List of Plates

Plate-II.1	Satellite imagery of part of Precambrian terrain of Rajasthan and North Gujarat showing the ADTB, various lineaments, study area and its relationship to ADTB.	19
Plate-II.2A.	Exposures of charnockitic rocks in Balaram River.	27
Plate-II.2B.	Quarry sections in Charnockites near Balaram.	27
Plate -II.3A	Vertical banding in charnockites in section at Chikanvas Quarry	28
Plate-II.3B.	Banded layers in Charnockites showing rootless folds	28
Plate-II.4A	Alternating ridges and furrows in ultrabasic granulites near Kanpura.	30
Plate-II.4B.	Irregular patches of acid and intermediate charnockite in basic variety near Balaram.	30
Plate-II.5A	Charnockite quarry north of Virampur	31
Plate-II.5B	Knotty appearance on the surface of basic charnockites & meta-norites (Near Ajapur Wanka)	31
Plate-II.6A.	Nodular appearance of metanorites.	32
Plate-II.6B.	Mylonite - extremely fine grained black rock with ovoid patches of pink feldspar.	32
Plate-II.7A.	General look of the ultrabasic country	34
Plate-II.7B.	Divani hill range The resistant cordierite renders them a conspicuous sinuous range.	34
Plate-II.8A.	The Divani Peak.	35
Plate - II.8B	Geomorphic expression of calc granulites. Weathered black surface and resistance to weathering. Dark bands are diopside rich.	35
Plate-II.9A & B.	Field photographs showing Isoclinal reclined folds in pelitic granulite. The S1 foliation of F1 folds is isoclinally folded. Attenuation of limbs of the folds is clearly seen.	38
Plate-II.10 A, B	Field photographs showing development of quartzo-feldspathic melt and its accumulation is conspicuous along the hinges and their vicinity.	39
Plate-II.11 A	Field photographs showing development of quartzo-feldspathic melt and its accumulation is conspicuous along the hinges and their vicinity.	40
Plate-II.11B.	Field photograph showing development of garnets in the hinge portions imparts these rocks a reddish look.	40

Plate-III.1A.	Cryptic and rhythmic layering best seen in a freshly broken surface across the layers in ultrabasic granulite.	45
Plate-III.1B.	Exsolution of pyroxenes in ultrabasic granulite (PPL, 80X).	45
Plate-III.2A.	A few olivine grains are completely surrounded by orthopyroxene while others occur within the plagioclase in ultrabasic granulite (XPL, 80X).	46
Plate-III.3A	Mosaic of equidimensional grains, with straight boundaries meet at triple junctions with ~120° (xenoblastic texture) (XPL, 80X).	55
Plate-III.3B.	Quartz with minute, opaque, dusty rod-like inclusions of rutile & apatite in basic type (XPL, 80X).	55
Plate-III.4A	Rutile as fine needles or as dust in quartz. Different sets of rutile needles are seen as minute rods or dots oriented along different cleavages and intersected in thin sections at different angles in acid types (XPL, 80X).	65
Plate-III.4B	Smaller quartz grains with polygonal outline and triple point junction indicate grain boundary equilibration in acid types (XPL, 80X).	65
Plate-III.5A	Often K-feldspar porphyroblast contain oriented intergrowth of plagioclase feldspar and are thus perthitic. Different types of perthite include string perthite (PPL, 40X).	67
Plate-III.5B	Hypersthene occurs as anhedral irregular clusters or as clumps or as isolated pools or crescent shaped bits in a felsic base in acid types (PPL, 80X).	67
Plate-III.6A	Orthopyroxene is replaced partially or completely by amphibole and or biotite. Amphibole - quartz symplectite develops in between orthopyroxene and plagioclase in acid types (PPL, 40X).	68
PLATE-III.7A	Gneissic foliation and dark grey fine grained groundmass with ovoid patches of feldspar drawn out parallel to the foliation in mylonitic rocks (PPL, 40X).	76
Plate-III.7B.	Typical mylonitic texture with coarse plates of feldspar full of dusty inclusions standing out like knots or augens around which the quartz flows in long, narrow ribbons of forms lenticular micro to crypto-crystalline aggregates (XPL, 40X).	76
Plate-IV.1A	Porphyroblastic garnets showing fractures by brittle deformation and produce pulled apart texture) where the fractures are mostly transverse to length of the porphyroblasts (PPL, 40X).	79

