

Thin Section Descriptions											
Sample No	Domain	Biotite	Amphibolite	Opaques	Plagioclase	Minerals			Quartz	Other	Texture
						Microcline	Kfldsp				
Amp-013		green-brown; also dark brown concentrated in vein	green; no pleochr; xtals bigger than biot - porphyroblastic; being replaced by darkbrown biot => retrograded	trace magnetite				some		1. clear min with yellow int (fldsp) as strained porphyroblasts and inclusions (rare) in hbl	fine grained (strained) matrix with areas of larger biot, Amp & plag/fldsp; larger elongated/fibrous mins show orientation (veins); clear deformation of hbl and biot indicate their pretectonic nature
Amp-013r		abundant biot; greenish	abundant; more brown than green biot					more fibrous (comb texture) indicates xtallisation from a fluid in a space		1. abundant chlorite 2. lots of carbonate	in state of rextallisation not too high temp or not too long time; lots of K (in biot) ie temp not too high
Bif-015				abundant interstitial opaque hematite				only a few xtals		1. clear min with high/med int colours; angular grains; cleavage	
Bif-015r											immature; very brecciated and badly sorted; smaller xtals well rounded
Bif-017										1. clear min now with lower int colours	
Bif-017r											very brecciated and fractionated => ex greywackes; not magmatic
Qtz-029										1. hig int colours => thick qtz 2. infill with twinning or cleavage low yellowish int colours (calcite)	
Bg-030		pleochroic brown; mottled extinction and int colours; also in infill (more fibrous) with small lenses of 'other'		in small cracks (infill) hematite	strained twinning in large xtals	tartan twinning with re-orientated perthite		strained extinction		1. clear high/med relief min with med (bright) int colours as lenses in biot	
Gra-032b		euhedral elongated xtals; strong pleochroism; orientated			twinned (Albite twinning)					1. matrix of qtz and fldsp; no interstitial gaps 2. serisitization of Ca rich twins of plag	
Gra-032br		no prefered direction ie no deformation			present		possible	present			not altered; not granitoid; igneous rock though; not granite; if sediment then metasediment = completely compacted
Gra-032br		secondary biot; orientated somewhat (deformation)									well rounded; composition granite
Qtz-034				growing' on some of the grain boundaries	twinned (albite twinning) in some of porphyroblasts; around a few of the veins	tartan twinning in small xtals that form part of larger consolidated grains (+- 1-3mm; <6mm)		veinlets; grow in "teeth" into veinlet		1. matrix very fine grained and brownish in plane light 2. Sedimentary	
Amp-035			120 cleavage; no pleochroism (just green)							1. some chlorite (bright blue int colours) or just amp	some 'flow' structures visible, but all has been altered (sericite)

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other	
Amp-036			green to yellow pleochroic; anhedral		with albite twinning				1. high relief clear white min; no cleavage with int colours = those of amp 2. zones/veins of alteration present (dark 'sheared' looking streaks) 3. in places xtals in matrix in others all bigger xtals touching (no 120 angle joins though)	
QFG-040 A&B	gr01				albite twinning			present	1. anhedral rounded (slightly elongated/oval) xtals fo greenish yellow brown mineral; not pleochroic (amp or biot - slight pleochr in slide B with mottled extinction) 2. spots of angular grass green (dark); slightly pleochroic with alteration dark opaque diffuse rims; int colours not anormal blue - not chlorite	
AM-041			rextallised (120 degree grain boundaries) yellowish-dark kaki pleochroic; 120 degree cleavage prominent		any plag serisitized - some evidence (remnant twinning)			single small veinlet in mass of rextallised amp and some xtals inside amp when close to veinlet	1. remnant xtal of slightly greenish white mineral with bright light blue int colours (120 deg cleavage) very rounded xtals of amp inside white mineral	
AM-041r			overgrowing all; more or less 90%						1. well rounded apatite or just little qtz	
BG-042	d203	yellowish-dark brown; in one location close with min 1		some?	some plag - all seritized; esp. the Ca rich twins	much microcline (tartan twinning)		much anhedral xtals not showing strained extinction with very few inclusions	1. boiled sweet colour int colours (decrease in length slow/fast test); high relief white mineral (musc or sillimanite)	
pBG-043		biotite in places with musc/sillimanite			albite twins	tartan twins		rounded xtals - grains		plag/fldsp altered and broken in places and just altered in others (sericite)
pBG-043r		biot			serisitized plag; abundant perthite	present		present; lots of 2-phase inclusions		myrmykite; granitoid; lots of fluid around in rock
BG-044 A&B	d202	blades (elongated anhedral xtals) orientated throughout sections			albite twins; some xtals almost completely altered others show no signs of alteration	tartan twins; some showing some strain in places - ditto plag		rounded xtals in B shows almost mottled extinction	1. subhedral xtals of offwhite garnet	
BG-044 A&Br	d202	more biot than 041								BG = QFG + microcline; altered
QFG-045		blades orientated and in one location (A&B) forming a veinlet crossing slide width		magnetite or hematite On xtal boundaries but mostly as anhedral free standing minerals; no alteration rims seen		tartan twins and cracked at right angles		rounded qtz grains/xtals		no plag specific alteration; whole slide broken; B slide show larger xtals

