







1256D-237R-1 NO RECOVERY

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Veins:	A

Amphibole veins Structures: Additional comments: Interconnected diorite patches and veins with reticular pattern

Unit 12560-96 is predominantly composed of fine-grained granoblastic basalts. The first 12.5 cm (Section 335-12560-2358-r, 1 Piece 1) is strongly recrystaliized (Unit 12560-96A), whereas the granoblastic rocks in the rest of the unit are completely recrystalized (Unit 12560-96B). The unit contain small amounts of leucocratic rocks (tonalite, quartz diorite and abilitie, Unit 12560-96C). Some of the granoblastic rocks contain cm-sized patches of oxide diorite (Unit 12560-96D).



	Section 335-1256D-Run 12 Rocks A through C				
	Scanned whole image	Scanned slab image	e	Description	
37 38 39 39 30 40 41 44 40 40 41 44 40 40 41 44 40 41 44 44 40 41 44 44 40 41 44 44 41 41 44 44 41 41 41 41 41 41			40 46 46 47 48 48 49 50 50 51 51 52	Section:       335-U1256D-Run12-RCJB-Rock A         Interval (cm):       0-200         Rock name:       oxide and orthopyroxene bearing gabbro         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Mineralogy:       (mu)         Image: Section:       (mu)	
49 4			53 54 55 55 56 57	vo        vo       vo <th< td=""></th<>	
11111111111111111111111111111111111111			46 47 48 49 50 51	Structures:       Dense, crosscutting network of distinct vein generations.         Additional comments:       Fine-grained aphyric granoblastic basalt with oxide and orthopyroxene bearing gabbro veins         Section:       335-U1256D-Run12-RCJB-Rock B         Interval (cm):       0-200         Rock name:       oxide diorite         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Mineralogy:       E       E         Plagioclase       39.5       0.3       1.5       1       subequant, subhedral         Plagioclase       39.5       2       1       equant, subhedral	
nulunduuden 196			53	Orthopyroxene       5       0.2       1.5       0.5       equant, subhedral         Amphibole       10         Oxides       2       0.2       equant, anhedral         Quartz       5       0.1       1       0.5       equant, anhedral         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein net and discrete amphibole vein that crosscuts intrusion         Structures:       One to five millimeter thick veinlet of gabbro, which is crosscut by amphibole veins.         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       fine grained	
			49	Altered glass abundance (%):         Vesicles:         Texture:       strongly granoblastic         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole veins, cross cut intrusion         Structures:       Amphibole veins, cross cut intrusion         Additional comments:       Fine-grained aphyric granoblastic basalt with dioritic veins and patches. Modal content in different veins is variable.         Section:       335-U1256D-Run12-RCJB-Rock C         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered	
minutententententententententententententent			51 52 53	Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Vesicles:       Texture:         Texture:       Strongly granoblastic, Only a few plag grains are lath shaped; more granular than A&B.         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein net and veins, occasional dark gray halos         Structures:       Dense, crosscutting network of distinct vein generations.         Additional comments:       Fine-grained aphyric granoblastic basalts	





		Section 335-1256D-Run 12 Ro	ocks D through H
	Scanned whole image	Scanned slab image	Description
444 455 460 477 488 489 499 500 501 501 501 501 502 503 504 505 505 505 505 505 505 505 505 505		48 49 50 10 10 10 10 10 10 10 10 10 10 10 10 10	Section:335-U1256D-Run12-RCJB-Rock DInterval (cm):0-200Rock name:aphyric basaltUpper unit boundary:not recoveredLower unit boundary:not recoveredGroundmass modal grain size:fine grainedGlass abundance (%):Altered glass abundance (%):Vesicles:Texture:Completely granoblastic, Highly granularAlteration:totally recrystallized; moderate background alterationVeins:Amphibole vein netStructures:Pyrrhotite-rich veins cut by plagiolcase-amphibole rich veins.Additional comments:Fine-grained aphyric granoblastic basalts
447 48 49 50 51 53 53 55			Section:335-U1256D-Run12-RCJB-Rock EInterval (cm):0-200Rock name:aphyric basaltUpper unit boundary:not recoveredLower unit boundary:not recoveredGroundmass modal grain size:fine grainedGlass abundance (%):Hered glass abundance (%):Vesicles:Hered glass abundance (%):Vesicles:Strongly granoblastic, Less granular, plag retains lath shapeAlteration:totally recrystallized; moderate background alterationVeins:Amphibole vein netStructures:Magnetite rich vein cutting through a dark green vein and cutting through isotropic basalt.Additional comments:Fine-grained aphyric granoblastic basalts
			Section:       335-U1256D-RUN12-RCJB-Rock F         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Altered glass abundance (%):       Vesicles:         Texture:       Strongly granoblastic, Less granular, plag retains lath shape         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein and amphibole + sulphide vein         Structures:       Isotropic         Additional comments:       Fine-grained aphyric granoblastic basalts
45 46 47 48 49 49 50 51		46 44 48 49 49 49 40 41 41 49 41 40 41 41 41 41 41 41 41 41 41 41 41 41 41	Section:       335-U1256D-Run12-RCJB-Rock G         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Hered glass abundance (%):         Vesicles:       Texture:         Texture:       Strongly granoblastic, Less granular, plag retains lath shape         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein net         Network of veins cutting through isotropic basalt. Basalt has some foliated domains.         Additional comments:       Fine-grained aphyric granoblastic basalts









Groundmass modal grain size: tine grained Glass abundance (%): Altered glass abundance (%): Vesicles: Texture: Completely granoblastic, granular Alteration: totally recrystallized; moderate background alteration Veins: Amphibole vein net Structures: Isotropic basalt cut by dense network of veins. Additional comments: Fine-grained aphyric granoblastic basalts

Section:	335-U1256D-RL	JN12-RCJB-Rock N	
Interval (cm):	0-200		
Rock name:		aphyric basalt	
Upper unit bou	Indary:	not recovered	
Lower unit bou	Indary:	not recovered	
Groundmass n	nodal grain size:	fine grained	
Glass abundar	nce (%):	-	
Altered glass a	bundance (%):		
Vesicles:			
Texture:	Strongly granobl	lastic, Less granular, plag retains lath shape	
Alteration:	totally recrystalli	zed; moderate background alteration	
Veins:	Amphibole vein	Amphibole vein net	
Structures:	Isotropic basalt cut by dense network of veins.		
Additional comments:			
Fine-grained aphyric	granoblastic basalts		



Section 335-1256D-Run 12 Rocks O through T				
Scanned slab image	Description			
	<ul> <li>Section: 335-U1256D-RUN12-RCJB-Rock O</li> <li>Interval (cm): 0-200</li> <li>Rock name: aphyric basalt</li> <li>Upper unit boundary: not recovered</li> <li>Lower unit boundary: not recovered</li> <li>Groundmass modal grain size: fine grained</li> <li>Glass abundance (%):</li> <li>Altered glass abundance (%):</li> <li>Vesicles:</li> <li>Texture: Strongly granoblastic, Less granular, plag retains lath shape</li> <li>Alteration: totally recrystallized; moderate background alteration</li> <li>Veins: Amphibole vein net</li> <li>Structures: Isotropic basalt cut by dense network of veins.</li> <li>Additional comments:</li> <li>Fine-grained aphyric granoblastic basalts</li> </ul>			
	Section:       335-U1256D-RUN12-RCJB-Rock P         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Vesicles:       Texture:         Structure:       Strongly granoblastic, Less granular, plag retains lath shape         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein with gray halo         Structures:       Isotropic basalt cut by dense network of veins.         Additional comments:       Fine-grained aphyric granoblastic basalts			
	Section:       335-U1256D-RUN12-RCJB-Rock Q         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Altered glass abundance (%):       Vesicles:         Texture:       Completely granoblastic, granular         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein         Structures:       Foliated and banded granoblastic basalt with some coarser         Grained bands.       Foliation defined by plagioclase laths.         Additional comments:       Fine-grained aphyric granoblastic basalts			
	Section:335-U1256D-RUN12-RCJB-Rock RInterval (cm):0-200Rock name:aphyric basaltUpper unit boundary:not recoveredLower unit boundary:not recoveredGroundmass modal grain size:fine grainedGlass abundance (%):Hered glass abundance (%):Altered glass abundance (%):Hered glass abundance (%):Vesicles:Texture:Completely granoblastic, granularAlteration:totally recrystallized; moderate background alterationVeins:Amphibole vein netStructures:Isotropic basalt cut by dense network of veins.Additional comments:Fine-grained aphyric granoblastic basalts			
	47     Section:     335-U1256D-RUN12-RCJB-Rock S       47     Interval (cm):     0-200       Rock name:     aphyric basalt			

 
 ection:
 335-U1256D-RUN12-RCJB-Rock S

 Interval (cm):
 0-200

 Rock name:
 aphyric basalt

 Upper unit boundary:
 not recovered

 Lower unit boundary:
 not recovered

 Groundmass modal grain size:
 fine grained

 Glass abundance (%):
 Altered glass abundance (%):

 Vesicles:
 Texture:

 Both granular and more lath-shapd plag

 Alteration:
 totally recrystallized; moderate background alteration



Structures.	rich vein
Additional comments:	
Fine eveloped endowie	grapoblastic basalts











Additional comments: Fine-grained aphyric granoblastic basalts

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Section 335-1256D-Run 13 Rocks A and B				
Scanned whole image	Scanned slab image	Description		
	47 48 49 50 50 51 51	Section:       335-U1256D-Run13-RCJB-RockA         Interval (cm):       0-124800         Rock name:       oxide tonalite         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Mineralogy:       Image: Signal Sign		
	53	Plagioclase200.521subequant, subhedralClinopyroxene200.521equant, anhedralAmphibole190.521subequant, subhedral, subhedral, subhedral, subhedralOxides100.220.5equant, subhedral, su		
		Alteration:moderate background alterationVeins:3 amphibole veinsStructures:Irregular tonalite vein cutting through amphibole veins.		
		Interval (cm):0-124800Rock name:aphyric basaltUpper unit boundary:not recoveredLower unit boundary:not recoveredGroundmass modal grain size:fine grainedGlass abundance (%):Altered glass aburdance (%):Vesicles:Texture:Completely granoblastic basalt with patches and veins.Alteration:totally recrystallized; moderate background alterationVeins:3 amphibole veinsStructures:Isotropic basalt cut by dense network of veins.Additional comments:Fine-grained granoblastic basalt with patches (up to 5 x 3 cm) of tonalite.		
	48 49 50 50 51 51 52 53	Section:335-U1256D-Run13-RCJB-RockBInterval (cm):0-124800Rock name:aphyric basaltUpper unit boundary:not recoveredLower unit boundary:not recoveredGroundmass modal grain size:fine grainedGlass abundance (%):attered glass abundance (%):Vesicles:strongly granoblastic with some elongated plag laths.Alteration:totally recrystallized; moderate background alterationVeins:No veinsStructures:Isotropic basalt cut by dense network of veins.Additional comments:Fine-graned aphyric granoblastic basalts		





Strongly granoblastic totally recrystallized; moderate background alteration Amphibole or sulphide vein Isotropic basalt cut by dense network of veins with subrounded coarser grained inclusions(?).

Fine-grained aphyric granoblastic basalt with minor small (0.5 cm) oxide diorite patches

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	46 47 48 49 49 50 50 51 51 51 53 54	Section: 3335-U1256D-RUN1 Interval (cm): 0-200 Rock name: Upper unit boundary: Lower unit boundary: Groundmass modal grain size: Glass abundance (%): Altered glass abundance (%): Vesicles: Texture: granoblastic Alteration: totally recrystallized Veins: 10+ amphibole vein Structures: Isotropic basalt with and light green vein Additional comments: Strongly granoblastic with abundant elongate	4-FTJB-Rock A aphyric basalt not recovered not recovered fine grained ; moderate background alteration s dense network of magnetite veins, and dark s. d plag laths.
	11-44 11-45 11-46 11-47 11-48 11-49	Section: 335-U1256D-RUN14 Interval (cm): 0-200 Rock name: Upper unit boundary: Lower unit boundary: Mineralogy:	A-FTJB-Rock B oxide diorite not recovered not recovered

Texture: Alteration: Veins: Structures: Additional comments:





	Section 335-1256D-Run 19 Rod	cks A through D	
Scanned whole image	Scanned slab image	Description	
		Section: 335-U1256D-RUN19-RCJB-Rock A Interval (cm): 0-200 Rock name: aphyric basalt Upper unit boundary: not recovered Lower unit boundary: not recovered Groundmass modal grain size: fine grained Glass abundance (%): Metred glass abundance (%): Vesicles: Texture: Strongly granoblastic with abundant elongated plag laths. Alteration: totally recrystallized; moderate background alteration Veins: Amphibole vein net and veins. Dark gray halos Structures: Isotropic basalt cut by dense network of veins. Additional comments: Fine-grained granoblastic basalt with one ~1 mm wide gabbroic vein	
	140 147 147 148 149 149 149 149 149 141 141 149 149 149	Section:       335-U1256D-RUN19-RCJB-Rock B         Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Altered glass abundance (%):       Texture:         Vesicles:       Texture:         Texture:       Strongly granoblastic with abundant elongated plag laths.         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole or Fe oxide vein         Structures:       Isotropic basalt cut by dense network of veins.         Additional comments:       Fine-grained granoblastic basalt with one ~1 mm wide gabbroic vein	
		Section:       335-U1256D-RUN19-RCJB-Rock C         Interval (cm):       0-200         Rock name:       disseminated oxide diorite         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Mineralogy:       not recovered         View       View         View       View	
		Interval (cm):       0-200         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):          Altered glass abundance (%):          Vesicles:          Texture:       Strongly granoblastic with abundant elongated plag laths. With multiple veins.         Alteration:       totally recrystallized; moderate background alteration         Veins:       Amphibole vein net and veins. Dark grayor light gray halos         Structures:       lsotropic basalt cut by dense network of veins.         Additional comments:          Fine-grained aphyric granoblastic basalt crosscut by spectacular diorite dikelet. Dikelet has two facies: a fine-grained marginal facies and medium-grained central facies.	

