THE GEOLOGY OF THE LOUGH GUITANE VOLCANIC COMPLEX AND ASSOCIATED SEDIMENTS COUNTY KERRY, IRELAND

by

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for the degree of Doctor of Philosophy

Volume II Plates.

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CONTAINS PULLOUTS

Plate 3.1 Trough cross-bedded medium grade sandstone in near vertical orientation.

Plate 3.2 Interbedded units of planar cross-bedded and horizontally bedded sandstones.

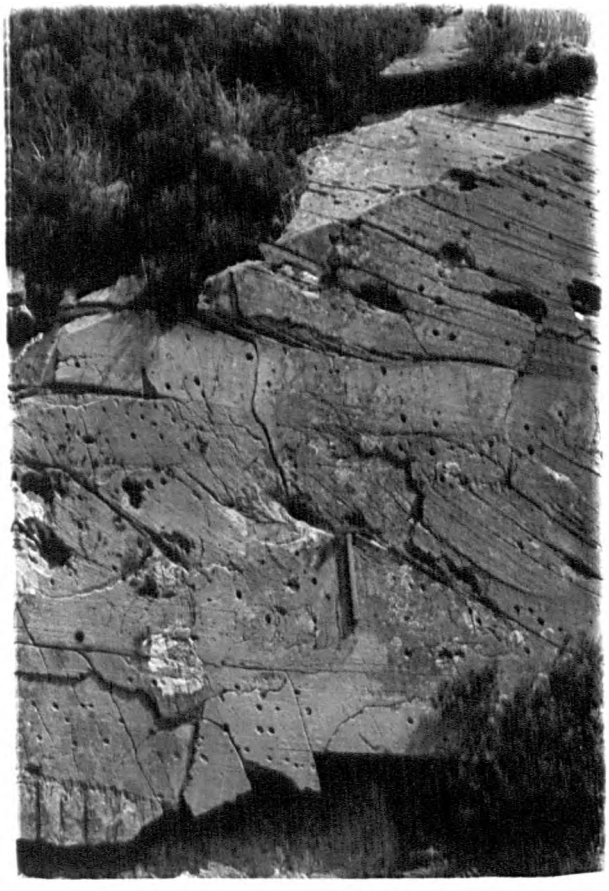


Plate 3.3 View of the south end of Lough Managh and the south side of the Horses Glen. The snow cover emphasizes flat exposed bedding surfaces corresponding to wide planar cross-bedded sheet sands (arrowed).

Plate 3.4 Thick horizontally bedded medium grade sandstone with a gently scoured base.

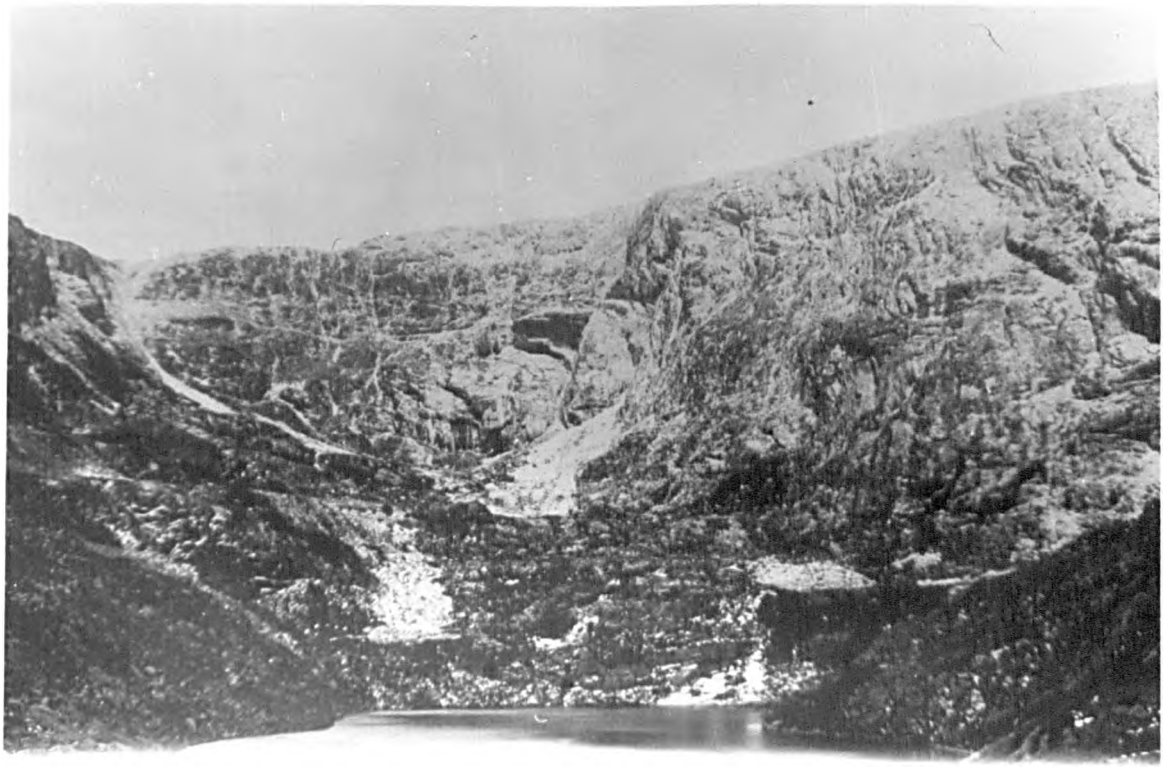


Plate 3.5 Gently scoured top of a horizontally bedded medium grade sandstone.

Plate 3.6 Rare scour-fill sandstone consisting of a 10cm. deep straight runnel infilled with low angle cross-stratified sandstone.

Plate 3.7 Wave rippled sandstone from location 8461 (North Stoompa).

Plate 3.8 Dessication cracks in fine sandstone, infilled with siltstone (location 9087).

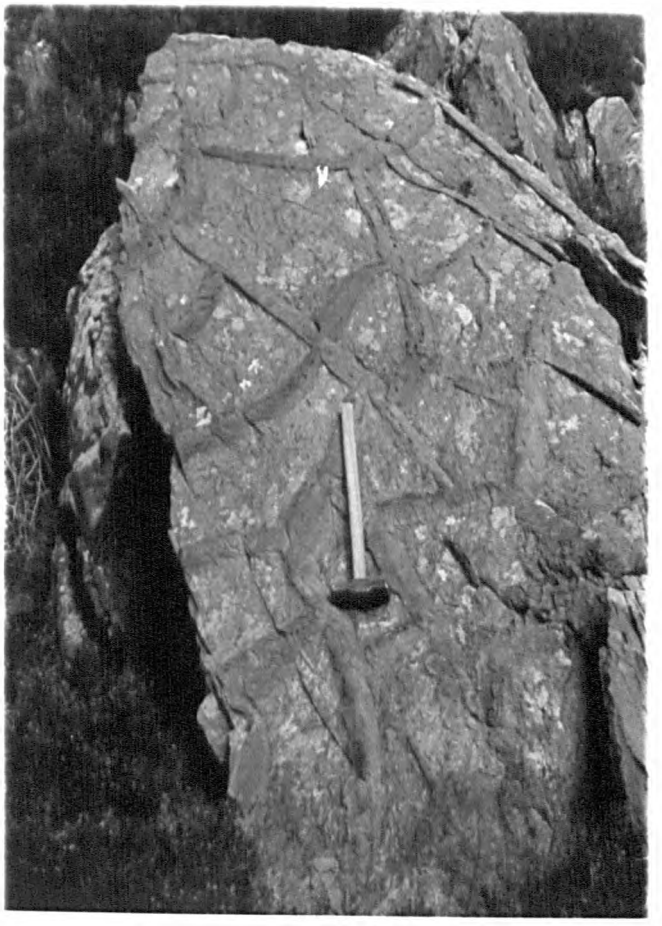


Plate 3.9 Unusual cross-bedded sandstone unit from location 9596.

Plate 3.10 Part of the Cappagh Measured Section (approx. 83 to 98 metres above the base).

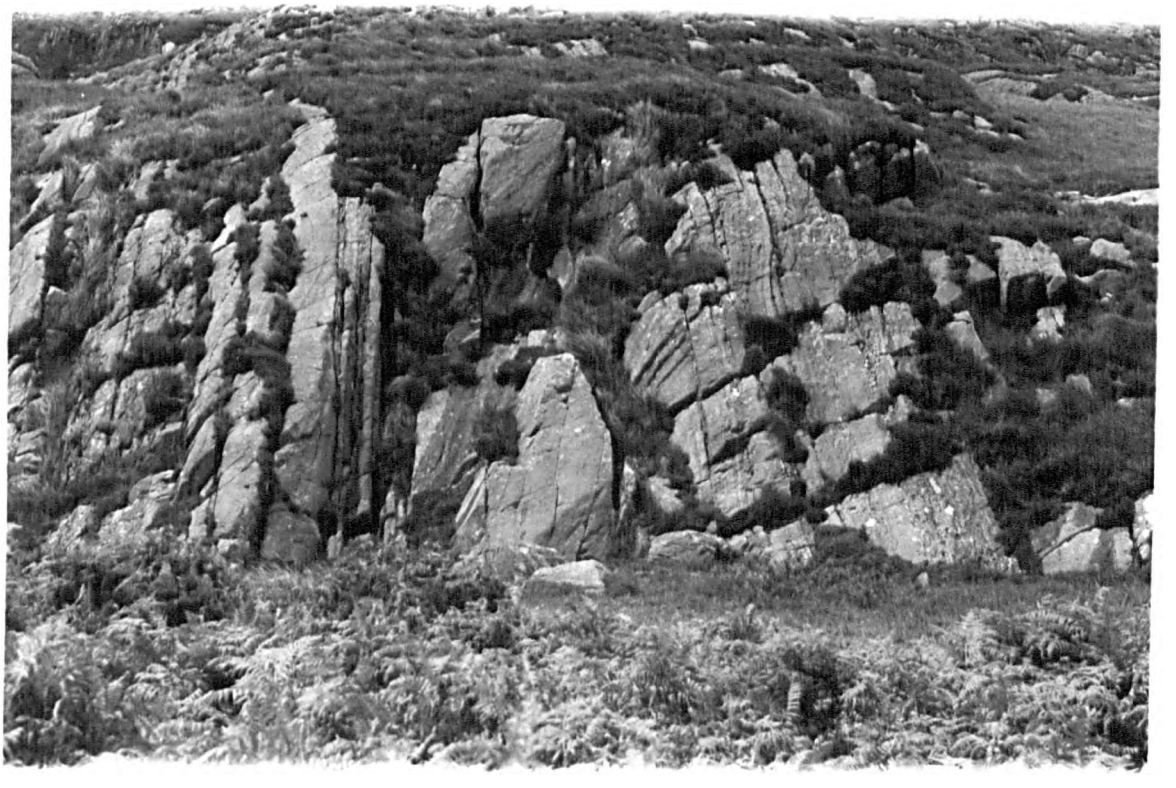


Plate 3.11 Finely interlaminated fine–medium grade sandstones and siltstones. (Part of the Cappagh Measured Section, around 95.0 metres above the base).


PENTAX

Plate 4.1 Asymmetrical "zig-zag" fold on the northern limb of the Mangerton Anticlinorium, SW. of Lough Nabrean. Long dashes mark the surface trace of the crest of the fold, short dashes mark the axial plane. Note the shallow southward dip of the strata on the southern limb, the near vertical strata on the northern limb and the gentle (approx. 15^{o}) eastward plunge of the fold (towards the observer).

S

N

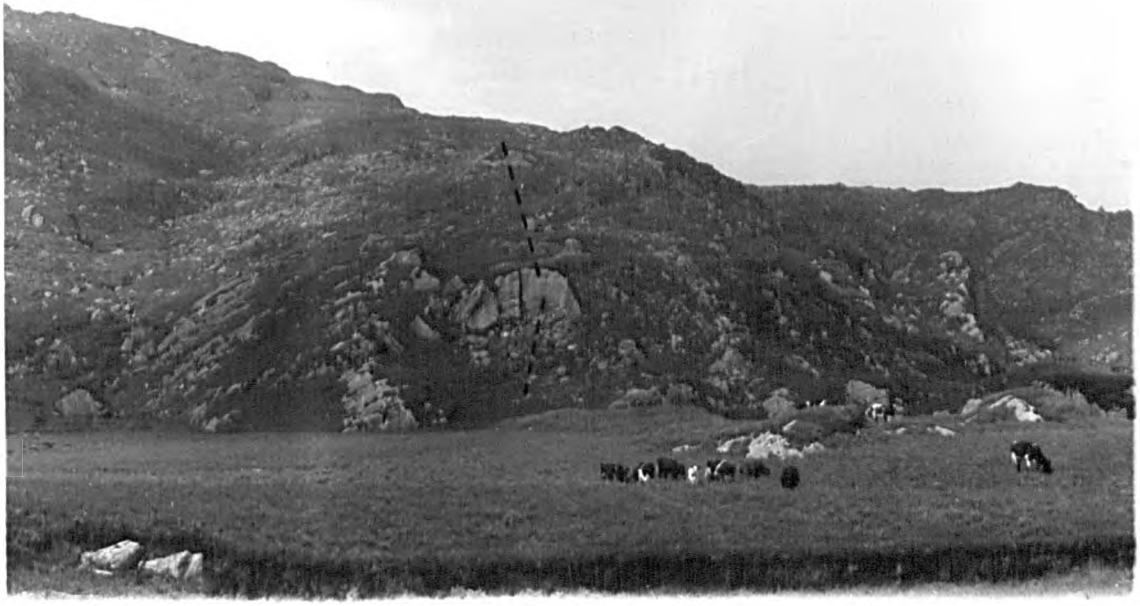


Plate 4.2 View looking south of Bennaunmore (arrowed), flanked by Nabroda Glen to the left (east) and cappagh Glen to the right (west), marking the Bare Island and Cappagh faults respectively.

Plate 4.3 Slaty cleavage in laminated terrigenous siltstones.

Plate 4.4 Slaty cleavage in bedded mixed tuffs.

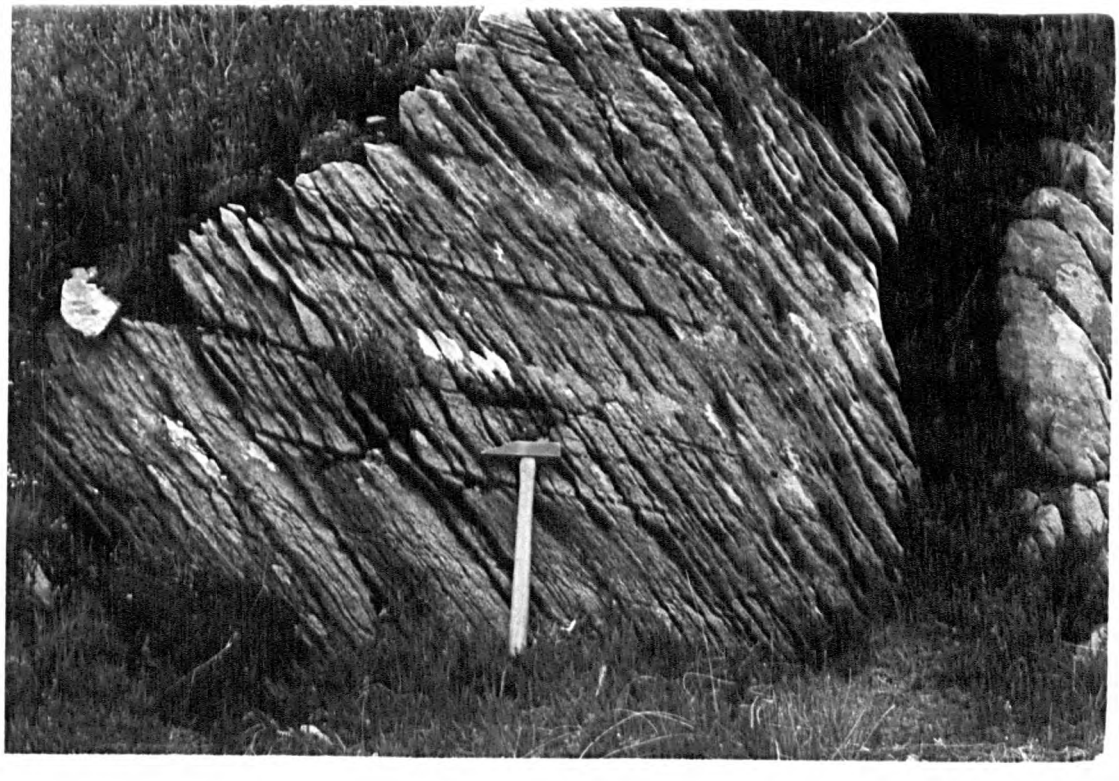
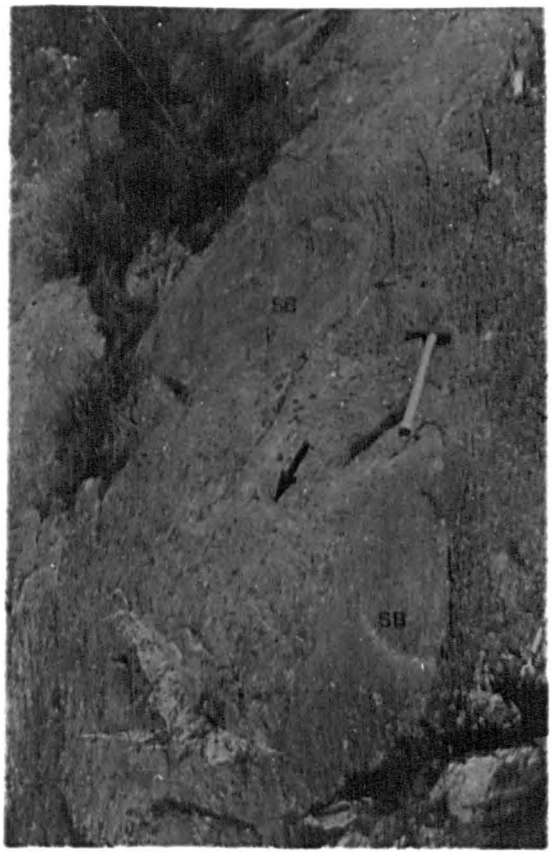


Plate 4.5 Tectonically steepened cross - beds (arrowed) from location S671.

Plate 5.1 Highly rounded sandstone boulders set in a mixed tuff matrix - from the Lower Boulder Tuff. Arrow indicates evidence for sand entrainment from the margin of the uppermost boulder. (SB = Sandstone boulder)
Large arrow indicates probable direction of matrix flow relative to the boulders.

Plate 5.2 Highly irregularly shaped sandstone boulder (approx. 1 m. across) exhibiting evidence for incipient disintegration.


SB
SB

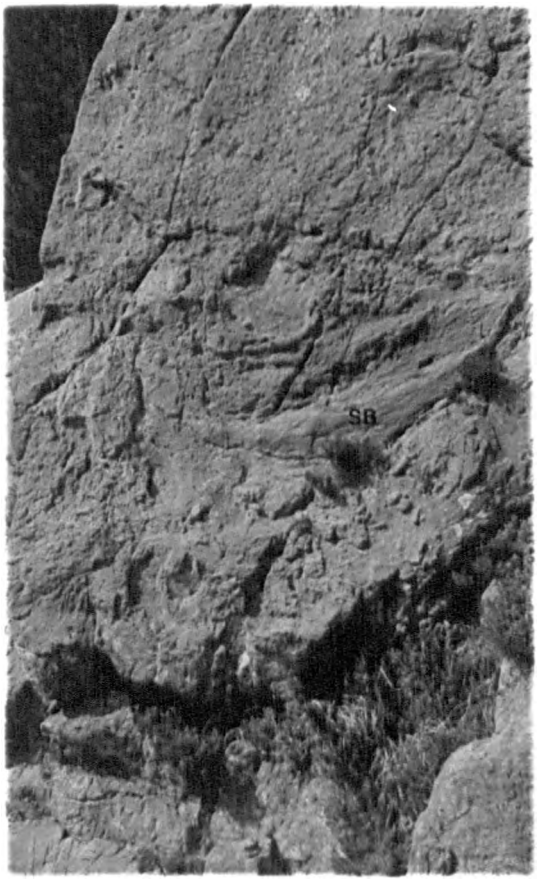

SB

Plate 5.3 Irregular sandstone boulders in the Lower Boulder Tuff.

Plate 5.4 Large rounded to irregular sandstone boulders in the Lower Boulder Tuff.


SB

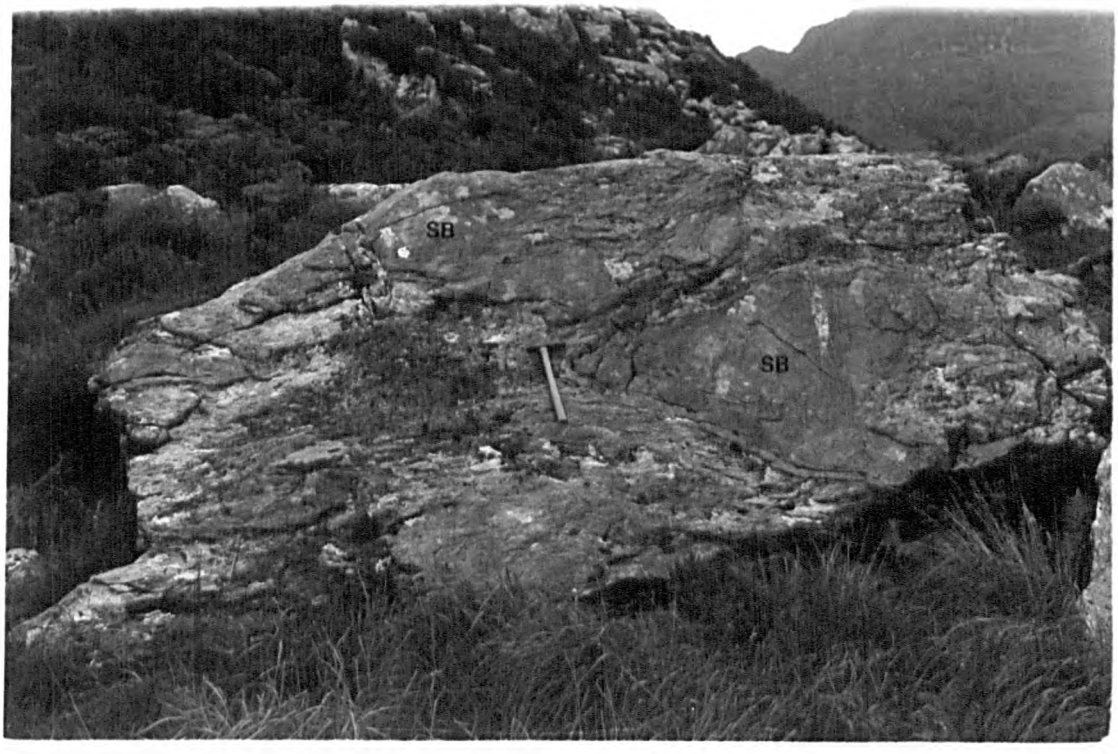
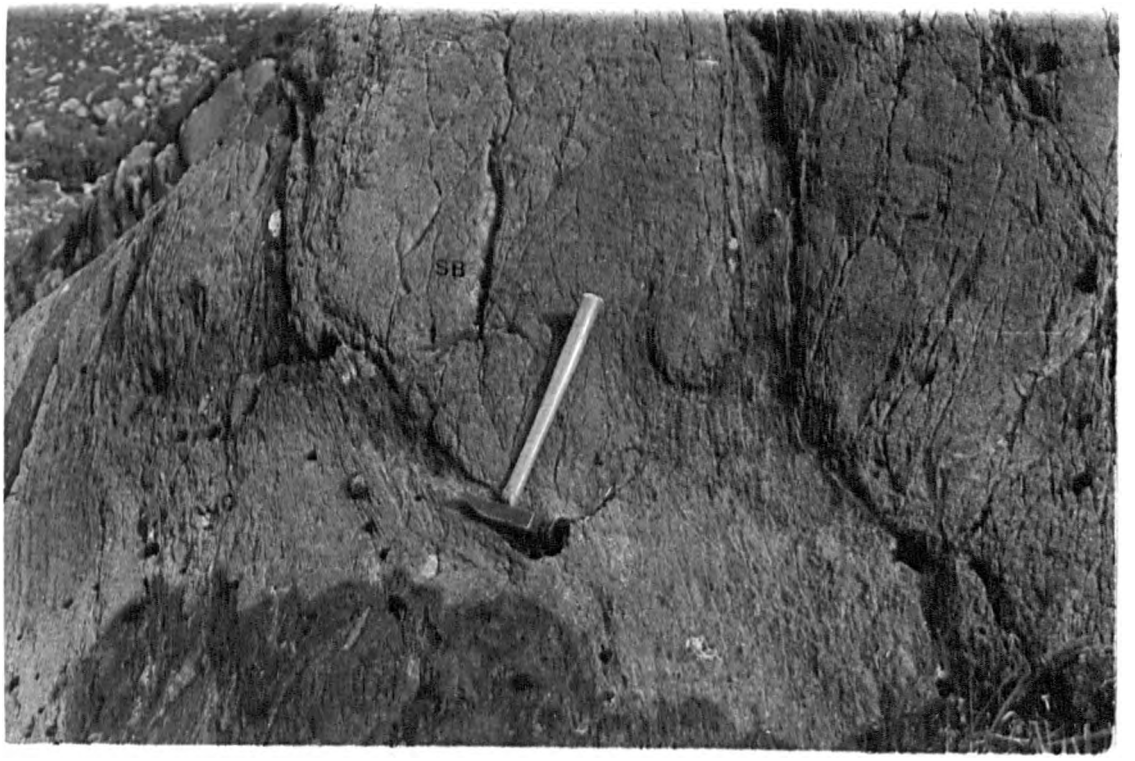

SB
SB

Plate 5.5 Irregular to rounded sandstone boulders set in a nearly wholly terrigenous matrix, from near the base of the Upper Boulder Tuff.

Plate 5.6 Rounded sandstone boulder in the Upper Boulder Tuff.


SB


SB

Plates 5.7 and 5.8 Polished sections of the brecciated margin of the Bennaunmore lava from near 'D' in fig. 5.2, showing chloritised lava patches rimmed with calcite.


2 cm.


2 cm.

Plate 5.9a Fine-scale intermixing between fine sandstone laminae and the Bennaunmore rhyolite lava.

Plate 5.10 Base of the Bennaunmore Rhyolite lava (light coloured) lying conformably on fine grained terrigenous sediments.


Ss

Plate 5.11 Base of the Bennaunmore rhyolite lava (light coloured) lying conformably on terrigenous sediments. Arrow indicates the base of the lava.

Plate 5.12 Irregular subvertical contact between The Bennaunmore rhyolite lava and terrigenous sediments in a contemporaneous fault zone.


R

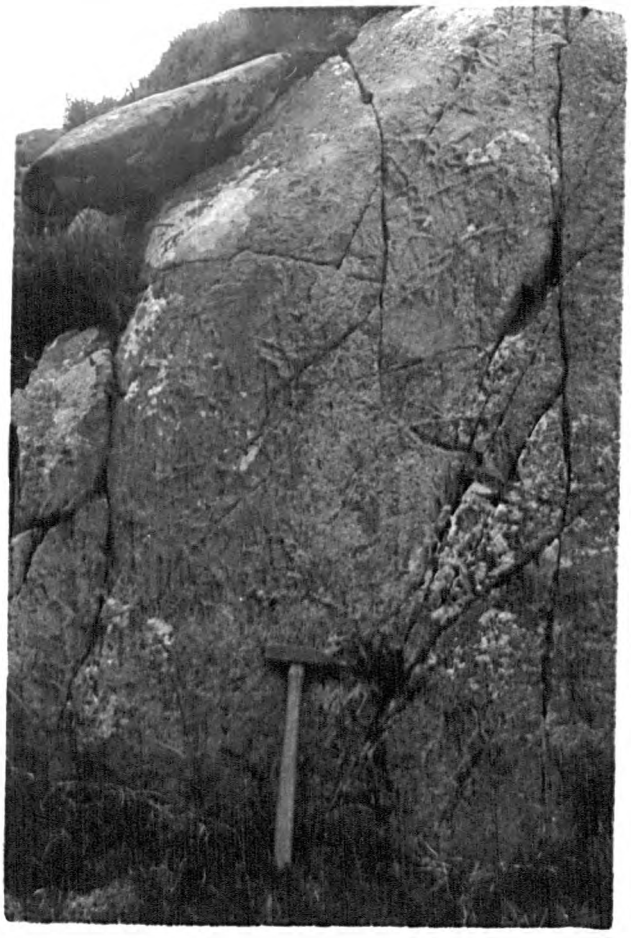
Plate 5.13 Irregular subvertical contact between the Bennaunmore rhyolite lava and terrigenous sediments in a contemporaneous fault zone. (Arrow indicates the position of the contact)

Plate 5.14 Plate illustrating the disconformable relationship between the base of the Bennaunmore rhyolite lava and the underlying sediments east of the Bare Island Fault. (Arrows indicate the base of the lava, the dashed line indicates the trend of the underlying strata).


