404	27.0	1,420	60	Cpx + Ga + Glass	Abundant garnet and clinopyroxene, in similar proportions. Intergranular glass — approx. 20—30% melting.
407	27.0	1,450	60	Ga + Glass + quench cpx	Garnet as medium-sized and large euhedral crystals either in feathery, turbid quench clinopyroxene or in clear glass (Fig. 2D). No definite primary clinopyroxene.
415	27.0	1,460	20	Ga + Glass + quench cpx	Similar to previous run but garnet smaller and less abundant. Patchy development of quench clinopyroxene and other areas of glass + garnet. No evidence for primary clinopyroxene.
410	27.0	1,470	60	Ga + Glass	Rare garnet is spherical or amoeboid showing clear resolution effects. Glass is colourless and has grossly lost Fe to the platinum capsule. Garnet interpreted as early crystallizing liquidus phase, later being redissolved in the liquid as the composition changed due to Fe loss.

given in Fig. 2. A number of generalizations on the habits and appearance of the various crystalline phases apply to all the compositions. Olivine, when appearing on or near the liquidus, occurs as euhedra of short prismatic or pseudohexagonal habit (crystal size 5—25 microns) — the latter form, with strong development of the hkl or h0l, 0kl faces, is particularly diagnostic. Prismatic crystals show straight extinction and moderate to high birefringence, pseudohexagonal or rhombic sections show symmetrical extinction. When present in assemblages near the solidus with abundant clinopyroxene, olivine is distinguished from the latter by more euhedral and slightly larger crystals and by higher birefringence.

Orthopyroxene is very distinctive in the experimental runs with a greater tendency towards euhedral form and large, inclusion-free crystals than any other mineral present. In near-liquidus runs the orthopyroxene crystallizes as elongate prisms terminated by the basal pinacoid, in some cases with minor development of the hkl, 0kl or h0l faces. Crystals are commonly 40—400 microns long and 10—50 microns thick (Fig. 2B, C). The orthopyroxene is optically distinctive in having straight extinction with low birefringence in prismatic sections. In runs well below the solidus (1,100° C) the orthopyroxene remains fine-grained and cannot be distinguished optically from clinopyroxene. In runs close to the solidus, and particularly in the runs at 9 kb and 13.5 kb on the olivine tholeiite composition where there has been access of small amounts of water in 3-hour runs, the orthopyroxene grows as very distinctive, large porphyroblasts which contain uncommon small inclusions of spinel, clinopyroxene and plagioclase. In some near-liquidus runs in which clinopyroxene is a co-existing primary phase as uncommon large crystals, the orthopyroxene shows included and marginal parallel intergrowth of clinopyroxene. In runs in which orthopyroxene and liquid are the only phases, the orthopyroxene does not show this intergrowth with clinopyroxene but may show some nucleation of quench clinopyroxene as feathery outgrowths, particularly at crystal corners (Fig. 2C).

Primary clinopyroxene occurs typically as small (2—10 microns) equant or short, prismatic crystals

Table 6. *Details of partial melting experiments on alkali olivine basalt composition*

Run No.	Pressure (kb)	Temp. (°C)	Time (mins)	Phases present	Comments
A3	1 atmos.	1,220	30	Ol + Cpx + Pl + ?Mt + Glass	About 50% melting. Common olivine, plagioclase and clinopyroxene, minor deep brown spinel$_{ss}$.
A5	1 atmos.	1,240	30	Ol + Pl + Glass	About 30% crystals, olivine and plagioclase in similar abundance. No semi-opaque spinel$_{ss}$.
A10	1 atmos.	1,250	30	Ol + Glass	Uncommon olivine, very near liquidus.
A9	1 atmos.	1,260	30	?Mt + Glass	Minor brown spinel (magnetite$_{ss}$) possibly due to some oxidation.
788	9.0	1,180	60	Ol + Cpx + Pl + Spinel + Glass	Near solidus run. Olivine (minor) with abundant fine equant clinopyroxene, uncommon spinel and common low R.I. plagioclase + some glass (probably) intergranular and amoeboid patches.
401	9.0	1,220	60	Ol + Cpx + Glass	Olivine and clinopyroxene as small euhedral or subhedral crystals. Clinopyroxene identified by microprobe. Glass > Crystals.
786	9.0	1,240	60	Ol + Glass	Olivine crystals in glass. Clinopyroxene not identifiable optically nor by X-ray means.
399	9.0	1,260	60	Ol + Glass	Small euhedral olivine in glass. Rare quench clinopyroxene.
785	11.3	1,270	60	?Ol + Cpx + Opx + Glass	Moderately common small euhedral to subhedral crystals of clinopyroxene, probable minor olivine and rare orthopyroxene laths. Glass ≫ crystals.
523	13.5	1,250	60	Cpx + Glass	Abundant small anhedral clinopyroxenes in intergranular glass. No definite spinel. Crystals > glass.
521	13.5	1,270	45	Cpx + Glass	Medium grained anhedral or subhedral clinopyroxene in glass. No orthopyroxene. Glass > crystals.
420	13.5	1,290	60	Opx + Cpx + Glass + quench cpx	Rare large orthopyroxene and clinopyroxene primary crystals in glass and quench clinopyroxene in feathery and aggregate textures.
494	13.5	1,290	30	?Opx + Cpx + Glass + ?quench cpx	Small subhedral clinopyroxene and possibly some orthopyroxene with glass and minor ?quench clinopyroxene outgrowths and anhedral aggregates. Apparently much greater crystallization than previous run.
501	13.5	1,295	30	Glass + quench cpx	Patchy development of fine aggregates of anhedral clinopyroxene in glass, probably entirely quench but may be primary.
497	13.5	1,300	30	?Opx + ?Cpx + Glass + quench cpx	Small, rectangular crystals of probable orthopyroxene with clinopyroxene outgrowths and similar crystals of clinopyroxene with quench outgrowths. Abundant glass and anhedral quench clinopyroxene aggregates.