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		Biotite	Amphibolite	Opagues	Plagioclase	Microcline	Kfildsp	Quartz	Other					
IAM-046			yellowish kaki to dark green pleochroic; subhedral xtals in bands across slide					rounded xtals - fldsp or plag Bright dark orange int colours; no twinning; in close association with qtz						
IAM-046r		red and green	green hbl								1. apatite 2. rutile	qtz and fldsp forming widthwise bands across slide amphibolite facies		
AM-050		some xtals of what used to be biot recognisable										whole very badly altered - not really recognisable		
AM-053		big blades orientated	120 deg cleavage; orientated							small rounded xtals in more or less bands following orientation		slide thick and all dark		
AM-054 A&B		with blades/lenses of min1; closely related to amp xtals	closely related to biot				somewhat seritized (more in places); twinning very visible				1. Muscovite, Sillimanite or zircon In biot xtals	all orientated		
BG-056		thin blades clustered in orientation across the width of the slide; strongly light brown to dark brown pleochroic		subhedral rectangular xtals of opaques scattered in orientated (biot) bands			albite twinning with specific sericite	present	present			in smaller rounded xtals sometimes including other xtals	some 120deg grain boundaries with qtz	
BG-057		scraps of biot (small blades) orientated into clustered bands		none observed			seritized - some more than others	with tartan twinning (strained - not sharp)	present			xtals somewhat rounded	1. some small spots of red Fe staining Around biot xtals	
AM/BS-058		blades with amp; ex-biot-rich zones also very altered	blue green to light green pleochroic; in needle/blade clusters with biot										major alteration - sericite or Calcite	
AM-059 A&B		scraps (needles and blades) orientated into bands	only in one location in B slide - needles of green to light green pleochroic min together in cluster with biot									no alteration if present	left clear from alteration	
SHS-061		in abundance		sheared and stretched xtals in garnet								in small wavy bands (made up of separate xtals) going through garnet	1. garnet chunk in centre of slide	
ARG-063		lots in thin scraps; orientated; being absorbed by min 1 in one location										present	abundant and broken in some locations	1. thin needles (so thin that they're on top of each other sometimes) of white with no pleochroism and rel high int colours (not 'boiled sweet') muscovite