46 Section:

48 49 50

335-U1256D-RUN19-RCJB-Rock D



Interval (cm):	0-200			
Rock name:		aphyric basalt		
Upper unit bounda	ary:	not recovered		
Lower unit boundary:		not recovered		
Groundmass modal grain size:		fine grained		
Glass abundance	(%):			
Altered glass abu	ndance (%):			
Vesicles:				
Texture:	Strongly granoblas	tic with abundant elongated plag laths		
Alteration:	totally recrystallize	d; moderate background alteration		
Veins:	Amphibole vein ne	t and amphibole + Fe oxide vein		
Structures:	Isotropic basalt cu	t by dense network of veins.		
Additional comments:				
Fine-grained aphyric gra	noblastic basalts			



Section 335-1256D-Run 20 Rocks A through D				
Scanned whole image	Scanned slab image	Description		
		Section:       335-U1256D-RUN20-RCJB-Rock A         Interval (cm):       0-50         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):       Altered glass abundance (%):         Vesicles:       Texture:       Strongly granoblastic with some elongated plag laths. With veins.         Alteration:       totally recrystallized; moderate background alteration         Veins:       10+ amphibole veins         Structures:       Isotropic basalt cut by dense network of veins.         Additional comments:       Fine-grained aphyric granoblastic basalts		
	http://www.assessessessessessessessessessessessesse	Section:       335-U1256D-RUN20-RCJB-Rock B         Interval (cm):       0-50         Rock name:       aphyric basalt         Upper unit boundary:       not recovered         Lower unit boundary:       not recovered         Groundmass modal grain size:       fine grained         Glass abundance (%):		
1       1         1	the second secon	Section:       335-U1256D-RUN20-RCJB-Rock C.         Interval (cm):       0.5         Rock name:       olivine-gabbro         Chyper unit boundary:       not recovered         Lower unit boundary:       not recovered         Lower unit boundary:       not recovered         Mineralogy:       mot recovered         Virgon       Nineralogy         Virgon       Nineralogy		
	47 48 49	Section: 335-U1256D-RUN20-RCJB-Rock D Interval (cm): 0-50 Rock name: albitite Upper unit boundary: not recovered Lower unit boundary: not recovered Mineralogy: E E E		

49 50 51 52

on:	335-U	1256D	-RUN2	0-RCJ	B-Rock D
nterval (cm):	0-50				
Rock name:				albitite	e
Upper unit boundary:			not recovered		
Lower unit bounda	Lower unit boundary: not recovered			covered	
Mineralogy:					
		Ê	ਵਿ	Ê	
	Modal (%)	Size min. (mr	Size max. (mn	Size mode (mr	Habit, shape, comments
Plagioclase	92	0.1	1	0.3	subequant, subhedral
Clinopyroxene	3	0.1	0.3	0.2	equant, anhedral
Oxides	5			0.2	equant, anhedral

Alteration: moderate background alteration Veins: No veins Structure: Share contact between isotronic coarses

Structures: Interval (cm): Rock name: Upper unit bound Lower unit bound Mineralogy:	o-50 o-50 ary: ary:	contac	graine	d albiti diorite not re not re	bropic coarse grained diorite and ite. e ecovered ecovered						
initialogy.	Modal (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Habit, shape, comments						
Plagioclase	55	2	7	5	subequant, euhedral						
Clinopyroxene	30	1	10	5	equant, subhedral						
Amphibole	15	0.5	2	1	equant, anhedral						
Alteration:	high b	ackgro	und all	teration	า						
Veins: Structures:	No vei	ins									
Additional comments:											
	grained granular albitite in contact with coarse-grained, granular diorite										
Fine grained granular al		00									
Fine grained granular al		oomao			5 , 5						



### Section 335-1256D-Run 20 Rock E Scanned whole image Scanned slab image Description 335-U1256D-RUN20-RCJB-Rock E Section: 49 48 Interval (cm): 0-50 Rock name: albitite Upper unit boundary: not recovered Lower unit boundary: Mineralogy: 49 not recovered -50 mode (mm) Size max. (mm) Size min. (mm) Modal (%) -50 Habit, shape, comments ·51 Size -51 Plagioclase Clinopyroxene Oxides 92 3 5 0.1 0.1 0.3 subequant, subhedral 1 0.3 0.2 equant, anhedral0.2 equant, anhedral -52 52 Alteration: complete background alteration No veins Veins: Sharp contact between isotropic albitite and isotropic coarse Structures: grained diorite. Interval (cm): 0-50 Rock name: diorite

Upper unit boundary: Lower unit boundary: Mineralogy: not recovered not recovered Size max. (mm) mode (mm) Size min. (mm) Modal (%) Habit, shape, comments Size Plagioclase Clinopyroxene 55 2 7 5 subequant, euhedral 30 1 10 5 equant, subhedral Amphibole 15 0.5 2 equant, anhedral 1 Alteration: complete background alteration

No veins

Veins: Structures:

Additional comments:

Fine grained granular albitite in contact with coarse-grained, granular diorite





SAMPLE: 335-125 Rock name: fine grair Rock comment: granobla Unit/subunit: 96A Piece no.: 1	6D-235 ted phy stic dik	R-1-W 1 rric basa e with p	11/12-TS alt granc rimary i	SB(lg)0: oblastic intergrai	2_Pieci overpri nular or	e1-TS inted r inters	_02 sertal texture, c	onverted to gra	nulite facies ass	emblage; patchy distri	bution of oxide: patch	es of aggregates of opx and cpx
PRIMARY MINERALOGY		Numbe	er of dor	mains:		1		Nature of ign	eous domains:			
Igneous domain name: Domain grain size: Domain texture: General comment:		domair fine gra granob	n 1 ained blastic					Domain litho Grain size di Relative abu	logy: stribution: ndance (%):	fine grained phyric b seriate	asalt, granoblastic ov	verprinted
	Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	53	56		0.05	1.2	0.4	suhedral	elongate	continuous zoning abundant		inclusion-bearing	some contains inclusion of small cpx
Clinopyroxene	15	20		0.05	0.8	0.3	anhedral to	prismatic		colorless	inclusions	many of them show tiny oxide inclusions
Orthopyroxene	19	20		0.05	0.8	0.3	anhedral to subhedral	equant to prismatic		pale pinkish brown	inclusion-bearing	many of them bear inclusions of tiny oxides
Amphibole	5			0.05	0.2	0.1	subhedral	fibrous or prismatic		green to brownish green	overgrowth	some are flakes belonging to the granoblastic assemblage, some are fibrous aggregates as alteration products
Opaque Quartz	5	4		0.01	0.2	0.08	anhedral	granular				many tiny grains in cpx and opx *
SECONDARY MINERALOG	Y											
Alteration domain or fea Recrystallization:	ature:		backgr partial	ound			Total alteratio Recrystallizat	n (%): ion degree:	14.5 2			40% recrystallization, tiny rounded oxides within cpx and opx.
General alteration con	nment:		fresh e	exept in	vein ha	ılo						several pyrox molesion within plag
	Present (%)	Comm	nent									
Actinolite Green bomblende	4	appear	rs as fib	rous co	rona ar	round	cpx and opx or	in the cores of	secondary dusty	pyrox		
Brown hornblende	0.5	within	patch, ig	gneous	?							
Talc	2	replace	e opx ar	nd often	assoc	iated v	vith chlorite					
Chlorite Secondary plag	2	replace	e opx & replaci	plag as	corona	а						
Titanite	1	euhedr	ral in re	crystalli	zed pla	ıg						
VEINS AND HALOS						Mala					I lata middle (mr. )	T-4-1 4-1- (0/ ).
dependent on host mi	comme neral ce	ent: ompositi	ion			vein g cuts a	ctinolite vein		Average vein 0.05	tnicknes (mm):	Halo width (mm):	Iotal halo (%):
emall vaine discontinu	ioue fr	llow and	d cut ar	ain					0.1		5	70
sman venis, uisconunu	ious, 10	mow and	u cut gri	ani I								
MICROSTRUCTURES	ento											

Microstructure comments contact metamorphosed texture with recrystallized cpx and partially recrystallized plag euhedral to subhedral tabular laths of plag, no alingment.



SAMPLE: Rock name:	335-1256 contact to	D-235 nalite/	R-1-W 2 atz-diori	3/25-TS te	6B(lg)0	3_Piec	e 5-TS	5_03					
Rock comment: Unit/subunit:	smooth co 96C	ontact	without	disconti	nuity								
Piece no.:	5		Numbo	r of dor	naine:		2		Nature of ign	aque domaine:		mix of two lithologias	×
	ALUGI		domoin		ndins.		2		Domoin lithel	oous uumains.	fine grained evide to	nalite	5
Domain gra Domain tex General co	in size: ture: mment:		fine gra granula	nined ar	e in the	middle	a wher	re grainsize incr	Grain size dis Relative abun	stribution: idance (%):	equigranular 50	name	also more altered, this domain contains lots of zircon and anatite
General con	innoni.	_	-	-	Ê	Ê	Ē	e grainaize inci	68363 up 10 4 1	nin and where p	innary amprilooies are	present, una 2016 la	also more altered, uns domain contains lots of zircon and apatte
		Present (%	Original (%	Vol. repl. (%	Size min. (m	Size max. (m	šize mode (m	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	,	40	45		0.05	0.8	0.4	subhedral	tabular	variable			strongly altered
Clinopyroxe	ene	5	6		0.05	0.8	0.6	anhedral to	prismatic	abundant	pale green	overgrowth by	some are prismatic subheudral, other anhedral filled with
Amphibole		5	2		0.2	1.6	0.4	subhedral subhedral to	prismatic		green to brownish	actinolite inclusion-bearing	numerous tiny oxides only one large grain evident as primary in nature
Opaque		3	2		0.05	0.8	0.4	euhedral anhedral	equant		green	aggregates	some with tendency to poikilitic growth; many tiny grains as
Quartz		45	45					anhedral	equant			fluid inclusions	alteration products
Igneous doma Domain gra Domain tex General co	ain name: iin size: ture: mment:		domain fine gra granula	n 2 nined nr	fanatiti	e titani	te sor	me zircon	Domain lithol Grain size dis Relative abur	ogy: stribution: ndance (%):	fine grained oxide qu equigranular 50	uartz diorite	
		~	~		Ê	Ê	Ē						
		Present (%	Original (%	Vol. repl. (%	ize min. (m	ize max. (m	ze mode (n	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	,	35	41		0.1	0.8	<i>i</i> 0.6	subhedral	elongate	continuous zoning abundant		some plagioclases show ghost cores eventually inherited from a previous magmatic stage	strongly altered
Clinopyroxe	ene	25	29		0.05	1.2	0.4	anhedral to	prismatic		pale green	twinnings	some show many oxide inclusions; some are poikilitic enclosing
Orthopyrox	ene							subhedral					plag there might be some talc as alteration product in some of the larger
Amphibole		10	5		0.1	1.2	0.4	subhedral	prismatic		green to brownish green	overgrowth	mafic minerals (which were in some cases identified as primary hbl) suggesting the presence of former opx not clear whether they are really primary, but some show nice shapes and are associated with apatite indicating late co-
Opaque Quartz		17 10	15 10		0.05	1.2	0.3	anhedral	equant			aggregates	crystallization; in contrast to cpx many are poikilitic many tiny grains as alteration products
SECONDARY MIN	VERALOGY	r											
Alteration dor	nain or feat	ture:		backgr	ound			Total alteration	n (%):	39.1			
Recrystalliz General alte	ation: eration com	ment:		not pre about 7	sent '% of cp	px with	uncon	Recrystallizati nmon internal te	on degree: exture. presence	0 e of zircon and a	apatite		
		Present (%)	Comm	ent									
Actinolite Green horn	blende	5	fibrous,	, replac	ing cpx & amph	& amp	hibole						
Brown horn Epdote Talc Chlorite Secondary	blende plag.	3 0.5 3 10	present replacir replacir replacir replacir	t as prir ng plag ng gree ng amp ng plag	nary ph & gree n amph hibole +	nase n hbl hibole + plag							
Prehnite		0.1	small "\	ng plag vein" wi	thin pla	ıg							
Other Ca-A Titanite Other oxide	l sec.	10 3 0.5	interstit rutile re	eplacing tial, com eplacing	g plag ona aro i titanite	und ma	agnetit	e + ilmenite					
Alteration don Recrystalliz	nain or feat	ture:		leucocr not pre	atic vei sent	in W with		Total alteration Recrystallizati	n (%): on degree:	46 0	notito		
General all	eration com	(%		preseri	ce oi ch	JX WIUT	uncon	inton internal te	xture. presence		paute		
		Present (	Comm	ent									
Actinolite Green hom	blende	5 3	fibrous, replacio	, replac	ing cpx & amph	, amphi iibole	ibole 8	k plag					
Brown horn Endote	blende	5	present	t as prir	nary ph	nase vage av	nd as 4	corona					
Chlorite	nlan	3	needle	s replac	ing am	phibole	, plag	& qtz					
Prehnite Other Co. A	Piay.	1	replace	ng plag	nlag								
Titanite	. 360.	4	interstit	tial & ar	ound m	agnetit	e, ilme	enite					
iimenite Magnetite			present	t as exs t as prir	nary ph	in mag nase	netite						
VEINS AND HALC	DS		ont:				Vein	reneration		Average vein	thicknes (mm)	Halo width (mm):	Total balo (%):
discontinuo	us, defined	by larg	je qtz				1011	jonoradori.		5	unoundo (mm).	nalo widar (min).	rotaritato (70).
MICROSTRUCTU	RES	nts											
weak magn	natic flow fa	bric ca	rried by	nlag la	the								

mean magmatic flow fabric carried by plag narrow intrusion containing a vein

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#### SAMPLE: 335-1256D-236R-1-W 0/4-TSB(Struc)04 Piece 1-TS 04 Rock name: Rock comment: contact unit96B/96C contact between a granoblastic dike (main lithology) and a probably former felsic intrusion, now converted to albitite; contact is smooth without discontinuity implying a former intrusive contact at high temperatures Unit/subunit: Piece no.: 96B PRIMARY MINERALOGY Number of domains: 2 Nature of igneous domains: contact between two units cryptocrystalline phyric basalt, granoblastic overprinted inequigranular 90 Domain lithology: Grain size distribution: Relative abundance (%): Igneous domain name: Domain grain size: Domain texture: General comment: domain 1 cryptocrystall granoblastic alteration inc alline eases when approaching the contact; (mm) (uuu) Ĩ (%) (%) Present (%) Original ( repl. Size min. ( mode ( max. Shape Habit Zonina Color, exsolution Special features Comment Vol. Size r Size 0.02 0.2 0.07 anhedral to subhedral 0.02 0.1 0.07 anhedral to subhedral 0.02 0.1 0.07 anhedral to subhedral 0.02 0.1 0.07 subhedral Plagioclase 45 50 matrix plag is equant; some inherited phenocrysts are lath-shaped elongate prismatic Clinopyroxen 20 25 colorless inclusions many of them show tiny oxide inclusions pale green to dark overgrowth green often overgrown by fibrous actinolite Amphibole 25 20 subequant to flaky granular Opaque 5 5 0.01 0.1 0.05 anhedral many tiny grains in cpx and opx microcrystalline albitite, equigranular 10 Igneous domain name: domain 2 Domain lithology uonanz Donani nuology microcystalline Grain size distribution: equipanular granular Relative abundance (%): 10 former granolosistic dike?? with microphencocyst, now completely altered to abilitie with poikiloblastic epidote and lumpy titanite/oxide aggregates; record of focused fluid flow?? Domain grain size: Domain texture: General comment: Ĩ (mm) (**mm**) (%) (%) (%) Zoning Present ( Original Shape repl. mode Habit Color, exsolution Special features Comment 'n. max. Vol. Size Size Size 0.05 0.8 0.2 anhedral to subhedral subequant to elongate 0.05 0.4 0.2 subhedral to euhedral flaky to fibrous 0.02 0.4 0.2 anhedral equart Plagioclase 85 probably completely altered to albite; some primary ghost phenocrysts are visible pale green to green Amphibole actinolite Opaque 5 many form lumpy aggregates together with titanite aggregates SECONDARY MINERALOGY Alteration domain or feature: Recrystallization: General alteration comment: background1 strong to complete presence of zircon Total alteration (%): Recrystallization degree: 89.1 5 (%) Comment Actinolite fibrous, replacing cpx & amphibole 8 replacing cpx & amphibole poikilitic or metamorphic texture, replacing plag fibrous, replacing amphibole & plag Green hornblende Epdote Chlorite 8 3 Chlorite Secondary plag. Prehnite Other Ca-Al sec. Titanite Magnetite Chalcopyrite titrous, replace plag replace plag within cracks & vein croscutting the secondary assemblage clays replacing plag, dusty texture euhedral and replacing magnetite, ilmenite replacing primary magnetite euhedral 30 1 30 7 1 0.1 Alteration domain or feature: Recrystallization: General alteration comment: background2 complete Total alteration (%): Recrystallization degree: 78.5 6 tiny roundish oxides in cpx & opx (% Comment Actinolite 25 fibrous, replacing cpx & amphibole replacing brown hbl Green hornblende Epdote Chlorite Quartz replacing blown hbl replacing plag fibrous, replacing hbl, plag replacing plag 30 0.5 Secondary plag. Prehnite Titanite Magnetite Chalcopyrite So replacing ping vibin veins euhedral, replace magnetite & plag replacing primary magnetite o.5 interstitial around plag Alteration domain or feature: Recrystallization: General alteration comment: background3 complete Total alteration (%): Recrystallization deg 54 6 degree: tiny roundish oxides in cpx & opx (%) sent Comment Actinolite 15 fibrous, replacing cpx & amphibole replacing brown hbl Green hornblende 5 2 Brown homblende replacing cpx Epdote Smectite 0.5 replacing plag replacing cpx & opx fibrous, replacing hbl, plag 4 20 Chlorite Prehnite Other Ca-Al sec. Titanite Magnetite within veins utilin veins dusty clays replacing plag within grains interstitial, corona around magnetite + ilmenite replacing primary magnetite VEINS AND HALOS Average vein thicknes (mm): 0.05 Vein fill compositional comment: small veins, discontinuous, follow and cut grain where vein thins, mostly chlorite and rare epidote. Halo width (mm): Total halo (%) Vein generation: 0.75 MICROSTRUCTURES