R

Plate 5.15 Fault breccia associated with faulting contemporaneous with the volcanism.

Plate 5.16 Fault breccia contemporaneous with the volcanism, exhibiting low intensity deformation in the form of complex microfaulting.



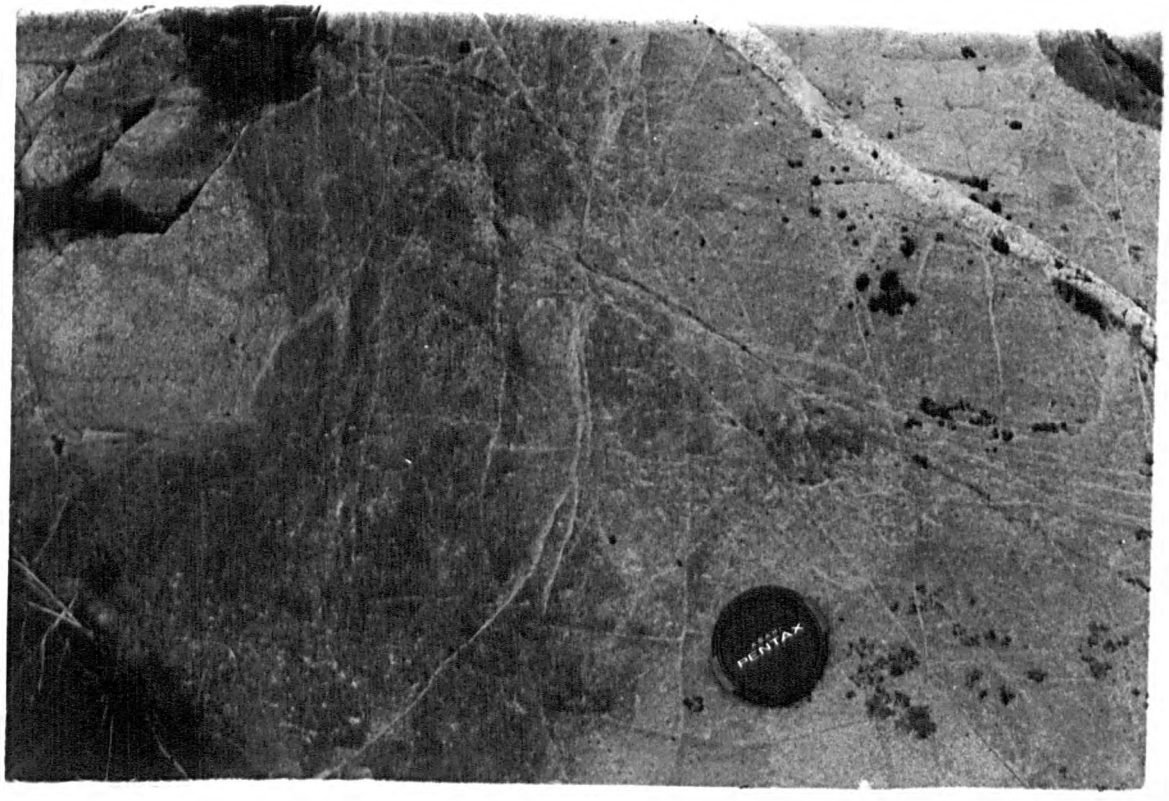

PENTAX

Plate 5.17 Contemporaneous fault breccia - sandstone infilling between the breccia fragments are more resistant to the weathering.

Plate 5.18 Chaotic admixture of elongate, subrounded to irregular "areas" of medium - fine sandstone - A possible candidate for slumped material at the base of the fault escarpment.

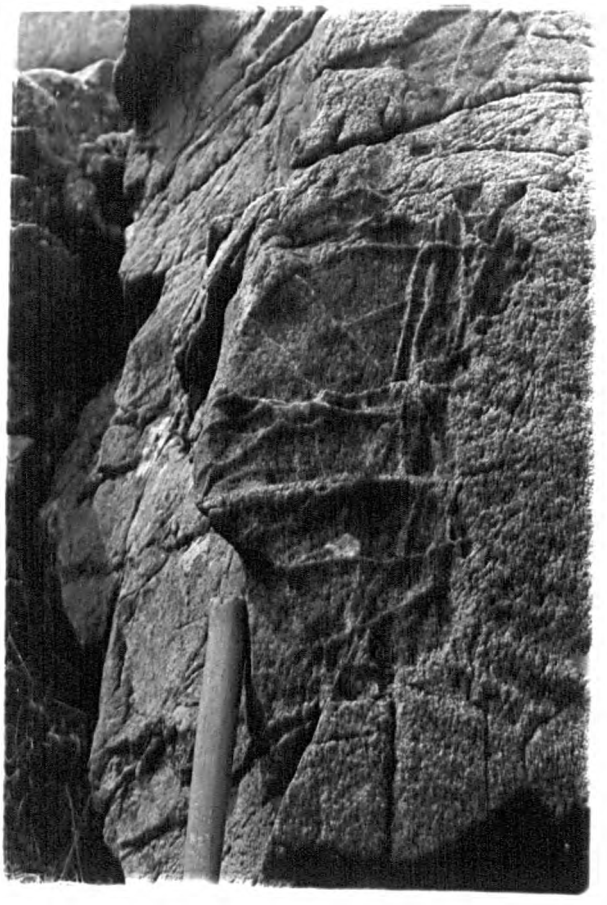


Plate 5.18a Polished section through the autobrecciated surface of the Bennaunmore rhyolite lava, with purplish sandstone infill.

Plate 5.19 Sharp contact zone between the intrusive Bennaunmore rhyolite and sediments containing complex dilational quartz veins. (Arrow indicates the position of the contact).


2 cm.


R

Plate 5.20 Col umnar jointing in the Bennaunmore rhyolite lava.

Plate 5.21 Col umnar jointing in the Bennaunmore rhyolite lava including examples of the 'Pale dykes'. (The arrows indicate the positions of the dykes).

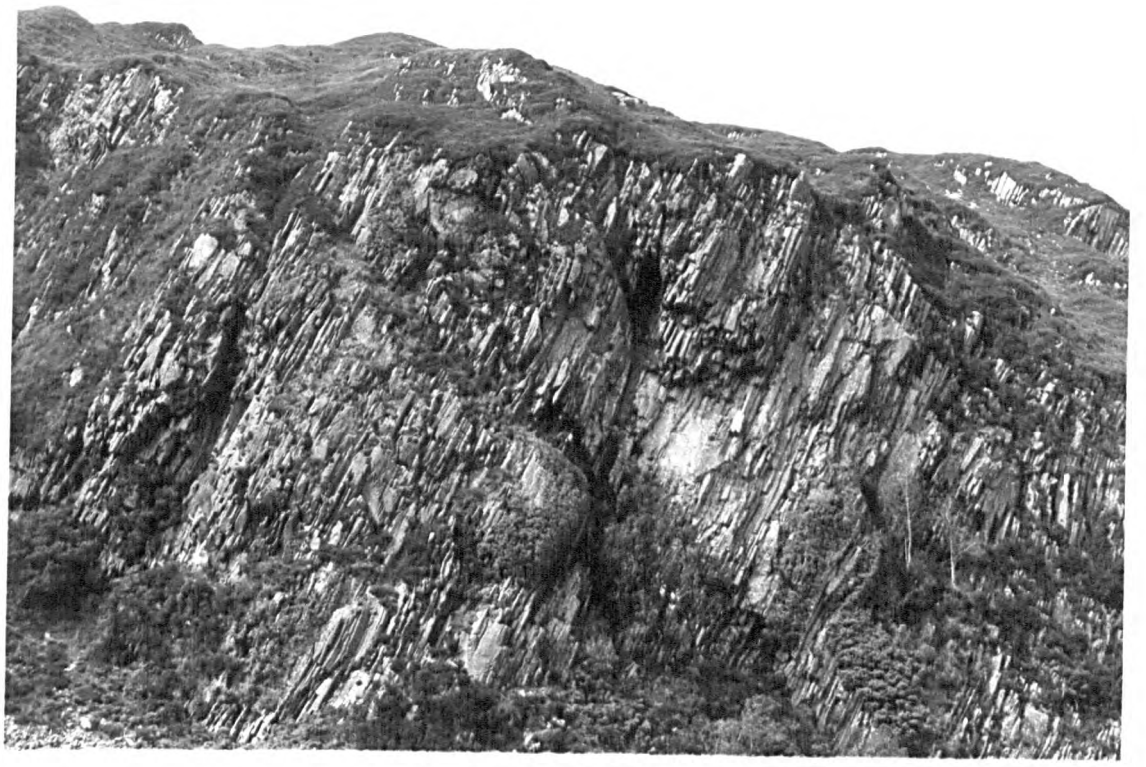


Plate 5.22 Boudinage in flow laminated Bennaunmore rhyolite.

Plate 5.23 Boudinage and irregular flow laminations in the Bennaunmore rhyolite.

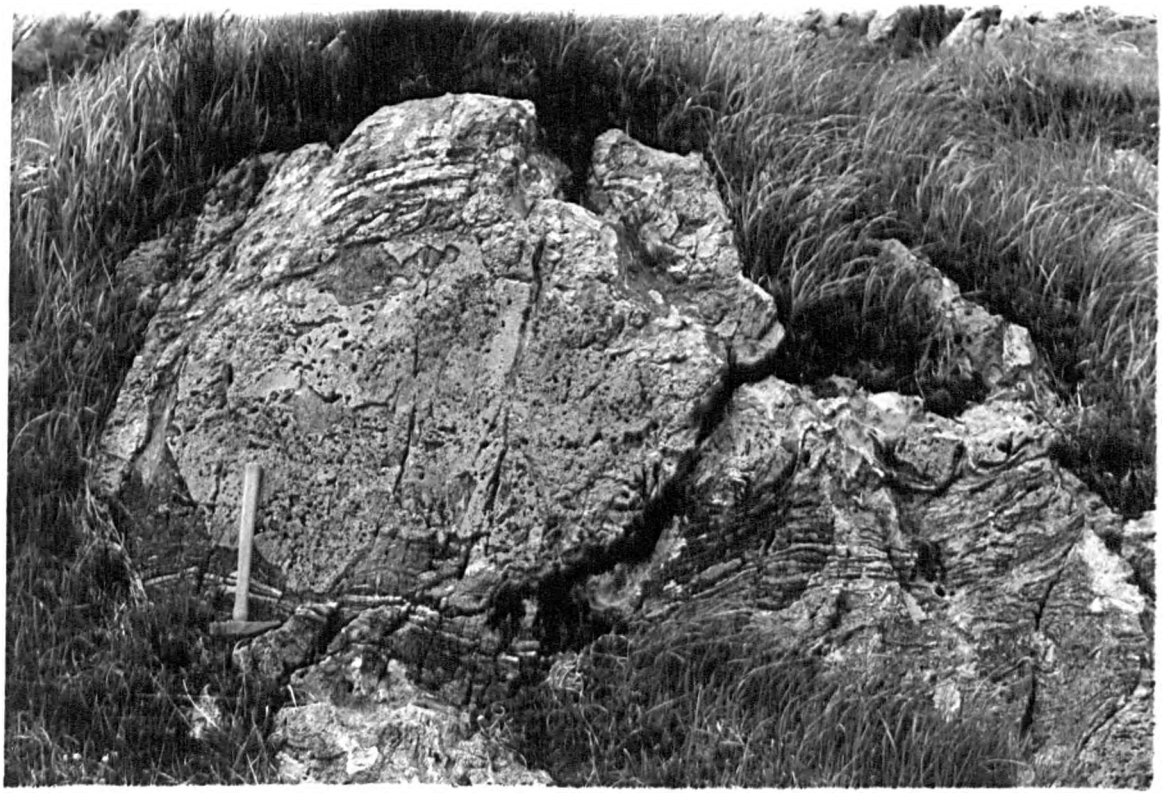

ASAHI
PENTAX

Plates 5.24 & 5.25 Flow folding in the Bennaunmore lava.


PENTAX

Plate 5.26 Irregular rhyolite block set in otherwise regularly flow laminated Bennaunmore lava.

Plate 5.27 Polished section through a relatively unaltered specimen of collumnar jointed Bennaunmore rhyolite lava. (lam = flow lamination, pl = plagioclase lath, gl = glomerocryst cored with a chlorite clot)



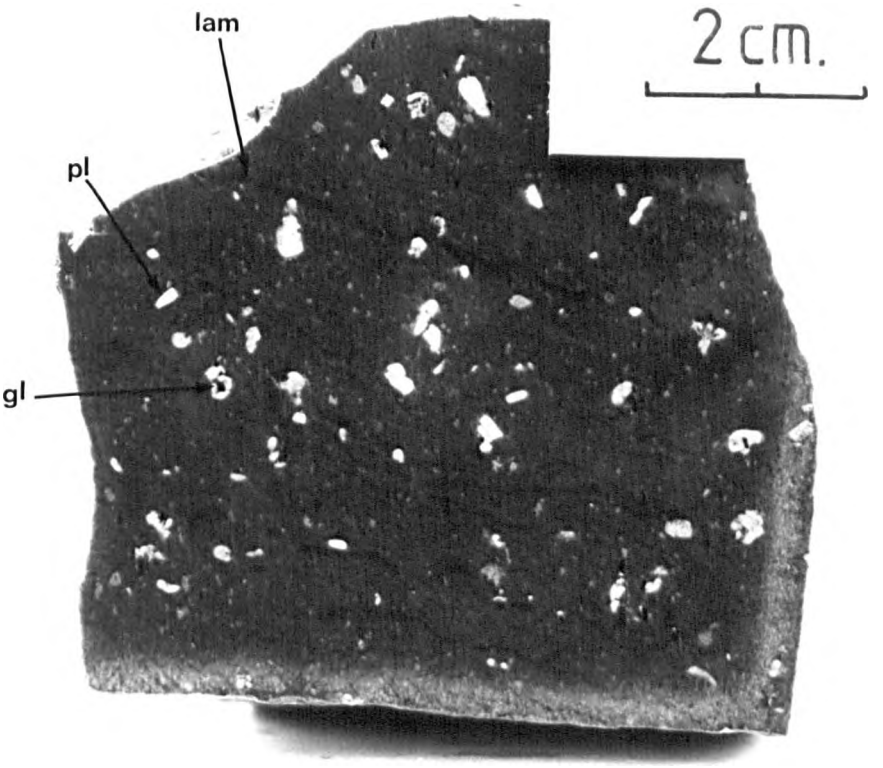

lam
pl
gl
2 cm.

Plate 5.28 Panoramic view of the ground on the western slope of the Cappagh Glen.
(E = Eskduff rhyolite lava, U = Upper Tuffs, long dashes indicate course of the northern graben contemporaneous fault.)

Plate 5.29 Oblique section through contemporaneous fault zone near 'AA' in plate 5.28.
(Letters refer to subzones described in fig. 5.12)


AA


B
C
D

Plate 5.30 Subzone D (fig. 5.12) in contemporaneous fault zone near 'AA' in plate 5.29 illustrating the complex microfaulting.

Plate 5.31 Channel agglomerate near to the base of the Upper tuffs.

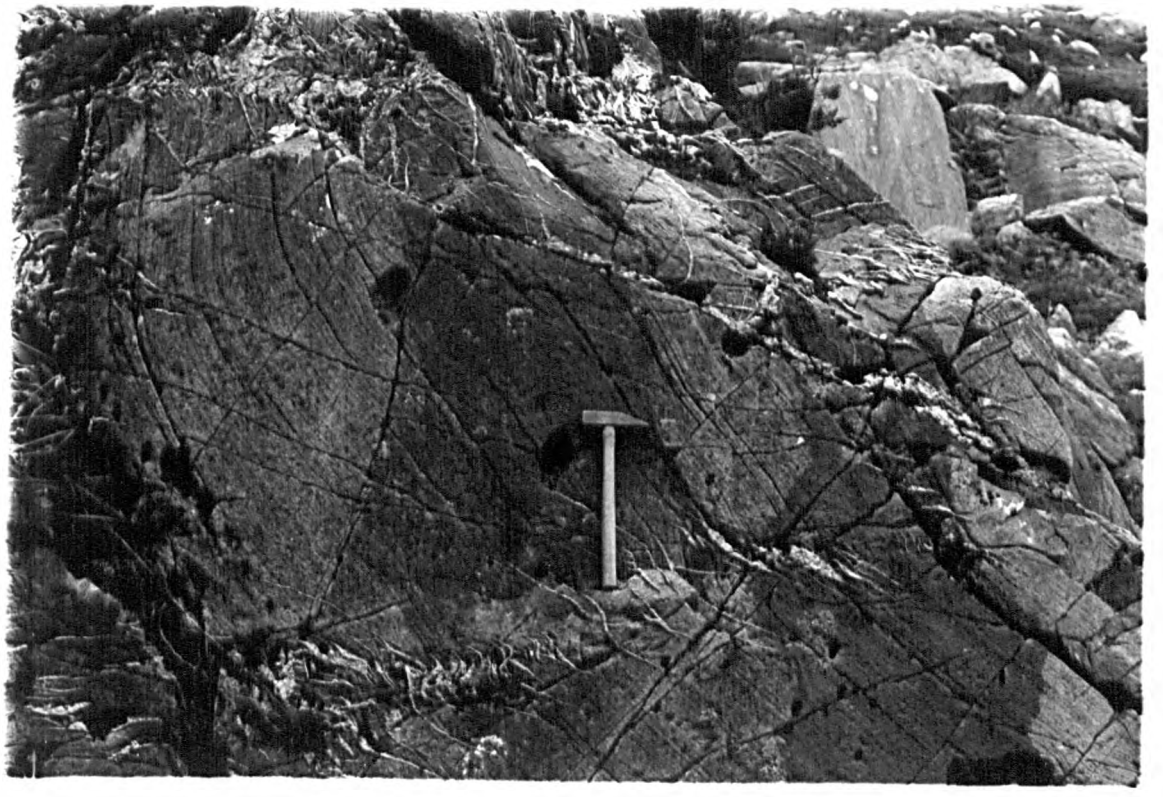


Plate 5.32 Channel agglomerates near to the base of the Upper Tuffs, containing numerous siltstone intraclasts.

Plate 5.33 Low-angle scours and cross bedding in the Upper Tuffs.

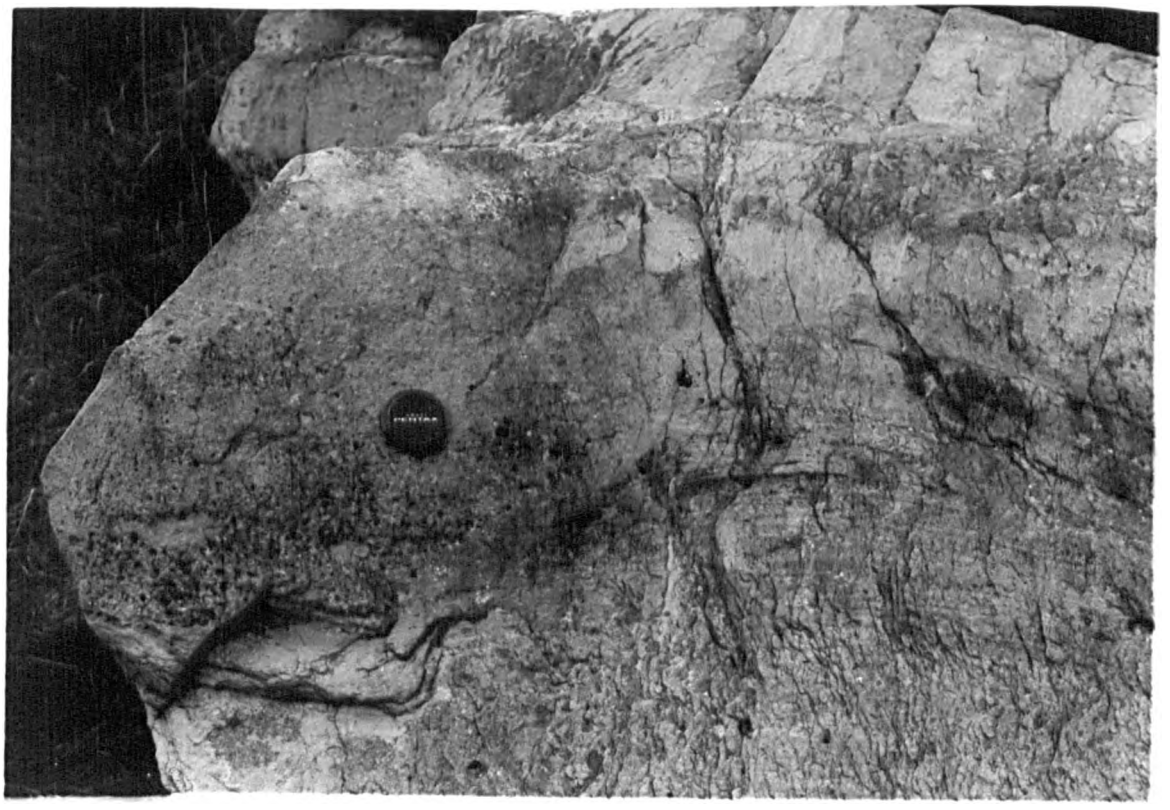


Plate 5.34 Bedded mixed tuffs.

Plate 5.35 Sandstone dyke and sills embedded in mixed tuffs from near to the base of the Upper Tuffs. (D = dyke, S = sill)


S
D

Plate 5.36 Polished section through a water sorted, rhyolite lapilli rich mixed tuff.

Plate 5.37 The Green dyke set in the collumnar jointed Bennaunmore rhyolite lava.

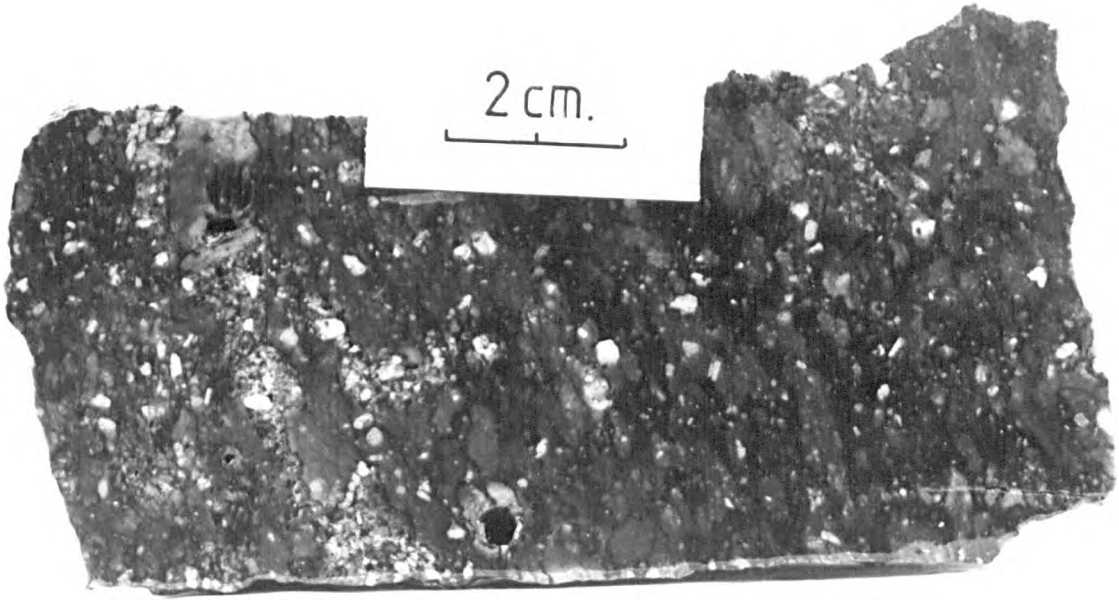
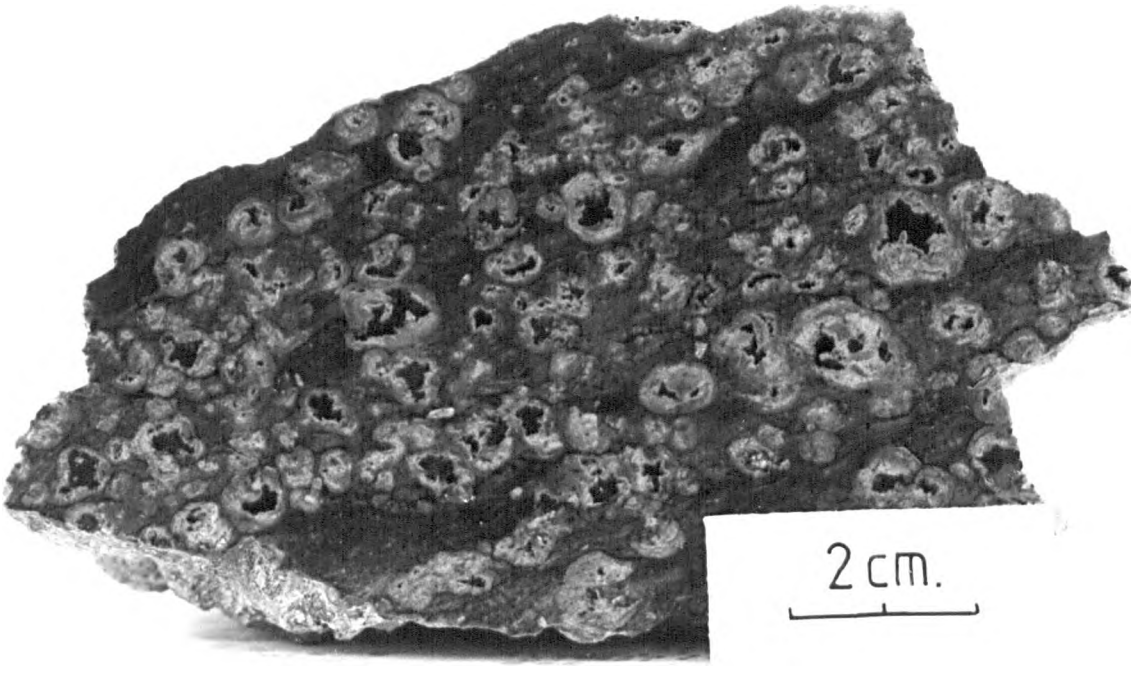

2 cm.

Plate 5.38 Polished section through a specimen of a nodular facies of the Eskdaff rhyolite lava. Nodule cores filled with earthy haematite are rimmed with quartz.

Plate 5.39 Polished section thriugh an autobrecciated facies of the North Stoompa lava. Pale pink, subangular - subrounded fragments from 1mm to 5cm in size, and rare, irregular dark fragments are set in a medium grey matrix. Some pale pink fragments appear to have been fragments of a prexisting breccia, and contain subhedral or broken feldspar phenocrysts, usually white or pale brown in colour, up to 3mm in size, and very rare rounded quartz microphenocrysts. The darker matrix contains only broken white feldspars, usually about 1mm in size.


2 cm.

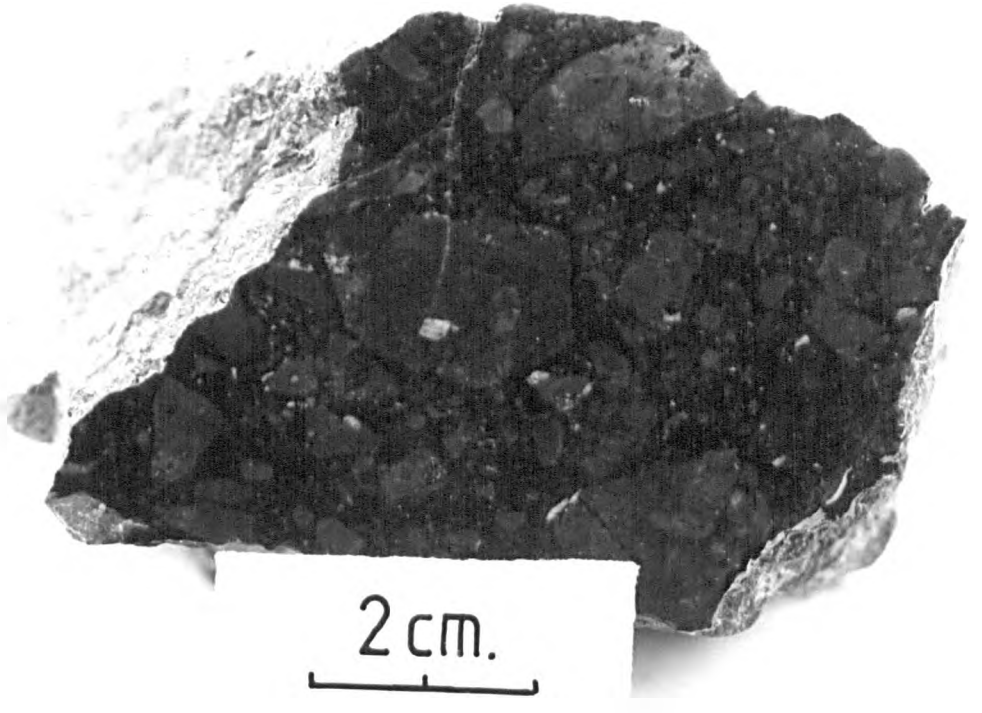

2 cm.