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other		
LMST-064		light brown slightly pleochroic in short stumpy subhedral xtals - biot?		anhedral xtals all over; no obvious orientation						1. Olivine as by product of metamorphism - DHZ ref.	
BG-065		remnant sometimes But with no pleochroism - just the shape		scraps orientated into bands widthwise over the slide; often associated with min 1	albite twinning visible in some grains through the sericite				some; fairly clear of sericite; no straining	1. light green min associated with opaques (chlorite?) 2. some calcite growth (one xtal) with sericite around outer rim (in twinning) and some inside but not in the twinning	
BG-065r							some very well rounded	some very well rounded		1. chlorite 2. very small zircons	igneous angular grains (xenomorphic etc); many inclusions (fluid)
QFG-066											way too thick and altered
eAM-067		reddish yellow colour	abundant	orientated to amp 'flow' direction						1. big bright blue int colours; clear min; no internal features; looks like qtz in plane light 2. clear min with high int colours; muscovite or Sillimanite	
eAM-067r			2nd not seen clearly								amphibolite facies
DIA- 068			present	lots of anhedral opaques	present		orthoclase Int colours high, but no carlsbad twinning	present		1. Olivines	whole very badly altered - research and do over
QFG-069 A&B	ms01			subhedral rectangular opaques scattered all through slides with no real orientation	altered; some with twinning			unaffected by alteration with some straining showing in extinction		1. dark alteration (seritization and/or albitization) very mineral spesific - only on plag	granitic texture with possible 120 deg boundaries same as 069
QFG-070	ms01										
QFG-071	ms01	one or two xtals with residuat pleochroism to be seen									no real albite twinning to be seen; elce same as 070
QFG-072&0721	ms01	classic brown to dark brown pleochroic biot			good albite twinning observed; twinning seen in altered minerals (serisitization and not albitization (lighter) in some xtals					1. some xtals of green to yellow-brown pleochroic mineral (biot or amp)	elce same as 070
QFG-073	ms01	classic biot									same as 070
QFG-074	ms01	classic biot								1. greenish mineral (pleochroic and looking like amp) in close conjunction with biot in several locations - green biot or amp	elce same as above
QFG-075	ms01										same as above
QFG-076	ms01				perthite; albite twinning	tartan twinning			present with strained extinction	1. Muscovite or Sillimanite In biot and by itself? 2. some high relief clear white min with high in colours - zoisite	granitic texture

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfidsp	Quartz	Other			
QFG-077	ms01	classic pleochroism; by itself and intruding (secondary) into cracks; associated with garnet				some twinning still visible - all altered	unaltered			plain; all shapes and roundnesses; somewhat strained extinction	1. full of sub to anhedral garnets (mostly ripped out) high relief; grey-white colour with what looks like red-brown stains (Fe staining) extend into cracks in the surrounding minerals 2. higher int colours; higher relief; clear white; not pleochr; no internal features - another feldspar	
QFG-078	ms01											same as 077
QFG-079	ms01					not all albite twinning minerals seritized						same as 078 but with less garnets
QFG-080 A&B	ms02	biot associated with min 1		euohedral squares in parts of calcite veinlett		seritized in places			present		1. bundles of white fibrous light mineral; somewhat pleochroic with higher int colours - muscovite or Sillimanite 2. calcite veinlett crossing widthwise 3. small rounded (salt grain like) red mineral - Fe staining Associated with calcite veinlett	kfidsp + qtz + biot thin veinlett in slide B as well as a band of very large xtals of qtz and fldsp On one edge of slide B
QFG-080r	ms02	abundant				present	present		more qtz than 082		1. carbonate 2. pyrite (more likely than magn in open veinlets) 3. muscovite 4. garnet (not hydrothermal) ie s-type	magmatic feature = banding; veinlet of mins 1, 2 and 3
QFG-081 B (no A)	ms02	intergrown with qtz or chlorite; orientated in bundles				not seritized - only some blocks lightly dusted with alteration	very few xtals	present	present	present	1. muscovite in places 2. garnets in band with min 3; pinkish grey off white with some red salt grain xtals in 3. green (dark kaki) to yellowgreen min with mottled extinction - green biot or amp	
QFG-082 A&B	ms03	biot associated with min 1				with some of the twinned bands seritized	with strained tartan twinning - ie not sharp and even		present? - looks like qtz	present	1. chlorite (some anormal blue int colours) or maybe amp	
QFG-082r	ms03	biot; some chloritization								less qtz than 088	1. chlorite after biot	as 088 - not distorted tectoically; myrmykite = magmatic texture
QFG-083 A&B	ms03	some euohedral blades; shape right; little pleochroic (classic and to a greenish brown) xtals seen - too dark; changing into opaques		some visible on edges of biot blades		some seritized; others strained (partial microcline)	twinning somewhat irregular			rounded as well as fluid (around other xtals) xtals	1. very small 'salt grain' red garnet 2. one xtal (true xtal) of high (med-high) relief; clear white (somewhat greenish under very high magnification); with zoned boiled sweet colour int colours in slide B	sparse lengthwise orientation of biot