Microstructure comments several networked irregular/wavy mineralized fractures (now veins) and a prominent irregular fault with ~2 mm offset crosscutting surface of contact at a high angle, also mineralized after faulting intrusion contains needle-shaped actinolite and elongated plag with an alignment roughly perpendicular to edge of contact



SAMPLE: Rock name: Rock comment Unit/subunit: Piece no.:	335-1256l microcryst granoblas 96B 7	D-236F alline ( tic dike	R-1-W 3 phyric t with p	38/39-T3 basalt gi rimary i	SB(lg)0 ranobla ntergra	5_Piec stic ove nular o	e 7-TS erprinte r inters	_05 ed ertal texture, co	nverted to gran	ulite facies asse	mblage; several veins	s of opx probably corre	esponding to prior veins of secondary alteration	
PRIMARY MINE	ERALOGY		Numbe	er of dor	mains:		1		Nature of igne	ous domains:				
<b>Igneous dor</b> Domain g Domain te General d	main name: grain size: exture: comment:		domaii microc granob	n 1 rystallin blastic	e				Domain litholo Grain size dist Relative abund	gy: ribution: dance (%):	microcrystalline phyr inequigranular	ic basalt, granoblastic	: overprinted	
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment	
Plagiocla	Plagioclase         55         55         0.01         0.8         0.1         anhedral to subedral         subequant to elongate         continuous         inclusion-bearing conting         many of them bear inclusions of px; former phenocrysts are storing worked to px; and oxide           Clinopyroxene         18         20         0.05         0.4         0.2         anhedral to subedral         colores         inclusion-bearing abundant         many of them bear inclusions of px; former phenocrysts are storing worked to px; and oxide           Clinopyroxene         10         0.05         0.4         0.2         anhedral to subedral         colores         inclusions         many of them bear inclusions of px; former phenocrysts are storing worked to px; and oxide           Or how work         0.00         0.4         0.2         anhedral to subedral         subedral         colores         inclusions         many of them show tiny oxide inclusion of many of them show tiny oxide in													
Clinopyro	oxene	18	20		0.05	0.4	0.2	anhedral to subhedral	prismatic		colorless	inclusions	many of them show tiny oxide inclusions	
Orthopyroxene 20 20 0.05 0.4 0.1 anhedral to equant to subhedral prismatic pale pinkish brown inclusion-bearing many of them bear inclusions of tiny oxides and cpx													many of them bear inclusions of tiny oxides and cpx	
Subhedral         prismatic           Amphibole         1         0.01         0.05         0.04         subhedral         fibrous         coloriess         overgrowth         alteration product of cpx													alteration product of cpx	
Opaque	1	5	5		0.01	0.2	0.08	anneulai	granulai				many uny grains in cpx and opx	
SECONDARY N	AINERALOGY													
Alteration d Recrystal General a	omain or feat Ilization: alteration com	ure: ment:		backgr strong very fre	ound esh san	nple wit	th recry	Total alteration Recrystallization stallized texture	(%): on degree: e. presence of o	10 4 px veins. exsolu	tion of oxide within cp	x	no oxide inclusion in pyrox	
		Present (%)	Comm	nent										
Actinolite Green ho Brown ho Talc Chlorite Secondar Titanite Magnetite	Actinolite         2         replacing cpx & opx as thin fiber at rim           Green homblende         2         replacing cpx & opx           Brown homblende         1         after opx           Take         0.5         replacing cpx & opx           Tianie         0.5         after rangenetite           Tianie         0.5         after rangenetite													
VEINS AND HA	LOS		nt:				Voin -	oporation		Auerogeusia	hisknos (mm):	Hole width (mm):	Total bala (%) ):	
vein fill ci vein net,	micron sized	omme	nc				vein g	enerauón:		0.05 0.1	nicknes (mm):	maio width (mm):	rotai naio (%):	
MICROSTRUCT Microstru	TURES	its												

the fracture has large opx grains on the side, which may idicate the fracture was a vein filled similar to the other opx veins in the sample



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 fine graine granoblas the granol 96B 1	D-238F ed aphy tic dike blastic	R-1-W 2 yric bas with p framev	2/4-TSB salt grar vrimary i vork; this	(Ig)06_I noblastic ntergrar s vein la	Piece 1 coverp nular or icks ox	-TS_0 rinted inters ide an	6 ertal texture, co d bear brown ar	nverted to gran nphibole	ulite facies asse	mblage; contains one	vein which can be in	terpreted as former hydrothermal vein, now perfectly converted into
PRIMARY MINER	ALOGY		Numb	er of dor	mains:		1		Nature of igne	ous domains:			
<b>Igneous doma</b> Domain grai Domain text General con	in name: in size: ture: mment:		domai fine gr granot	n 1 ained blastic					Domain litholo Grain size dist Relative abun	egy: tribution: dance (%):	fine grained aphyric equigranular	basalt, granoblastic o	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		47	50		0.05	1	0.4	subhedral	elongate to tabular	continuous zoning abundant		inclusion-bearing	many are dusty due to millions of oxide? inclusions; especially the cores
Clinopyroxe	ne	25	30		0.05	0.4	0.2	anhedral to	prismatic		colorless	twinnings	many of them show tiny oxide inclusions; eventually presence of execution blobs?
Orthopyroxe	ene	7	8		0.05	0.3	0.2	anhedral to subhedral	prismatic		pinkish green	inclusion-bearing	some show inclusions (oxide, cpx, flakes of amphibole); some are altered to talc; some potentially show exsolution lamellae
Amphibole		10	3		0.01	0.1	0.05	anhedral to subhedral	subequant to flaky		green to brownish green	interstitial growth	brown hbl especially in a zone interpreted as former alteration vein; here nice interstitial growth. other are overgrowths of cpx and are fibrous actinolites
Opaque		9	9		0.02	0.3	0.1	anhedral	equant				many tiny grains in cpx and opx
SECONDARY MIN	IERALOGY	,											
Alteration dom Recrystalliza General alte	nain or feat ation: aration com	t <b>ure:</b> ment:		backgr partial variatio	ound to stron on in the	g alteral	tion de	Total alteration Recrystallization gree probably n	(%): on degree: elated to vein h	16.5 3 alos			tiny roundish oxides in cpx
		Present (%)	Comn	nent									
gc         gc           Actinolite         4         fibrous, replacing cpx & opx as corona           Green homblende         1         replacing cpx           Brown homblende         1         replacing cpx           Talc         1         replacing opx           Smextite         0.5         replacing opx x0px           Choirte         1         replacing opx & opx           Quartz         1         replacing plag           Secondary plag.         5         replacing plag           Titante         1         euhedral in inclusion in plag           Pyrolite         1         corona around opx													
VEINS AND HALC	os												
Vein fill com	positional o	omme	nt:				Vein g crosso crosso	eneration: cut by actinolite cut hbl vein		Average vein t 0.2 0.05 0.1	hicknes (mm):	Halo width (mm):	Total halo (%):

MICROSTRUCTURES Microstructure comments a conjugate fracture set cross cuts the sample oblique to the major cpx and oxide vein in the sample



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 fine grain granobla 96B 3	6D-238 ned apł stic dik	R-1-W 1 lyric bas e with p	13/15-TS alt grar rimary i	SB(Ig)01 oblastic ntergrar	7_Piec c overp nular o	e3-TS printed r inters	_07 ertal texture, co	onverted to gran	ulite facies asse	emblage; patchy distri	bution of oxide	
PRIMARY MINER	ALOGY		Numbe	er of dor	mains:		1		Nature of igne	ous domains:			
Igneous dom Domain gra Domain tex General co	ain name: ain size: xture: mment:		domaii fine granob	n 1 ained blastic					Domain litholo Grain size dist Relative abun	egy: tribution: dance (%):	fine grained aphyric equigranular	basalt, granoblastic o	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	9	52	55		0.05	1.2	0.4	subhedral	elongate to tabular	continuous zoning abundant		inclusion-bearing	many are dusty due to millions of oxide? inclusions
Clinopyrox	ene	19	21		0.05	0.8	0.3	anhedral to subhedral	prismatic		colorless	twinnings	many of them show tiny oxide inclusions; eventually presence of exsolution blebs??
Amphibole	terrie	18	15		0.05	0.5	0.3	subhedral	subequant to		green to brownish	overgrowth	many "primary" hbl which were converted to fibrous actinolite
Opaque Quartz		5 2	5 2		0.02 0.05	0.4 0.8	0.2 0.3	anhedral anhedral	flaky equant equant		green	poikilitic interstitial	many tiny grains in cpx; some show polkilitic growth
Alteration do Recrystalliz General alt	main or fea zation: teration con	hture: hment: (%) tueseut	Comm	backgr partial variatio	ound In in the	altera	tion de	Total alteratior Recrystallizati gree probably r	n (%): on degree: elated to vein h	36.5 2 alos			tiny roundish oxides in cpx
Actinolite Green horr Brown horr Talc Smectite Chlorite Quartz Secondary Other Ca-A Titanite Chalcopyrit Pyrolite	nblende nblende plag. N sec. te	9 5 3 2 5 3 2 0.5 0.5 0.5	fibrous replaci replaci replaci replaci replaci replaci clays in corona corona intersti	r, replac ng cpx ng cpx ng opx, ng opx, ng plag ng plag n plag fi a around a around tial	ing cpx fibrous x, plag actures I magne I opx	& opx mixed & qtz stite	as con	ona					
VEINS AND HALO	OS npositional	comm	ent:				Vein g	eneration:		Average vein 0.5 0.1 0.1 0.5	hicknes (mm):	Halo width (mm): 10	Total halo (%): 20
MICROSTRUCTU Microstruct	JRES ture comme	ents	tive run	s F-W i	n samol	le							

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SAMPLE: Rock name: Rock comment Unit/subunit: Piece no.:	335-1256 fine grain t: granoblas Run 11 J1	òD-Rur ied aph stic dik	n11-EXJ nyric ba e with p	B-J1-TS salt grai rrimary i	SB08-T noblasti intergra	S_08 ic overp nular o	orinted or inters	sertal texture, co	onverted to grad	nulite facies ass	emblage; patchy distril	bution of oxide; two c	px veins; one is seamed by oxide		
PRIMARY MINE	ERALOGY		Numb	er of do	mains:		1		Nature of ign	eous domains:					
<b>Igneous dor</b> Domain g Domain te General d	main name: grain size: texture: comment:		domai fine gr granol	n 1 ained blastic					Domain lithol Grain size dis Relative abur	ogy: stribution: idance (%):	fine grained aphyric equigranular	basalt, granoblastic o	overprinted		
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment		
Plagiocla	Plagloclase         54         55         0.05         0.8         0.2         subhedral         elongate         continuous         inclusion-bearing         many are dusty due to millions of oxide inclusions           Clinopyroxene         27         28         0.01         0.2         0.1         anhedral to subhedral         prismatic         coloriess lamellae         many of them show tiny oxide inclusions; some show presence of oxide exsolutions														
Clinopyro	oxene	27	28		0.01	0.2	0.1	anhedral to	prismatic	abandant	colorless lamellae		many of them show tiny oxide inclusions; some show presence of oxide exselutions		
Orthopyre	oxene	9	10		0.05	0.3	0.1	anhedral to	prismatic		colorless		larger crystals forming veins; a bigger one is seamed by oxides		
Amphibol	le	3			0.01	0.1	0.05	subhedral	fibrous		pale green to green	overgrowth	overgrows cpx		
Opaque		7	7		0.01	0.3	0.1	anhedral	granular				oxide seam an the contact to a opx vein; many tiny grains in cpx		
SECONDARY N	MINERALOG	Y													
Alteration d Recrystal General a	lomain or fea Illization: alteration corr	iture:		backgr strong	round			Total alteration Recrystallizati	n (%): on degree:	10.2 4			tiny roundish oxides in cpx & opx		
		Present (%)	Comn	nent											
Actinolite Green ho Talc Smectite Secondar Titanite Ilmenite Chalcopy	o problende problende ry plag. yrite	2 0.5 1 0.1 1 3 1 1 0.1	fibrous replac replac replac fibrous replac euhed inclusi interst	s corona ing cpx ing cpx ing opx. ing pox s, replac ing plag ral in in on in cp itial	a aroun & opx & opx . fibrous cing cpx clusion x	d cpx a s x, opx 8 within	ind op> k plag plag	ζ							
VEINS AND HA Vein fill c	LOS ompositional	comm	ent:				Vein d	generation:		Average vein	thicknes (mm):	Halo width (mm):	Total halo (%):		
MICROSTRUCT	TUPES									0.05			····		
MICKUSIKUCI	IUKES														

Microstructure comments a weak to absent magmatic foliation may be observed running E-W in the slide, this is defined by plag laths that have not been recrystallized