Plate 5.40 Polished section of an autobrecciated facies of the North Stoompa lava. Both dark grey and pale pink fragments are embedded in a variable, poorly flow - laminated, pinkish - grey matrix. Pale pink fragments up to 4cm in size, and may be either sharply or poorly defined, angular or subrounded. The latter show signs of resorption into the matrix. This is probably a primary texture related to the length of time the fragments were reincorporated into the fluid part of the flow. the dark grey fragments may also show partial resorption. Individual fragments up to 20cm in size exhibit both soft and brittle deformation. The fragment labelled A has a tabular morphology the margin of which has an extended, fluidal texture vaguely connected to a less well defined fragment. However, 5 cm into the specimen the same fragment has broken in the plane of the plate, such that matrix fills a 1cm wide gap between two matching surfaces.

Plate 5.41 Polished section through an autobrecciated facies of the North Stoompa lava. The matrix is a mottled green colour, the mottling due to millimeter scale irregular pink areas related to either secondary mineral segregation or fine scale brecciation. Large dark grey fragments up to 20cm in size occur (not illustrated) containing pale yellow phenocrysts up to 4mm in size, and rounded, glassy quartz microphenocrysts up to 1.5mm in size. Pale pink fragments are also present up to 3cm. in size, which may rarely be subangular, but more commonly show partial resorption into the matrix. These may also contain small dark grey fragments; further evidence for a complex history of brecciation.

A

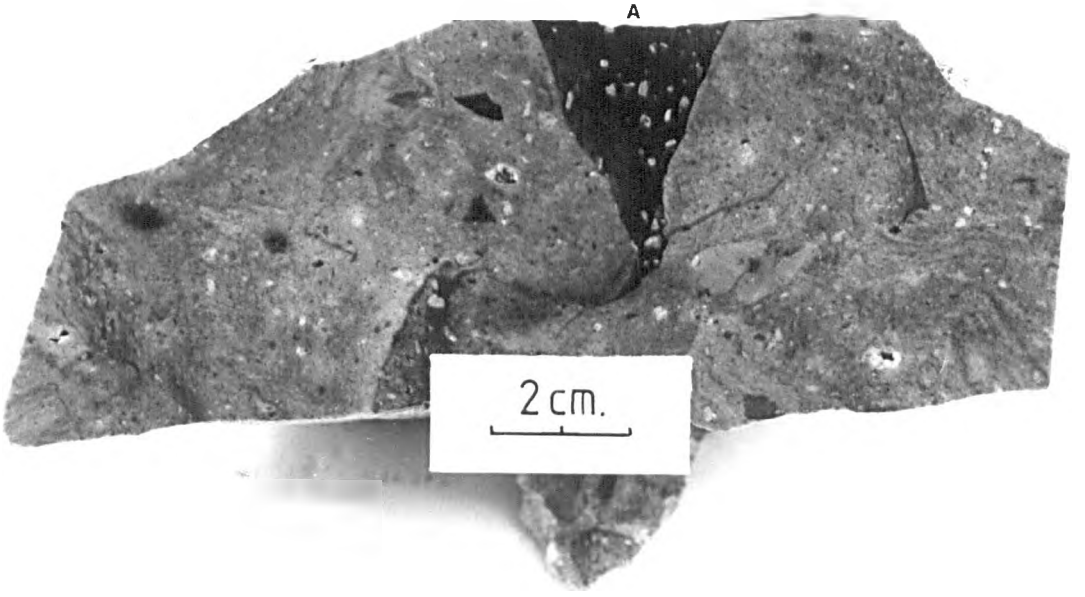
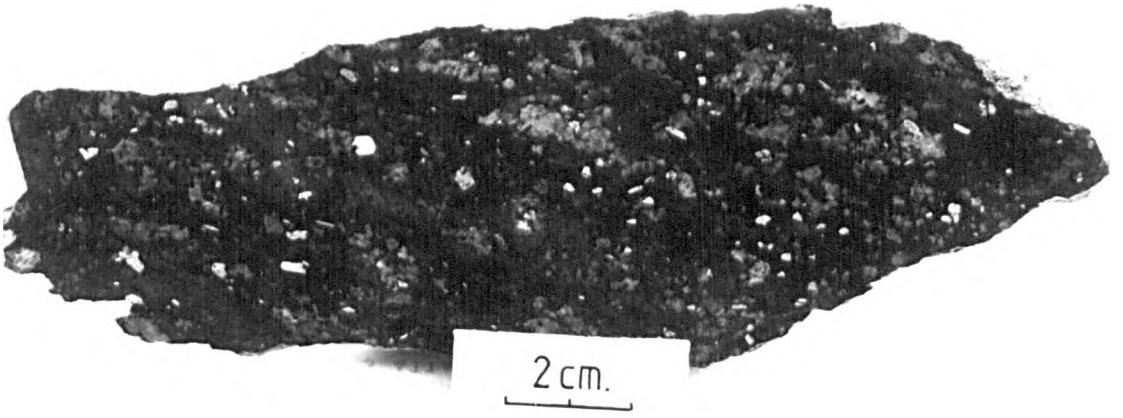


Plate 5.42 Polished section of a specimen from an individual large block (over 1m) in an autobrecciated facies of the North Stoompa lava. It is notable for the secondary mineral segregation texture. Highly irregular, pale grey areas are set in a darker green matrix which also contains subhedral laths and rounded pinkish feldspar phenocrysts, and rare, glassy quartz microphenocrysts.

Plate 5.43 Bedded mixed tuffs of the Lower Tuffs of the Horses Glen Volcanic Centre. Beds young to the left, illustrating a shallow scour (arrowed).


2 cm.

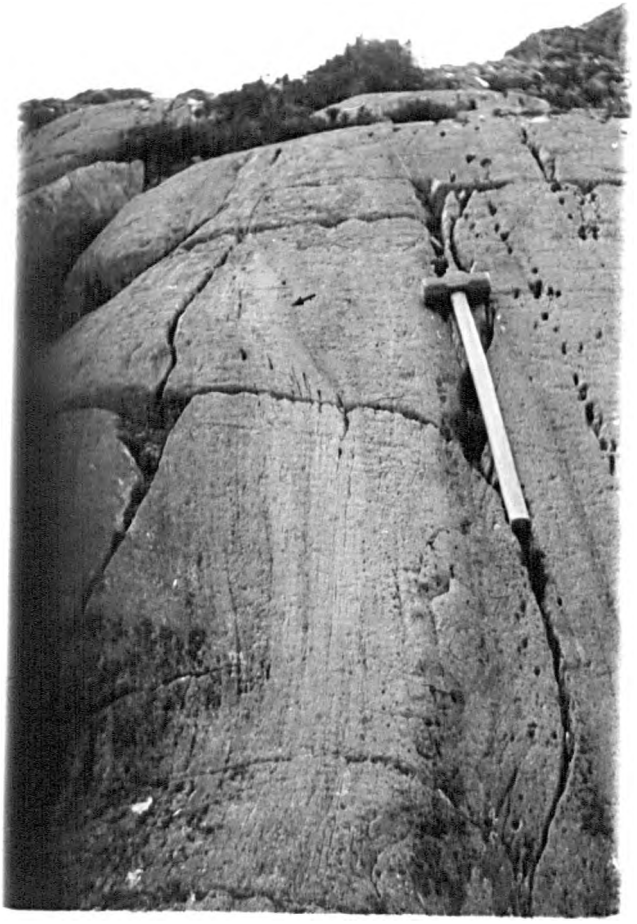


Plate 5.44 Rare example of ripple cross-stratification in tuffaceous fine sandstone from near the top of the Lower Tuffs (Horses Glen Volcanic Centre).

Plate 5.45 Base of the Horses Glen rhyolite lava (arrowed), illustrating the irregular and discordant nature of the base of the flow. (L = Lava flow, S = Bedded sediments).

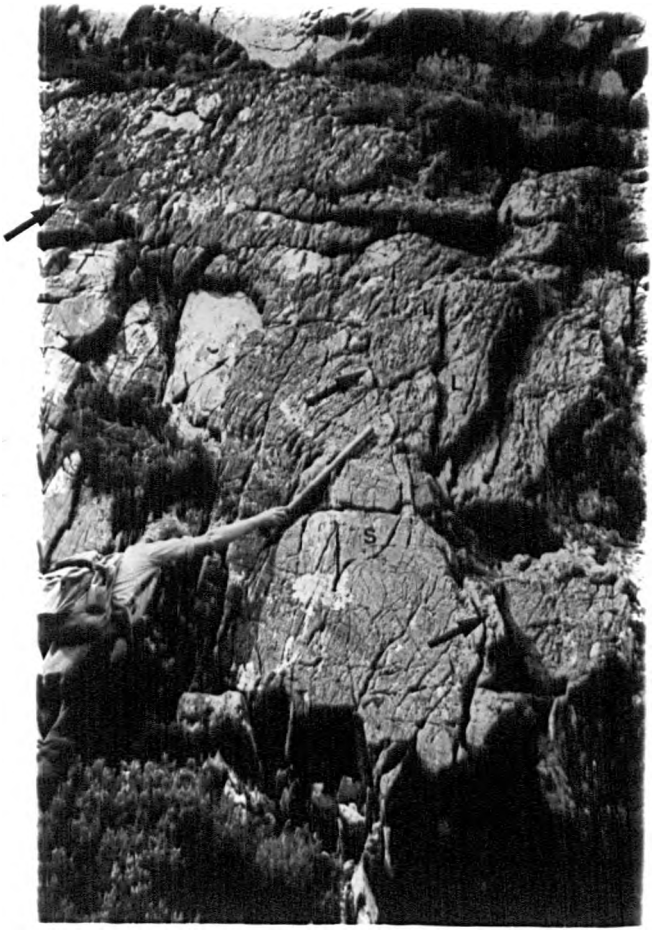

L
S

Plate 5.48 Polished section of the Horses Glen rhyolite, illustrating a fine lace - like colour variation due entirely to secondary mineral segregation. (Plate 6.22 is a photomicrograph of a thin section from this rock)

Plate 5.49 Outcrop of autobreccia from near the base of the Horses Glen rhyolite lava. Angular blocks illustrated may be pink, grey or brown.

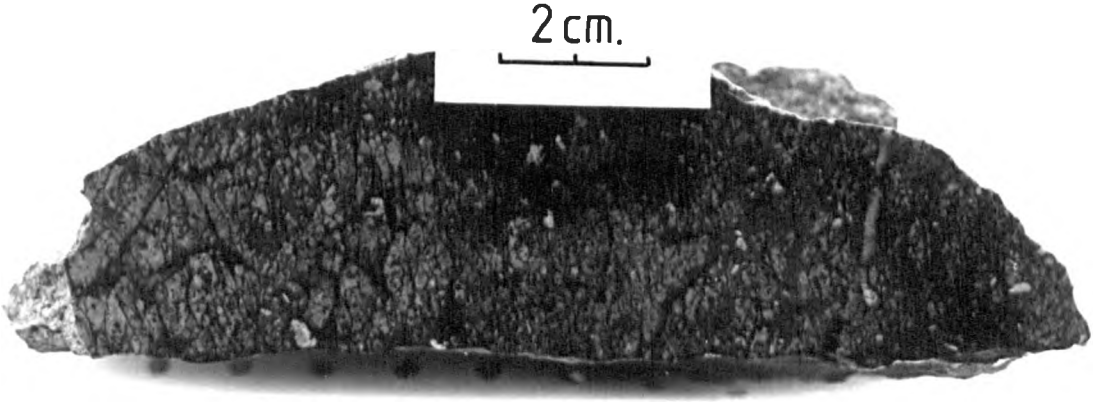
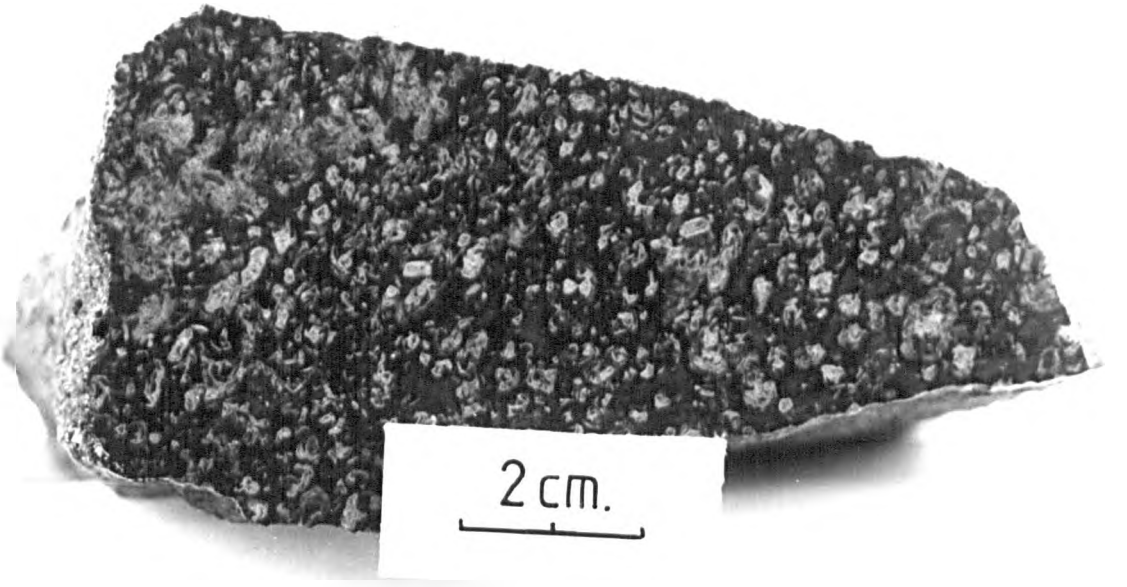

2 cm.

Plate 5.50 Polished section cut through a vesicular facies near tothe top of the Killeen rhyolite lava.

Plate 5.51 Polished section through a chloritised volcaniclast (Group C) from the Killeen tuffs. (Arrows indicate the margin of the clast)



2 cm.

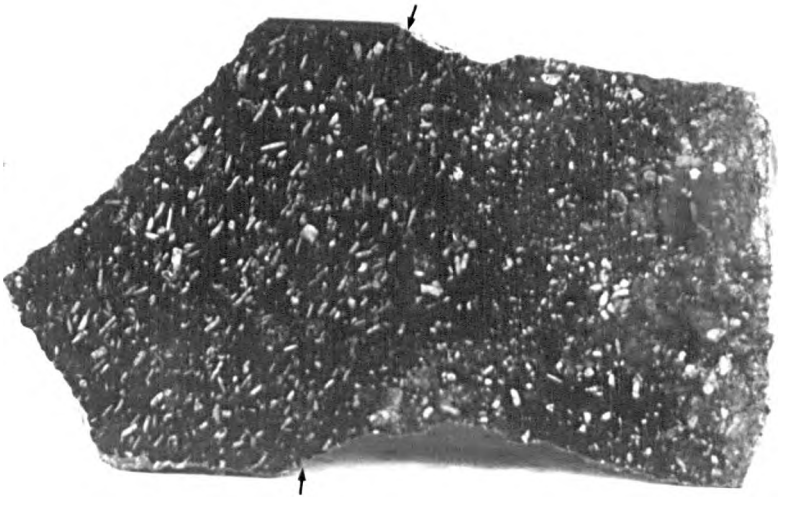
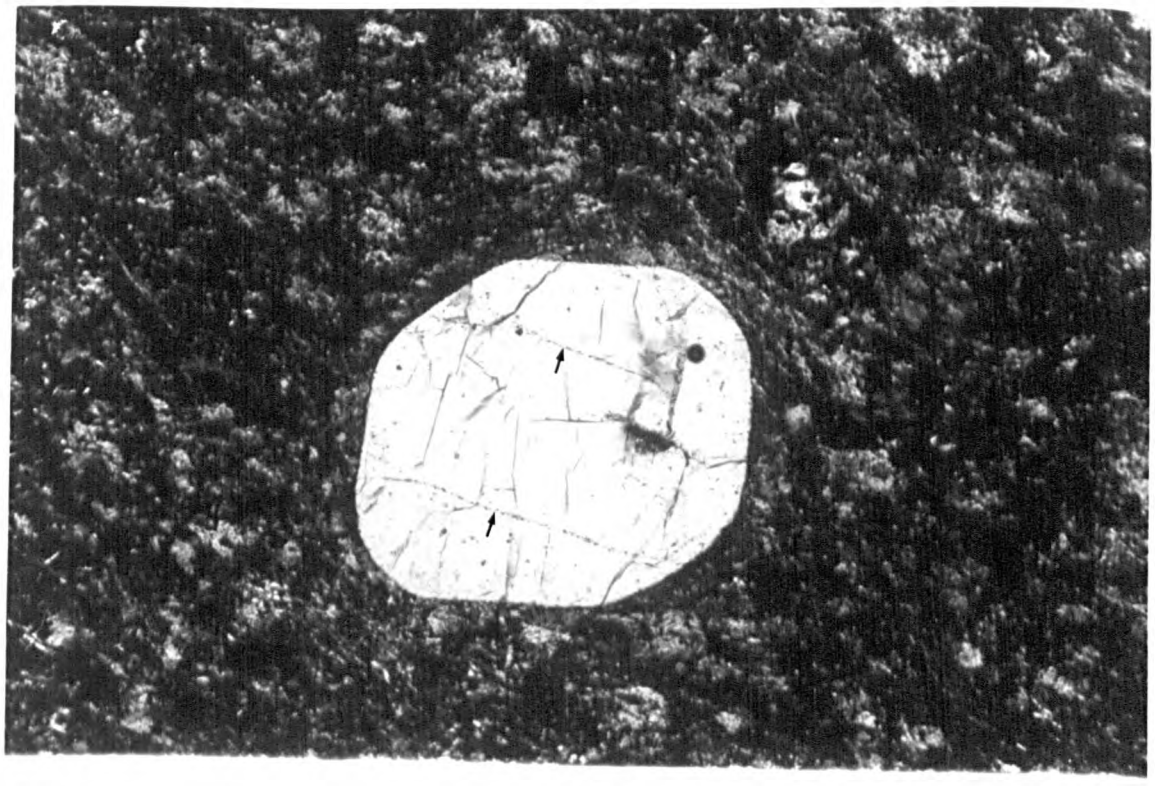


Plate 6.1 Bennaunmore rhyolite - Partially resorbed, subhedral quartz phenocryst with bubble trains (arrowed) Crossed polars, X 70

Plate 6.2 Bennaunmore rhyolite - Fractured, subhedral quartz phenocryst exhibiying deformation lamellae. Crossed polars, X70



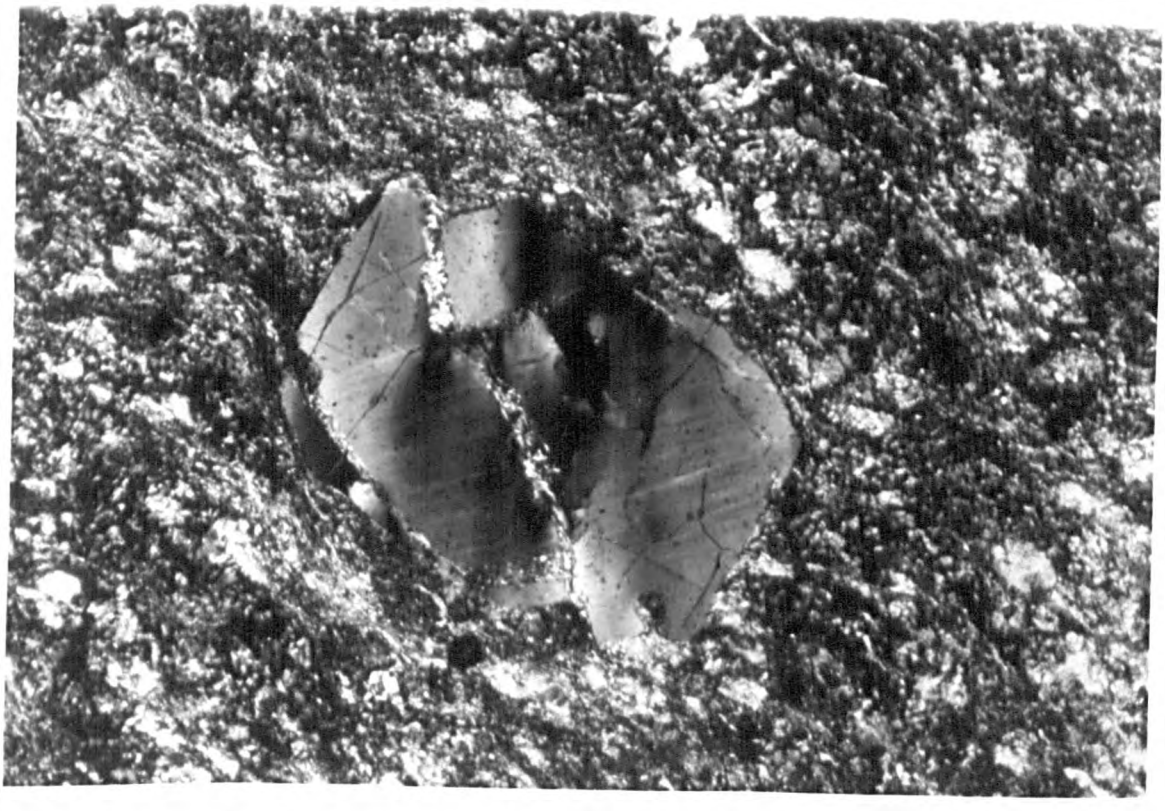
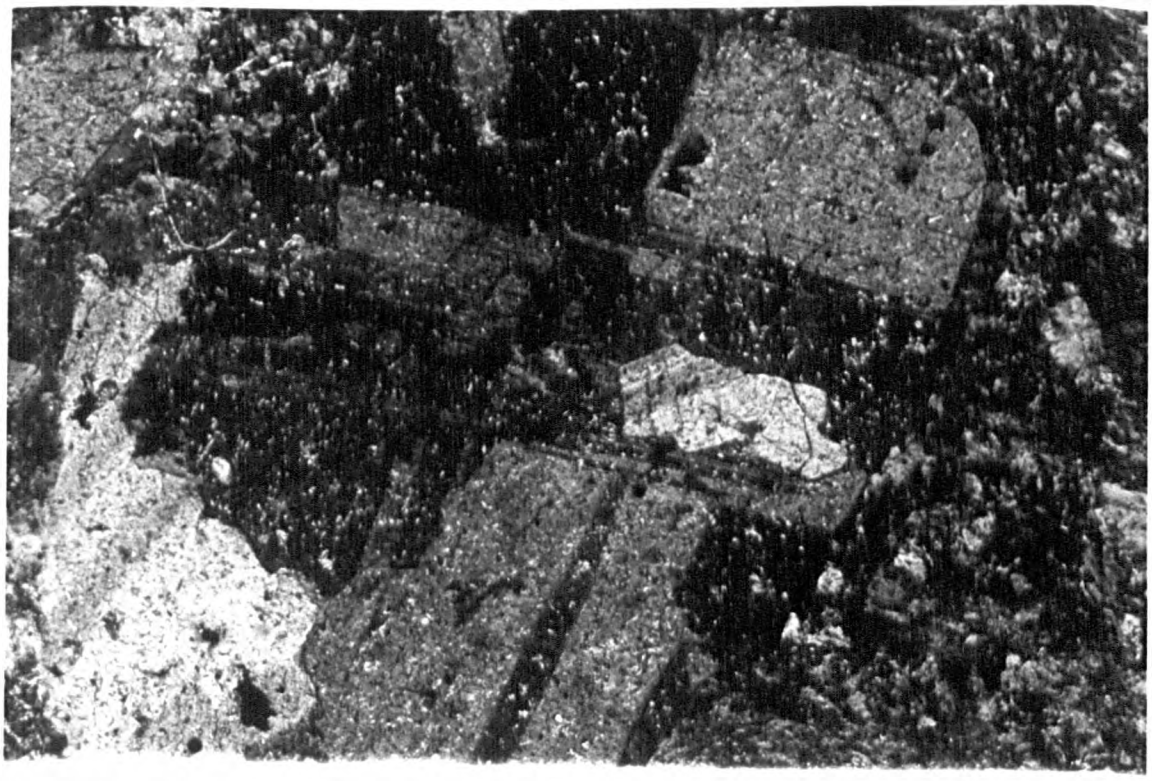


Plate 6.3 Bennaunmore rhyolite - part of a cluster of anhedral albite phenocrysts (a glomerocryst; type ii, see text, section 6.2.1)
Crossed polars, X70

Plate 6.4 Bennaunmore rhyolite - part of a glomerocrysts including albite (Ab), and a mafic phase pseudomorphed to white mica (M) and chlorite (C).
Crossed polars, X70



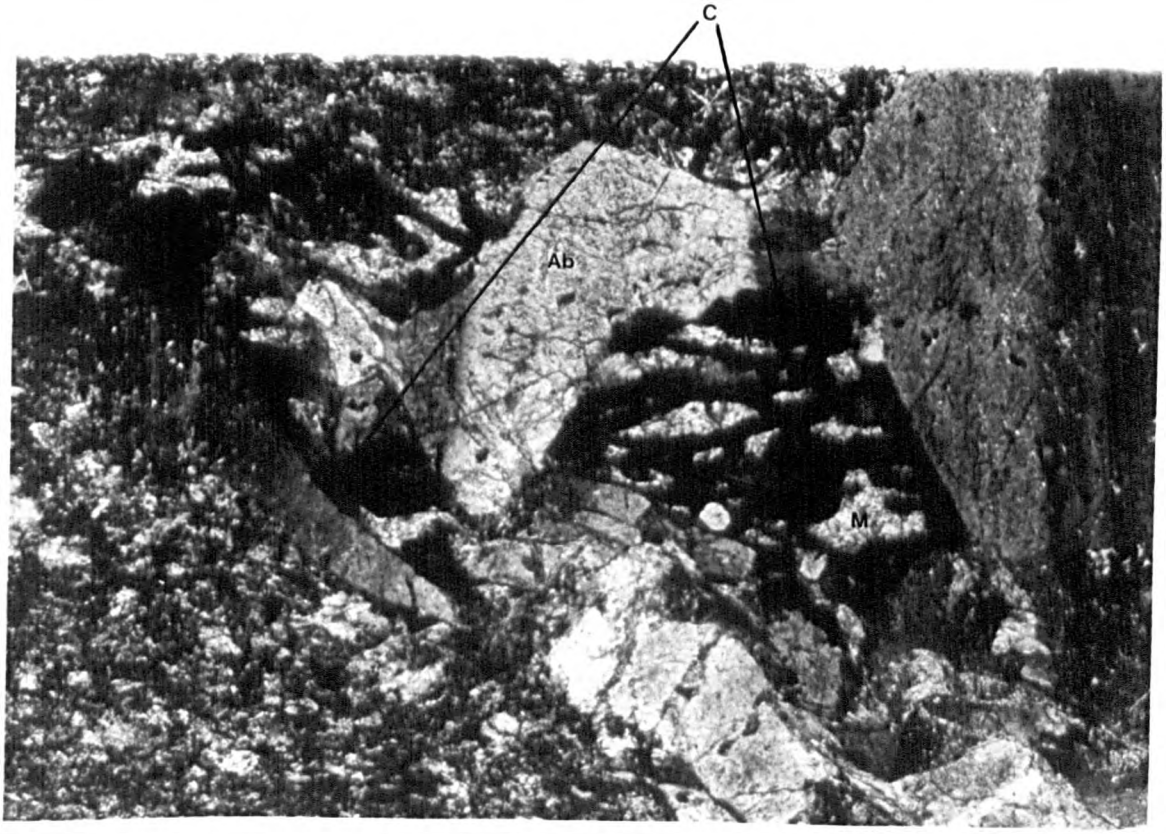
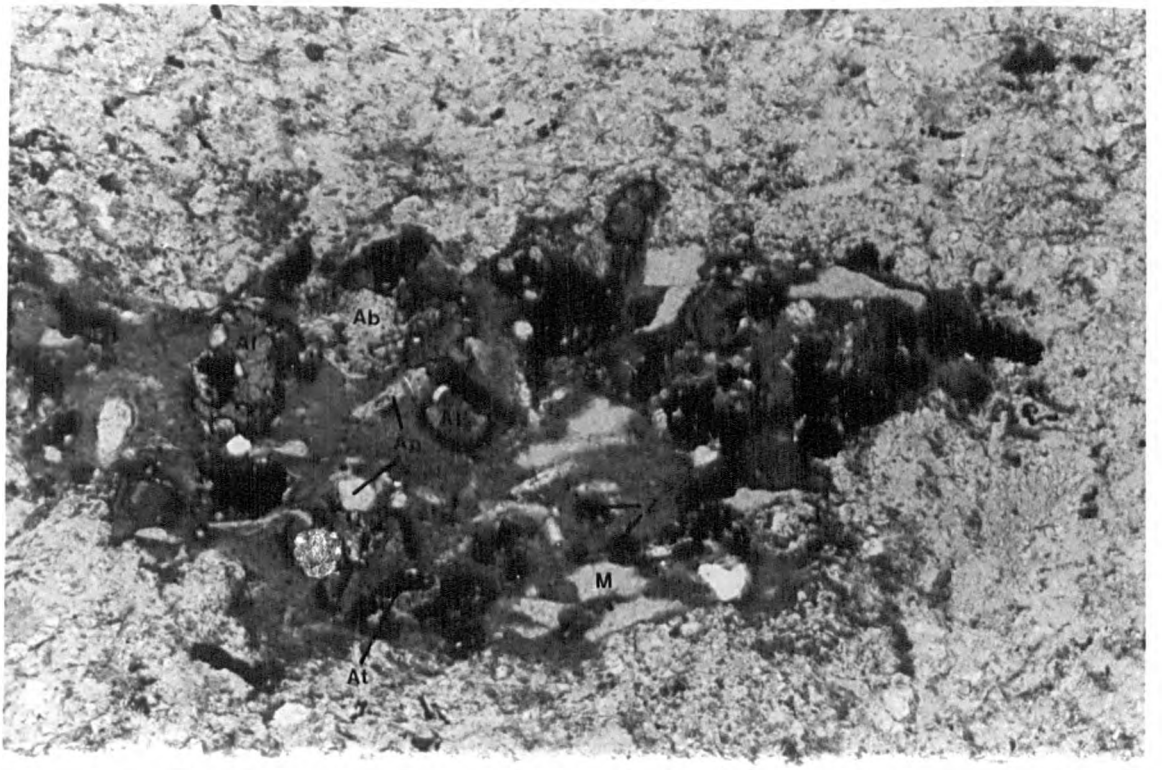