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz		Other	
QFG-084 A&B&C	ms03	blades orientated lengthwise in A; very altered; associated with garnet and opaques		angular xtals on biot grain boundaries	albite twinning	tartan twinning				1. garnet - red; salt grain and small euohedral associated with biot 2. white min (somewhat greenish); not pleochroic; med relief; somewhat fibrous internal features (mica); strong boiled sweet colours int colours; big xtals in slide C associated with biot 3. big white euohedral garnets 4. zircons (slide B)	
QFG-085 A&B	ms03	very little left; all changed to min 1; somewhat orientated lengthwise in slide A			perthite; also 'normal'	microcline			rounded as well as fluid (around other xtals) xtals	1. white off white greenish xtals in big and small xtals; muscovite 2. garnets - big offwhite grey and broken out	
QFG-086 A&B	ms03	not many xtals; orientated			present	present			as above, but seen to have some orientation (only one band of max 3 xtals wide - vein)	1. white min (muscovite) in biot xtals - few 2. garnets (offwhite grey and red (in amorph mass in slide B))	myrmekite in slide B
QFG-087	ms02	classic pleochroism; slight green tinge; orientated in bands			present	present	present	present		1. garnet brown red colour; 'altered' in centre to qtz; only anisotropic in thicker parts of xtal; subhedral to anhedral 2. grey-offwhite broken garnets; concentrated in area at 'bottom' of the slide	
QFG-088 A (no B)	ms04	clustered and orientated; high int colours along 'fiber' lines (being altered to musc)			perthite; also with albite twinning	present			fluid' texture; also few big xtals form vein/band lengthwise across slide	1. big off white grey garnets; round to subhedral remnant 2. veinlet of sericite (used to be secondary biot)	
QFG-088r	ms04				altered; some perthite; albite twinning (and perthite) almost straight ie banding before minerals exolved				orientated ie some deformation or original flow		granite
QFG-089 B&D	ms04	greenish tinge in places; orientated in bands			somewhat strained extinction and twinning	twinning strained			anhedral and amoeba-like	1. red garnets associated with biot 2. also off white grey garnets; slightly pinkish tinge and almost exclusively spherical in slide D	myrmekite
QFG-090 A&B	ms04	blades orientated lengthwise across slides - very very little in slide A; associated with min 1			seritized	present			as above	1. muscovite 2. no garnets	

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other		
QFG-091 A&B&C	ms04	oreintated in two directions clusters into broad bands in slide B				present	present	present	present	1. Muscovite or sillimanite Associated with biot 2. garnets off white grey and high relief; only one xtal and that in slide A	
QFG-092 A&B	ms04	lots of orientated biot; xtals with qtz in chlorite				present	present		present	1. red grainy garnet seeming to describe a blade outline inside a qtz xtal, but some xtal in and out; in slide A and B they seem to be in yellow remnant xtal spaces - used to be off white grey 2. dark boiled sweet coloured int colours; clear min - thick qtz	
QFG-106	gr01		green; very little	present	present	bits of microcline xtals in qtz			big 'fluid' xtals and rounded in qtz and plag	1. some brown 'staining' in cracks looks like biot, but no pleochroism and no mottled extinction	
QFG-106r	gr01		former calcs hbl; some relics and now min 3	magn		plag not that heavily altered		orthoclase; kfldsp left		1. chlorite 2. epidote (ie metamorph) 3. carbonate/calcite 4. green mineral formerly hbl - now epidote	prophillitization; hbl + magn => high oxygen fugacity in rock - S-type rock; maybe I-type granite; granitoid; more Na than K
QFG-107	gr01	no (other) biot seen	altered cluster of am (biot) with staining from it into cracks			present			present		
QFG-108	gr01	no biot; secondary biot in one small crack				present	remnants in one spot - very weathered		fluid' rounded xtals		a little infilled crack (muscovite or Kfldsp) with serisitization around it
QFG-109	gr01			few big xtals; smaller euhedral xtals in body of slide; 'staining' coming off xtals into cracks and grain/xtal boundaries		lots of plagioclase present			present	1. red garnet grains with opaques 2. dirty white (brownish) mineral; Uniaxial - with 'high' blueish boiled sweet colour int colours	myrmykite
BG-110 A	d202	classic pleochroism; thin fibrous texture with min 1	scraps orientated widthwise across slide; 120deg cleavage and dull blue/maoon int colours; bright green to yellow green pleochroic	some						1. muscovite/sillimanite 2. uniaxial neg; dark to light yellow pleochroic; metamorphic (in cracked and altered area in slide); boiled sweet colours int; knee twinnig; Allanite 3. uniaxial pos; high relief; dirty off white brownish/greenish; somewhat pleochroic (lighter to darker green); sub to anhedral xtals; brownish int colours (mottled speckled extinction) - biot	
BG-110 B	d202	some greenish brown biot	dull boiled sweet int colours; slight green (light yellowish green to darker green) pleochroic	in various stages of being changed into chlorite	high boiled sweet int colours - slide too thick				some present	1. some rutile (same as in slide A)	

