

Petrographic notes S1

Notes on feldspars near the end of crystallization. Reference Fig. 10 in main text.

1. **Samples KI 4077-4078.** Drill cores drilled 13 August 1968 by Morse and Belkin. 4078 was drilled 5 m east of 4077 and is therefore closest to the Upper Border Zone. Both cores were at least 20 cm long and the remaining core samples are about 12 cm long. The core samples differ from hand specimens by having pale green ferrohedenbergite, whereas most hand specimens have weathered to pale tan pyroxenes.

The feldspar sample compositions are listed in Table A2. Both samples have dominant Or-rich feldspar but the mean normalized composition is An 9.5, Ab 57.4, Or 33.1. Compare the “ideal” terminal composition of Or₃₃ and Fuhrman & Lindsley (1988) consolute line in Fig. A-1.

KI 4077 shows very finely exsolved ($\leq 2\mu\text{m}$) *mesoperthite*, large grains of subhedral to ragged *orthoclase* containing rods and plates of ilmenite. Mottled extinction shows strain in the Or. Yellow *fayalite*. There are rare *symplectites*. Opaques 5%, *Ti-Magnetite* and *ilmenite*. *Apatite* in small blades. No twinned plagioclase seen, but it exists in the mineral separates.

KI 4078 has coarse *mesoperthite* with blocky extinction, albite-twinned *oligoclase*, some of which is totally enclosed in mottled *perthite*, and others totally resorbed by perthite. Big blocks of *ferrohedenbergite*. Opaques abundant. *Fayalite*.

2. **Other samples in Fig. 10** lying on the Or 1/3 line: All contain ferrohedenbergite (here Cpx for short).

KI:

4106. Mostly mesoperthite. Very big blocky Kspar with ragged edges; some symplectite. Brown Cpx: +2V 75° r>v. *Fayalite*.

4104. Almost all symplectite and therefore on the Or 1/3 line. Rare inclusions of twinned plagioclase with some zoning. Kspar megacrysts with plagioclase intergrowths. *Fayalite* scarce. Giant Ap, brown to green Cpx. All fsp mottled & coarsely exsolved.

4081. Mainly symplectite. Ragged-edged Kspar dominant; orthoclase with patches of oligoclase. *Fayalite* gray to yellow, r>v.

3001. Megacrysts of Or and ragged mesoperthite, other minerals as above.

3. **Other samples** close to the Upper Border Zone. () not shown in Fig. 10.

KI:

(3028) 99.98 PCS. Big blotchy Or as big as 6 x 5 mm in Carlsbad twin. Cpx, Fa, Opaques as before; Ap scarce.

(3173) 99.99 PCS. Pale green Cpx, rare M'perth; Carlsbad twins, lots Kspar. Rare symplectite. Lots opaques and Ap.

4063, 99.99 PCS (To left of Or33 line.) Two slides: (a) much coarser big ol-cpx mafic patches. Cpx gray; minor mesoperthite, big orthoclase w/ragged borders. (b) Pale gray mafics, much symplectite, few oxides. Thin slide?

4075, 99.99 PCS Lots iridescent fsp. Pale green cpx, opaques ~10, rare m-perth. Much symplectite invading orthoclase subhedra. One very long cpx with perfect optic axis figure. One of the champions for texture.

4076 99.98 PCS Carlsbad twins, large blocky Kspar; a mafic sample. All fsp orthoclase