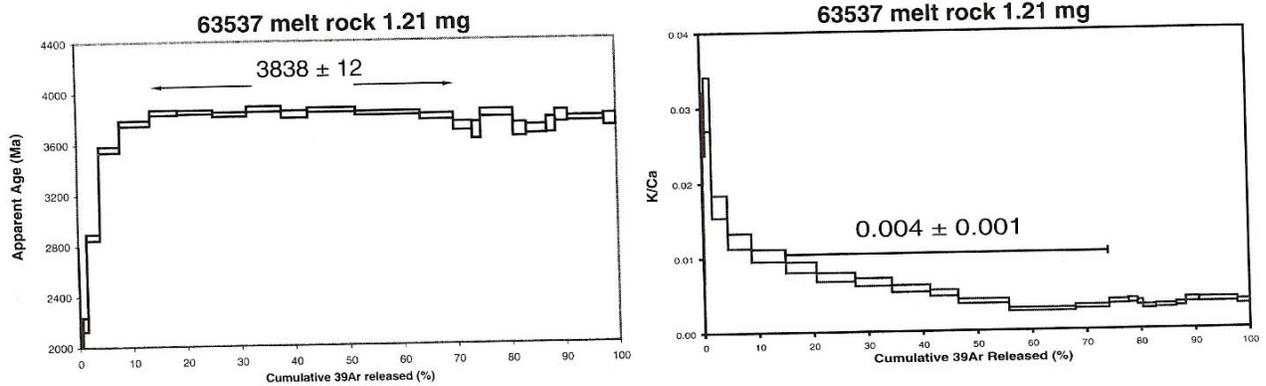
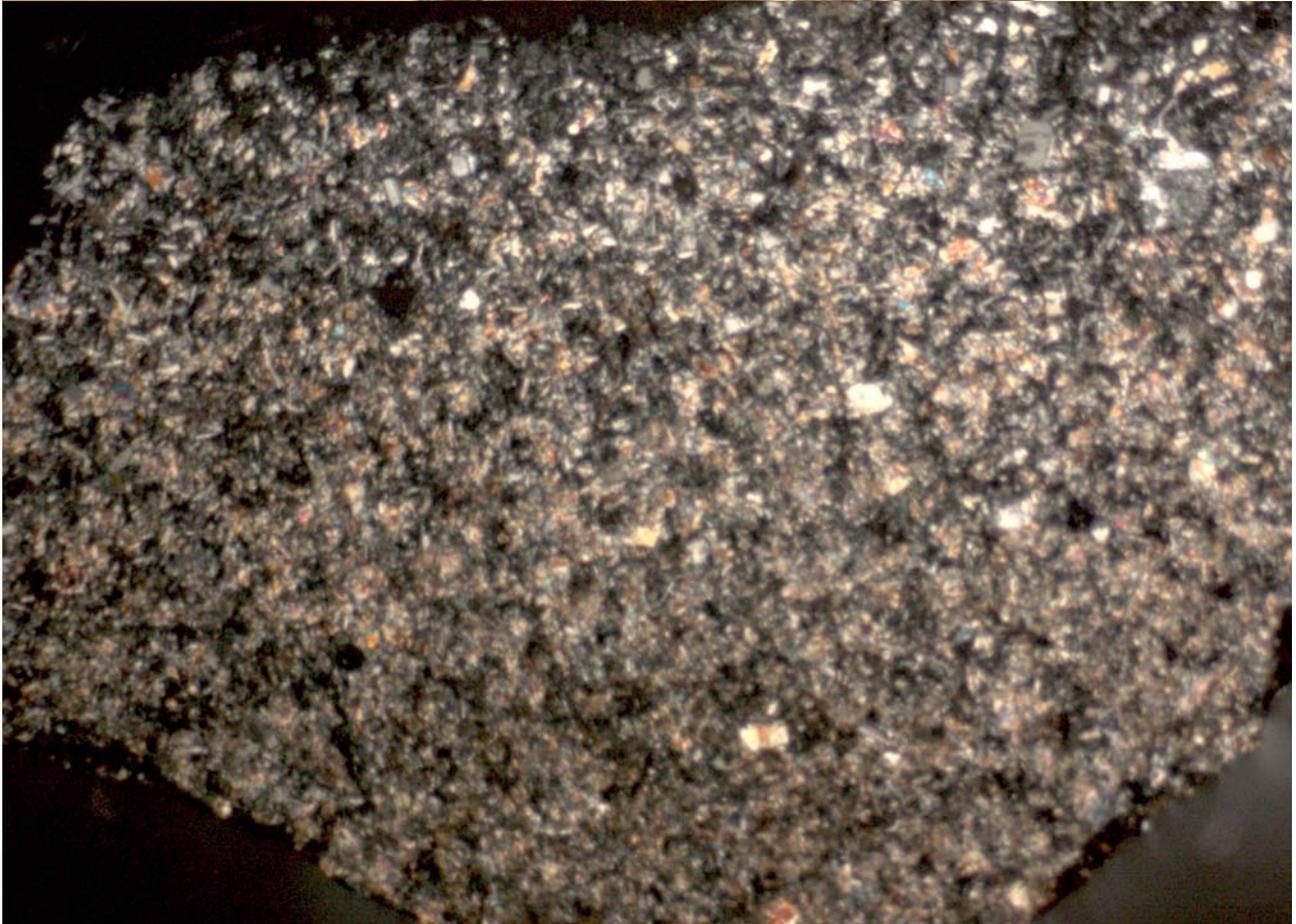