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfidsp	Quartz	Other		
BG-110r	d202		more or less 10% hbl		lots of plagioclase present			some	very little qtz	1. some epidote (Allanite) 2. spheen (fleshy colour and no change with wedge) 3. high chlorite (after hbl) - amphibolite facies	igneous rock
QFG-113 A&B	d202		light yellowish green to dark brown green pleochroic; 120deg cleavage; brownish int colours (biot maybe); orientated widthwise	subhedral with grainy garnets (brown red) in places						1. crack/veinlet infill: white clear fibrous; bright boiled sweet int colours; muscovite 2. rutile See 110 above 3. dirty offwhite grey min with freenish and brownish parts (coloured areas are light to dark pleochroic); rounded xtal shapes; uniaxial neg 4. in slide B light grass green min showing no pleochroism; 90deg cleavage; brown to low/dark purple in colours; amp 5. brown-red salt grain garnets	
QFG-114	d202		orientated more or less widthwise		present				present		myrmykite
QFG-115	d201	some very dark scraps; pleochroic; associated with some opaques; seems to be orientated widthwise across slide		present?	some seritized plag	very abundant; twinning somewhat deformed/strained	sanidine		present		myrmykite
QFG-115r	d201				perthite; rim albite	Microcline	less altered; orthoclase		like in 120	1. epidote (very high relief and white); Fe poor => more yellow epidote	S-type maybe; granitoid; myrmykite (worms of qtz in plag)
QFG-116	d201	classic pleochroic; orientated widthwise; associated with min 1 and min 2		small subhedral xtals	mostly altered; perthite	not neat xtals; twinning absent on some parts of xtals; twinning sometimes distorted to more than 90deg and faded			strained extinction	1. white clear min uniaxial neg with boiled sweet int colours 2. greenish min; greenish bright orange to red brown pleochroic	
QFG-116r	d201	green biot or amp									myrmykite
QFG-117 A	d201			some subhedral xtals	present				present	1. one xtal; very badly weathered/alterd along rims; 120deg cleavage and breakage plains; green; very very slightly green to lighter green pleochroic; amp altered to sericite 2. salt grain red Fe staining associated with min 1 and in clusters (ripped out remnants); orientated in a 'band' diagonally across the slide	

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other		
QFG-117 B	d201	scraps orientated roughly widthwise across slide; blades contain min 1		opaques with garnet and orange staining as alteration halo; staining spreads along grain/xtal into slide	twinned and not			present		1. muscovite 2. red salt grain staining	
QFG-118 A&B	d201	classic and green pleochroic; blades orientated lengthwise; no visible boundary between colours (ie not green amp); with min 1 in xtals			some twinning deformed and strained	abundant with some twinning strained and somewhat deformed				1. Muscovite	perthite or really small myrmykite
QFG-118 Ar	d201									1. abundant zircons rounded (inherited? Or resorbed (only granulite facies))	
QFG-119 A&B	gr03	associated with min 1; orientated lengthwise in slide B and widthwise in slide A; much more biot in slide B			perthite or messed up twinning	abundant with twinning very strained - older xtals		present		1. bright white clear high relief min with boiled sweet int colours 2. some tiny salt grain red garnet associated with biot and clustered along boundaries 3. staining along grain boundaries 4. biaxial neg; dull yellow int colours 5. seritization in both slides	myrmykite? Qtz bubbles/pebbles in plag
QFG-120	gr03	orientated lengthwise			sericitised plag; some odd twinning	present; some odd twinning	present	big and small round xtals inside plag and kfldsp		1. some off white garnet Small 2. some salt grain red staining growth along serisitized cracks and boundaries	microfracturing of plag
QFG-120r	gr03	little biot; mainly altered			perthite ie 800deg C; seritized with albite rimw	present		pseudoblastic qtz			granitoid texture; not much deformation; not metamorphic
QFG-120r	gr03				sericite	present					
QFG-121	gr03	no obvious biot		replaced biot same structure and shape or just very very thick biot; also subhedral xtals with no halo	present	abundant	present	some xtals			
QFG-121r	gr03										not enough plag for granodiorite ie granite
QFG-122	gr03	orientated more or less lengthwise; closely associated with min 1		some small xtals	present	some twinning strained to more than 90deg	present	present		1. clear white min; boiled sweet int colours; always in the biot - rim relationship 2. some red garnet bigger than 'salt grain' replacing biot (some pleochroism still seen) 3. staining	myrmykite
QFG-122r	gr03	brown, but not much			present	not as much as in 123		present			very fresh (like 32b); more dioritic than 123
QFG-123r	gr03					very very abundant					