SAMPLE: Rock name: Rock comment:	335-1256l cryptocrys granoblas seems see	D-Run talline tic dik conda	11-EX. phyric e with p ry over	B-J2-TS basalt g primary i	SB09-TS Iranobla ntergrai	S_09 istic ov nular o	erprint r inters	ed ertal texture, co	nverted to gran	ulite facies asse	mblage; some domair	ns are "dry", some co	ntain hbl, which could be a primary granoblastic phase; but most hbl	
Unit/subunit: Piece no.:	Run 11 J2													
PRIMARY MINERA	ALOGY		Numb	er of do	mains:		1		Nature of igne	ous domains:				
<b>Igneous domai</b> Domain grai Domain text General con	in name: n size: ure: nment:		domai crypto grano	n 1 crystalli blastic	ne				Domain litholo Grain size dist Relative abun	gy: ribution: dance (%):	cryptocrystalline phy inequigranular	ric basalt, granoblast	ic overprinted	
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment	
Plagioclase		43	45		0.05	0.3	0.09	subhedral	elongate	continuous zoning abundant			some former phenocrysts visible; one glomerocryst associated with cpx	
Clinopyroxe	ne	15	20		0.01	0.1	0.06	anhedral to	prismatic		colorless			
Orthopyroxe	ne	8	10		0.01	0.1	0.06	anhedral to	prismatic		colorless			
Amphibole		17	10		0.05	0.2	0.1	subhedral	flaky to fibrous	5	pale green to green		some domains can be regarded as "wet" domains, where green hbi form flaky network with plag; many overgrowth to secondary fibrous amphibole	
		15	15		0.01	0.1	0.05	annedral	granular					
Alteration dom Recrystalliza General alte	ain or feat	ure: ment:		backgr strong	ound			Total alteration Recrystallization	ı (%): on degree:	31.5 4			tiny roundish opaque (oxides & sulfides) in cpx	
		Present (%)	Comr	nent										
Actinolite Green homb Brown homb Smectite Chlorite Secondary p Titanite Magnetite Chalcopyrite Pyrolite	bring         comment           ite         10         fbrous, replacing cpx & opx as corona           homblende         2         replacing cpx & opx           02         replacing cpx & opx         scorona           homblende         2         replacing cpx & opx           02         replacing cpx & opx         scorona           homblende         2         replacing cpx & opx           0         10         rops resolution grains replacing plag           0         0         mary small rapins replacing plag           0         0         sorona around opx           0         5         corona around opx													
VEINS AND HALO	S positional c	omme	ent:				Vein g	eneration:		Average vein t 0.05	hicknes (mm):	Halo width (mm):	Total halo (%): 40	
MICROSTRUCTUR Microstructu	RES ire commer	ıts												



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 cryptocrys basalt fror Run 11 J3	D-Run stalline m uppe	11-EXJ phyric er sectio	B-J3-TS basalt ii on with i	SB10-T: ntersert microph	S_10 tal nenocry	sts of	plag and cpx; ç	glass is altered, i	minerals are fres	sh; primary mode cont	ains ~ 20vol% glass		
PRIMARY MINER	ALOGY		Numb	er of do	mains:		1		Nature of igne	ous domains:				
<b>Igneous doma</b> Domain gra Domain text General cor	in name: in size: ture: nment:		domai crypto interse	n 1 crystalli ertal	ne				Domain litholo Grain size dis Relative abun	ogy: tribution: idance (%):	cryptocrystalline phy seriate	ric basalt, intersertal		
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment	
Plagioclase		50	50		0.01	0.4	0.06	subhedral	elongate	continuous zoning abundant			phenocrystys up to 0.4 mm, glomerocrysts	
Clinopyroxe	Clinopyroxene 30 30 0.01 0.4 0.05 anhedral to prismatic subhedral										colorless		phenocrysts up to 0.4 mm	
Opaque	Opaque 8 0.01 0.05 0.02 anhedral gra												lumpy masses in patches of altered glass	
SECONDARY MIN	IERALOGY	r												
Alteration don Recrystalliz General alte	nain or feat ation: eration com	ture: ment: % tu	Comm	backgr not pre nonrec	round esent erystalliz	zed bas	alt	Total alteratio Recrystallizat	n (%): ion degree:	70.25 0			basalt with amorph texture	
		Prese												
Actinolite Smectite Chlorite Magnetite Chalcopyrite	E         20         replacing cpx as fine needles           te         20         replacing cpx, needles         20           te         25         yellow and replacing glass and often associated with opaques         20           s         20         replacing cpx, needles         20           title         5         smail grain aften dendritic associated with smectite           ov/ref         0.25         smail grain in association with smectite													
VEINS AND HALC	95 positional c	comme	nt:				Vein g	eneration:		Average vein t	hicknes (mm):	Halo width (mm):	Total halo (%):	
MICROSTRUCTUR Microstructur relatively fre	RES ire commer ish basalt, r	nts not rec	rystalliz	zed										



SAMP Rock Rock Unit/s Piece	LE: name: comment: ubunit: no.:	335-1256l microcryst granoblas Run 11 J4	D-Run talline tic dike	11-EXJ aphyric e with p	B-J4-TS basalt rimary i	SB11-TS granobl intergra	5_11 astic o nular o	verprin r inters	ted ertal texture, co	onverted to gran	ulite facies asse	emblage; several vein:	s of opx probably corr	esponding to prior veins of secondary alteration
PRIMA		LOGY		Numbe	er of do	mains:		1		Nature of igne	ous domains:			
lgr	eous domair Domain grain Domain textu General com	n name: n size: ure: ment:		domaii microc granob	n 1 rystallir Iastic	пe				Domain litholo Grain size dist Relative abun	egy: tribution: dance (%):	microcrystalline phy equigranular	ric basalt, granoblasti	c overprinted
			Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
	Plagioclase		53	55		0.05	0.2	0.1	anhedral to subhedral	subequant to elongate	continuous zoning abundant		inclusion-bearing	
	Clinopyroxen	ie	16	19		0.05	0.2	0.1	anhedral to	prismatic		colorless	inclusions	many of them show tiny oxide inclusions
	Orthopyroxer	ne	14	15		0.05	0.4	0.1	subhedral anhedral to subhedral	equant to prismatic		pale pinkish brown	inclusion-bearing	large crystals (up to 0.4 mm) form veins; opx in the matrix is much smaller
	Amphibole		8	4		0.05	1	0.2	subhedral	prismatic, flaky		green to brownish green	twinnings	part of a hydrous domain associated to the vein; never coexisting with opx; large poikilitic crystals with twinning suggest primary origin instead of secondary hydrothermal alteration
	Opaque Quartz		7	7		0.01 0.05	0.2 0.2	0.05 0.1	anhedral anhedral	granular equant				many tiny grains in cpx and opx only a few grains in an opx vein
SECO	NDARY MINE	ERALOGY												
Alt	eration doma Recrystallizat General alter	ain or feat tion: ration com	bure: ment: (%) tureseut	Comm	backgr strong preser	round	ox & cp	x vein	Total alteration Recrystallizati s. variation of th	n (%): on degree: ne alteration deg	6.7 4 rree due to vein:	s & halos. opx more a	Itered than cpx	presence of roundish oxides in inclusion within cpx & opx
	Actinolite Green hornbl Brown hornbl Talc Smectite Chlorite Magnetite	lende lende	2 1 0.5 1 0.2 2	fibrous replaci replaci replaci fibrous about	corona ng cpx, ng cpx, ng opx ng opx , cororr 7% igne	a around , brown , igneou & plag, na repla eous	d cpx & hbl s? mixed cing cp	opx with cl x & op	nlorite xx, around and v	within plag				
VEINS	AND HALOS	S ositional c	omme	nt.				Vein c	eneration:		Average vein	thicknes (mm)	Halo width (mm)	Total balo (%):
	75% recrystal 50% recrystal network of 3	Illized, acti Illized opx veins	nolite +plag	when in	vein is	within		crossi crossi crossi	cuts cut by hbl vein cuts		0.1 0.25 0.25 1 0.05		0.5	40
MICRO	DSTRUCTUR Microstructur	ES	nts											

vein network form conjugate fracture sets, but their orientation is not consistent. some veins parallel eachother



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 medium g varitextur Run 11 J5	D-Run grained ed gab	11-EXJ dissen bro fror	B-J5-TS ninated n fine to	B12-TS oxide ga mediu	S_12 abbro v m grair	varitext ned; fro	ured om subophitic to	granular; was e	eventually opx-b	earing; contains prima	ary oxides; eventually	zircon-bearing
PRIMARY MINER	ALOGY		Numbe	er of do	mains:		1		Nature of igne	ous domains:			
<b>Igneous doma</b> Domain grai Domain text General con	in name: in size: ture: mment:	1	domaiı mediu granul	n 1 m grain ar	ed				Domain litholo Grain size dist Relative abun	egy: tribution: dance (%):	medium grained diss seriate	seminated oxide gabb	ro, varitextured
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		50	55		0.1	4	1	subhedral to euhedral	elongate to tabular	continuous zoning abundant			
Clinopyroxe	ne	25	34		0.1	4	0.8	anhedral	equant to prismatic		colorless lamellae	reaction rim	in the finer grained parts cpx tend to be subophitic; shows symplectite-like intergrowth at the rim; overgrown by obviously primary amphibole (which is in turn overgrown by low-T amphibole)
Orthopyroxe Amphibole	ene	18	10		0.01	0.8	0.2	subhedral to anhedral	prismatic, interstitial		green to brownish green	overgrowth	some obscured objects can be interpreted as former opx, below 1%, so no consequence for the rock name grown interstitially and replaces cpx; often with relics of cpx; later overgrown by secondary fibrous to flaky actinolite
Opaque		2	1		0.05	1	0.3	anhedral	equant		3		magnetite with ilmenite lamellae
SECONDARY MIN	ERALOG	r											
Alteration dom Recrystalliza General alte	nain or fea ation: eration com	ture: ment: (%) tueseu	Comm	coarse not pre cpx tot	grained sent ally alte	d zone red, m	agnetit	Total alteratior Recrystallizati e is altered in a	ı (%): on degree: mix of ilmenite,	64.4 0 titanite & phyllo	silicates with sympled	tite-like texture. prese	ance of zircon
Actinolite Green horml Epdote Chlorite Secondary p Zeolite Other Ca-Al Titanite Ilmenite Magnetite Chalcopyrite	blende blende plag. I sec.	End         Comment           a         15         fbrous corona replacing cpx, in association with brown bbl           b         20         replacing cpx, in association with brown bbl           b         3         replacing cpx, in association with brown bbl           b         3         replacing cpx, ingneus?           1         replacing page within cracks           10         fbrous, replacing page           05         clays replacing page           05         clays replacing page           2         corona & inclusion within amphibole           05         replacing mage           2         corona & inclusion within amphibole replacing cpx           04         globules within oxides           1         replace primary magnetile (about 5%) and inclusion in amphibole replacing cpx           04         globules within oxides											
Alteration dom Recrystalliza General alte	Pyrolite     0.2     Interstitial & associated with chalcopyrite       eration domain or feature:     fine grained zone     Total alteration (%):     34.4       Recrystallization:     not present     Recrystallization degree:     0       General alteration comment     cpx is destabilized into amphibole+magnetite. some relics are present. plag is relatively fresh     Image: Comment       Image: Comment     Comment     Comment     Comment												
Actinolite Green homt Brown hom Epdote Talc Chlorite Secondary p Titanite Magnetite Chalcopyrite Pyrolite Other	č.           mblende         7         replacing cpx, in association with brown hbl           mblende         7         replacing cpx, in association with brown hbl           mblende         1         replacing cpx, in association with brown hbl           mblende         2         replacing cpx, in association with brown hbl           nblende         1         replacing cpx, in association with brown hbl           y replacing cpx, ingression         0.5         replacing cpx, ingression           0.5         replacing cpx, ingression         0.5           y replacing cpx, ingression         0.5         replacing cpx, ingression           0.5         small endertal grains within fiber of actinolite         3           1         in inclusion within amphibole replacing cpx         1           vite         0.3         interstilla in association with chalcopyrite           10         destabilized cpx         1												
Vein fill com	positional	comme	nt:				Vein g	eneration:		Average vein t	hicknes (mm):	Halo width (mm):	Total halo (%):
microvein w	ithin plag									0.05			

MICROSTRUCTURES Microstructure comments plag grains have tapered twins (deformation twinning), but overall sample looks like a typical hypidiomorphic granular oxide gabbro





335-1256D-Run11-EXJB-J6-TSB13-TS 13

SAMPLE:

#### If a grained grain field and the set of a set of Rock name: Rock comment: Unit/subunit: Piece no.: PRIMARY MINERALOGY Number of domains: 2 Nature of igneous domains: diorite probably intruded the dike Domain lithology: fine grained aphyric bas Grain size distribution: equigranular Relative abundance (%): 20 sertal texture, converted to granulite facies assemblage Igneous domain name: Domain grain size: Domain texture: General comment: domain 1 fine grained aphyric basalt, granoblastic overprinted granoblastic dike with primary intergranular or (mm) (mm) (%) (%) Original (%) repl. node Present min. max. Shape Habit Zoning Color, exsolution Special features Comment Vol. Size r Size Size many are dusty due to millions of oxide? inclusions; especially the cores continuous zoning abundant Plagioclas 55 57 0.05 0.8 subhedral euhedral elongate inclusion-bearing prismatic Clinopyroxene 23 28 0.05 0.4 0.2 anhedral to subhedral colorless many of them show tiny oxide inclusions; some show presence of equant to prismatic fibrous Orthopyroxene 7 8 0.05 0.4 0.2 anhedral to subhedral pale pinkish brown inclusion-bearing many of them bear inclusions of tiny oxides 6 0.01 0.05 0.04 subhedral Amphibole pale green to green overgrowth overgrows cpx aggregates 7 7 0.01 0.2 0.1 anhedral equant Opaque many tiny grains in cpx and opx Domain lithology: medium grained quartz diorite, cpx-amph-bearing ed Grain size distribution: seriate Relative abundance (%): 80 ions are very uncertain since domain is very inhomogeneous and complex; contains areas where either amphibole or cpx is prominent; qtz is patchy distributed; zircons inside Igneous domain name domain 2 Domain grain size: Domain texture: General comment: medium grained granular modal estim (mm) (mm) (mm (%) Original (%) Present (%) repl. ( mode Size min. max. Shape Habit Zonina Color, exsolution Special features Comment Vol. Size n Size 20 39 0.05 Plagioclase 1.4 subhedra tabular very patchy altered: some with ghost cores 0.8 patchy zoning abundant many show overgrowth of hbl as result of high T reaction and overgrowth of actinolite as a result of low T alteration; many form aggregates; some are chadacrysts in later hbl form clusters; some are poikilitic enclosing cpx; overgrowth in cpx Clinopyroxene 20 27 0.1 1.6 1 subhedral prismatic pale green twinnings prismatic Amphibole overgrowth 40 27 0.05 1.2 0.5 subhedral pale green to brownish gree Opaque 1 2 0.01 0.4 0.1 anhedral to subhedral equant 5 5 0.2 0.6 1.2 anhedral Quartz equant trails of inclusions, some are dusty, ingrowths of actinolite SECONDARY MINERALOGY background Total alteration (%): partial Recrystallization degree: the alteration degree increases with proximity of patch Alteration domain or feature: 13.4 2 tiny roundish oxides in cpx and a few in opx Recrystallization: General alteration comment: % Comment Actinolite Brown hornblende Epdote Talc Smectite Chlorite fibrous, replacing cpx & opx replacing cpx, opx, igneous? replacing plag within microcracks replacing opx replacing opx fibrous, replacing plag & cpx & opx 0.5 3 0.5 2 replacing plag euhedral in inclusion in plag o.2 interstitial around opx Secondary plag. Titanite Pyrolite Alteration domain or feature: Recrystallization: General alteration comment patch Total alteration (%): Recrystallization degree: 49.6 0 not present zircon, apatite, biotite nent (%) Comment Actinolite Green hornblende Brown hornblende Epdote Talc Chlorite Quartz fibrous, replacing cpx, amphibole & plag replacing cpx, opx & brown hbl blebs within cpx & amphibole replacing plag within microcracks fibers within opx fibrous, replacing plag & cpx, amphibole replacing plag or igneous ? 2 0.2 7 5 Secondary plag. replacing plag replace plag as inclusion clays replacing plag euhedral in inclusion in plag, replacing oxides essentially close to veins and patch Zeolite 0.5 10 Other Ca-Al sec 3 0.2 0.5 0.2 Titanite Ilmenite Magnetite Chalcopyrite replacing magnetite as corona interstitial as corona around other minerals. ~7% igneous interstitia VEINS AND HALOS Total halo (%) 20 Average vein thicknes (mm): Halo width (mm): 0.5 Vein fill compositional comment: Vein generation: vein thins and pinches out towards edge of thin 20 20 0.5 0.5 discontinuous 0.05