C
Ab
M

Plate 6.5 Bennaunmore rhyolite - a PMP with inclusions of Allanite (Al) with dark haloes in chlorite, zircon (Z) with dark haloes, apatite (Ap), anatase (At) and small anhedral albite crystals.
Plane polarised light, X70

Plate 6.6 Bennaunmore rhyolite - zircon-rich PMP.
Convergent plane polarised light, X70


Ab
Af
Ab
M
At

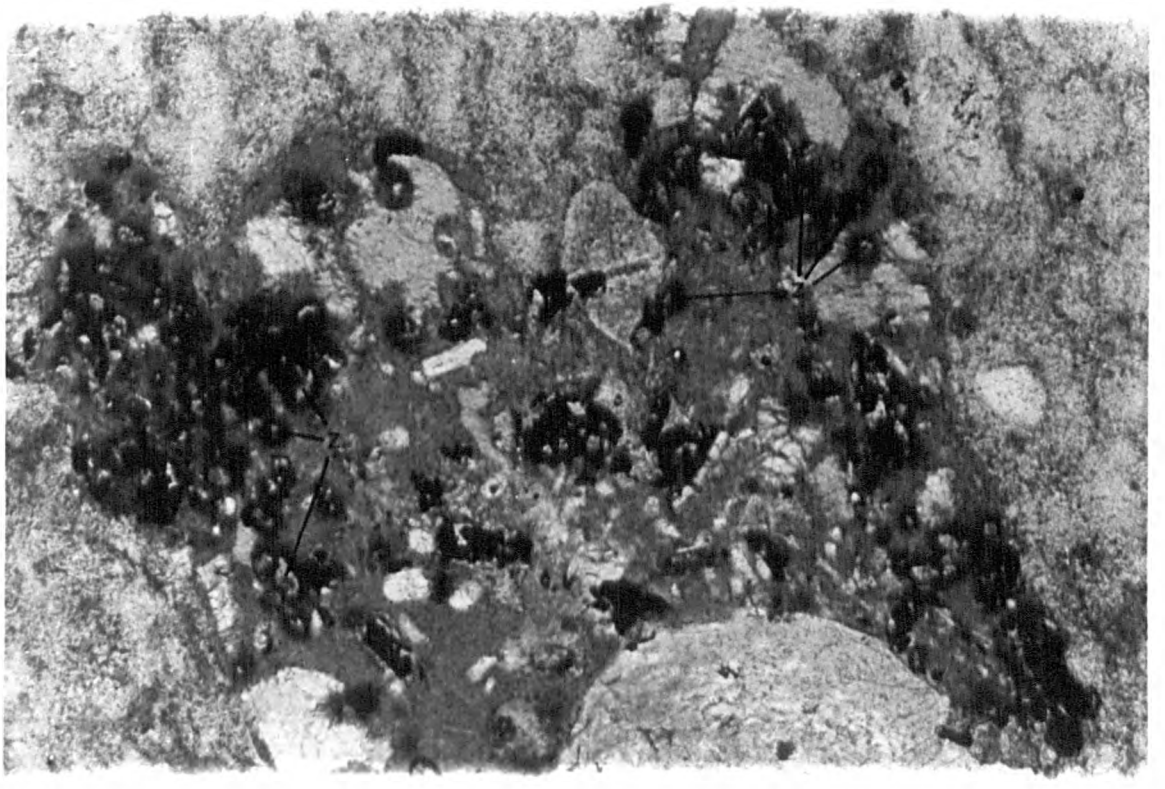
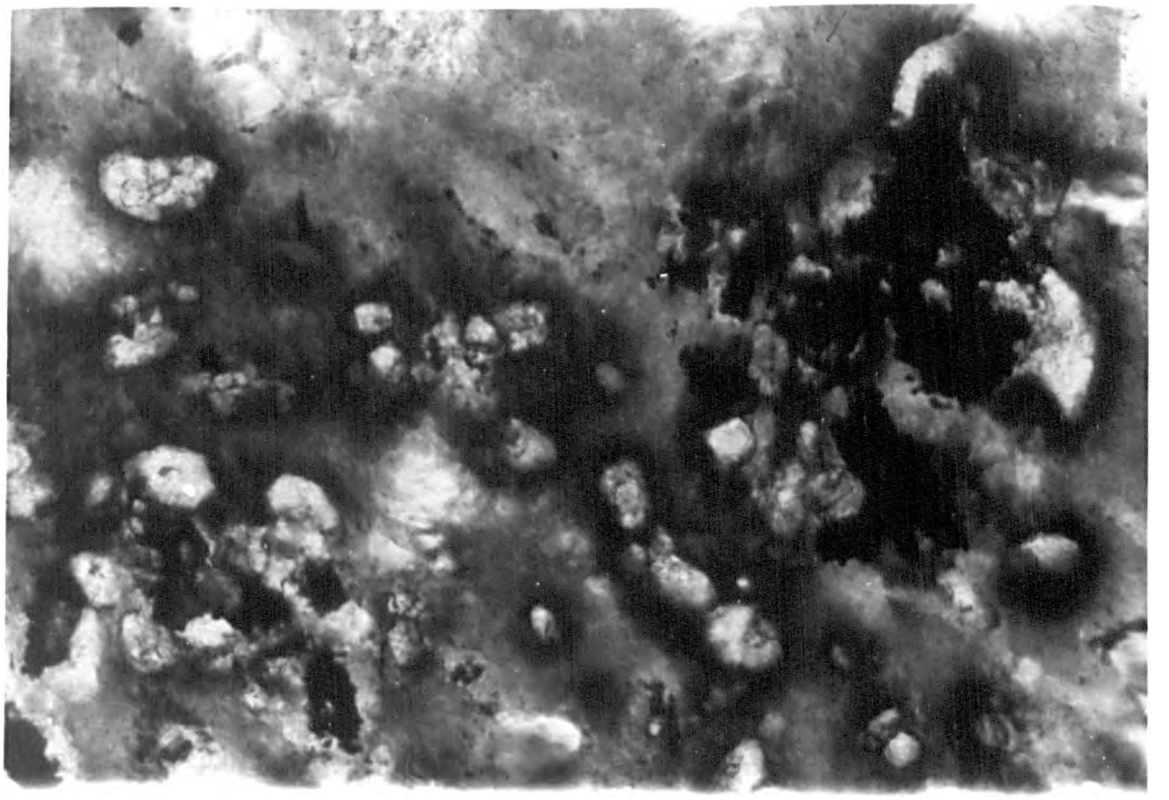

Z

Plate 6.7 Bennaunmore rhyolite - part of the PMP illustrated in plate 6.6, showing a particularily zircon - rich region. Dark material is iron ore.
Convergent plane polarised light, X200

Plate 6.8 Bennaunmore rhyolite - accessory inclusions in part of a glomerocryst (albite), including euhedral to subhedral zircons and anatase.
Convergent plane polarised light, X200



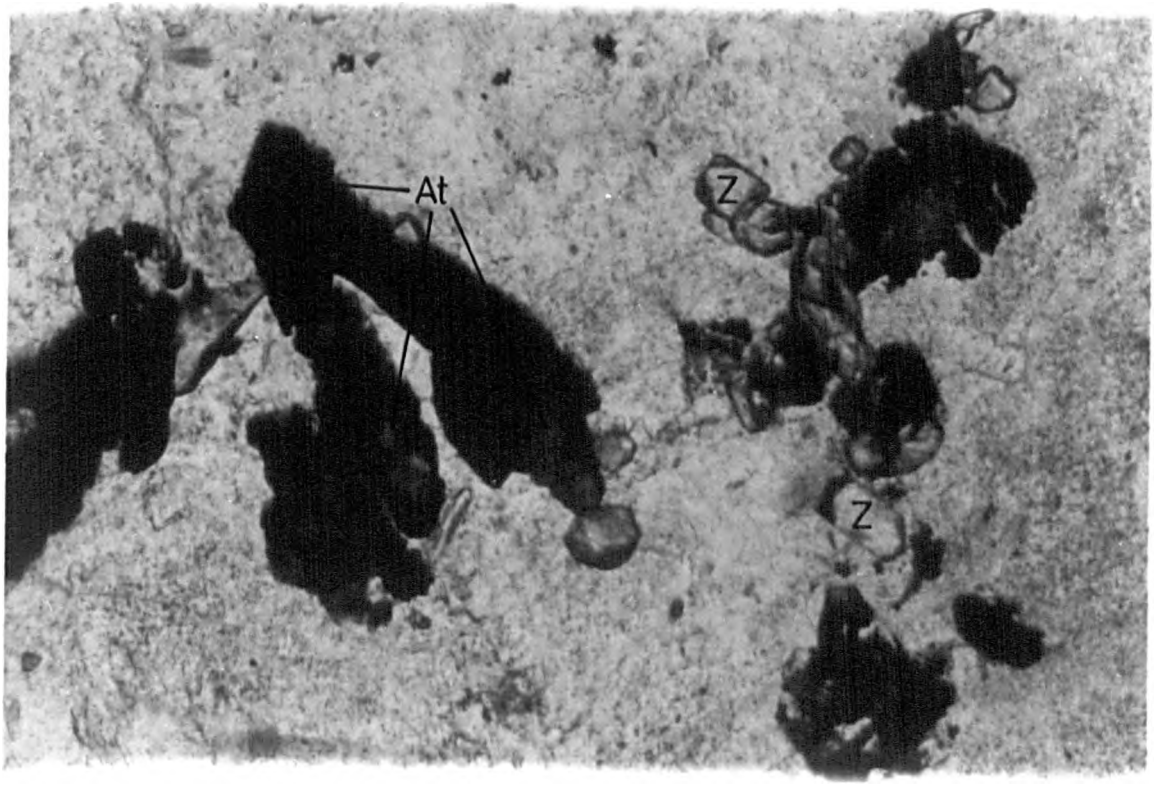
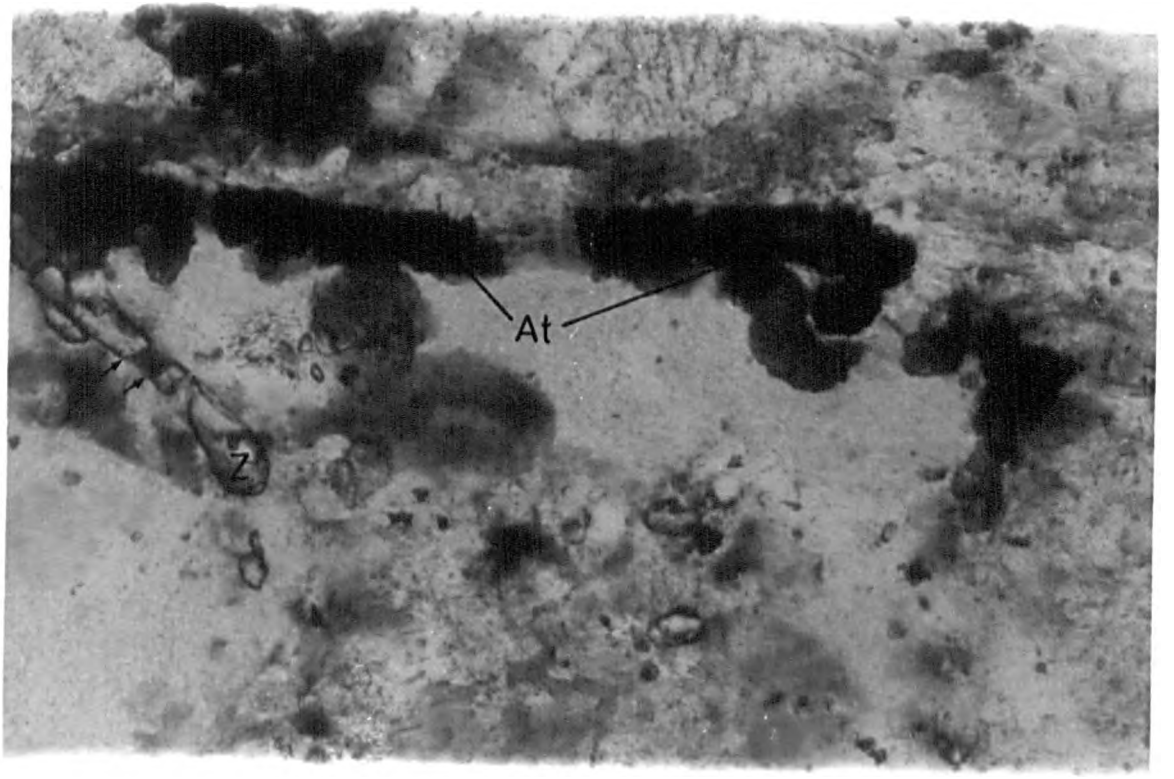

At
Z
Z

Plate 6.9 Bennaunmore rhyolite - corroded zircon embedded in a PMP.
Convergent plane polarised light, X500

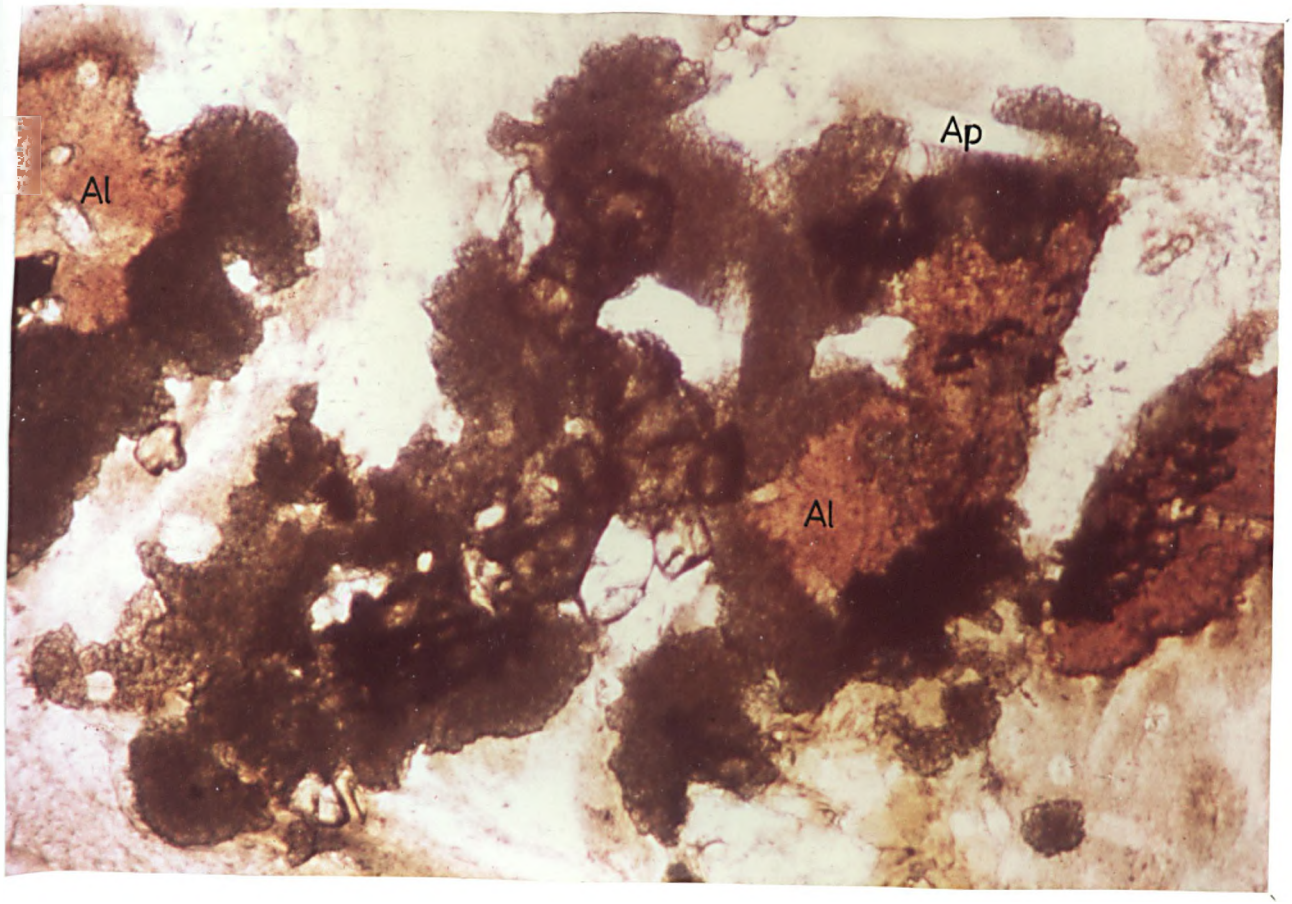
Plate 6.11 Bennaunmore rhyolite - elongate aggregate of anatase crystals possibly pseudomorphs after rutile, and elongate, apparently broken zircon crystal, with matching faces (arrowed).
Convergent plane polarised light, X200


At
Z

Convergent plane polarised light

Plate 6.10 Bennaunmore rhyolite - typical aggregate of accessory minerals in association with a P.P, including allanite (Al), anatase (At) with leucoxene overgrowths (L), zircon (Z), apatite (Ap) and quartz (Q). X200

Crossed polars


Al
Ap
Al

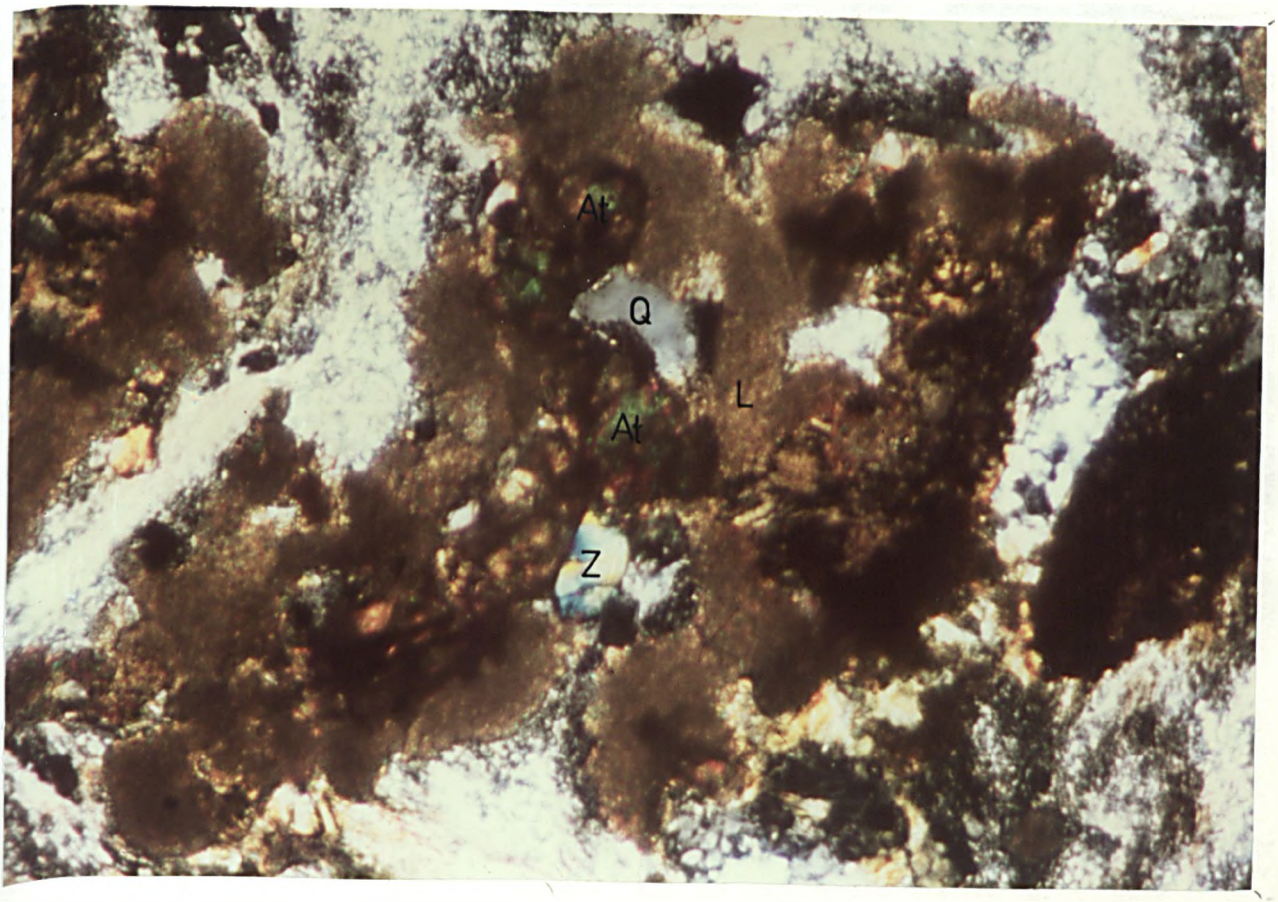
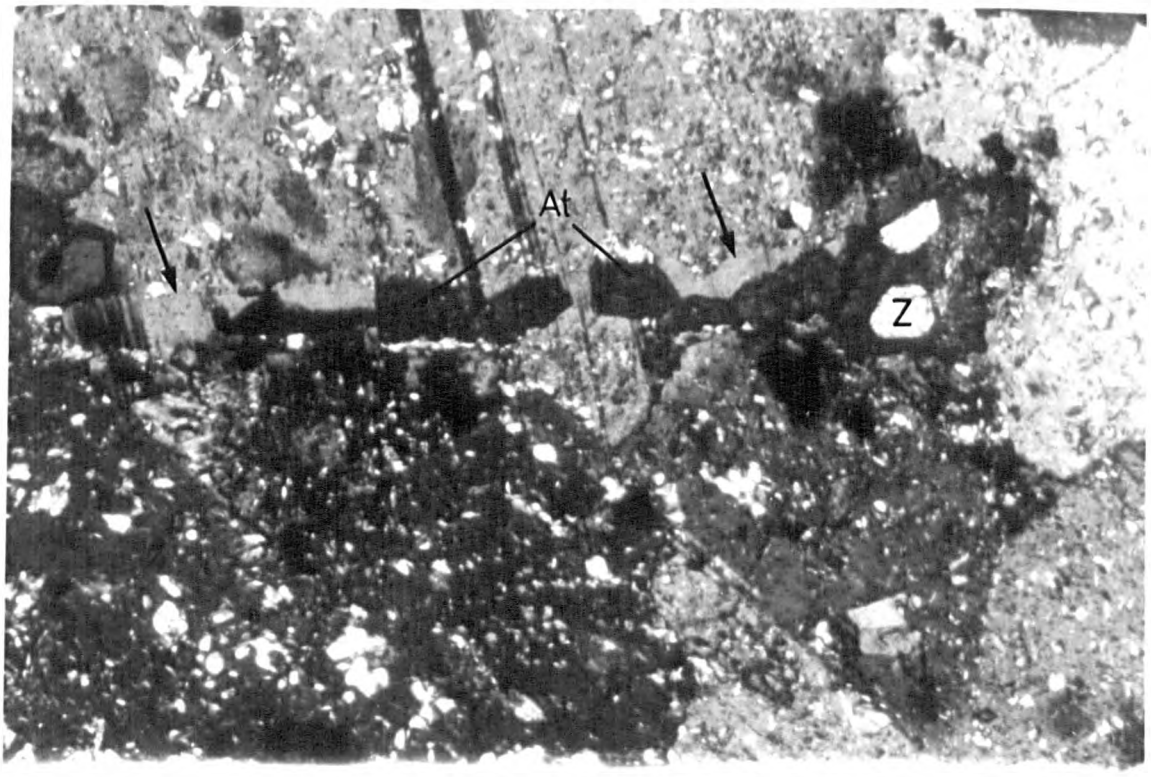

At
Q
L
At
Z

Plate 6.12 Bennaunmore rhyolite - string of anatase crystals as pseudomorphs after rutile with included zircon. Note the clear unaltered albite also marking the original outline of the slender rutile crystal (arrowed).
Crossed polars, X200

Plate 6.13 Bennaunmore rhyolite - microxenolith composed of rounded microgranular aggregate of anhedral plagioclase (albite) crystals with a unique twinned albite overgrowth.
Crossed polars, X20