Plate-IV.1B	Nearly always poikilo-porphyroblastic garnet with inclusions of sillimanite, cordierite, quartz, plagioclase, biotite, rutile, spinel (XPL, 80X).	79
Plate-IV.2A	Central portion of porphyroblastic garnets contains larger cordierite and is devoid of sillimanite (XPL, 80X).	80
Plate-IV.2B	Photomicrograph showing S_e warps against garnet porphyroblasts (PPL, 80X).	80
Plate-IV.3A	Fibrolitic variety of sillimanite showing mats along with patchy biotite at its grain boundary (PPL, 80X).	81
Plate-IV.3B	Garnet showing inclusions of spinel and sapphirine (PPL, 80X).	81
Plate-IV.4A	Stout sillimanite pseudomorphous after kyanite in pelitic granulites (PPL, 40X).	82
Plate-IV.4B	Formation of sillimanite needles (fibrolite) on biotite flakes may be ascribed to the ease of nucleation (PPL, 80X).	82
Plate-IV.5A	Fibrolite rim or moat seen around spinel (PPL, 80X).	83
Plate-IV.5B	"Herringbone" like linear clusters of fibrolite defining two phases of superposed deformation in pelitic granulites (PPL, 80X).	83
Plate-IV.6A	Cordierite with inclusions of spinel and minute sillimanite needles and its characteristic polysynthetic twinning and pinitisation along the margins and fractures (XPL, 40X).	85
Plate-IV.6B	Cordierite showing symplektitic intergrowth with quartz where it occurs as vermicular/ elongated drops or as plumose symplektites with the characteristic cauliflower like growths (XPL, 80X).	85
Plate-IV.7A	Ortho-pyroxene forming large tattered plates, riddled with inclusions of quartz, biotite and opaques or small anhedral grains (XPL, 40X).	87
Plate-IV.7B	Sapphirine bearinng rocks with thin orthopyroxene bands and spinel (the green-black variety) showing development of sapphirine around it (PPL, 80X).	87
Plate-IV.8A	Spinel is often seen to have a very thin moat of fibrolite around it . In the sapphirine bearing rock, it is symplectitic with garnet. Spinel is sometimes seen to to have a rim of orthopyroxene (XPL, 40X).	89

Plate-IV.8B	Osumilite showing rectangular outlines and optically continuous intergrowth and meandering vein like habit throughout the rock. Symplectites due to breakdown of osumilite (XPL, 80X).	89
Plate-IV.9A.	Symplectite forms along the margins of grains or forming thin veinlets. Symplectite commonly coarsens into cordierite, vermicular quartz and discrete k-feldspar grains (XPL, 80X).	90
Plate-IV.10A & B.	Subhedral grains of staurolite within the spinel (hercynite) which in turn are enclosed within almandine garnet porphyroblasts in pelitic granulites (A- PPL, B- XPL, 80X)	91
Plate-V.1A.	Dark grey calc-granulite bands are studded with fine minute white needles of tremolite	109
Plate-V.1B	Granoblastic texture of calc granulites (XPL, 40X)	109
Plate-V.2A	Clinopyroxene with inclusions of calcite and plagioclase (XPL, 40X)	111
Plate-V.3A	Coronal garnet develops around clinopyroxene and separates it from plagioclase and scapolite. (PPL, 40X)	112
Plate-V.3B	Same in XPL.	112
Plate-V.4A & B.	Symplectitic structure resembling myrmekite structure represented by a worm like intergrowth of quartz and scapolite. (XPL, 40X).	113
Plate-V.5A	Aggregate of scapolite grains embay porphyroblastic plagioclase (XPL, 40X).	115
Plate-V.5A	Coalescence of coronary garnets finally looks like porphyroblast with inclusions of clinopyroxene, scapolite etc. (PPL, 40X), V.6B in XPL.	116