### MICROSTRUCTURES Microstructure comr

Microstructure comments a fracture crossculs the sample, oblique to the contact contact between a corase grained gabbro and a granoblastic fine grained gabbro. the coarse grained gabbro has a chilled margin. the contact is gradational to sharp



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 fine graine granoblas Run 11 J7	D-Run ad phy tic dik	ric basa e with p	B-J7-TS Ilt granol rimary ir	B14-TS blastic ntergran	5_14 overpri nular or	nted inters	ertal texture, co	nverted to gran	ulite facies asse	mblage; patchy distrit	oution of oxide	
PRIMARY MINER	ALOGY		Numbe	er of don	nains:		1		Nature of igner	ous domains:			
<b>Igneous doma</b> Domain grai Domain text General con	in name: in size: ture: nment:		domair fine gra granob	n 1 ained Iastic					Domain litholo Grain size dist Relative abund	gy: ribution: dance (%):	fine grained phyric b inequigranular	asalt, granoblastic ov	erprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		52	55		0.05	1.4	0.4	inclusion-bearing	many are dusty due to millions of oxide? inclusions; some have tiny cpx inclusions; some plag form glomerocrysts				
Clinopyroxe	ne	22	26		0.05	0.3	0.6	anhedral to subhedral	prismatic		colorless lamellae		many of them show tiny oxide inclusions; some show presence of oxide exsolutions
Orthopyroxe	ene	10	12		0.05	0.6	0.2	anhedral to subhedral	prismatic		colorless	overgrowth	
Amphibole		7			0.01	0.1	0.05	subhedral	fibrous aggregates		pale green to green	overgrowth	overgrows cpx
Opaque		7	7		0.01	0.4	0.1	anhedral	granular				many tiny grains in cpx
SECONDARY MIN	IERALOGY	,											
Alteration dom Recrystalliza	nain or feat ation:	ure:		backgro partial t	ound o stron	9		Total alteration Recrystallization	(%): on degree:	27.2 3			tiny roundish oxides in cpx, unrecrystallized cpx, totally recrystallized opx
General alte	eration com	ment:		presend	ce of cla	ays wit	hin pla	g					
		Present (%	Comm	ient									
Actinolite Green hornt	olende	4	fibrous replaci	, replaci ng cpx &	ng cpx & browr	& opx hbl	in coro	na					
Talc	Sionao	5	fibers a	around c	рх								
Chlorite Quartz Secondary p	olag.	0.5 5 0.5 8	replaci fibrous replaci replaci	ng opx , replaci ng plag ng plag	ng plag or igne	& pyro ous ?	х						
Prehnite Titanite		1	intersti euhedr	tial ral in inc	lusion i	n plag,	replac	ing oxides					
Pyrolite	,	0.1	few gra	ains in c	рх & сс рх & сс	rona a	round	руюх ругох					
VEINS AND HALO	S positional c	omme	ent:				Vein g	eneration:		Average vein t	hicknes (mm):	Halo width (mm):	Total halo (%):
MICROSTRUCTU	RES												
Microstructu a fracture cr	osscuts the	nts samp	ole										



SAMPLE: Rock name: Rock commen Unit/subunit: Piece no.:	335-1256 medium g t: late amph Run 11	D-Run trained tibole a	11-EXJE I olivine as prima	BTSB gabbro ry mag	29-TS_2 morite hi matic pl	29 bl-bear hase	ing						
PRIMARY MINI	ERALOGY		Numbe	er of do	mains:		1		Nature of igne	ous domains:			
<b>Igneous do</b> Domain Domain General	main name: grain size: texture: comment:		domair mediur suboph	n 1 m grain nitic to g	ed granular				Domain litholo Grain size dis Relative abun	ogy: tribution: dance (%):	medium grained oliv poikilitic	ine gabbronorite, hbl-	bearing
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Olivine		10	15		0.2	1.2	0.8	subhedral	prismatic			inclusion-bearing	contains mu-sized wormy exsolutions of probably oxides; trails of
Plagiocla	ise	35	42		0.05	1.2	0.8	subhedral	tabular to elongated	continuous zoning abundant		fast crystal growth	in part dusty appearance due to oxide dust
Clinopyre	oxene	15	23		0.4	5	2	anhedral	poikilitic		colorless	overgrowth	overgrown by actinolite
Orthopyr Amphibo	oxene le	8 25	14 5		0.4 0.1	3.5 0.4	1.2 0.2	subhedral anhedral	prismatic prismatic		pale pinkish brown green to brown	interstitial growth	often encloses olivine some crystals with brownish domains grew interstitially implying a
Opaque		2	1		0.1	0.8	0.4	anhedral	equant			interstitial	magmatic origin; often associated with oxide some of the larger oxides are associated with brown amphibole; lots of tiny secondary oxides around the olivines; largest tend to poikilitic growth
SECONDARY I	MINERALOG	r											
Alteration of Recrysta General	lomain or fea Illization: alteration com	ture: ment: (%) tr	Comm	backgr not pre olivine	round esent gabbro	is quite	altere	Total alteration Recrystallizati d. zoned plag a	n (%): on degree: and poikilitic cp	65 0 k. olivine altered	in chlorite-smectite g	reen-red assemblage	no recrystallization
		Prese											
Actinolite Green hu Brown hu Talc Smectite Seconda Magnetit Chalcop Pyrolite	e problende problende ny plag. e yrite	20 7 5 7 4 8 10 3 0.5 0.5	fibrous replacin replacin replacin fibrous corona replacin interstia within a	, replac ng cpx, ng cpx, ng olivi , replac around ng olivi al, asso altered	cing cpx & amph , opx & h , opx, hb ine & op: cing opx d plag la ine & py ociated v opx & c	& opx, ibole hbl or ig ol, olivir x, ofen & plag ths rox with with sec orona a	plag o gneous ie in co associ & olivi nin othe condar around	livine rona, mixed wi iated with chlor ne er alteration ph y amphibole olivine	th chlorite Ite ases				
VEINS AND HA	LOS ompositional	comme	ent:				Vein g	eneration:		Average vein	thicknes (mm):	Halo width (mm):	Total halo (%):
MICROSTRUC	TURES												

Microstructure comments olivine has normal extinction



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 fine grain opx-vein; Run 11	D-Run ed phy opx cl	11-EXJI ric basa uster	B-TSB3 ilt grand	6-TS_3 blastic	6 overpri	inted						
PRIMARY MINER	ALOGY		Numbe	er of dor	mains:		1		Nature of igne	ous domains:			
<b>Igneous doma</b> Domain gra Domain tex General cor	in name: in size: ture: nment:		domair fine gra granob	n 1 ained olastic					Domain litholo Grain size dist Relative abun	egy: tribution: dance (%):	fine grained aphyric equigranular	basalt, granoblastic or	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		56	58		0.05	2.4	0.4	subhedral	elongate	patchy zoning abundant		inclusion-bearing	partly patchy zoning exhibiting "ghost cores"; some show dusty appearance; some have tiny cpx inclusions
Clinopyroxe	ne	16	18		0.01	0.8	0.2	anhedral to subhedral	equant to prismatic		colorless lamellae		often contain tiny oxide inclusions; some show oxide exsolutions as lamellae; tend to form larger aggregates, some of these show overgrowth by brownish hbl
Orthopyroxe Amphibole	ene	16 5	18		0.05 0.01	0.8 0.1	0.2 0.05	subhedral subhedral	prismatic prismatic, fibrous aggregates		pale pinkish brown pale green to green; some brownish	inclusion-bearing mostly secondary as overgrowth of cpx; some are flaky and product of higher granoblastic stage	many liny inclusions of oxide; form clusters and a vein overgrows cpx
Opaque		6	6		0.01	0.2	0.1	anhedral	granular				many tiny grains in cpx and opx; exsolutions in cpx
SECONDARY MIN	IERALOG	r											
Alteration don Recrystalliz	nain or fea ation:	ture:		backgr partial	ound			Total alteration Recrystallization	(%): on degree:	14 2			few inclusions of Ox within pyroxide. plag in laths and pyroxide intersticial
General alte	eration com	ment: (%) tueseuc	Comm	presen Ient	ce of op	ox vein							
Actinolite Green horn Brown horm Talc Smectite Chlorite Quartz Secondary Titanite Chalcopyrit Pyrolite Other	blende blende plag. e	3 2 1 2 1 3 0.2 0.1 1 0.3 0.3 0.1	replace replace replaci replaci replaci intersti replaci euhedr intersti intersti rutile w	e opx & e cpx in ng cpx in ng opx ng opx ng plag tial, rep ng plag ral in ind tial and vithin cp	cpx patch a in blebs & pyro: lacing p clusion r corona corona x	within paround	g blag d opx d opx						
VEINS AND HALC	os positional o	comme	ent:				Vein a	eneration:		Average vein t	hicknes (mm):	Halo width (mm):	Total halo (%):
no veins multiple sub	parallel act	inolite	veins				9			0.01			
MICROSTRUCTU	RES												

Microstructure comments black actinolite-chlorite veins crosscut sample forming parallel to eachother or in conjugate sets



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 cryptocry granoblas Run 12 Rock B	iD-Run stalline stic dik	12-RCJE granobl e with ga	B-Rock lastic di abbroic	B-TSB2 ike with intrusic	21-TS_: magm on; intru	21 atic ve ıded di	in ioritic vein is mu	uch more altered	d than the dike I	host		
PRIMARY MINER	ALOGY		Numbe	r of dor	mains:		2		Nature of igne	ous domains:		host rock with magn	natic vein
<b>Igneous doma</b> Domain gra Domain text General cor	<b>iin name:</b> iin size: ture: mment:		domain fine gra granula two veir	n 2 ained ar ns perp	pendicul	lar to ea	ach oth	her; mineral cor	Domain litholo Grain size dist Relative abun nposition is very	ogy: tribution: dance (%): y mafic; only a f	fine grained hornbler equigranular to poiki 10 ew plag grains; crystal	nde diorite, qtz bearir litic lization order: cpx - p	ng Iag - amph, qtz; high water activity suppressing plag crystallization
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	1	15	23		0.2	0.8	0.4	anhedral to subhedral	tabular	continuous zoning			interstitial to poikilitic, thus crystallizing after cpx: water-rich
Clinopyroxe	ene	50	60		0.1	1.2	0.4	anhedral to	prismatic	abundant	colorless lamellae	overgrowth	probably magmatic; overgrowth of hbl, many hbl blebs; replaced
Amphibole		25	12		0.1	0.8	0.4	anhedral to subhedral	prismatic		green to brownish green	overgrowth	overgrows cpx; form blebs within cpx; tendency to poikilitic growth
Opaque Quartz		3 3	2 3		0.01	0.3	0.1	anhedral anhedral	equant equant			interstitial	many tiny grains in cpx as alteration product
<b>Igneous doma</b> Domain gra Domain text General cor	<b>in name:</b> in size: ture: mment:	I	domain cryptoc granobl	n 1 crystallir lastic	ne		-		Domain litholo Grain size dist Relative abun	ogy: tribution: dance (%):	cryptocrystalline phy inequigranular 90	ric basalt, granoblast	ic overprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		53	55		0.01	1.2	0.07	anhedral to subhedral	subequant	continuous zoning		inclusion-bearing	many bear tiny cpx inclusions; few former phenocrysts with euhedral shape integrated into the granoblastic matrix
Clinopyroxe	ene	16	18		0.01	0.2	0.06	anhedral	equant to	abundant	colorless	inclusion-bearing	many of them show inclusions of tiny oxides and cpx; some show
Orthopyroxe	ene	14	16		0.01	0.2	0.06	anhedral	equant to prismatic		colorless	inclusion-bearing	exsolutions of oxide many of them show inclusions of tiny oxides and cpx; clusters and yeins of opx showing slightly larger grain size
Amphibole		9	5		0.01	0.1	0.07	subhedral	prismatic		pale green to brownish green	overgrowth	probably primary granoblastic along veins and haloes; overgrown by actinolitic amphibole
Opaque		6	6		0.01	1.2	0.05	anhedral	equant				many tiny grains in cpx and opx
Alteration don Recrystalliz General alte	nain or fea ation: eration com	ture: iment: (%) tuese	Comm	backgro comple relative within t	ound ate aly fresh the halo	n backg I.	round	Total alteration Recrystallizati with two gabbre	n (%): on degree: bic intrusions. ar	7.7 6 mphibole alteral	tion vein with halo. the	alteration degree inc	some tiny roundish oxide in cpx/opx, plag is recrystallized reases when approaching the halo, gabbroic intrusion 100% altered
Actinolite Green hornl Talc Smectite Chlorite Secondary p Titanite Pyrolite Alteration don Recrystalliz General alte	blende plag. nain or fea ation: eration com	2 1 1 1 1 0.5 0.2 ture:	fibrous, replacir fibers a replacir fibrous, replacir euhedra corona	, replac ng cpx nound o ng opx , replac ng plag al in inc around intrusio not pre relative	ing cpx opx ing plag clusion i d opx on 1 isent sy fresh	& opx g & cpx in plag,	in corc & opx , replac	na cing oxides Total alteration Recrystallizati with two cabbr	n (%): on degree: pic intrusions, an	54.6 0 mobilole altera	tion vein with halo, the	alteration decree inco	presence of roundish opx zreases when anomaching the halo, gabbroic intrusion 100% altered
		Present (%)	Comm	within t ent	he halo								
Actinolite Green hornl Brown hornl Other amph Epdote Smectite Chlorite Quartz Secondary y Prehnite Other Ca-Al Titanite Magnetite Chalcopyrite	blende blende nibole plag. I sec. e	4 8 7 15 2 1 3 1 2 1 6 0.5 4 0.1	fibrous replacir replacir dusty a replacir replacir replacir replacir silicate euhedra replacir ssmall g	within of ng cpx, ng cpx of mphibo ng plag ng opx , replac ng plag ng plag replaci al & con ng cpx & rains in	cpx & o opx & t or green ole repla within i ing plag rona are & amph i cpx	px clea brown h n hbl ig acing py microcr g & cpx g & cpx stitial Is bund m ibole: c	vages hbl neous yrox ar acks acks agneti dusty c	? nd other amphil nd other amphil te .px & amph + 5'	oole % igneous				
Alteration dom Recrystallize General alte	nain or fea ation: eration com	ture:		intrusio not pre some p	on 2 sent blag & c	px belc	ong to I	Total alteration Recrystallization the granoblastic	n (%): on degree: c background	21 0			presence of roundish opx
		Presen	Comm	ent									
Actinolite Green hornl Brown hornl Other amph Epdote Smectite Chlorite Secondary I Other Ca-Al Titanite Ilmenite Magnetite	blende blende hibole plag. I sec.	3 4 4 0.5 1 2 0.5 0.5 0.5 1 4	tibrous, replacir replacir dusty a replacir fibrous, replacir clays re replacir within c replacir	, replac ng cpx, ng cpx, imphibo ng the r ng opx , replac ng the r eplacing ng oxid cpx ng cpx a	ing cpx opx & t igneou ble repla rare play rare play g plags es & amph	& plag brown h s? acing p g & plag g ibole: c	in con hbl yrox ar dusty c	ona	oole a + 2% igneous				
VEINS AND HALC	DS npositional	comme	ent:				Vein a	eneration:		Average vein	thicknes (mm):	Halo width (mm):	Total halo (%):
80% recryst at end of int interconnec actinolite as	tallized trusion, tap ted actinoli intergrowr	ers te strin n needl	igs les, chlor	rite as "	"blebs"		crosso	cuts actinolite +		0.1 0.05 0.05 0.25		3	40
Microstructu	ure comme	nts the sa	mple or	ne actir	nolite ve	in cros	s cuts	an anastomosi	na pyrox vein				