At
Z

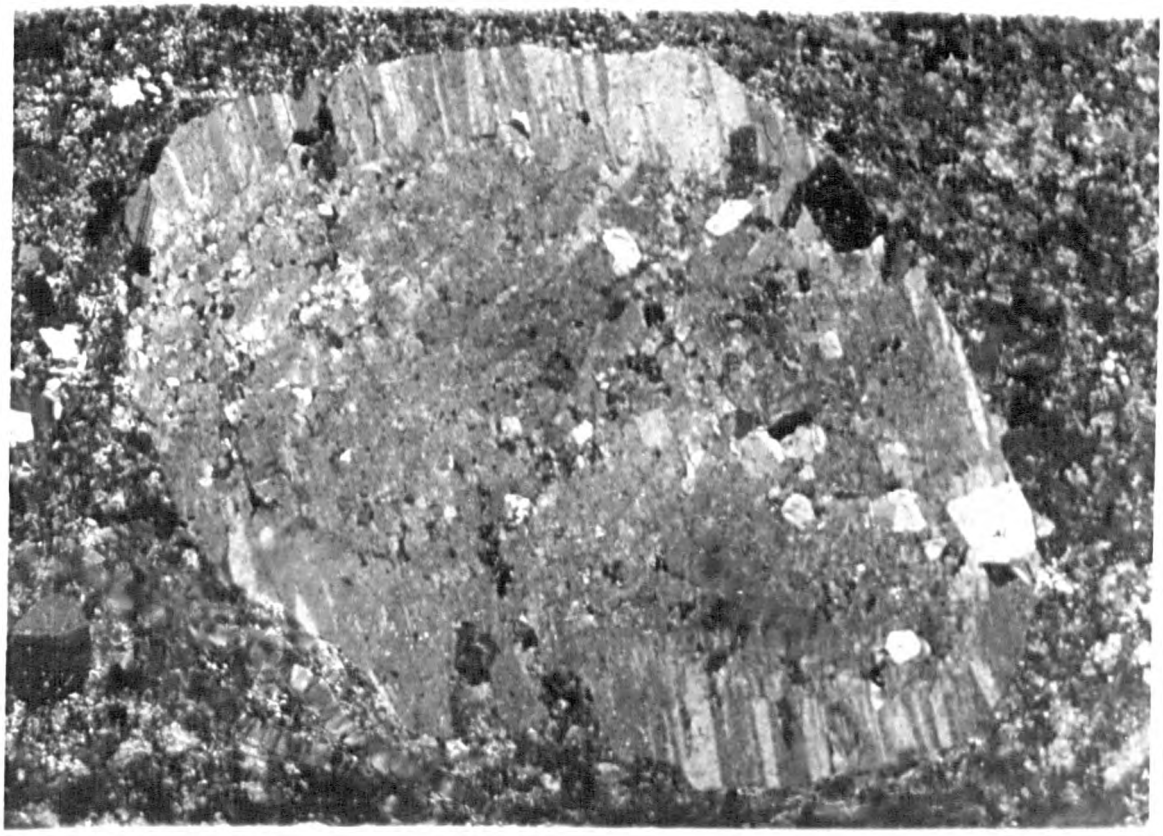
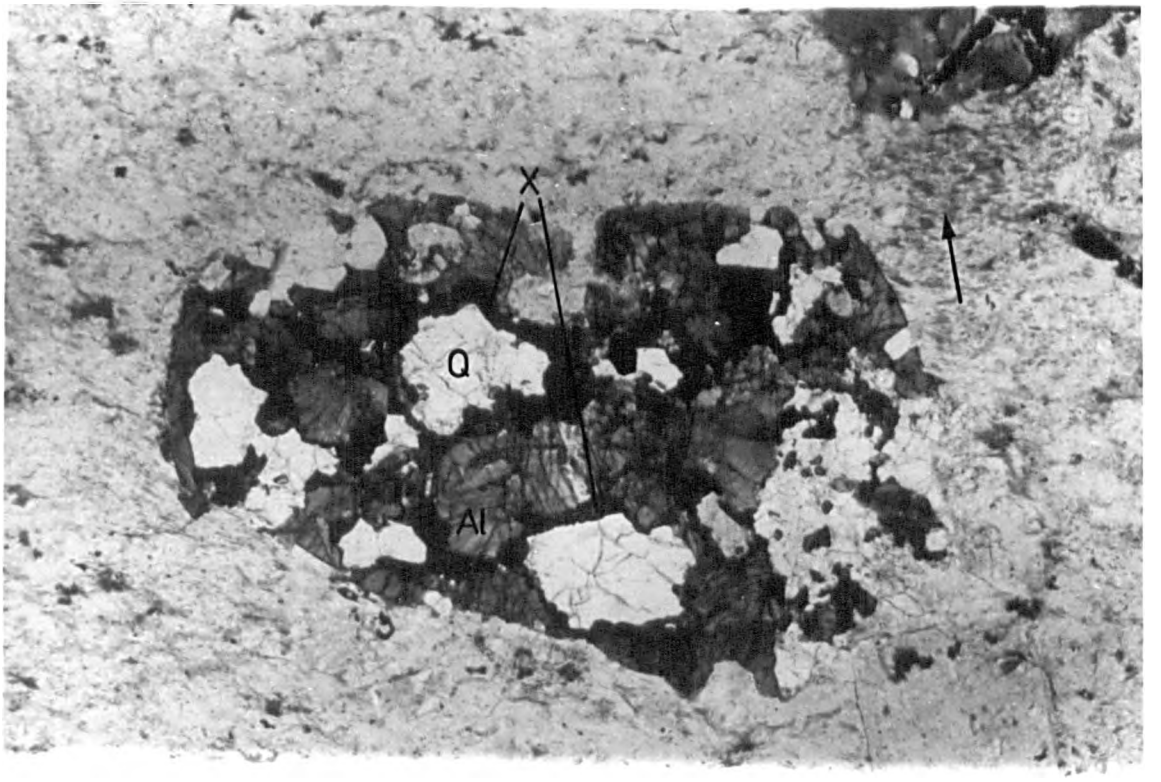


Plate 6.14 Bennaunmore rhyolite - unique rounded microxenolith composed of quartz, allanite and an unidentified blue mineral (X), possibly anatase. Note the chlorite growing in the strain shadow between the micro - xenolith and the PMP in the upper right hand corner of the photomicrograph (arrowed).
Convergent plane polarised light, X70

Plate 6.15 Bennaunmore rhyolite - anhedral fluorite crystal quartz inclusions and sericite replacement (M). Note the fluorite cleavage planes (arrowed).
Crossed polars, X70


X
Q
Al

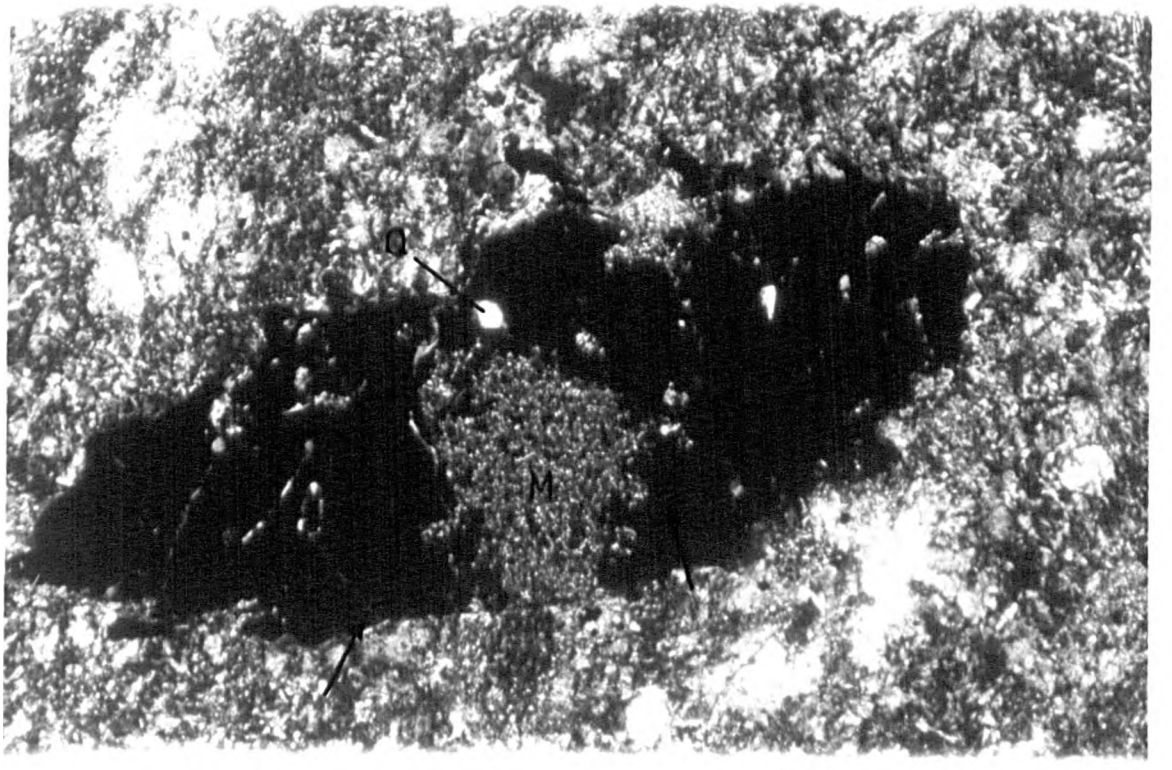
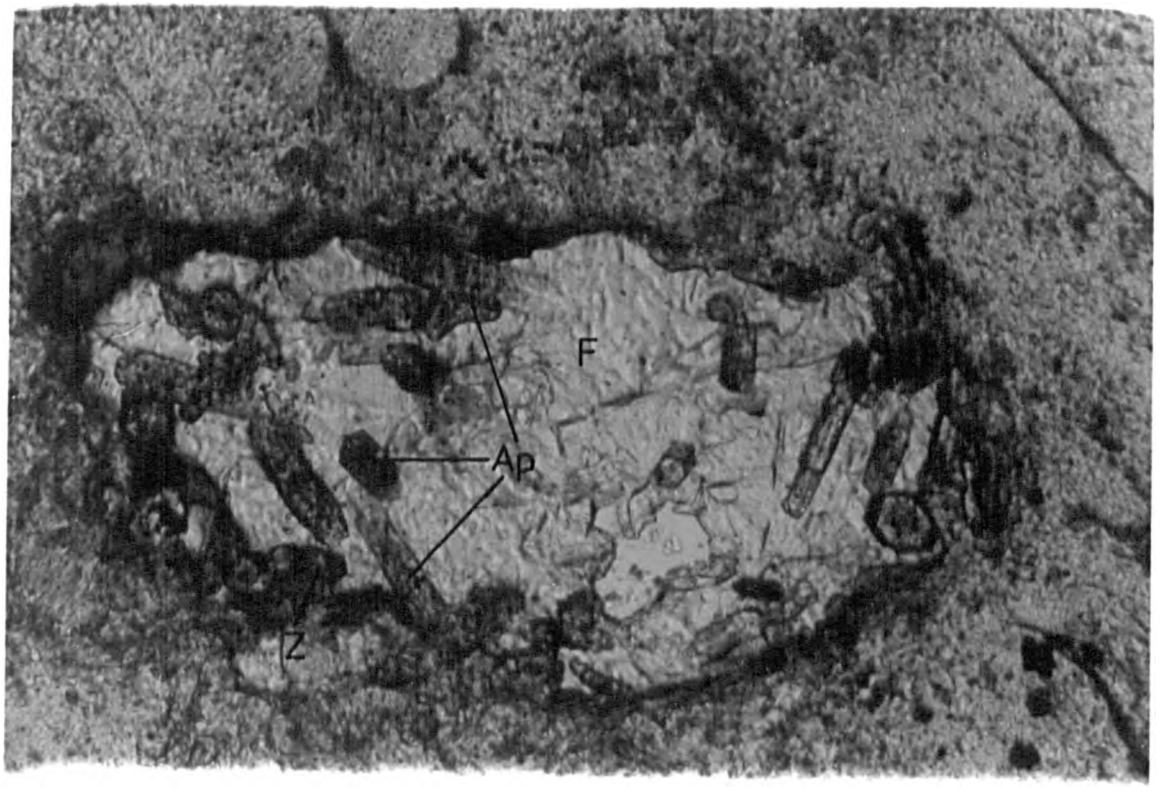

Q
M

Plate 6.16 Bennaunmore rhyolite - anhedral fluorite crystal (F) with inclusions of zircon and apatite.
Plane polarised light, X200

Plate 6.18 Eskduff rhyolite - chessboard albite microxenolith. Note the partial resorption along planes between the albite "tiles".
Crossed polars, X70


F
AP
Z

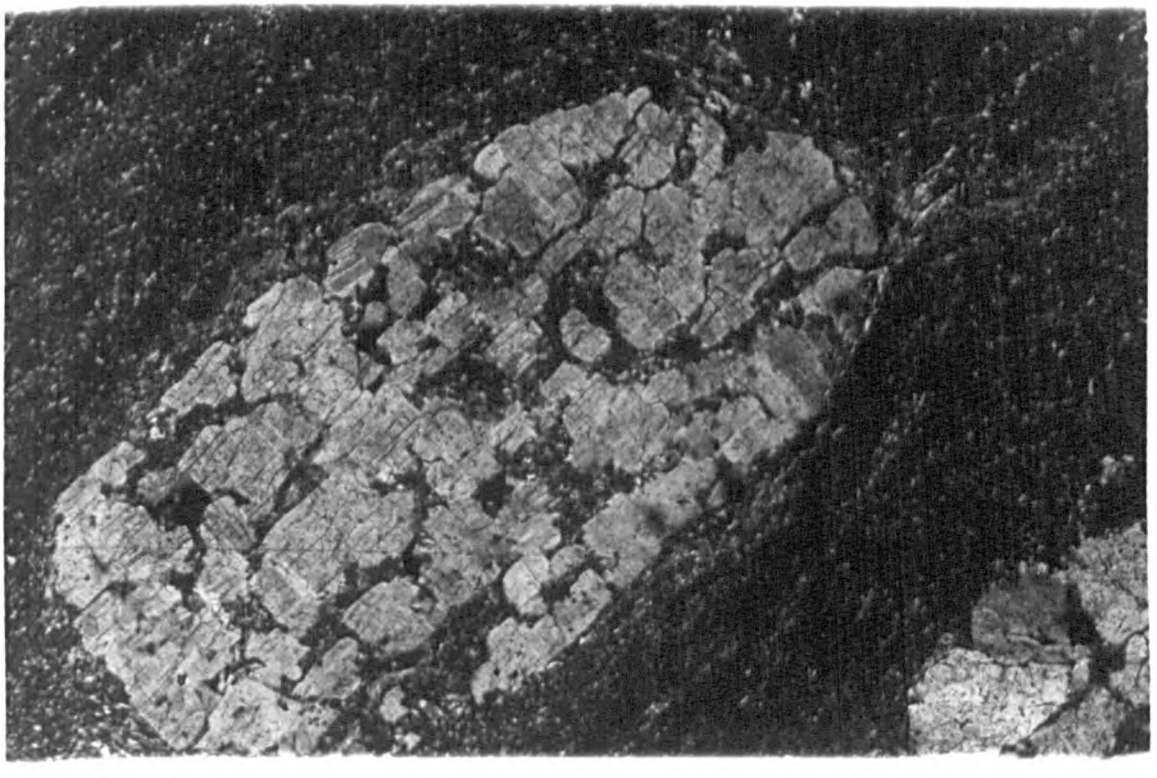


Plate 6.17 Bennaunmore rhyolite - anhedral chalcopyrite crystal (Ch) set in allanite. Note that the red rim around the chalcopyrite is not caused by birefringence. Crossed polars (convergent light), X200

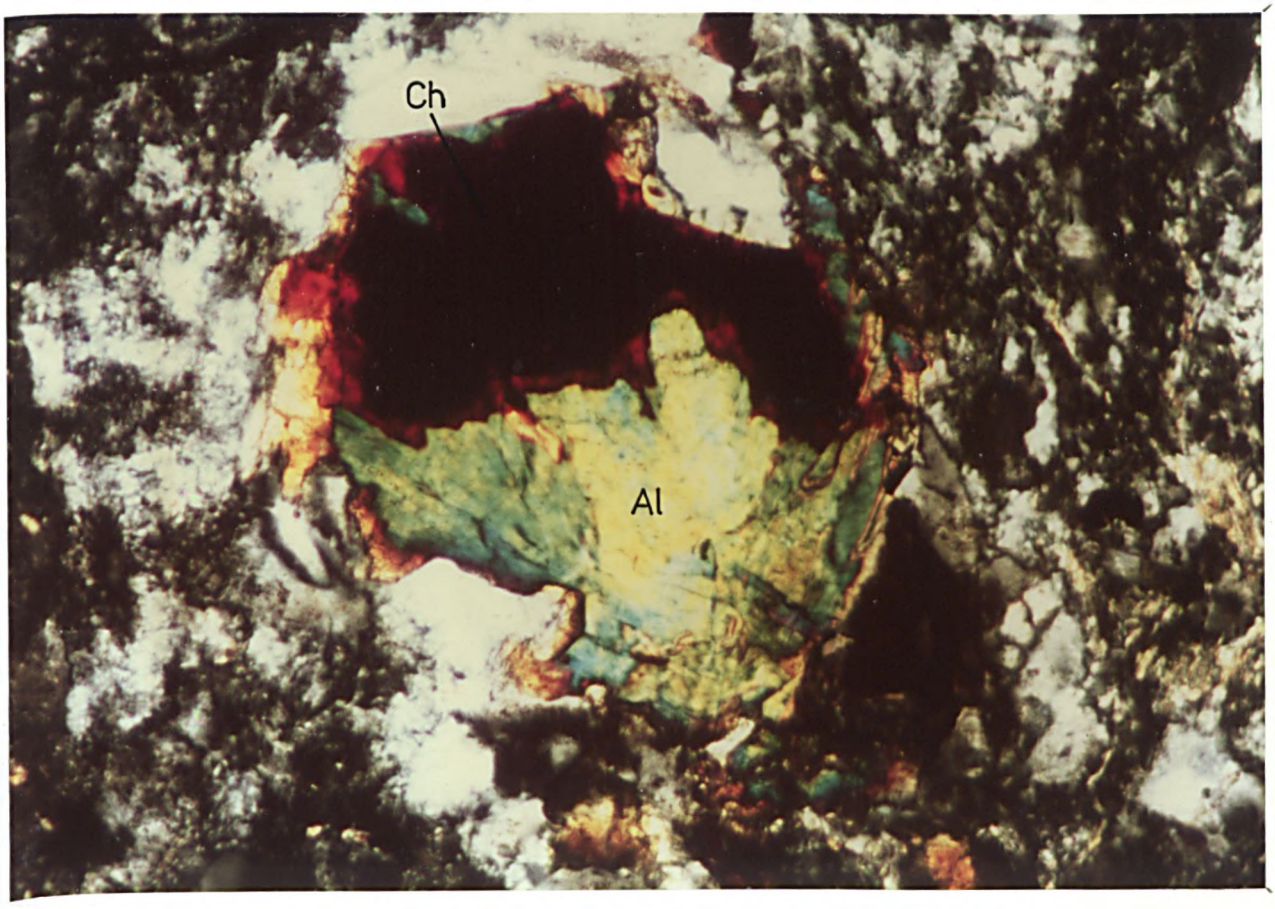

Ch
Al

Plate 6.19 North Stoompa rhyolite - chessboard albite micro - xenolith.
Crossed polars, X70

Plate 6.20 Bennaunmore rhyolite - unique intergrowth between quartz and albite phenocrysts.
Crossed polars, X70

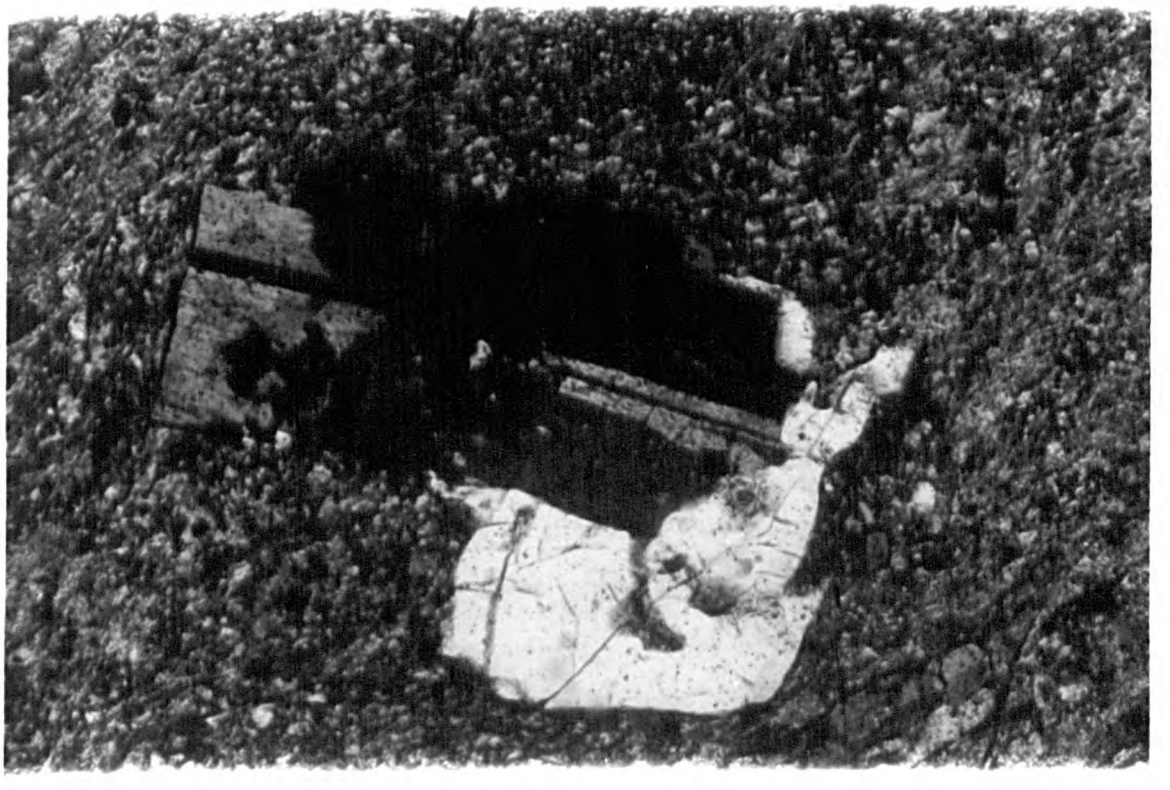
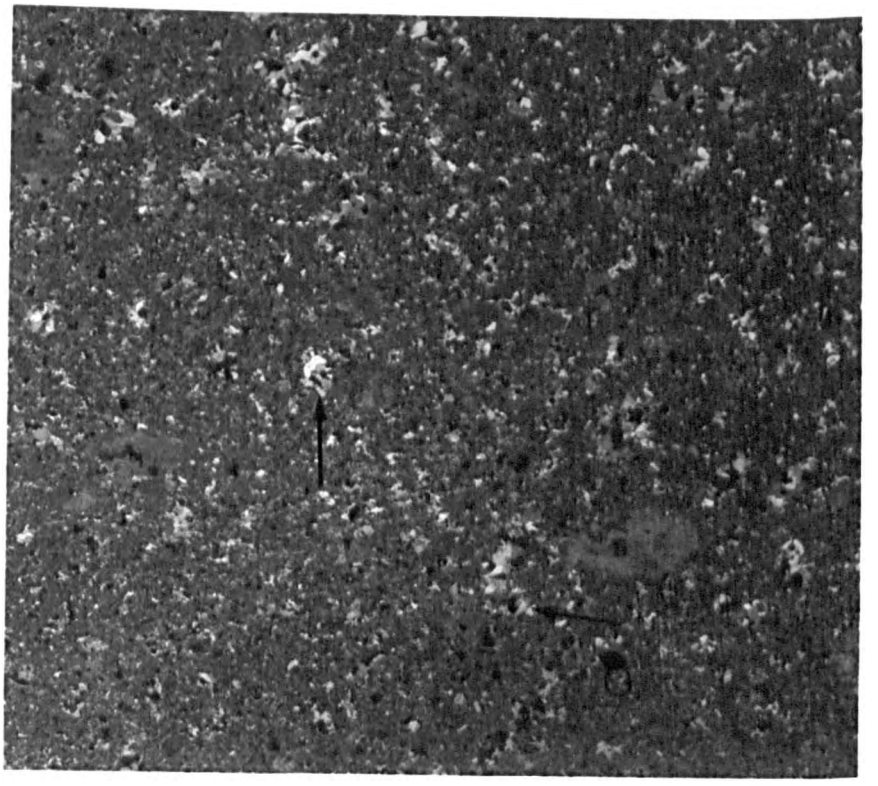


Plate 6.21 Bennaunmore rhyolite - partially silicified lithofacies of the lava possesing irregular patches of coarser grained secondary quartz (arrowed).
Crossed polars, X5

Plate 6.22 Horses Glen rhyolite - segregation texture in which irregular areas of the matrix (X) which are chlorite - free are separated from areas of finer grained matrix with some chlorite and sericite (Y) by discontinuous trains of chlorite flakes (arrowed). See plate 5.48 for photograph of rock in hand specimen.
Plane polarised light, X70.



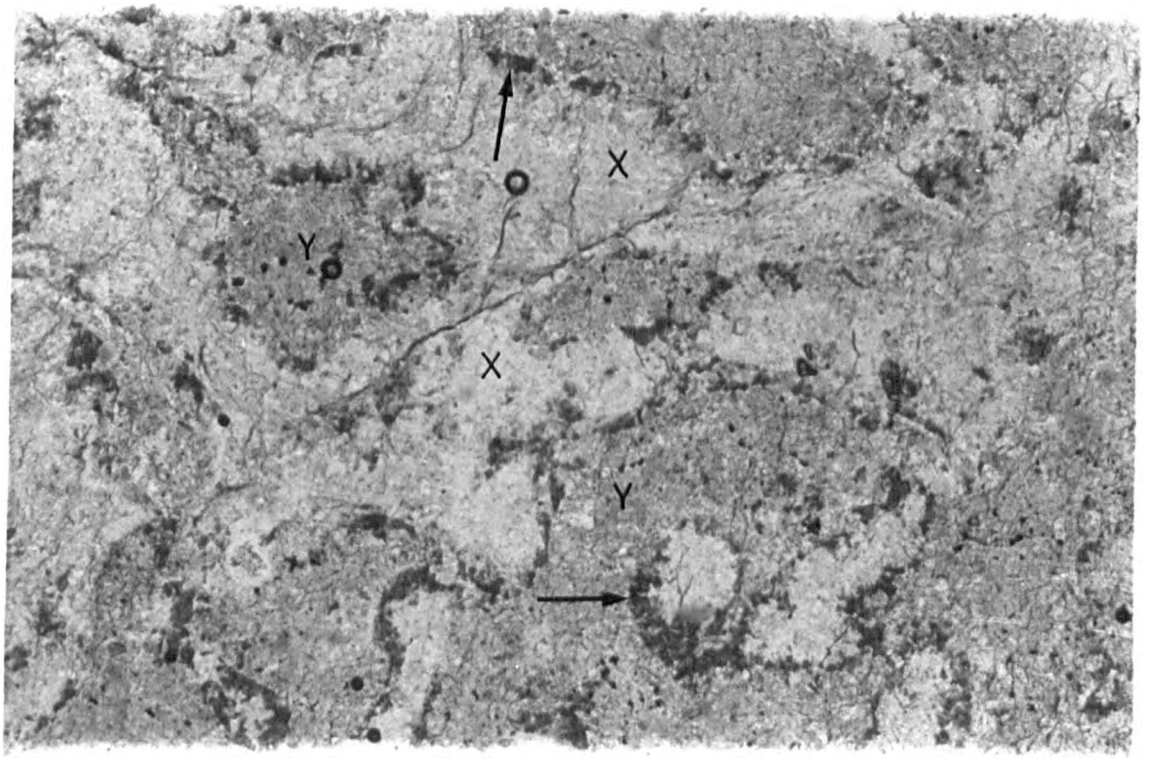
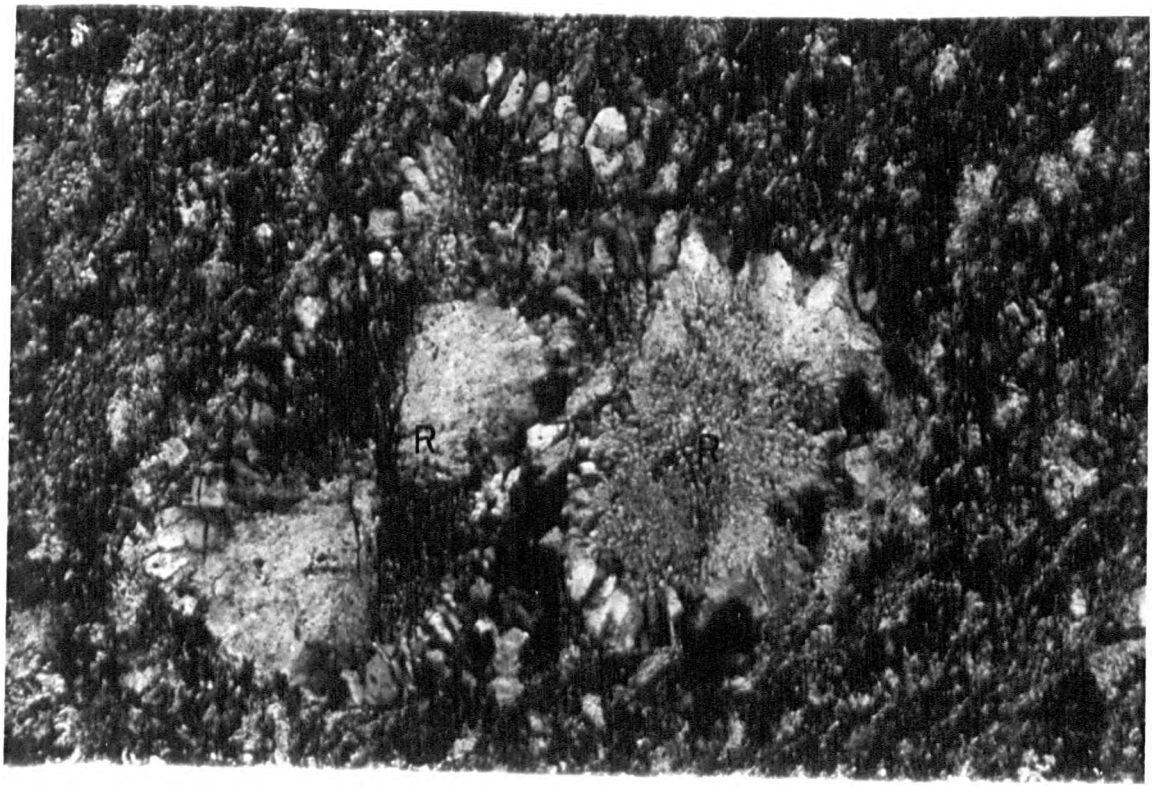