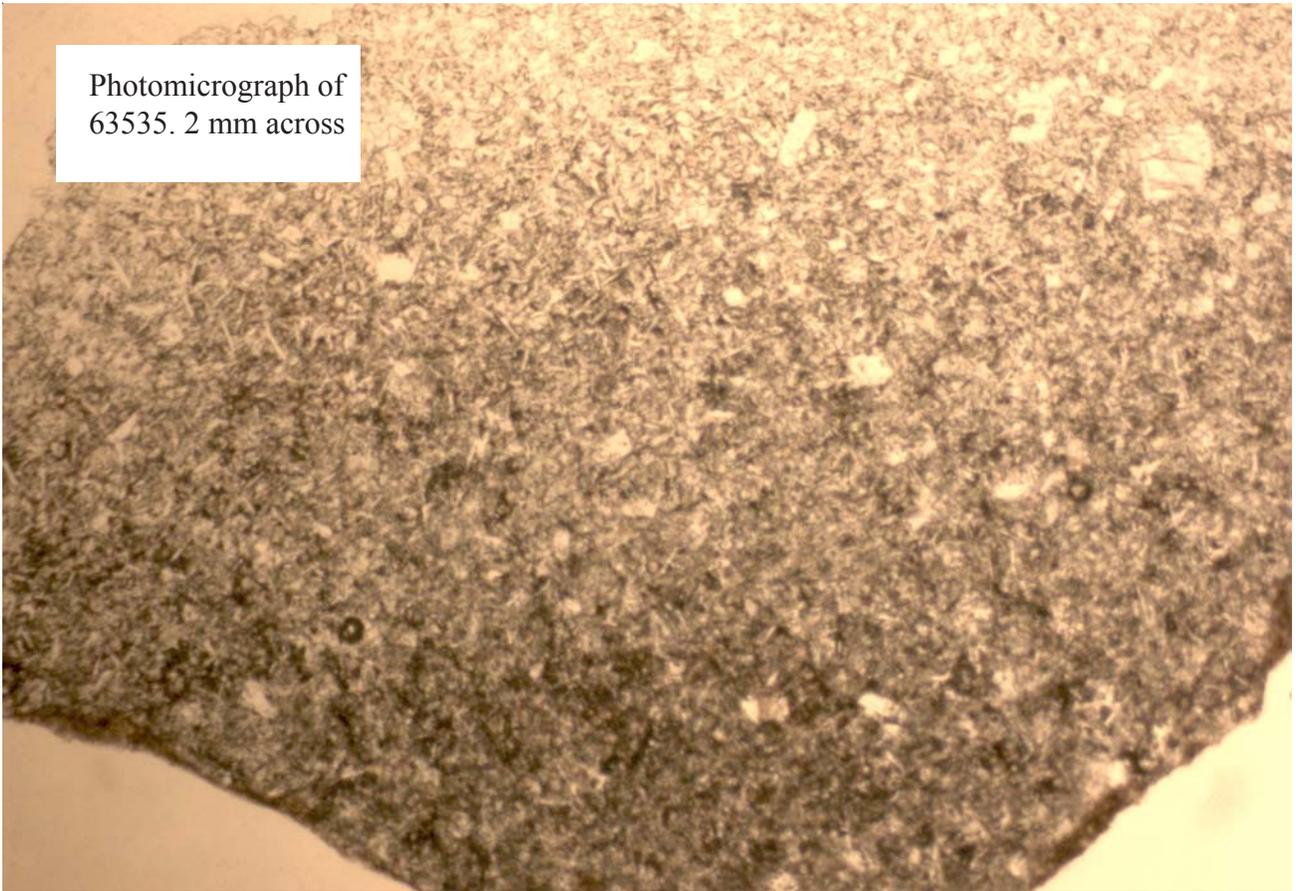
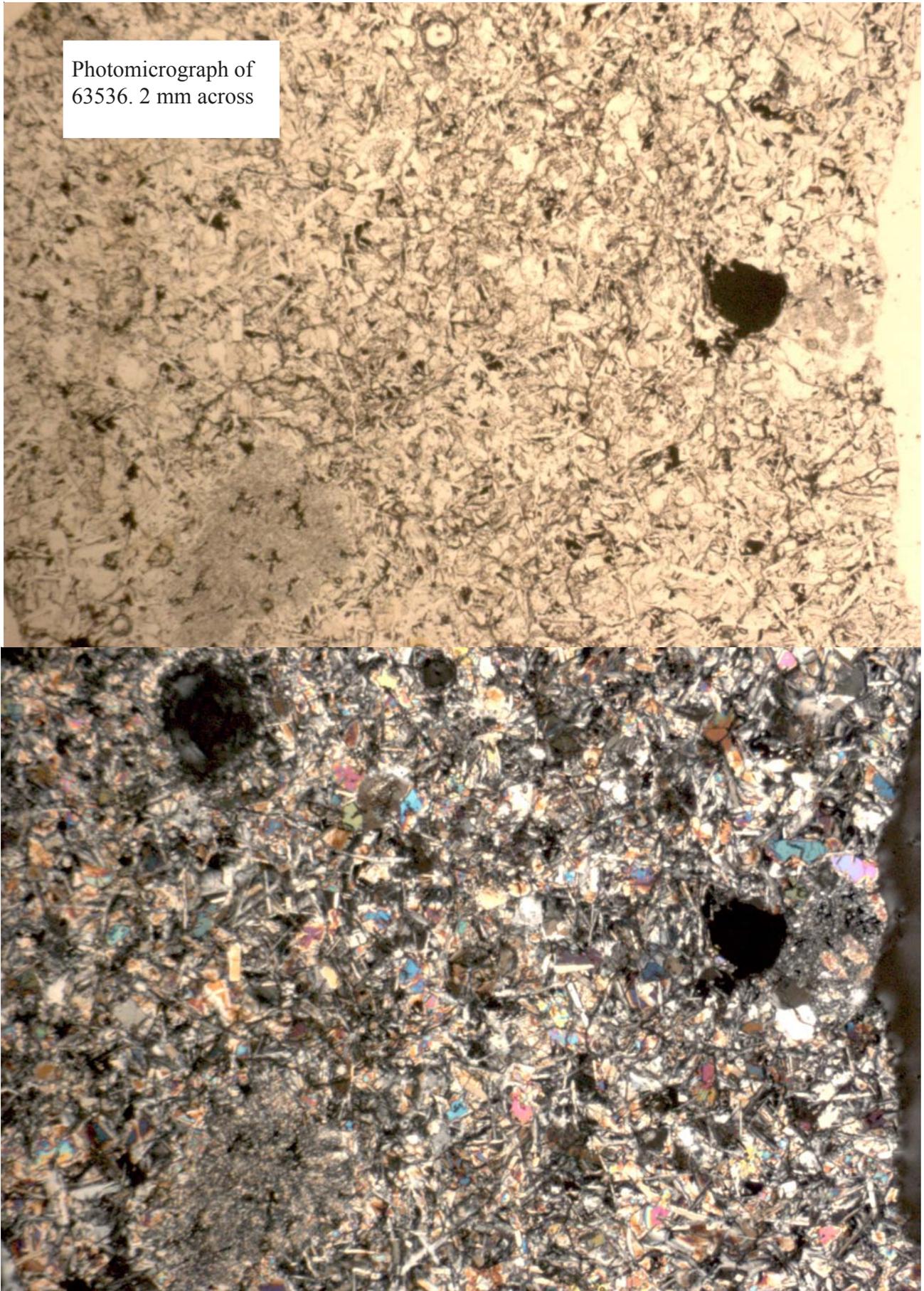


Figure 6: Ar/Ar plateau diagram for 63537 (Norman et al. 2006).