TABLE VERSION 00       Year of the state o	SAMPLE: Rock name: Rock comment Unit/subunit: Piece no.:	335-12 cryptoo granob Run 12 Rock C	56D-Ru rystallin lastic di	n12-RC. e granot kes with	JB-Rocki blastic di dry and	C-TSB: ke wet do	22-TS_ mains;	22 the we	t domains deve	lop from amphi	bole veins			
Note of the state of	PRIMARY MINE	RALOGY		Numb	er of dor	nains:		2		Nature of igne	ous domains:		two domains with dif	ferent mineralogy
$ \begin{array}{  c   } \hline \mbox{Priority} & \mbox{Prior} & \mb$	Igneous do Domain g Domain t	main name grain size: exture:		domai crypto granot	in 1 crystallir blastic	1e				Domain litholo Grain size dis Relative abun	ogy: tribution: dance (%):	cryptocrystalline phy equigranular 40	ric basalt, granoblasti	c overprinted
Place         Size         <	General	comment:	Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	os or opx, pagj
$ \begin{array}{ c c c c c } Consistence of probability of the first of the state of the state$	Plagiocla	se	52	53		0.01	1.2	0.09	anhedral to subhedral	subequant	continuous zoning abundant		inclusion-bearing	many bear tiny cpx and oxide inclusions; some former dusty glomerocrysts full with cpx inclusions (plus oxide) forming internal structure
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Clinopyro	oxene	16	18		0.01	0.7	0.08	anhedral	equant to prismatic		colorless	inclusion-bearing	many show inclusions of tiny oxides
Any bols         5         3         0.0 </td <td>Orthopyr</td> <td>oxene</td> <td>18</td> <td>20</td> <td></td> <td>0.01</td> <td>0.2</td> <td>0.09</td> <td>anhedral to subhedral</td> <td>prismatic</td> <td></td> <td>pale pinkish brown</td> <td>inclusion-bearing</td> <td>often arranged in bands or in clusters; show tiny oxide and cpx inclusions</td>	Orthopyr	oxene	18	20		0.01	0.2	0.09	anhedral to subhedral	prismatic		pale pinkish brown	inclusion-bearing	often arranged in bands or in clusters; show tiny oxide and cpx inclusions
Opcode         I         0         0.01         0.2         0.00         and the set of	Amphibo	le	5	3		0.01	0.09	0.08	subhedral	fibrous aggregates		pale green to green	overgrowth	
Upper construction         Constru	Opaque		6	6		0.01	0.2	0.06	anhedral	equant				many tiny grains in cpx and opx
$ \frac{1}{1} 1$	Igneous do Domain g Domain t General	main name grain size: exture: comment:		domai crypto granot this do	in 2 crystallir blastic omain wa	ne as form	ned und	er low	water activities	Domain litholo Grain size dis Relative abun plag - cpx - an	ogy: tribution: dance (%): nph - oxide; asse	cryptocrystalline phy equigranular 60 ociated with hornblend	ric basalt, granoblasti le-rich veins	c overprinted
Projection         65         9         0.01         0.8         0.09 a abded in buildour bound particle partex particle particle partex particle partine partex			Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Advalue         1         1         0 </td <td>Plagiocla</td> <td>ise</td> <td>55</td> <td>58</td> <td></td> <td>0.01</td> <td>0.8</td> <td>0.09</td> <td>anhedral to subhedral</td> <td>subequant to tabular</td> <td>continuous zoning</td> <td></td> <td>inclusion-bearing</td> <td>many bear tiny cpx and oxide inclusions; former phenocryst with internal chost structure formed by oxide dust</td>	Plagiocla	ise	55	58		0.01	0.8	0.09	anhedral to subhedral	subequant to tabular	continuous zoning		inclusion-bearing	many bear tiny cpx and oxide inclusions; former phenocryst with internal chost structure formed by oxide dust
Anglibule         21         18         0.01         0.2         0.05         subset back back back back back back back back	Clinopyro	oxene	14	18		0.01	0.2	0.08	anhedral	equant to	abundant	colorless	inclusion-bearing	many show inclusions of tiny oxides
Concept         6         6         0.01         0.2         0.05         and ward         and ward         and ward ward         and ward ward ward           ECOUNTY WINEAUDUP           Additionation of tabutasis         bedrago and mode         0 <td>Amphibo</td> <td>le</td> <td>23</td> <td>18</td> <td></td> <td>0.01</td> <td>0.2</td> <td>0.08</td> <td>subhedral</td> <td>prismatic prismatic</td> <td></td> <td>pale green to</td> <td>overgrowth</td> <td>probably primary granoblastic associated with high-T veins;</td>	Amphibo	le	23	18		0.01	0.2	0.08	subhedral	prismatic prismatic		pale green to	overgrowth	probably primary granoblastic associated with high-T veins;
Secondary MINIEADURY Provide a domain or feature Recyclatization (cm)::::::::::::::::::::::::::::::::::::	Opaque		6	6		0.01	0.2	0.05	anhedral	equant		brownish green		overgrown by actinolitic amphibole many tiny grains in cpx and opx
Herein control of relativity       designed mide       Table statusitization       0       assessed of designet high region	SECONDARY N	INERALO	GY											
Rest       Continue         Activative       1       replacing cpx & cpx in corona         Green homblende       1       replacing cpx mide with choice         Brown homblende       0.5       replacing cpx mide with choice         Brown homblende       1       replacing cpx mide with choice         Brown homblende	Alteration d Recrysta General	lomain or fo Ilization: alteration co	omment	Comm	backgro comple sample	ound m te rich in	veins.	variatio	Total alteration Recrystallizati	n (%): on degree: degree from rig	10 6 ht ot left, the sid	e next to label is highl	y altered.	absence of plag laths, zoned plag in magmatic patches, tiny roundish opaques within cpx & opx
above nombande       1       optional above of plag         above nombande       1       optional above of plag         above notational of teatures       back of the second and	Actinolite Green ho	omblende	Bresen 3	fibrous replac	nent s, replaci	ing cpx & opx	c & opx	in cord	na					
Atteration domain or feature:       background opx-por       Total alteration (%):       9.0.5         Recrystalization:       complete       sample rich       within organization degree:       6         General alteration comment:       sample rich       within organization degree       6       absence of plag laths. zoned plag in magnatic patches. round oxide within cpc.         Actinolite $\overline{\psi}$ <	Talc Chlorite Seconda Titanite Magnetit	ry plag. e	1 2 1 0.5 0.5	replac fibrous replac interst replac	a around ing opx, s, replaci ing plag titial & an ing cpx a	mixed ing cpx ound o as dust	with ch c opx & oxides ty cpx +	lorite plag · 7% ig	neous					
General alteration comment       sample rich in veins. variation of alteration degree from right of left, the side next to label is highly altered.       Outcomment         Actinolite       10       fibrous, replacing cpx & opx in corona         Epide       1       righdang opx in corona         Epide       1       righdang opx in corona         Table       0       1       righdang opx in corona         General alteration comment       table traution (%):       7         Second opy log       5       righdang opx in corona         General alteration comment       table traution of alteration degree close to the veins       absence of plag laths. zoned plag in magmatic patches         Table	Alteration d Recrysta	omain or f	eature:		backgro comple	ound op te	px-poo	r	Total alteratior Recrystallizati	n (%): on degree:	30.5 6			absence of plag laths. zoned plag in magmatic patches. roundish
Actinolite       10       fibrous, replacing gox & opx in corona         Green homblende       1       replacing gox in corona         7       replacing gox in corona         7       replacing gox in corona         7       replacing gox in corona around oxides         1       replacing gox in this maphbole replacing cox, coron a around oxides         1       replacing gox in this maphbole replacing cox, coron a around oxides         1       replacing gox incorona         3       within amphbole replacing cox, corona around oxides         1       replacing gox incorona         3       maphbole replacing cox, corona around oxides         1       replacing gox incorona         6       sample rich in veins. variation (%):       7         Recrystallization:       comment         5       comment       complete         6       replacing gox in kind with chlorite       absence of plag laths. zoned plag in magmatic patches         7       replacing gox in kind with chlorite       replacing gox       re	General	alteration co	present (%)	Comm	sample nent	rich in	veins.	variatio	on of alteration	degree from rig	ht ot left, the sid	e next to label is highl	y altered.	
Atteration domain or feature:       background opx-rich       Total alteration (%):       7         Recrystallization:       complete       Recrystallization degree:       6         General alteration comment:       sample rich in veins. variation of alteration degree close to the veins       absence of plag laths. zoned plag in magmatic patches         Ørgen       Ornment       Patchnolline       0.5       replacing cpx. mide with chorine         Green homblende       0.5       replacing cpx. mide with chorine	Actinolite Green ho Epdote Talc Chlorite Seconda Titanite Magnetit	ry plag. e	10 1 7 0.5 3 1	fibrous replac replac replac fibrous replac within replac	s, replaci ing opx i ing plag ing opx, s, replaci ing plag amphibo ing cpx &	ing cpx in coror in coro mixed ing opx ole repl & amph	& opx na ona with ch & plag lacing c nibole:	in corc lorite ppx, co dusty c	rona around oxi px & amphibole	ides 9 + 5% igneous				
Venton     Venton       Actinolite     2     fbrous, replacing cpx & opx in corona       Green homblende     0.5     replacing cpx, mixed with chorte       Taic     1     replacing cpx, mixed with chorte       Chlorite     2     fbrous, replacing cpx, mixed with chorte       Chlorite     2     fbrous, replacing cpx, mixed with chorte       Secondary plag     0.5     replacing cpx a blag       Tainatic     0.5     replacing cpx a blag       Magnetite     0.5     replacing cpx a blag to the state of t	Alteration d Recrysta General	Iomain or f Ilization: alteration co	eature:	:	backgro comple sample	ound op te rich in	px-rich veins.	variatio	Total alteration Recrystallization on of alteration	n (%): on degree: degree close to	7 6 the veins			absence of plag laths. zoned plag in magmatic patches
Actinolite     2     fbrous, replacing cpx 8 opx in corona       Green homblende     0.5     replacing cpx 8 opx in corona       Green homblende     1     replacing cpx, wixed with chlorite       Chioritie     2     fbrous, replacing cpx 8 opx in corona       Secondary plag.     0.5     replacing cpx 8 opx in corona       Secondary plag.     0.5     replacing cpx a dusty cpx + 7% igneous   VEINS AND HALOS        Vein fill compositional comment:     Vein generation:     Average vein thicknes (mm):     Halo width (mm):     Total halo (%):       Vein fill compositional comment:     Vein generation:     Average vein thicknes (mm):     Halo width (mm):     Total halo (%):       Crosscuts     0.01     crosscut     0.01       Oracle     0.2     1     50       Output     0.1     1     40			Present (%)	Comm	nent									
Vein SAND HALOS         Vein generation:         Average vein thicknes (mm):         Halo width (mm):         Total halo (%):           Vein fill compositional comment:         cross cuts actinolite +         0.25         ordet (mm):         cross cuts actinolite +         0.21         cross cuts actinolite +         ordet (mm):         cross cuts (mm):         cross (mm):	Actinolite Green ho Talc Chlorite Seconda Titanite Magnetit	ry plag.	2 0.5 1 2 0.5 0.5 0.5	fibrous replac replac fibrous replac interst replac	s, replaci ing cpx ing opx, s, replaci ing plag itial ing cpx a	ing cpx mixed ing opx as dust	with ch & plag	in corc Ilorite 1 · 7% ig	neous					
Vein fill compositional comment:         Vein generation:         Average vein thicknes (mm):         Halo width (mm):         Total halo (%):           branched         cross cuts actionitie         0.25         crosscuts         0.01           crosscut by actionitie         0.2         1         50           0.1         1         40	VEINS AND HA	LOS												
crosscuts         0.01           crosscut by actinolite         0.2         1         50           0.1         1         40	Vein fill c branched	ompositiona i	al comm	ient:				Vein g cross	eneration: cuts actinolite +		Average vein 0.25	thicknes (mm):	Halo width (mm):	Total halo (%):
0.1 1 40								crosso	cuts cut by actinolite		0.01 0.2		1	50
											0.1		1	40

Microstructure comments several veins crossout the sample. a more diffuse actinolite vein is crossout by another non-diffuse actinolite vein. a thin black vein (amphibole?) crossouts all other veins and is sometimes refracted through the other vein material