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other	
QFG-123r	gr03				perthite; crack controlled sericite					
BG-125r	d401	greenish; with epidote inclusions (xtaled at same time or exsolution texture); chloritized in places; intergrown with min 3			seritized		present	present	1. abundant epidote (poison green); yellow colour = higher Fe 2. chlorite after biot 3. muscovite	granitoid magmatic/igneous texture
QFG-126r	d401	biot very high relief; very very green biot or min 1; associated with min 2, 3 and 4	present						1. Rutile or Allanite 2. zircons in biot; very well rounded 3. muscovite 4. chlorite	
QFG-126r	d401	green biot			perthite and exolved bands seritized				1. apatite (rounded & lower int colours than qtz)	
QFG-127r	d401	biot and reaction rims								magmatic
QFG-127r	d401					more than orthoclase	orthoclase (mottled extinction low int colours)			
QFG-128r	d401	black mica - biot?			anorthosite; altered plag	present			1. muscovite 2. red things	coarser than 131
QFG-128r	d401									myrmekite
QFG-129r	d403	chloritised			seritized; maybe perthite or exolution	present		present	1. biot chloritised	myrmekite typical for granitoid; chessboard replacement texture
QFG-129r	d403					seritized				chessboard replacement
QFG-131r	d403	more biot than 133 and orientated; green brown pleochroic								
QFG-133r	d403					very abundant	fldsp first then qtz smaller	primary vs secondary qtz; less than 20%	1. vesuvianite (if magmatic); well rounded 2. secondary min growth of muscovite	no biot as secondary overprint; magmatic
HDH1-BS-0.75		in angular blades			albite twinning			large xtals growing around biot and green min	1. bright green mineral; no pleachro; isotropic; replacing biot 2. calcite	
HDH1-AM-4.17 A&B		elongated/blades but not euhedral	right angled cleavage; green to yellow pleochroic => hbl	some	albite twinning and right angled cleavage on some				1. very dark brown xtals; 90 angle cleavage; almost no int colours; weathered/alterred (sericite/serpentine) => amp	not 'flow' or plastic; in slide B some broad orientation observed
HDH1-AM-8.17		interstitial biot		interstitial and not	seritized albite			amorph xtals	1. clear mineral; same relief as qtz; no internal features; candy/boiled sweet colours int colours. 2. almost clear; high relief mineral; isotropic; broken with no cleavage direction (garnet)	

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		Biotite	Amphibolite	Opaques	Plagioclase	Microcline	Kfildsp	Quartz	Other		
HDH1-BS-26.17 A&B		with amp in small thin veins B-slide blades in clusters	with biot in thin veins		no real twinning recognisable - all heavily serisitized/alterd B-slide show some twinning						salt and pepper texture in macro slide (not under microscope) B-slide biot and amp in thin blades in orientated clusters forming lines in macroslide
HDH1-ABG-71.62 A&B		in strongly orientated lines; ranging from light-brown to brown pleochroic to brown to dark-brown			some plag			in qtz some 120 degree grain boundaries	1. cloudy offwhite mineral; high relief with some cracks; isotropic (garnet)		
ABG-71.62r		secondary because it's over grains			present		present	more than one generation of growth			sedimentary lithoclasts; grains too well rounded for magmatic
HDH1-ABG-72.35		present	hbl - fewer bladelike xtals than biot		serisitized albite			rest of slide (60%) small anhedral xtals grown			
ABG-72.35r		present with clorite			very altered fldsp			polycrystalline qtz	1. chlorite 2. Apatite		