X
Y
X
Y

Plate 6.23 Bennaunmore rhyolite - group of relict sherulites. Note the fine grained radiate feldspathic cores (R) rimmed with coarser grained quartz and feldspar. Crossed polars, X70

Plate 6.24 Eskduff rhyolite - vesicular facies of the lava containing flattened relict spherulites (Sp) and perlite cracks (arrowed). Note that the vesicles (V) contain pure fibrous albite and may be rimmed with chlorite.
Plane polarised light, X70


R
R

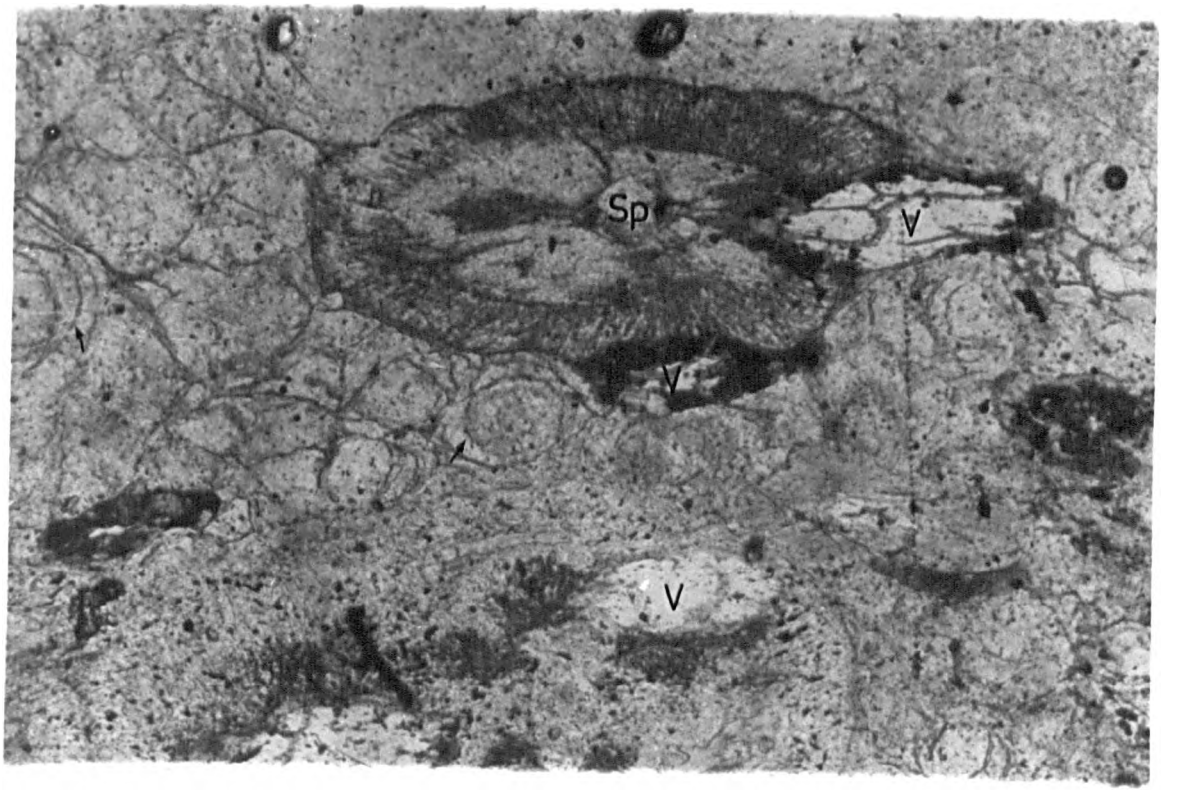
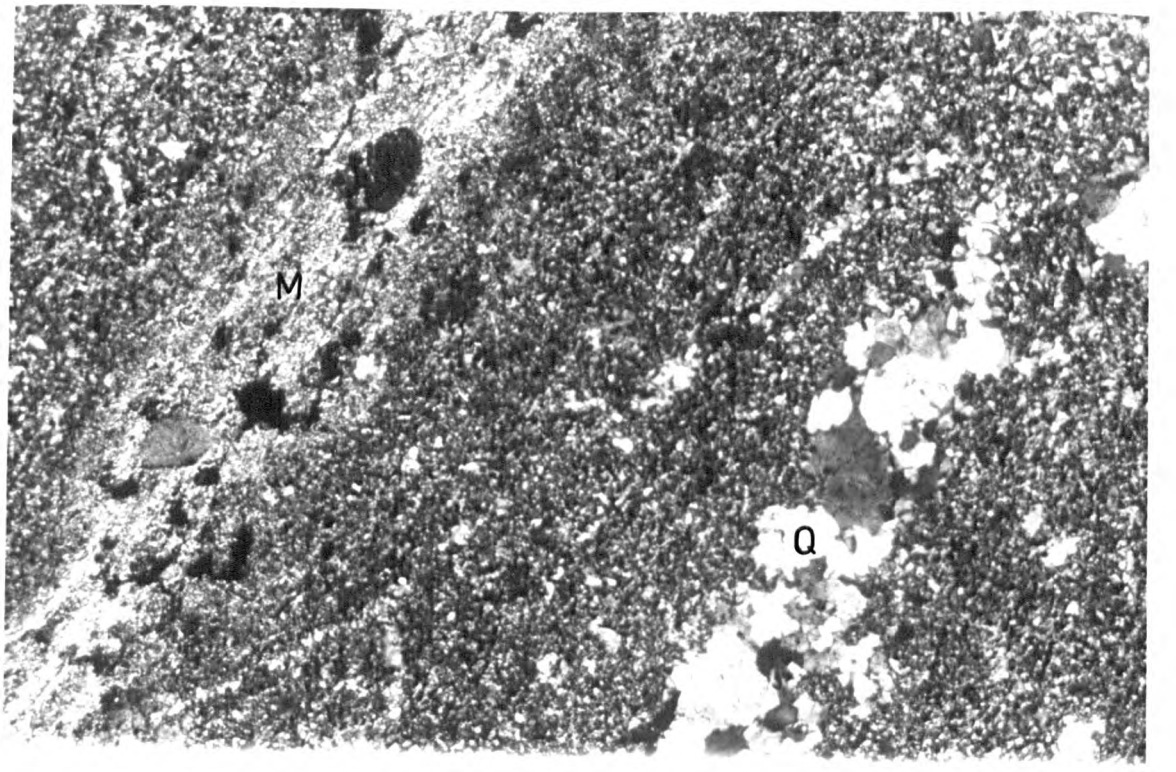

Sp
V
V
V

Plate 6.25 Bennaunmore rhyolite - secondary matrix replacement by quartz and sericite (M) preferentially along some flow laminations.
Crossed polars, X70

Plate 6.26 Bennaunmore rhyolite - autobreccia from the top of the lava flow, illustrating the wide variety of recrystallisation textures:

1. fine - grained quartzofeldspathic
2. coarser grained quartzofeldspathic
3. sericitised (with quartz patches).

Crossed polars, X4


M
Q

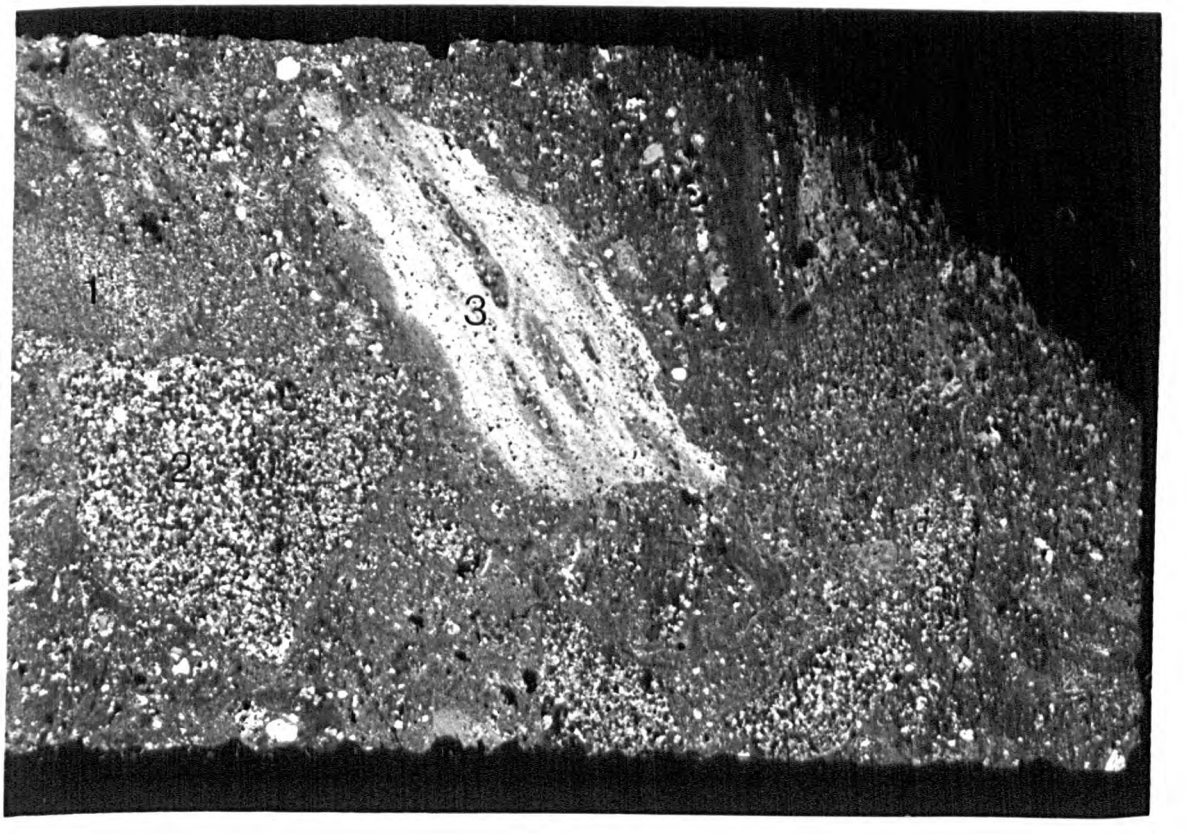
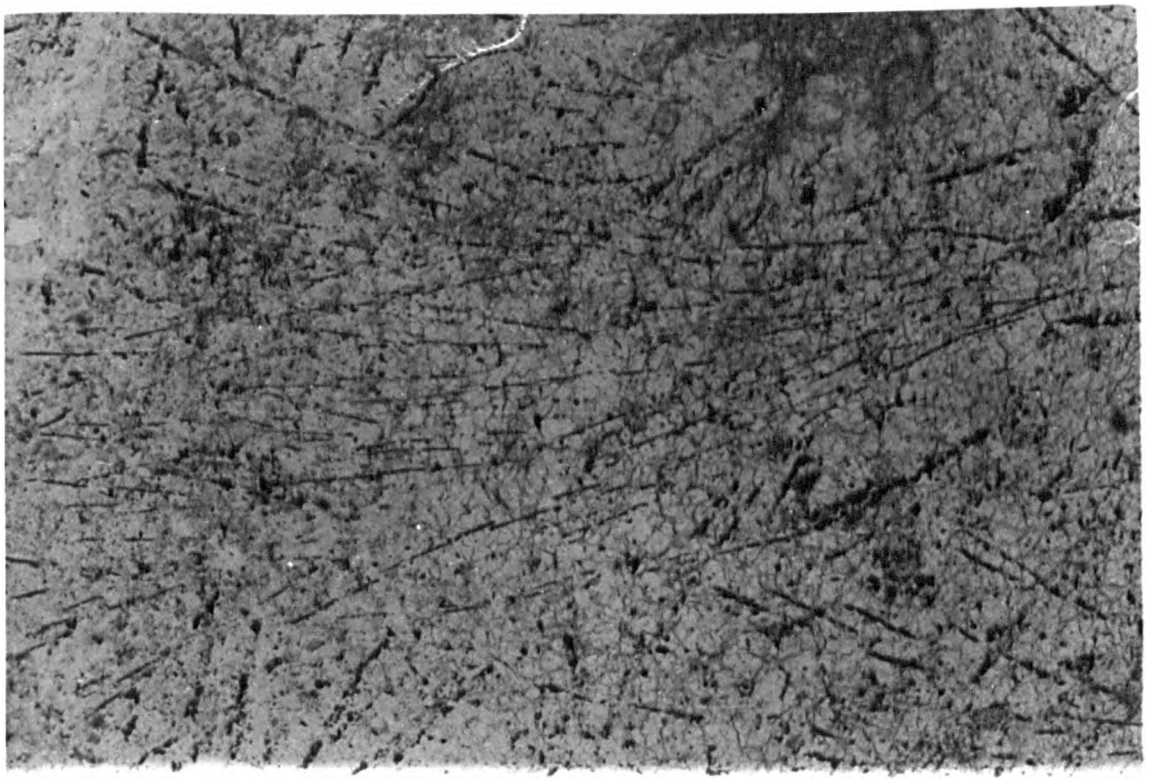

1
2
3

Plate 6.27 Bennaunmore rhyolite - unusual alignment of opaque ore grains in the matrix, possibly related to a primary cracking texture similar to perlitic cracking.
Plane polarised light, X70

Plate 6.28 Bennaunmore rhyolite - quartz-albite-chlorite-allanite non-dilational replacement vein.
Plane polarised light, X200



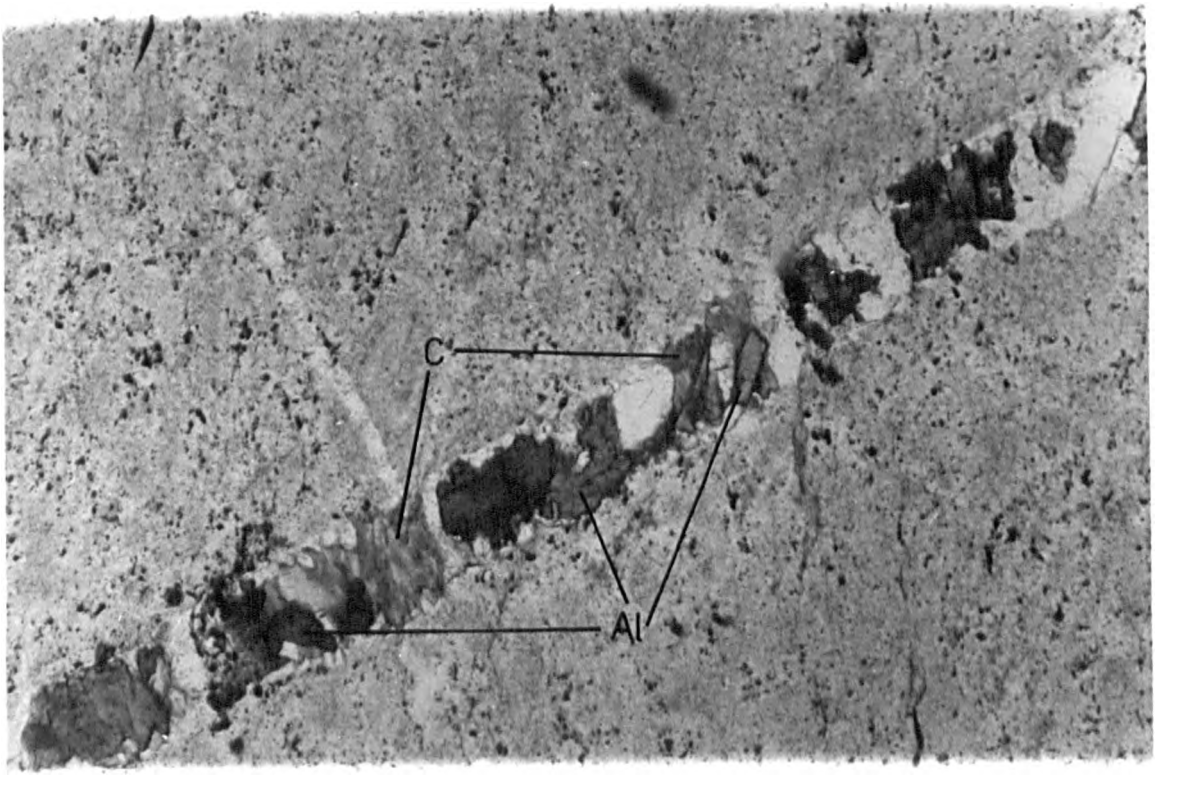
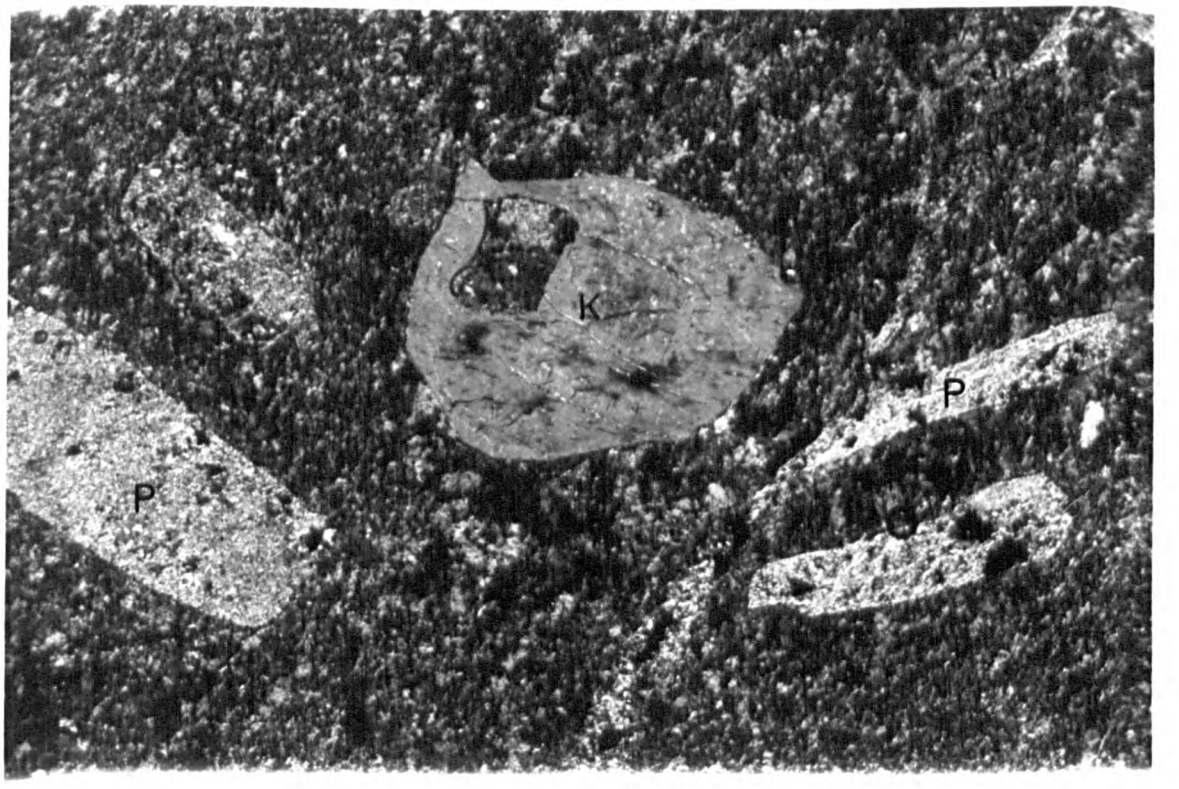

C
Al

Plate 6.29 Killeen rhyolite - sericitised, lath shaped plagioclase phenocrysts (P) with a contrasting, relatively sericite - poor and rounded albitised K - feldspar phenocryst (K).
Crossed polars, X70

Plate 6.30 Killeen rhyolite - braided/string perthitic texture in an albitised K - feldspar phenocryst. The perthite should be distinguished from sericite along crystal fractures (M). Note the faint outer zonation most apparent along the bottom right hand margin of the crystal.
Crossed polars, X70


K
P
P


M

Plane polarised light

Plates 6.31 & 6.31 Killeen lava – patch perthite texture in an albitised K- feldspar phenocryst. Note that the twinning is best developed in areas poor in fine opaque ore inclusions.
X70

Crossed polars

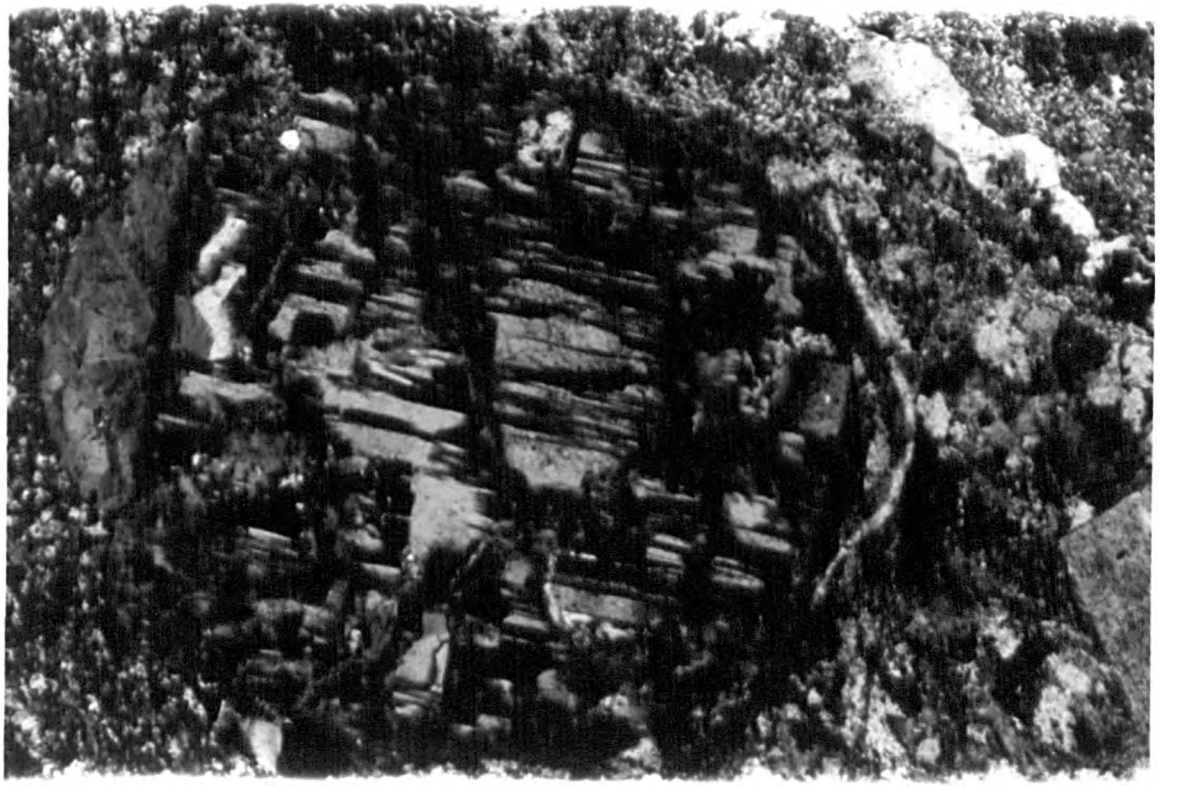
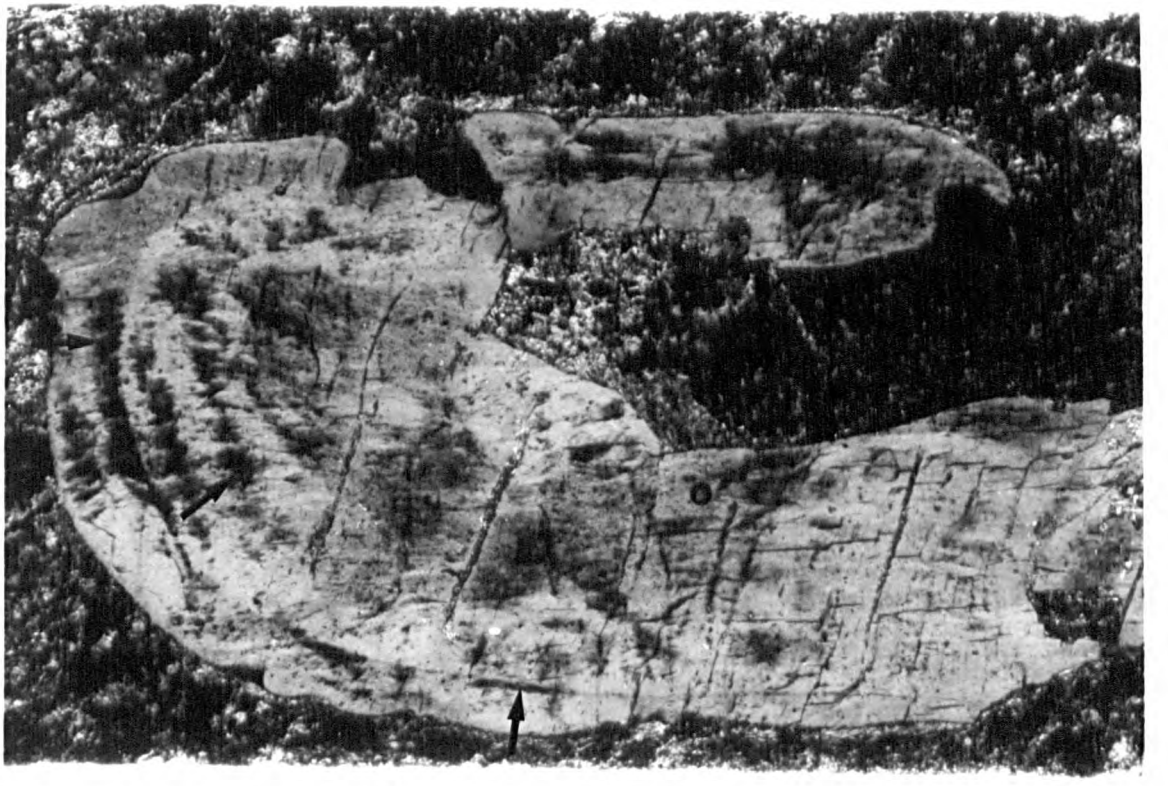


Plate 6.33 Killeen rhyolite - albitised K- feldspar phenocryst exhibiting a primary zoned texture defined by concentrations of opaque ore grains (arrowed). Crossed polars, X70

Plate 6.34 Killeen rhyolite - a PMP replaced by opaque ore (O) and white mica (M) with intergrown albite (Ab). Note the sericite veins rimmed with ore (arrowed), probably following primary crystal fractures.
Plane polarised light, X70