SAMPLE: 335-1 Rock name: micro Rock comment: grand Unit/subunit: Run 1 Piece no.: Rock	256D-Ru crystallin blastic di 12 D	n12-RCJ e granobi ke with q	IB-Rock lastic di uartz di	kD-TSB2 ike with i ioritic int	23-TS_ magma rusion	23 atic vei	in					
PRIMARY MINERALOGY	r	Numbe	er of do	mains:		2		Nature of igne	eous domains:		host rock with magn	atic vein
Igneous domain nam Domain grain size: Domain texture: General comment:	ne:	domaii microc granot vein lik	n 1 crystallir blastic ke featu	ne ires; son	ne opx	rich pa	atches;	Domain lithole Grain size dis Relative abur	ogy: tribution: idance (%):	microcrystalline aphy equigranular 80	vric basalt, granoblast	ic overprinted
	Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	55	58		0.01	0.3	0.1	anhedral to subhedral	subequant	continuous zoning abundant		inclusion-bearing	many bear tiny cpx and oxide inclusions
Clinopyroxene	16	18		0.01	0.2	0.09	anhedral	equant to		colorless	inclusion-bearing	some show inclusions of tiny oxides; some show exsolutions of oxide
Orthopyroxene	15	17		0.01	0.2	0.09	anhedral to	prismatic		pale pinkish brown	inclusion-bearing	show tiny oxide and cpx inclusions
Opaque	7	7		0.01	0.2	0.08	anhedral	equant				many tiny grains in cpx and opx
Igneous domain nam Domain grain size: Domain texture: General comment:	ne:	domaii fine gra granula two ve	n 2 ained ar ins inte	rconnec	ted by	each o	other; large poik	Domain lithole Grain size dis Relative abun cpx; late prima	ogy: tribution: idance (%): ary amphibole re	fine grained quartz d seriate to poikilitic 20 placing cpx and event	iorite, ually opx ; mode is ve	ry uncertain due to very inhomogeneous distribution of minerals
	Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm	Size max. (mm	Size mode (mn	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	15	26		0.1	1.2	0.4	subhedral	subequant to tabular	continuous zoning abundant		inclusion-bearing	many are stuffed with tiny cpx inclusions (photo); "anorthositic patches"; some form chadacrysts in cpx
Clinopyroxene	15	18		0.1	1.2	0.4	anhedral to subhedral	prismatic, poikilitic		colorless lamellae	overgrowth	probably magmatic; form oikocrysts with plag chadacrysts; replaced by hbl by reaction; hbl blebs; apparent oxide exsolutions as lamellae
Orthopyroxene Amphibole	20 17	25 10		0.01 0.1	1.2 0.4	0.5 0.2	subhedral anhedral	prismatic prismatic		pale pinkish brown green to brownish green	inclusion-bearing overgrowth	many tiny cpx inclusions overgrows cpx; form blebs within cpx; tendency to poikilitic growth
Opaque	1	1		0.01	0.4	0.1	anhedral	equant		groon	interstitial, partly	
Quartz	20	20		0.1	1.2	0.2	anhedral	equant			interstitial	
SECONDARY MINERAL	OGY											
Alteration domain or Recrystallization: General alteration	feature: comment (%) Lueseur	Comm	backgr strong fresh r	round to comp norite wit	olete th few o	corona	Total alteration Recrystallization of talc +/- chlor	(%): on degree: ite.	5 5			plag laths remaining, presence of poikilitic cpx
Actinolite	1	fibrous	, replac	cing cpx	in cord	na						
Talc Smectite	1	replaci replaci	ing opx. ing opx	, mixed i	with ch	lorite						
Chlorite Secondary plag. Titanite	1 0.5 0.5	fibrous replaci corona	s, replac ing plag a around	cing opx ) d magne	& plag etite							
Alteration domain or Recrystallization: General alteration	feature: comment (%) Lueseut	Comm	coarse incipie alterati	e grained nt ion is hig	l vein gher in	the m	Total alteratior Recrystallizatii agmatic vein. pl	(%): on degree: ag & pyrox full	14 1 of inclusions givi	ng a dusty aspect.		presence of polkilitic cpx & opx
Actinolite Brown hornblende Epdote Talc Smectite Chlorite Secondary plag. Titanite Magnetite VEINS AND HALOS Vein fil composition	2 4 0.5 2 1 1 1 0.5 2 no.5 2	fibrous poikiliti replaci replaci fibrous replaci corona replaci	s, replac ing plag ing opx ing opx s, replac s, replac ing plag a around ing prim	cing opx ably ign g within r in coron cing opx d magne hary mag	in corc eous, a microcr na, mixe & plag etite gnetite,	ona appear acks ed with about	rs as corona aro n chlorite t 5% of (original) generation:	und cpx igneous magr	Netite Average vein 1	hicknes (mm):	Halo width (mm):	Total halo (%):
MICROSTRUCTURES Microstructure com	oss intrus	sion it foll	ows gra	ain		possit	bly cuts 0.05mm		0.05 0.01 0.01		ao maar (mm).	

Microstructure comments foliation is defined by tabular plag laths oriented NE-SW in sample foliation is defined by tabular plag laths oriented NE-SW in sample



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1 fine gr granol Run 1 Rock	256D- rained blastic 2 G	Run <sup>+</sup> grar dike	12-RCJ noblasti e with q	B-Rock c dike v uartz di	G-TSB vith mag oritic in	24-TS gmatic trusion	_24 vein						
PRIMARY MINER	ALOGY	,		Numbe	er of do	mains:		2		Nature of ign	eous domains:		host rock with mage	natic vein
<b>Igneous doma</b> Domain gra Domain tex	i <b>in nam</b> iin size: ture:	e:		domair fine gra granob	n 1 ained blastic					Domain lithol Grain size dis Relative abur	logy: stribution: ndance (%):	fine grained aphyric equigranular 90	basalt, granoblastic o	overprinted
General cor	mment:		(%)	some l	inear a	lignmer E	nt of mi	nerals E	(opx, plag);					
			Present	Original	Vol. repl.	Size min.	Size max.	Size mode	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase			53	55		0.01	1.2	0.3	subhedral	tabular to elongated	continuous zoning		inclusion-bearing	many bear tiny cpx and oxide inclusions
Clinopyroxe	ene		18	20		0.01	0.4	0.2	anhedral	equant to	abundant	colorless	inclusion-bearing	many show inclusions of tiny oxides
Orthopyrox	ene		18	20		0.01	0.4	0.2	anhedral to	prismatic prismatic		pale pinkish brown	inclusion-bearing	show tiny oxide and cpx inclusions
Amphibole			5			0.01	0.4	0.2	subhedral subhedral	prismatic		pale green to green	overgrowth	a few may be primary grown in the granoblastic stage: most are
Opaque				5		0.01	0.2	0.1	anhedral	equant				overgrowth of actinolitic amphibole many tiny grains in cpx
<b>Igneous doma</b> Domain gra Domain tex General cor		domair fine gra granula access	n 2 ained ar sory zire	con				Domain lithol Grain size dis Relative abur	logy: stribution: ndance (%):	fine grained oxide qu equigranular 10	uartz diorite,			
			sent (%)	ginal (%)	repl. (%)	min. (mm)	max. (mm)	node (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
			Pre	Ö	Vol.	Size	Sizeı	Sizer						
Plagioclase			36	37		0.1	1.2	0.4	subhedral	tabular, poikilitic	continuous zoning abundant			in part poikilitic (cpx, opx as chadacrysts; photo); trails of tiny oxide exsolutions
Clinopyroxe	ene		15	17		0.1	0.6	0.3	subhedral	prismatic		colorless	inclusions	tend to form clusters; inclusions of oxide; overgrown by primary hbl: replaced by secondary hbl
Orthopyrox	ene		17	19		0.05	0.2	0.1	subhedral	prismatic		pale pinkish brown		obviously in paragenesis with opx; overgrown by actinolite and talc
Amphibole			8	5		0.01	0.4	0.2	anhedral to subhedral	prismatic		pale green to brownish green	overgrowth	overgrows cpx; form blebs within cpx
Opaque			7	7		0.01	0.8	0.3	anhedral	equant			interstitial	some with tendency to poikilitic growth; many tiny grains as alteration products
Quartz			15	15		0.1	1	0.4	anhedral	equant			interstitial	
SECONDARY MIN	IERALO	DGY												
Alteration don Recrystalliz	nain or ation:	featu	re:		backgr partial	ound			Total alteratio Recrystallizat	n (%): ion degree:	3.5 3			presence of large plag laths, tiny roundish oxides in cpx, a few in opx
General alte	eration o	comm	Present (%) the	Comm	ient									
Actinolite Green horni Talc Chlorite Titanite Chalcopyrite	blende		1 ).5 ).5 ).5 ).5 ).5	fibrous blebs v replaci fibrous corona corona	, replac within c ng opx , replac around around	cing opx px , mixed cing opx d magn d opx	<, cpx i with cl & play etite	n coror nlorite	na					
Alteration don Recrystalliz General alte	nain or ation: eration o	featur	r <b>e:</b> ent:		coarse incipie	graine nt	d vein		Total alteratio Recrystallizat	n (%): ion degree:	13.6 1			partially recrystallized pyrox without oxide inclusion
			Present (%)	Comm	ient									
Actinolite Green horni Brown horn Epdote Talc Smectite Chlorite Magnetite	blende blende	(	3 2 2 ).1 2 ).5 3 1	fibrous replaci replaci replaci replaci fibrous within	, replac ng cpx ng opx ng plag ng opx ng opx , replac cpx & o	cing cpx & opx cpx as within in coro cing cpx px	corona microc na, mix , opx 8	in cord racks rack with	ona h chlorite					
VEINS AND HALC	DS aposition	nal cor	nme	nt:				Vein	generation.		Average vein	thicknes (mm):	Halo width (mm).	Total halo (%):
halo but no irregular, cu	obvious It grain t	s vein bound	aries	;				Junit			0.05 0.01 0.07		2	50

OSTRUCTURES Microstructure comments sample is out by prominent magmatic vein with Irregular non-planar shape. plag in and outside of vein appear weakly deformed with incipient recrystallization. some metamorphosed veins also present, which are crosscut by later narrower veins



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256 microcrys very heter crystal pla Run 12 Rock Q	D-Run talline ogene istic de	12-RCJ to fine g ous roo eformat	IB-Rock grained k with a ion; mo	kQ-TSB granobl a orient de estim	25-TS_ astic di ated fal ation v	25 ike witi bric in rery un	h banding and f many parts, bu icertain due to i	oliation t not in all; mark nhomogeneity o	ked banding due of the rock	to parallel continuous	s or discontinuous ba	nds with defined mode (mostly due to amount of opx and oxides); no		
PRIMARY MINER	ALOGY		Numb	er of do	mains:		1		Nature of igne	ous domains:					
<b>Igneous doma</b> Domain gra Domain text General cor	in name: in size: ture: mment:		domai microc granul	n 1 rrystallir ar	ne to fine	e graine	ed		Domain litholo Grain size dis Relative abun	ogy: tribution: idance (%):	microcrystalline to fir seriate	ne grained granoblas	tic dike, with banding and foliation		
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment		
Plagioclase	se 48 50 0.01 0.8 0.1 anhedral to tabular to continuous inclusion-bearing crystals are in some banded zones larger and follow foliation; subhedral elongated zoning abundant colorless inclusions show inclusions of tiny oxides; some show exsolutions of oxide;														
Clinopyroxe	ne	18	20		0.01	0.8	0.1	anhedral to	equant to		colorless	inclusions	show inclusions of tiny oxides; some show exsolutions of oxide;		
Orthopyroxe	ene	13	15		0.01	0.6	0.1	anhedral to	equant to		pale pinkish brown	inclusion-bearing	show tiny oxide and cpx inclusions; form clusters and bands,		
Amphibole		3			overgrows cpx										
Opaque		15	15		0.01	0.8	0.1	anhedral	aggregates equant			aggregates	many tiny grains in cpx and opx; exsolutions in cpx; tend to form aggregates; some with "diffuse" boundaries		
SECONDARY MIN	IERALOGY	,													
Alteration dom Recrystalliz	nain or feat ation:	ure:		backg comple	round ete			Total alteration Recrystallizati	n (%): on degree:	5 6			plag laths do not remain, oxides in inclusion in every other mineral		
General alte	eration com	ment:		almost	t totally f	resh ou	ut of al	teration vein. h	alos are also alr	most absent					
		Present (%)	Comm	nent											
Actinolite Green horni Brown horni Talc Chlorite Titanite Chalcopyrite Pyrolite	blende blende	0.5 0.5 0.5 0.5 0.5 0.5 1 1	fibrous replac replac fibrous interst interst interst	, replac ing the ing the ing opx , replac itial, co itial	cing cpx 2 pyrox 2 pyrox cing opx rona aro	in coro & plag und ma	na agnetit	e							
VEINS AND HALC	os														
Vein fill com branching, c irregular, dis	positional o discontinuo scontinuous	iomme JS	ent:				Vein g	eneration:		Average vein 0.05 0.01	thicknes (mm):	Halo width (mm):	Total halo (%):		
MICROSTRUCTU	RES ure comment	nts urse m	armatir	nlag (	ovides o	ommor	lv app	ear elongated r	parallel to plan	some deformat	ion twins are present i	n large plag grains in	nineral alignments produce macroscopic annearance of banding		

strong alignment of coarse magmatic plag, oxides commonly appear elongated parallel to plag. some deformation twins are present in large plag grains. mineral alignments produce macroscopic appearance of bandli some recrystallized areas are fine-grained and isotropic. some plag phenocrysts have subgrains along their edge, but most boundaries are straight, suggesting a low amount of subgrain rotation recrystallization



#### SAMPLE: 335-1256D-Run12-RCJB-RockS-TSB26-TS 26 contact: two granoblastic dikes with different grainsizes contact of two granoblastic dikes with different grain sizes; contact represent obviously former dike/dike contact; modal zoning and absence of phenocrysts directly at the contact of the more fine grained imply Rock name: Rock comment: that this zone correspond to a former chilled margin Unit/subunit: Piece no.: Run 12 Rock S PRIMARY MINERALOGY Number of domains: 2 Nature of igneous domains: mix of two lithologies within one sample Domain lithology: Grain size distribution: Relative abundance (%): cryptocrystalline phyric basalt, granoblastic overprinted Igneous domain name domain 1 inequigranular 60 Domain grain size: Domain texture: General comment: cryptocrystalline granoblastic Ē (m m) (m m) repl. (%) (%) (%) mode ( Present Original Size min. max. Shape Habit Zoning Color, exsolution Special features Comment Vol. Size Size Plagioclase 50 50 0.01 1.2 0.09 subequant continuous inclusion-bearing many bear tiny cpx inclusions; many former phenocrysts with euhedral shape integrated into the granoblastic matrix anhedral to subhedral zoning abundant Clinopyroxene 30 28 0.01 0.1 0.06 anhedral equant to colorless inclusion-bearing many of them show inclusions of tiny oxides and cpx prismatic equant to prismatic equant 13 15 0.01 0.1 0.07 anhedral pale pinkish brown inclusion-bearing many of them show inclusions of tiny oxides and cpx Orthopyrox Opaque 5 5 0.01 1.2 0.05 anhedral many tiny grains in cpx and opx many tiny fine grained aphyric basalt, granoblastic overprinted equigranular 40 domain 2 fine grained granoblastic Igneous domain name: Domain grain size: Domain lithology: Grain size distribution: Domain texture: Relative abundance (%): General comment: e min. (mm) (uuu (%) (%) (%) Present ( Original ( Vol. repl. max. mode Shape Habit Zoning Color, exsolution Special features Comment Size Size Size 53 Plagioclase 55 0.8 0.2 subhedral tabular to elongated continuous inclusion-bearing many bear tiny cpx inclusions; many former phenocrysts with euhedral shape integrated into the granoblastic matrix zoning abundant 0.05 0.8 0.2 anhedral to subhedral prismatic 0.05 0.8 0.3 anhedral to subhedral prismatic 0.01 0.2 0.06 anhedral equant 23 25 many of them show tiny oxide inclusions; some show presence of Clinopyroxene colorless lamellae inclusion-bearing ons 13 15 many of them show tiny oxide inclusions Orthopyroxene pale pinkish brown inclusion-bearing 5 5 Opaque many tiny grains in cpx and opx SECONDARY MINERALOGY Alteration domain or feature: Recrystallization: Total alteration (%): Recrystallization degree: coarse grain zone partial 8.8 2 slightly recrystallized, presence of roundish opaques in pyrox, roundish pyrox inclusions within plag General alteration comment: extremely fresh except in alteration veins (%) Comment Actinolite Green hornblende Brown hornblende Talc Smectite fibrous, replacing cpx & opx in corona replacing cpx replacing cpx, or igneous 1 0.5 replacing cpx, or igneous replacing opx 0.5 replacing opx 1 replacing opx fibroux, replacing opx & plag corona around plag laths 0.5 euhedral in inclusion in plag replacing cpx & opx with amphibole 0.3 corona around opx Chlorite Secondary plag. Titanite Magnetite Pyrolite Alteration domain or feature: Recrystallization: Total alteration (%): Recrystallization degree: fine grain zone complete 4.5 5 total recrystallization except in some plag-rich patches, 2% of plag lath General alteration comment: extremely fresh except in alteration veins, sulfides are aligned resent (%) Comment Actinolite 0.5 replacing opx 0.5 replacing opx in corona, mixed with chlorite Actinoité Talc Smectite Chlorite Secondary plag. Titanite Magnetite Chalcopyrite Pyrolite 10.5 replacing opx in course, interest way, 10.5 replacing opx 1 fibrous, replacing opx & plag, 10.5 corona around plag laths 0.5 euchedral in inclusion in plag, 0.5 replacing cpx & opx with amphibole 0.25 corona around opx 0.25 corona around opx VEINS AND HALOS Average vein thicknes (mm): 0.01 Vein fill compositional comment: irregular, discontinuous Vein generation: Halo width (mm): Total halo (%): MICROSTRUCTURES Microstructure comments contact between granoblastic gabbro and fine grained gabbro. a vein parallels the contact then diverts away, oblique to the contact. black veins (amphibole) are parallel to eachother, but some form conjugate sets phenocysis of plag have straight boundaries in contact with finer grained crystals