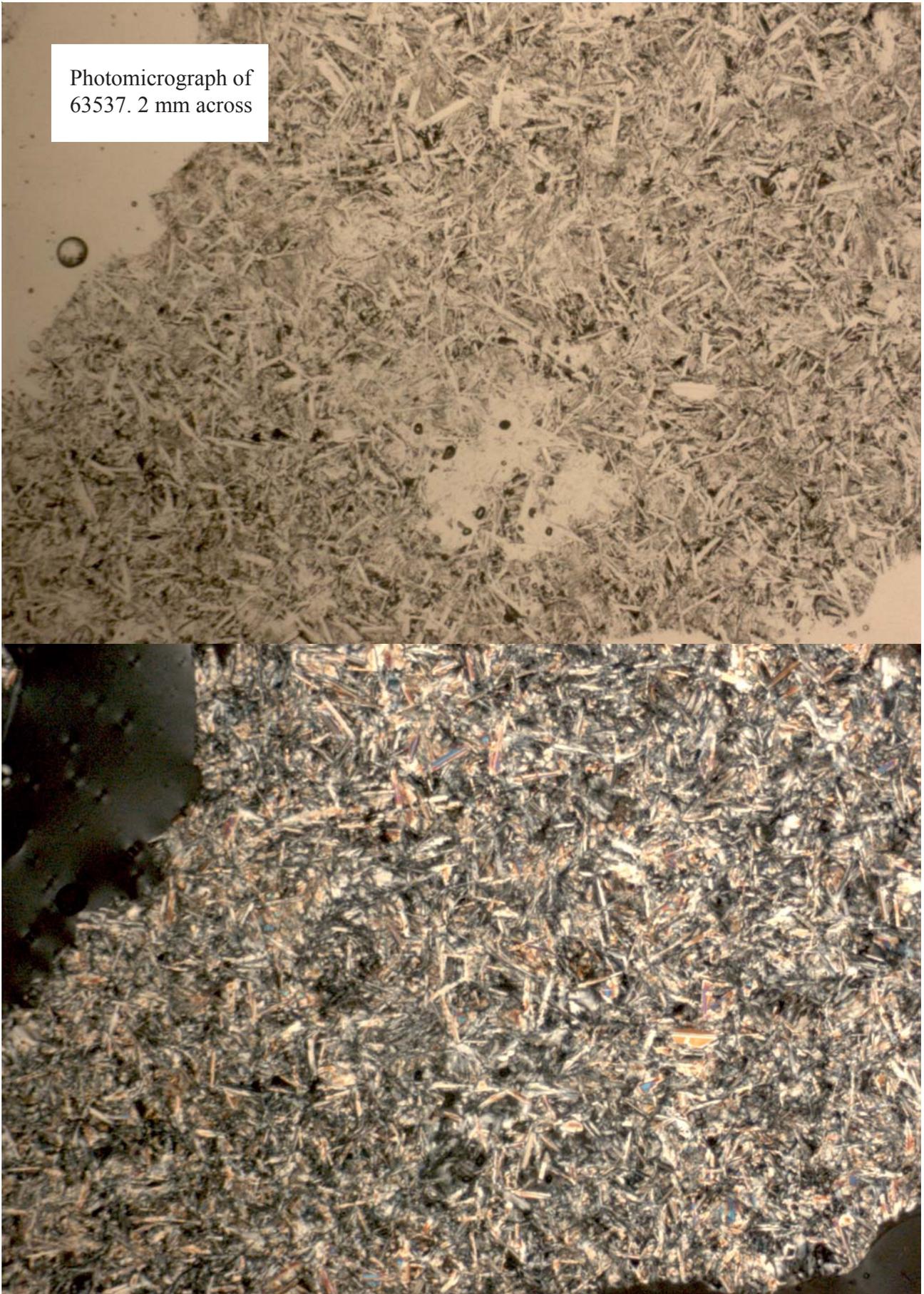
Photomicrograph of
63535. 2 mm across



Photomicrograph of
63536. 2 mm across



Photomicrograph of
63537. 2 mm across



References for 63535 and 63537

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