O

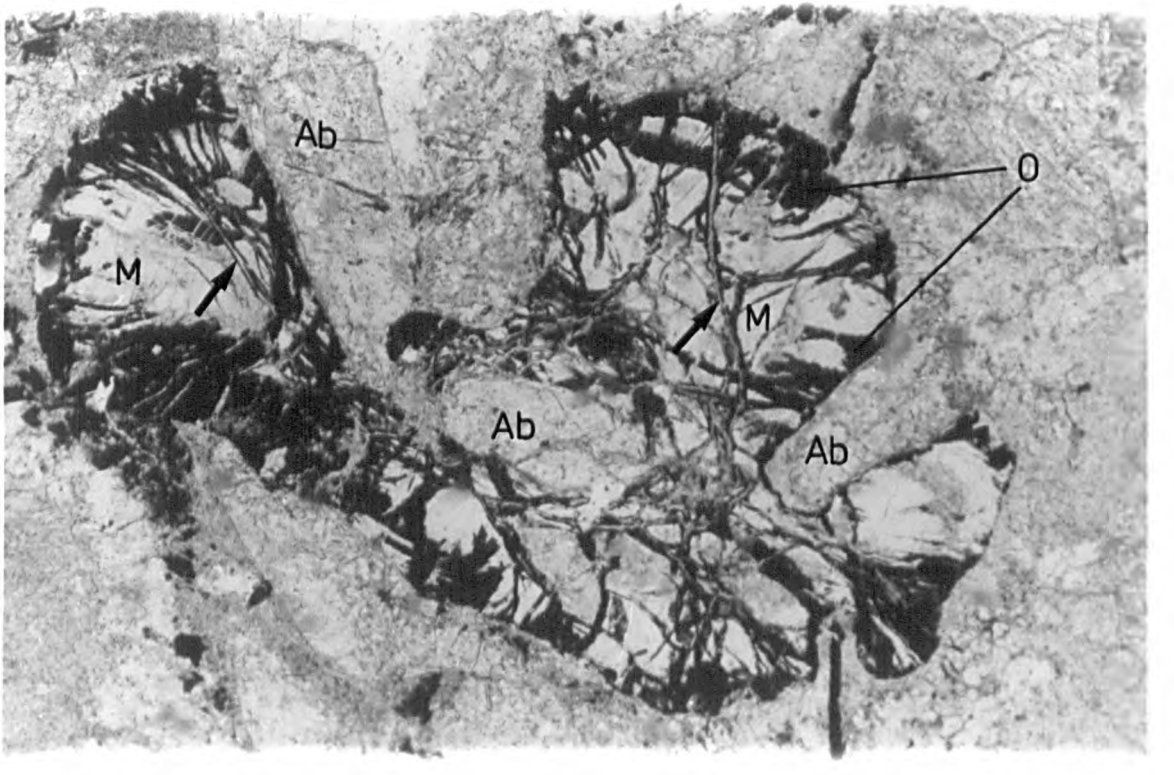
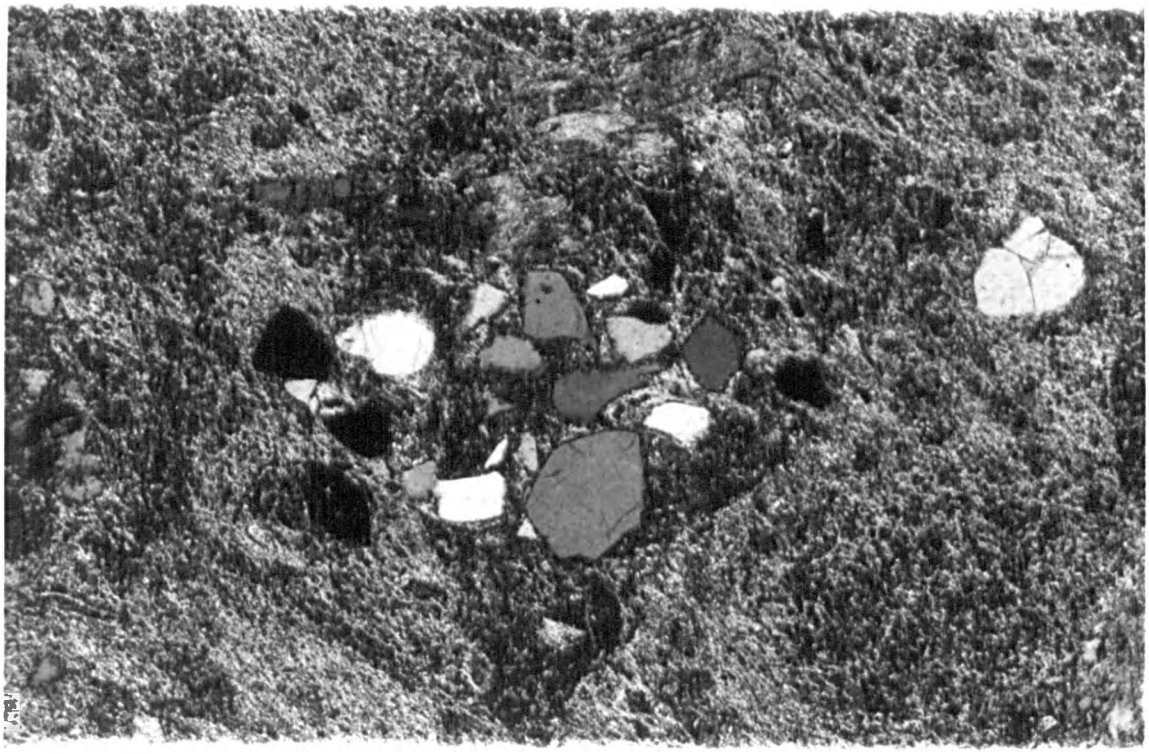

Ab
M
M
O
Ab
Ab

Plate 6.35 Killeen rhyolite - loosely aggregated microxenolith of fine sandstone.
Crossed polars, X70

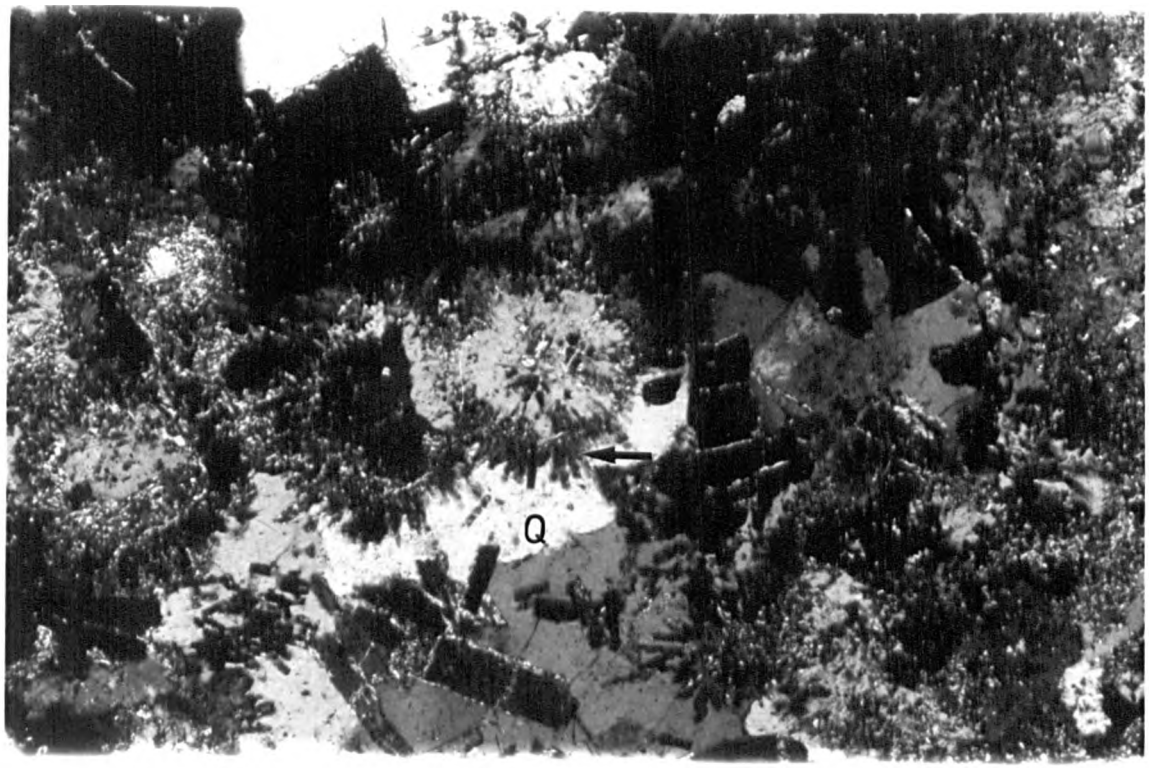
Plate 6.36 Killeen rhyolite - quartz-muscovite (II) microxeno - liths exibiting high metamorphic grade granoblastic - elongate texture (arrowed).
Crossedpolars, X70




Q
Q
M
M
Q
M
M
Q

Plate 6.37 Killeen rhyolite - partially silicified groundmass with radiating feldspar (probably albite) microlaths (arrowed).
Crossed polars, X70

Plate 6.38 Killeen rhyolite - relict perlitic cracks preserved as trains of sericite flakes in a quartzofeldspathic matrix.
Plane polarised light, X70


Q

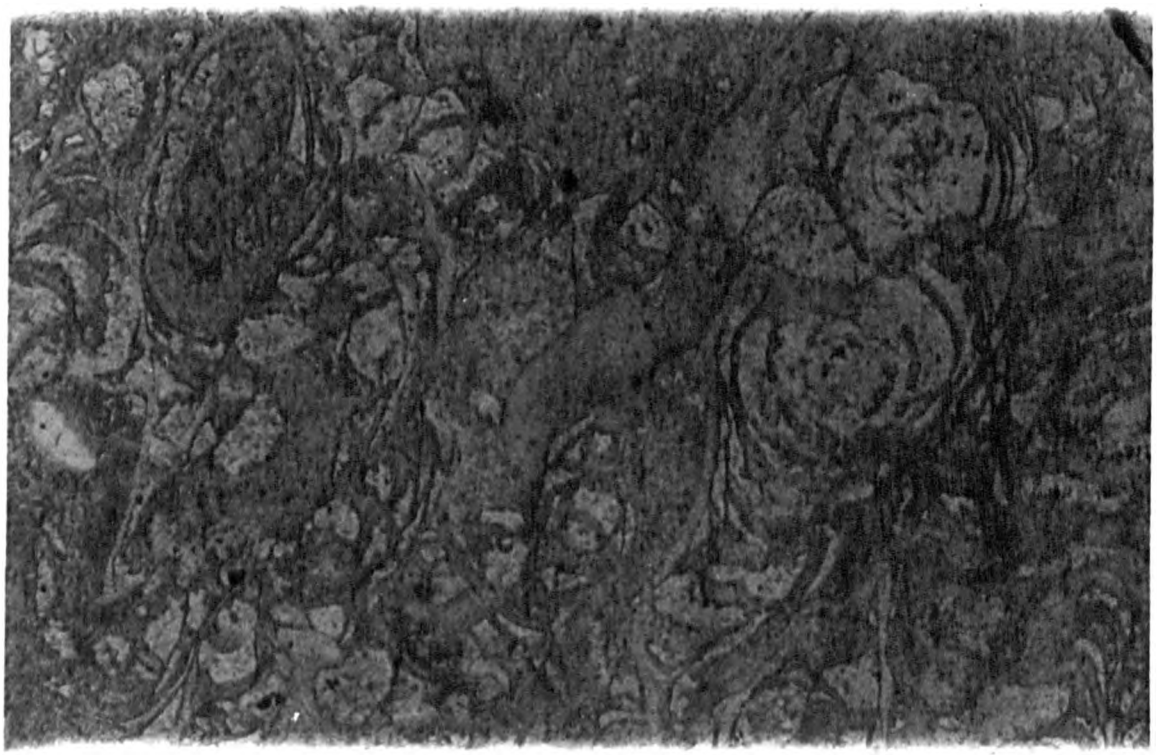


Plate 6.39 Killeen rhyolite - relict perlitic cracks preserved in calcitised groundmass.
Plane polarised light, X70

Plate 6.40 Killeen rhyolite - quartz replacing tridymite (arrowed). Note also the sherulites in the top left hand corner of the photomicrograph.
Crossed polars, X200

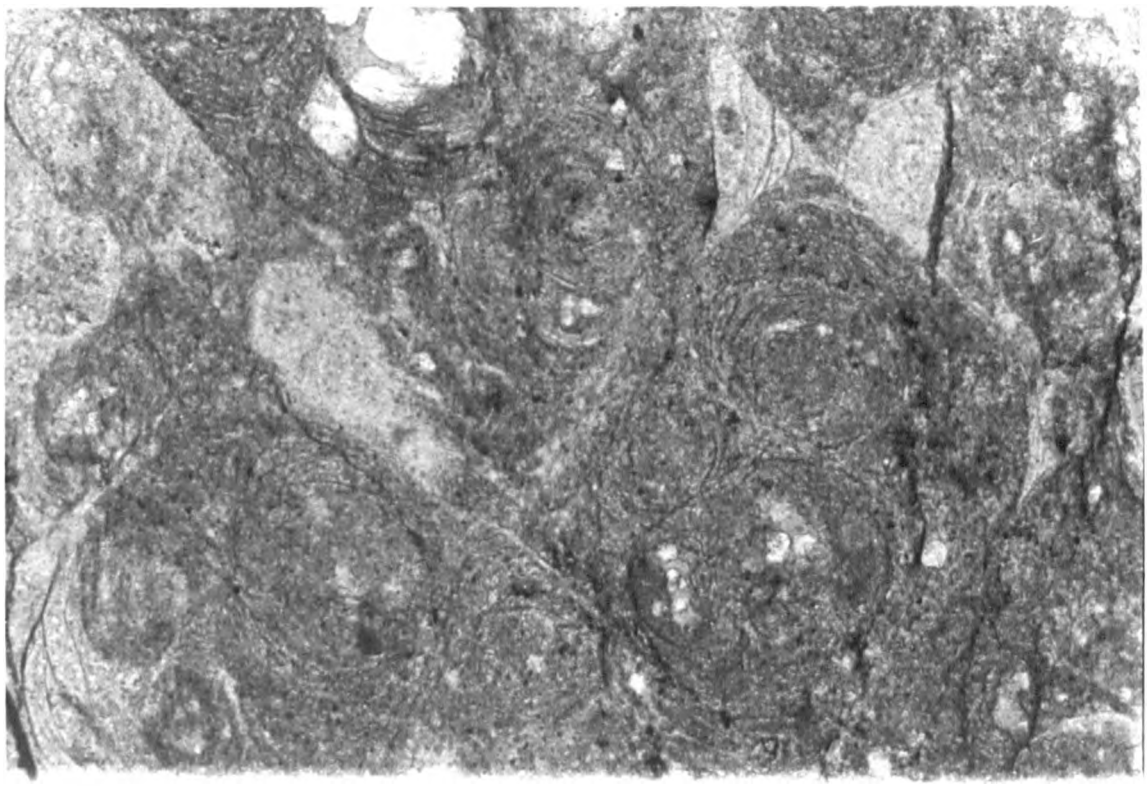
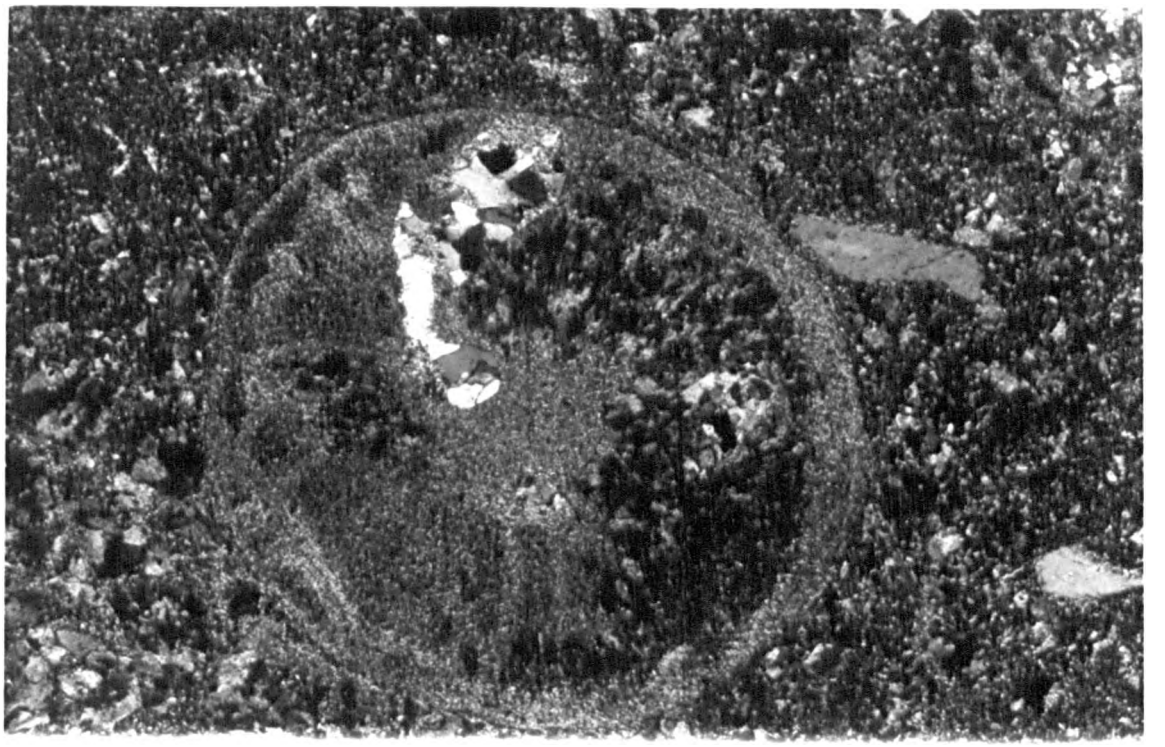


Plate 6.41 Killeen rhyolite - relict spherulite with radiating quartz - feldspar - sericite interior. Note the two different grain sizes of recrystallisation, plus the much coarser quartz replacement near the top.
Crossed polars, X70

Plate 6.42 Killeen rhyolite - two interfering relict spherulites nucleated on an albite phenocryst.
Plane polarised light, X70



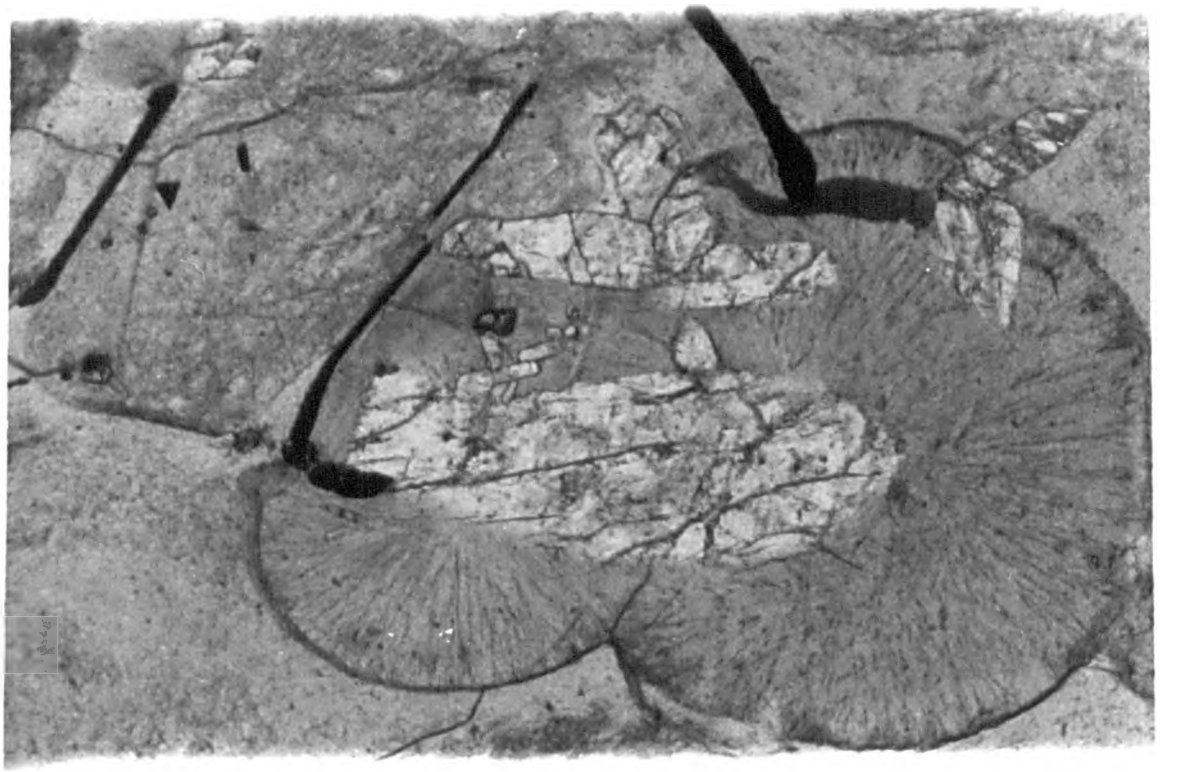
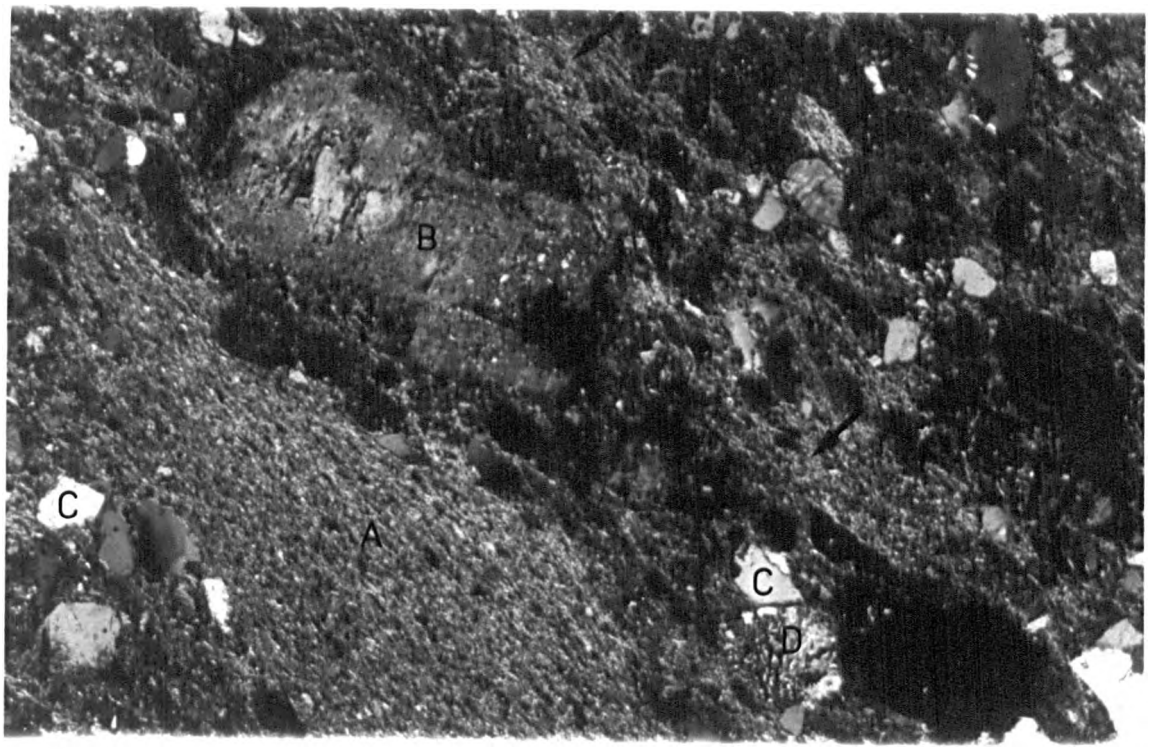


Plate 6.45 Bennaunmore volcanic centre mixed tuff, containing a silty mudstone intraclast (A), volcanogenic feldspar (B), detrital quartz grains (C), and detrital rock fragment (D). Note the recrystallised nature of the fine grained groundmass (arrowed).
Crossed polars, X70

Plate 6.46 Bennaunmore volcanic centre mixed tuff containing a highly irregular (? vesiculated) lapillus (X), volcanogenic feldspar (B) and detrital quartz (C).
Plane polarised light, X70


B
C
A
C
D

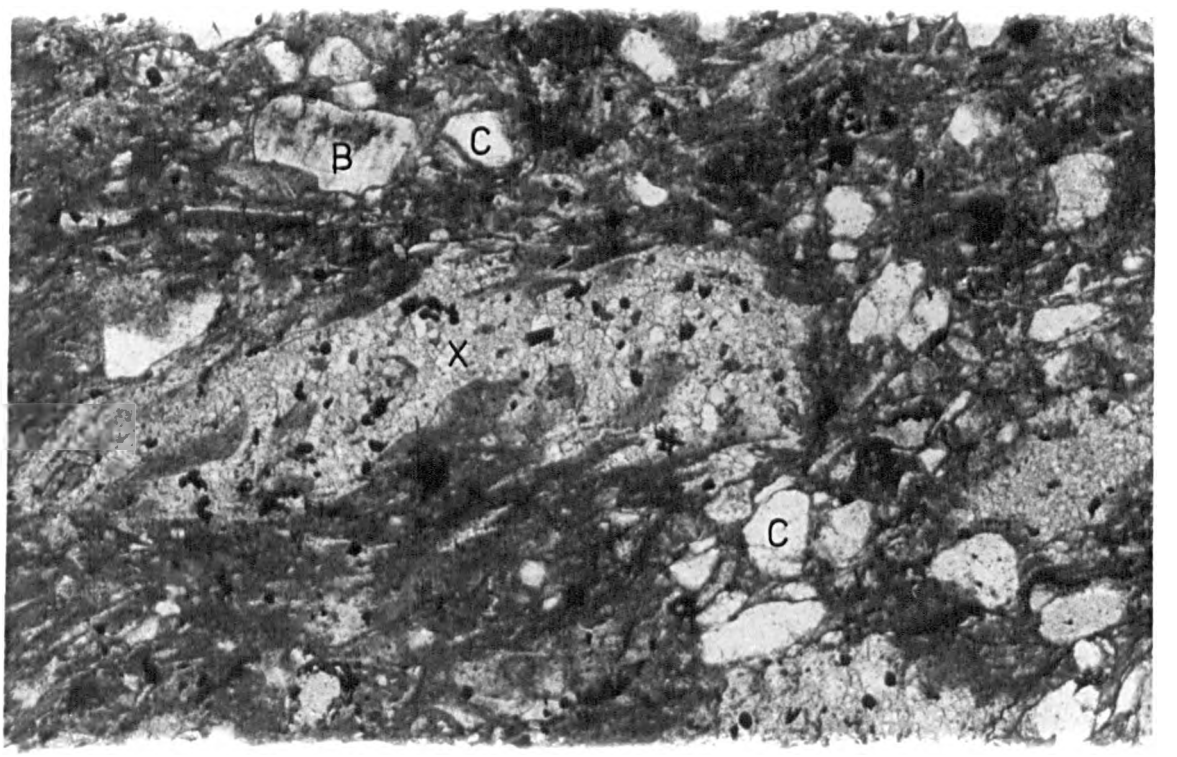
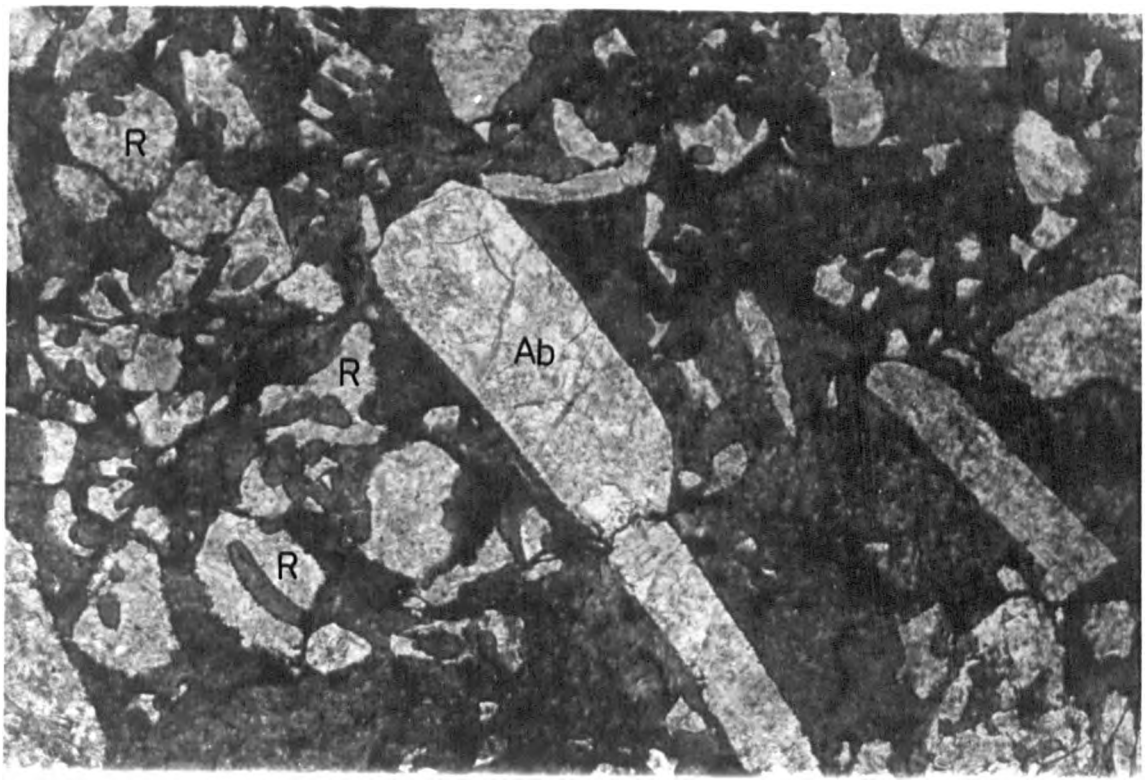

B
C
X
C

Plate 6.47 Killeen volcanic centre mixed tuff - margin of a lappilus (arrowed) showing broken relict spherulite.
Plane polarised light, X70

Plate 6.48 Killeen volcanic centre mixed tuff - lappilus containing unrotated pair of albite phenocrysts set in a strongly foliated sericitised matrix.
Crossed polars, X70

Plate 6.49 Killeen volcanic centre mixed tuff - chloritised lappilus. Note the remnants of the original quartzofeldspathic groundmass (R) along with albite phenocrysts.
Plane polarised light, X70

Plate 6.50 Killeen volcanic centre mixed tuff - chloritised lapillus. Note the highly embayed quartz pheno - cryst.
Plane polarised light, X70


R
R
Ab
R

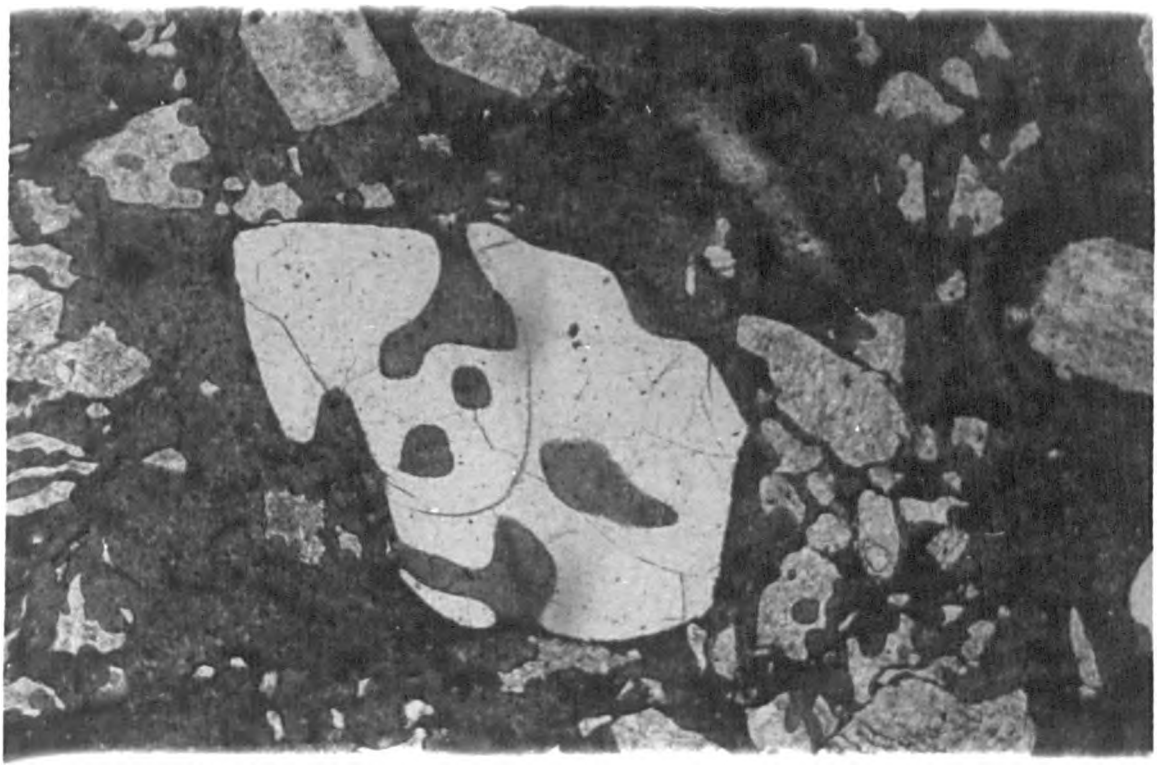
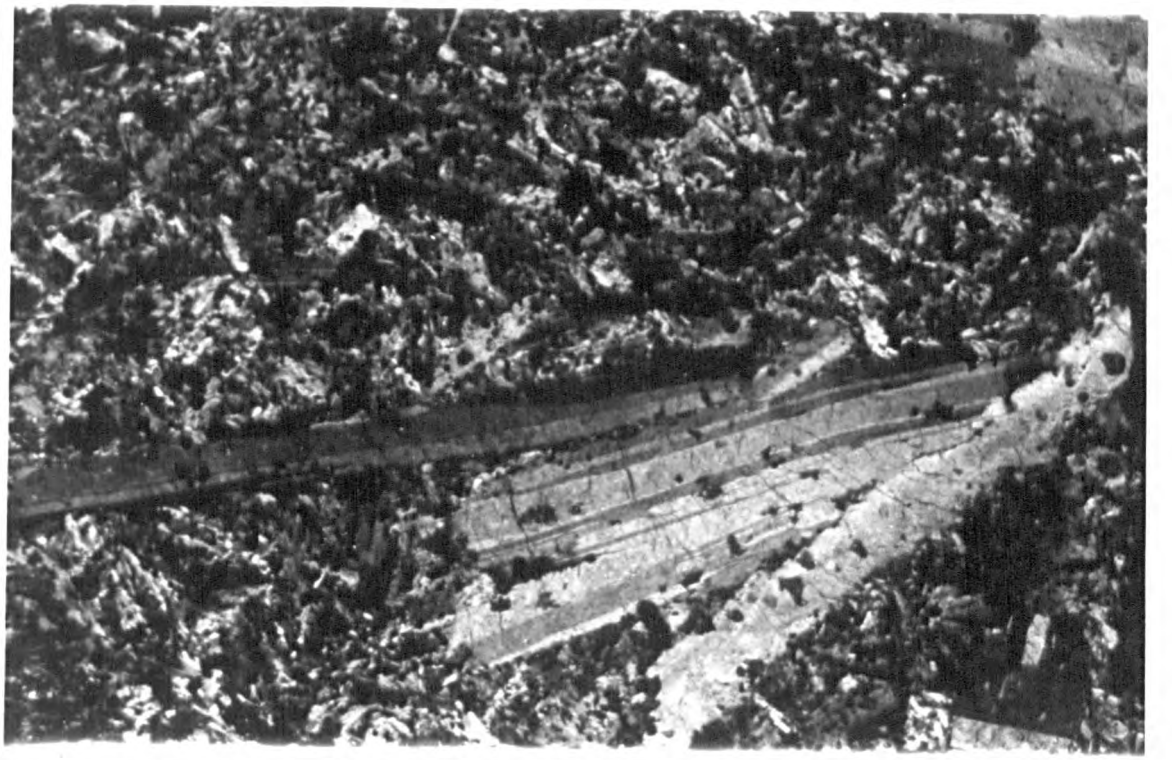


Plate 6.51 Killeen volcanic centre mixed tuff - group (ii) lapillus. Note the basaltic texture, with elongate plagioclase laths.
Crossed polars, X70

Plate 6.52 Killeen volcanic centre mixed tuff - group (ii) lapillus. Note the basaltic texture with a recrystallised groundmass composed of microlaths of albite intergrown with chlorite (C), leucoxene (L) and euhedral/subhedral opaque ore.
Plane polarised light, X200



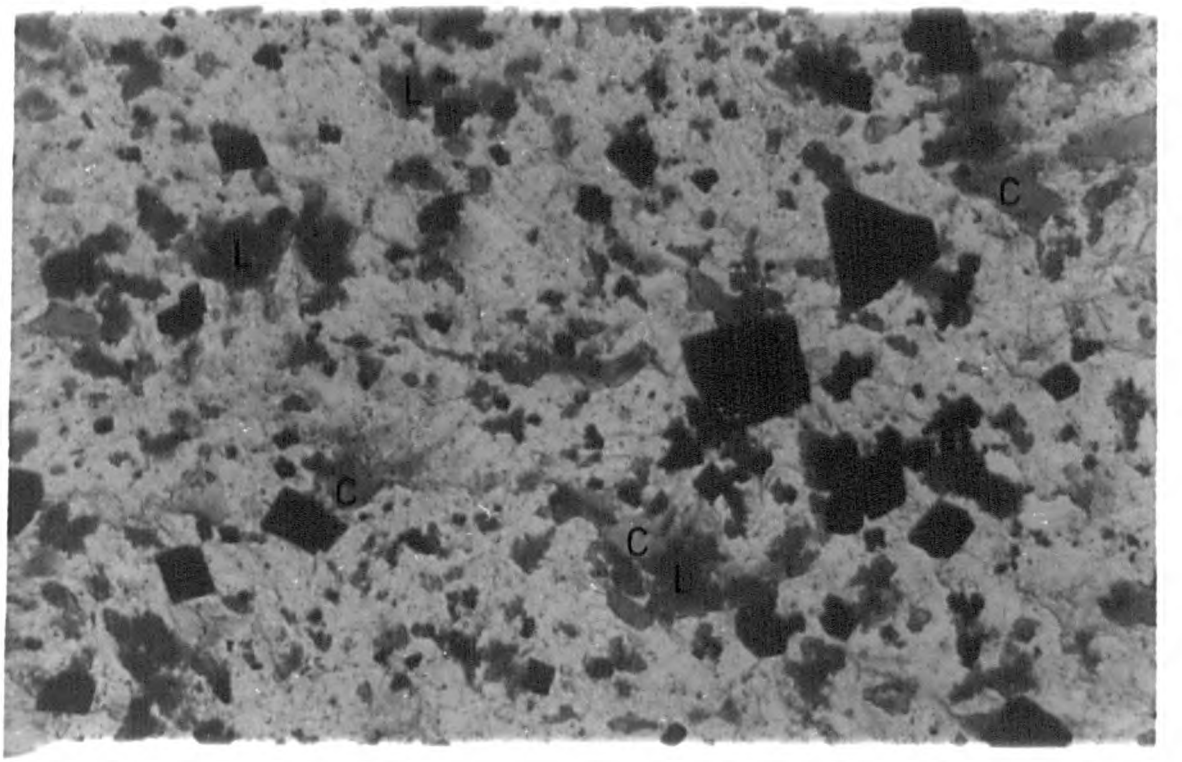
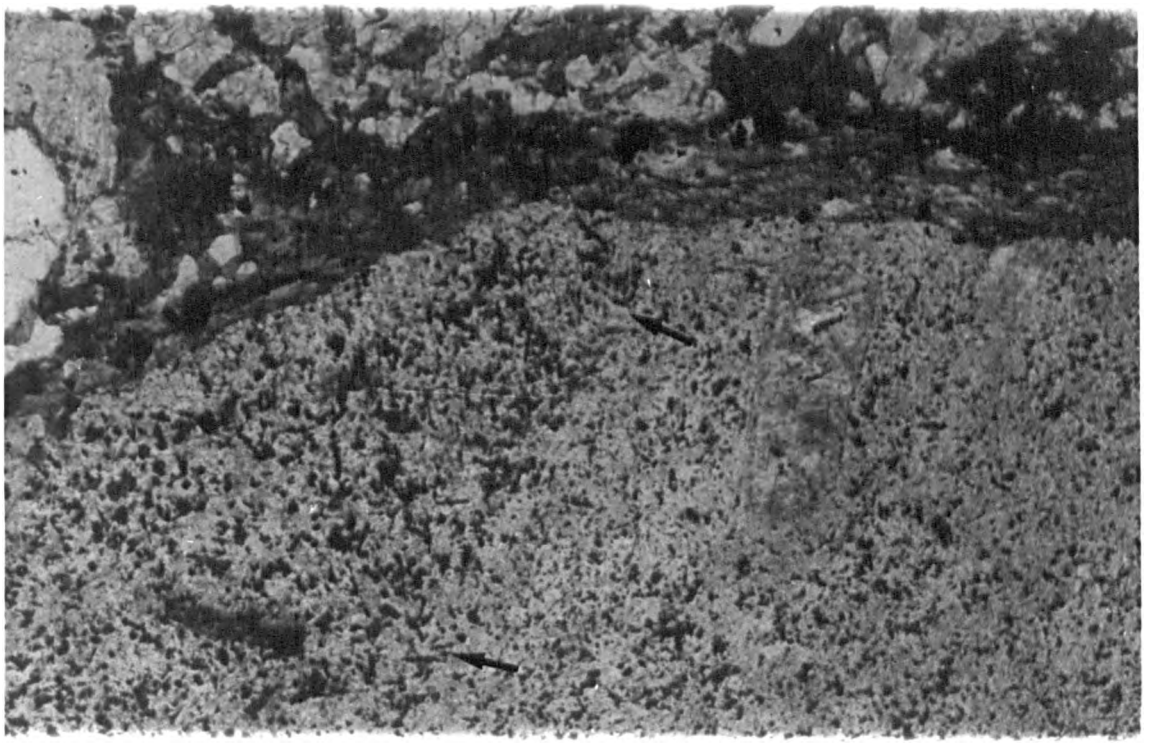

L
L
C
C
C
L

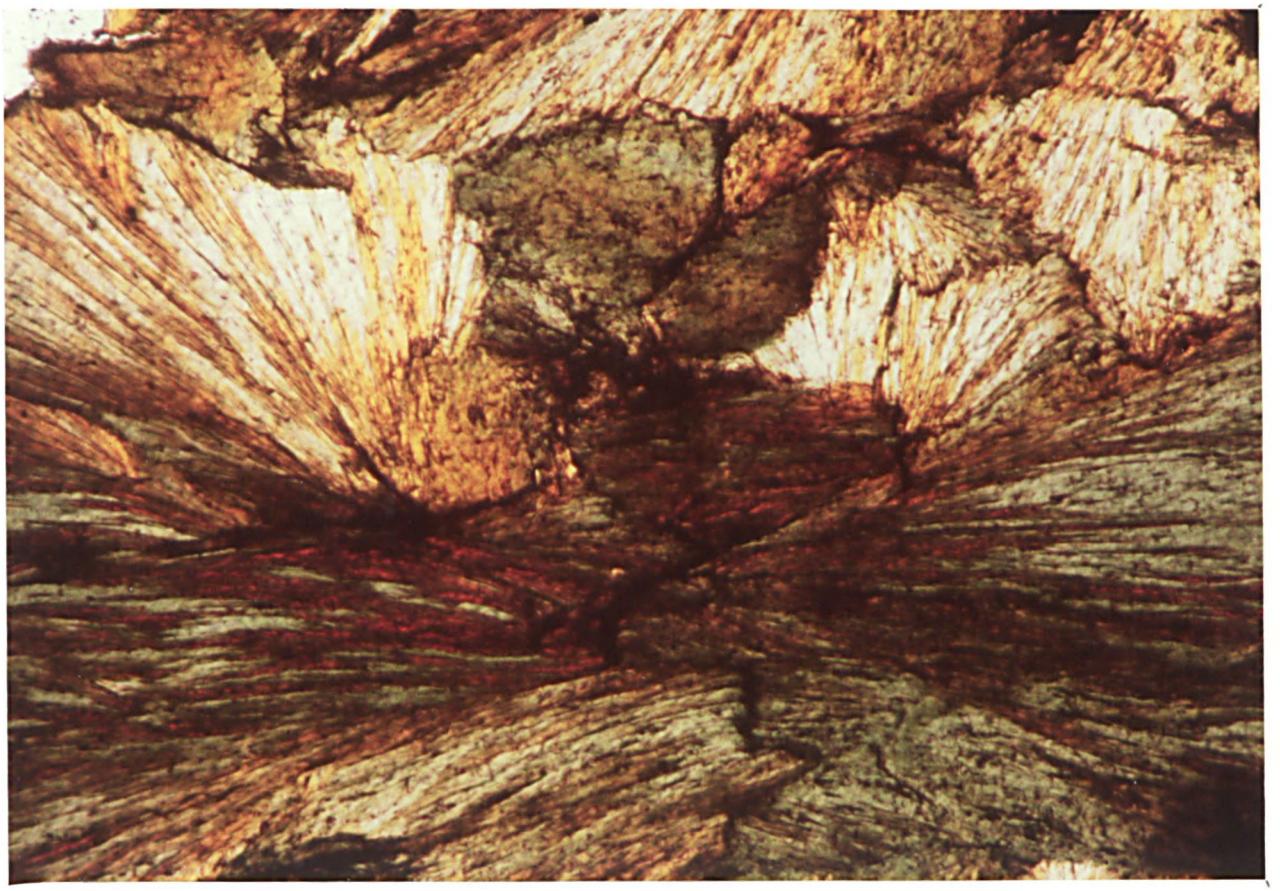
Plate 6.53 Killeen volcanic centre mixed tuff - group (ii) lapillus. Note the sharp boundary between variations in groundmass texture and grainsize within the lapillus (arrowed), and its independance from the broken margin of the lapillus.
Plane polarised light, X70

Plate 6.55 Killeen volcanic centre mixed tuff lapillus - allanite crystals growing in association with a narrow opaque ore rich fracture (arrowed) in a sericitised groundmass.
Plane polarised light, X200




Al

Plate 6.54 Killoen volcanic centre mixed tuff lapillus - chloritised area showing "bow tie" arrangement of crystal flakes. Note orange coloured intergrown stilpnomelane.
Plane polarised light, X200



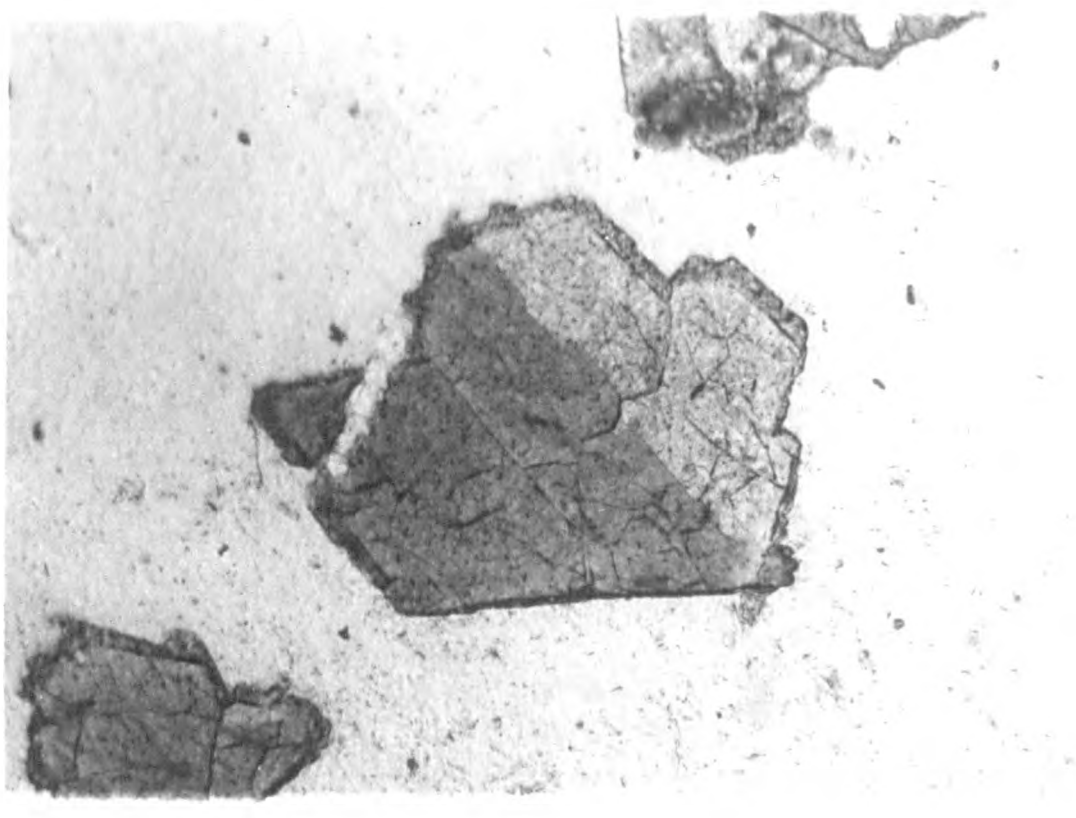


Plate 6.56 Killeen volcanic centre mixed tuff lapillus - allanite crystals (associated with the fracture illustrated in plate 6.55) with darker coloured overgrowth. Note that the twin plane is contin - uous into the overgrowth.
Convergent plane polarised light, X500

1 Km.

FIG. 1.2
THE HORSES GLEN
VOLCANIC CENTRE

9° 29' W

51° 59' N

Fig. 4.5

Lough
Garagarry

L.
Managh

L. Erhogh

Devils
Punch
Bowl

Mangerton Mt.

Stoompa

DRIFT

DRIFT

DRIFT

200

400

600

800

KEY TO GEOLOGICAL SYMBOLS

67 Inclined strata - dip in degrees

75 Cleavage - dip in degrees

Axial planar cleavage

Vertical cleavage

Lithological boundaries

Observed Inferred Conjectural

Faults

Observed Inferred

Contemporaneous faults

Observed Inferred

Where known crossmark indicates downthrow side

Selected fold axes

Anticline Syncline

(arrow indicates plunge direction where observed with amount in degrees)

Main Mangerton anticlinal axis

KEY TO NON-GEOLOGICAL SYMBOLS

Topographic contours at 200 metre intervals

Rivers and streams (flow direction indicated)

Lake Road

Triangulation

KEY TO TONES AND PATTERNS

Purple Sandstone Formation (non-volcanogenic purple/grey sandstones and subordinate siltstones)

Green Sandstone Formation (non-volcanogenic green/grey sandstone and subordinate siltstones plus interbedded volcanics displayed below)

KILLEEN VOLCANIC CENTRE

Killeen tuffs

Killeen lavas (with brecciated horizon)

BENNAUNMORE VOLCANIC CENTRE

Eskduff lava flow

Boulder tuff

Main tuff sequence

Bennaunmore lava (with dykes)

Tuffs older than the Bennaunmore lava

North Stoompa lava flow

HORSES GLEN VOLCANIC CENTRE

Horses Glen lava flow

Agglomerate

Horses Glen tuffs

Devils Punch Bowl lava

Breccia at margin of Bennaunmore vent

FIG.1.3
THE BENNAUNMORE
VOLCANIC CENTRE

9° 25' W

52° 0' N

Lough Guitane

Lough Guitane Boundary Fault

River Flesk

Fig.4.3

Fig.4.4

Fig.4.6

DRIFT

DRIFT

L.Nabrean

L.Nabrada

L. Athooynastooka

Crohane

Crohane Lake

Foiladuane Lake

Stoompa

L. Fineen

Kenmare

Bore Island Fault

Capagh Fault

1 Km.

Fig. 1.4
THE KILLEEN
VOLCANIC CENTRE

9° 18' W

The Paps

Rodgers Rock

Fig. 4.2

Killarney

52° 0 N

Fig. 4.7

1403

River Flesk

Kenmare

Clydagh River

Cork

1 Km.

KEY TO GEOLOGICAL SYMBOLS

67 — Inclined strata - dip in degrees

75 — Cleavage - dip in degrees

Axial planar cleavage

Vertical cleavage

Lithological boundaries

Observed — Inferred — Conjectural

Faults

Observed — Inferred

Contemporaneous faults

Observed — Inferred

Where known crossmark indicates downthrow side

Selected fold axes

Anticline — Syncline

(arrow indicates plunge direction where observed with amount in degrees)

Main Mangerton anticlinal axis

KEY TO NON-GEOLOGICAL SYMBOLS

Topographic contours at 200 metre intervals

Rivers and streams (flow direction indicated)

Lake — Road

Triangulation

KEY TO TONES AND PATTERNS

Purple Sandstone Formation (non-volcanogenic purple/grey sandstones and subordinate siltstones)

Green Sandstone Formation (non-volcanogenic green/grey sandstone and subordinate siltstones plus interbedded volcanics displayed below)

KILLEEN VOLCANIC CENTRE

Killeen tuffs

Killeen lavas (with brecciated horizon)

BENNAUNMORE VOLCANIC CENTRE

Eskduff lava flow

Boulder tuff

Main tuff sequence

Bennaunmore lava (with dykes)

Tuffs older than the Bennaunmore lava

North Stoompa lava flow

HORSES GLEN VOLCANIC CENTRE

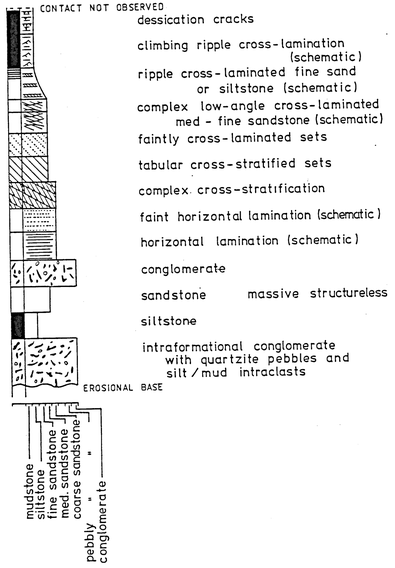
Horses Glen lava flow

Agglomerate

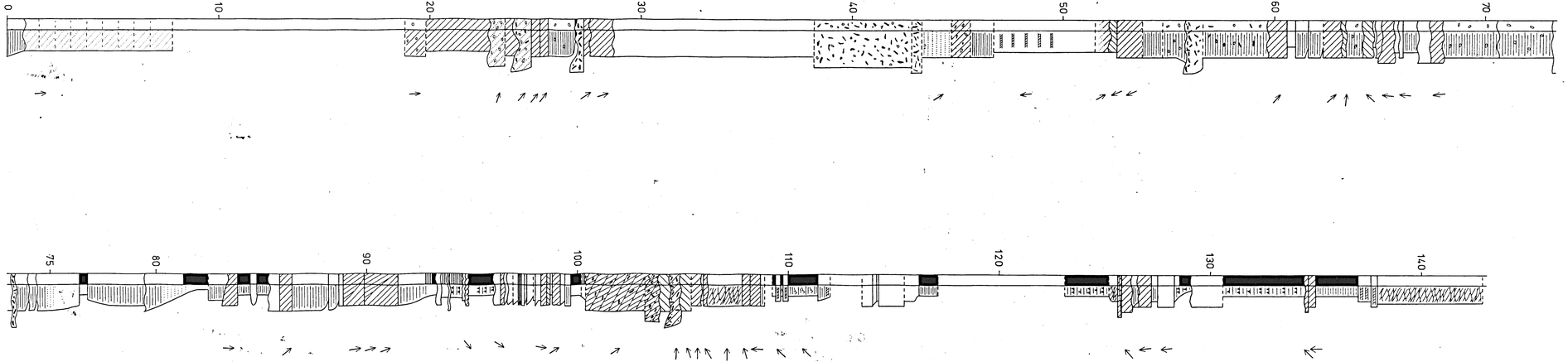
Horses Glen tuffs

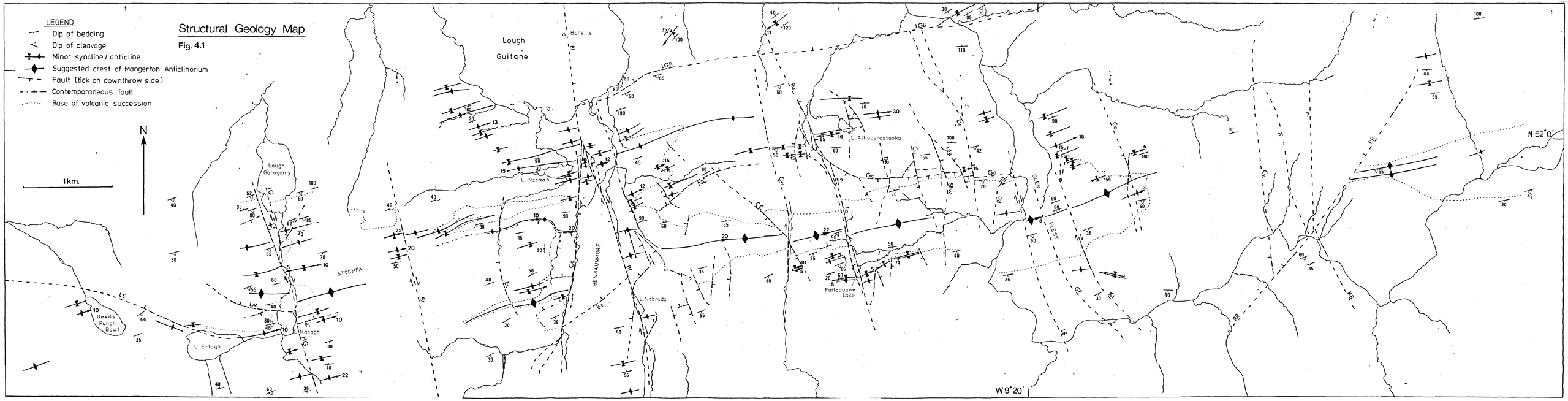
Devils Punch Bowl lava

Breccia at margin of Bennaunmore vent



Log of the Cappagh Measured Section
Fig. 3.3




LEGEND
Dip of bedding
Dip of cleavage
Minor syncline / anticline
Suggested crest of Mangerton Anticlinorium
Fault (tick on downthrow side)
Contemporaneous fault
Base of volcanic succession
Structural Geology Map
Fig. 4.1
N
1km.
Lough Garagarry
Devils Punch Bowl
L. Erlogh
Ft Maragh
STACMPA
LE
LM
LG
Lough Guitane
Bare Is.
L. Nabrea
L. Labrada
HE'NAUNMORE
LGB
NC
CC
L. Athoynastonka
Fallcduane Lake
GLEN FLESK
W 9°20'
N 52°0'