SAMP Rock I Rock 0 Unit/s	LE: name: comment: ubunit:	335-1256 fine grain Run 12 Book T	iD-Run ed aph	12-RCJ yric bas	B-Rock alt gran	T-TSB2 ioblasti	27-TS_2 c overp	27 rinted						
DDIM				Numb	ar of dor	naine:		1		Nature of ign	oue domaine:			
1 13100		2001		Numbe	51 01 001	naina.				Nature of Igne	ous uomains.			
lgn	eous domai Domain grai Domain texti General com	n name: n size: ure: nment:		domaii fine gra granot some l	n 1 ained blastic inear ali	ignmen	it of mir	ierals	(opx, plag);	Domain lithole Grain size dis Relative abun	ogy: tribution: idance (%):	fine grained aphyric equigranular 90	basalt, granoblastic	overprinted
			Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
	Plagioclase		58	60		0.05	1	0.3	subhedral	elongate	continuous zoning abundant		inclusion-bearing	dusty appearance; some have tiny cpx inclusions
	Clinopyroxer	ne	16	18		0.01	0.4	0.1	anhedral to subhedral	prismatic		colorless		many of them show tiny oxide inclusions
	Orthopyroxe	ne	15	17		0.01	0.4	0.1	anhedral to subhedral	prismatic		pale pinkish brown		oxide inclusions; some form clusters
	Amphibole		2			0.01	0.05	0.04	subhedral	fibrous aggregates		pale green to green	overgrowth	overgrows cpx
	Opaque		5	5		0.01	0.2	0.1	anhedral	granular				many tiny grains in cpx
SECO	NDARY MIN eration dom Recrystalliza	ERALOG	ť ture:		backgro incipien	ound			Total alteration Recrystallizati	n (%): on degree:	16 1			pyrox not recrystallized, presence of roundish opque within cpx, plag in laths
	General alle		Present (%)	Comm	ient									
	Actinolite Green hornb Brown hornb Talc Chlorite Secondary p Titanite Magnetite Chalcopyrite	elende elende elag.	3 1 3 3 0.5 1 0.5	fibrous replaci replaci fibrous replaci euhed replaci corona	replaci ng cpx & ng cpx & ng opx i , replaci ng plag ral in inc ng opx & a around	ing cpx & amph & opx in coror ing cpx lusion & cpx n l opx	in cord nibole na, mixe , opx & in plag nixed w	na, op ed with plag ith oth	x & plag n chlorite er alteration ph	ases				
VEINS		S		at:				Voin -	on oration:		Augrage 1	thicknes (mm):	Hole width (mark)	Tatal kala (9/ )
	prehnite has	blocky ap	comme pearan	nt: Ce				veing	eneration:		0.1	unicknes (mm):	riaio width (mm): 2	40
MICRO	DSTRUCTUR Microstructu	RES re comme	nts											



SAMPLE: C Rock name: f Rock comment: g Unit/subunit: f Piece no.: f	335-1256E ine graine granoblast Run 12 Rock V	D-Run id grar tic dike	12-RCJE ioblastic with pa	B-Rock <sup>1</sup> c dike w atches c	V-TSB2 ith coar of oxide	28-TS_: rser gra norite;	28 ained not cl	oxide noritic pa ear whether the	tches ise are related t	o magmatic proc	cess		
PRIMARY MINERAL	.OGY		Number	r of dor	nains:		2		Nature of igne	ous domains:		host rock with coarse	er grained patches
<b>Igneous domain</b> Domain grain Domain textur General comr	name: size: re: nent:		domain fine gra granobl some lii	i 1 lined lastic near ali	gnmen	t or clu	sterinç	l of opx	Domain litholo Grain size dis Relative abun	ogy: tribution: dance (%):	fine grained aphyric l equigranular 90	basalt, granoblastic o	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		55	55		0.01	1	0.3	subhedral	elongate	continuous zoning		inclusion-bearing	dusty appearance; some have tiny cpx inclusions
Clinopyroxene		15	15		0.01	0.2	0.1	anhedral to	prismatic	abundant	colorless		
Orthopyroxen	e	22	22		0.01	0.8	0.1	anhedral to	prismatic		pale pinkish brown	inclusion-bearing	oxide inclusions; form bands and clusters
Opaque		8	8		0.01	0.2	0.1	anhedral	granular				
<b>Igneous domain</b> Domain grain Domain textur General comr	name: size: re: nent:		domain fine gra granula very pa	i 2 iined ir itchy dis	stributio	ons of n	ninera	s; therefore mo	Domain litholo Grain size dis Relative abun de estimation is	ogy: tribution: dance (%): s very uncertain	fine grained oxide no equigranular 10	orite,	
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		40	40		0.05	0.8	0.3	subhedral	tabular	continuous zoning		inclusion-bearing	many crystals have "cores" of tiny cpx (photo); some have ghost structures eventually displaying a former magmatic feature
Clinopyroxene	•	9	10		0.05	0.4	0.2	anhedral to	equant to	abundant	colorless lamellae		some seem to be interstitial some to tend to be poikilitic; some
Orthopyroxen	e	38	40		0.05	1.2	0.4	subhedral	prismatic,		pale pinkish brown	inclusion-bearing	form large clusters; some grains are poikilitic; many tiny inclusions
Opaque		10	10		0.01	0.4	0.2	anhedral	equant		lamenae	interstitial	some with tendency to poikilitic growth; some aggregates
SECONDARY MINE	RALOGY												
Alteration doma Recrystallizati General altera	in or feat	nent: (%) mess	l I Comme	backgro partial t ent	ound to stron	g		Total alteratior Recrystallizati	n (%): on degree:	5.4 3			no oxide inclusions in cpx/opx, plag in laths
Actinolite Brown hornble Talc Chlorite Secondary pia Other Ca-Al s Titanite Magnetite Alteration doma	ende ag. ec. in or feat	1 0.5 1 0.5 2 0.1 0.1 0.2 ure:	fibrous in blebs in replace corona clays re euhedra replace	and rep n cpx ng opx i plag & around aplacing al cpx & cpx & patch	olace cp in fine n opx as plag la plag opx in a	ox needles fine ne aths associa	edles	ith amphibole Total alteratior	1 (%):	14.1			
Recrystallizati General altera	ion: ation comr	Present (%) neu	i Comme	incipien undulos ent	it se extin	iction ir	і срх б	Recrystallizati a opx	on degree:	1			large polikilitic opx, roundish opquas within cpx & opx
Actinolite Green hornble Talc Chlorite Secondary pla Titanite Magnetite	ende ende ag.	3 1 4 3 1 0.1 1	fibrous replace blebs w replacin replace corona euhedra replace	and rep opx wi vithin op ng opx i plag & around al cpx &	blace op thin cra x in crack opx in plag la opx in a	px & cp acks in a cracks aths associa	x associ	ation with talc					
VEINS AND HALOS Vein fill compo	ositional c	omme	nt:				Vein g	eneration:		Average vein t	hicknes (mm):	Halo width (mm):	Total halo (%):
irregular, disc	ontinuous									0.01 0.05			
Microstructure fine-grained n	e commen naterial sh	ts owing	contact	with co	arser r	egion, i	s part	ially recrystallize	ed, possible we	ak magmatic foli	ation. abundant narro	w deformation twins i	n plag

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MARY MINERALOGY		Numbe	er of do	mains:		2		Nature of igr	eous domains:		host rock with magr	natic patches
<b>gneous domain name:</b> Domain grain size: Domain texture:		domaii microc granob	n 1 rystallir blastic	ne				Domain litho Grain size di Relative abu	logy: stribution: ndance (%):	microcrystalline aph equigranular 20	yric basalt, granoblas	tic overprinted
General comment:	Present (%)	Driginal (%)	/ol. repl. (%)	ze min. (mm)	ze max. (mm)	ce mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	55	55	-	0.05	0.4	0.2	subhedral	elongate	continuous		inclusion-bearing	some show dusty appearance; some have tiny cpx inclusions
0		05		0.04			and a deal		zoning abundant			
Orthopyroxene	124	20		0.01	0.2	0.1	anneorai	prismatic		coloness lamellae	inclusion booring	orten contain uny oxide inclusions; some snow oxide exsolution as lamellae
Onnopyroxene	7	- 13		0.01	0.2	0.1	anneorai	prismatic		pale pinkish brown	inclusion-bearing	many uny inclusions or oxide, a rew plag
Domain grain size: Domain texture: General comment:	1 '	domain fine gra granula with cr	n 2 ained ar	o.or	0.2	ou.u	dilleuidi	Domain litho Grain size di Relative abu	logy: stribution: ndance (%):	fine grained tonalite, seriate 80	oxide rich	тпату шу угаль in срх ало орх, exsolutions in срх
General comment.	Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase	22	25		0.2	5	0.8	subhedral	tabular to elongated	continuous zoning			some show trails of tiny oxide inclusions
Clinopyroxene	15	20		0.1	0.9	0.4	subhedral	prismatic	abundant	pale green	inclusion-bearing	form clusters; show oxide inclusions; many are enclosed by
Amphibole	20	17		0.05	1.2	0.4	anhedral	prismatic		green to brown	interstitial growth	amphibole form interstitial network; some are poikilitic, enclosing cpx;
Opaque	8	8		0.1	4	0.4	anhedral	granular			aggregates	overgrown by actinolite form large aggregates; largest tend to poikilitic growth
Quartz	30	30		0.1	0.8	0.4	anhedral	equant			interstitial	
teration domain or fea Recrystallization: General alteration con	nment: (%) tuese	Comm	backgr partial the de	round gree of	alterati	on incr	Total alteration Recrystalliza reases close to	on (%): tion degree: o the patch, esp	7 2 ecially within cp>	& opx that are highly	decomposed	opx entirely recrystallized, cpx interstitial probably in the igneou position. numerous plag laths
Actinolite Green hornblende Brown hornblende Talc Chlorite Secondary plag. Titanite	2 1 0.5 1 1 1 0.5	fibrous replace replace replace replace replace euhed	s, replace e cpx ing cpx ing opx e plag a ing plag ral	cing cpx , or igne in cracl & opx, c	: & opx ious k px in c	racks						
Iteration domain or fea Recrystallization: General alteration con	ature: nment:		patch not pre qtz-dic olivine	esent orite esp , apatite	ecially ecially	altered	Total alteration Recrystallization near the contransformation	on (%): tion degree: tact with the gra n of plag into qt	39.5 0 inoblastic litholog z	gy. only about 10% alte	ration in the core of t	no recrystallization he patch; about 50% alteration at the contact. presence of zircor
	Present (%)	Comm	nent									
Actinolite Green hornblende Brown hornblende Epdote Talc Smectite	10 5 3 1 2 1 10 5	fibrous replaci replaci replaci replaci replaci replaci replaci	, replac ing cpx ing cpx ing plac ing opx ing opx ing pyro ing plac	cing cpx & amph , or igne ox, hbl &	hibole ious							
Chlorite Quartz Secondary plag. Titanite Magnetite Chalcopyrite	1 0.5 0.5 0.5	replaci euhedi within intersti	ing plag ral altered itial	cpx & c	рх							

Microstructure comments fine-grained material, slightly recrystallized, possible weak alignment of lath-shaped plag grains.



SAMPLE: Rock name: Rock comment: Unit/subunit:	335-1256 fine graine Run 13	D-Run ed aph	13-RCJ yric bas	IB-Rock salt grar	B-TSB: noblasti	30-TS_ c overp	,30 printed						
Piece no.:	Rock B												
PRIMARY MINER	ALOGY		Numb	er of do	mains:		1		Nature of igne	ous domains:			
<b>Igneous doma</b> Domain gra Domain text General cor	in name: in size: ture: mment:		domai fine gr granot	n 1 ained blastic					Domain litholo Grain size dis Relative abun	egy: tribution: dance (%):	fine grained aphyric equigranular	basalt, granoblastic o	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		53	55		0.05	0.8	0.3	subhedral	elongate	continuous zoning abundant		inclusion-bearing	some show dusty appearance; some have tiny cpx inclusions
Clinopyroxe	ne	23	25		0.01	0.4	0.2	anhedral to	equant to		pale green lamellae		often contain tiny oxide inclusions; some show oxide exsolutions as lamellae
Orthopyroxe Amphibole	ene	12 1	15		0.05 0.01	0.4 0.09	0.2 0.08	subhedral subhedral	prismatic fibrous		pale pinkish brown pale green to green	inclusion-bearing overgrowth	many tiny inclusions of oxide, a few plag overgrows cpx
Opaque		5	5		0.01	0.2	0.1	anhedral	granular				many tiny grains in cpx and opx; exsolutions in cpx
SECONDARY MIN	IERALOGY												
Alteration dom Recrystalliz General alter	nain or feat ation: eration com	t <b>ure:</b> ment:		backgr partial fresh o	ound to stron ut of the	g e altera	ition ve	Total alteratio Recrystallizat eins	n (%): on degree:	2.3 3			partial recrystallization of the pyrox. roundish ox inclusions in opx
		Present (%)	Comm	nent									
Actinolite		0.5	fibrous	, replac	ing cpx	& opx							
Green norm	biende	0.1	corona	around	1 Opx								
Talc		0.5	replac	ina opx	in coror	na, mix	ed with	n chlorite					
Chlorite		0.5	replac	e plag 8	opx in	associ	ation v	vith talc					
Titanite		0.1	euhed	ral									
Magnetite		0.5	dusty i	nclusio	n in son	ne pyro	x						
VEINS AND HALC	os												
Vein till com	positional c	omme	ent:				veing	eneration:		Average vein	nicknes (mm):	maio width (mm):	IOtal naio (%):
veinnet or	I U I VEIIIS									0.00			
MICROSTRUCTU Microstructu	RES ure commen	nts											

black actinolite veins crosscut sample; most are parallel to eachother or form conjugate sets



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256l fine graine granoblas Run 13 Rock B	D-Run ed aph tic dike	13-RCJ yric bas a; plain	IB-Rock salt grar	B-TSB3 noblastic	3-TS_ overp	33 rinted						
PRIMARY MINERA	LOGY		Numbe	er of do	mains:		1		Nature of igne	ous domains:			
<b>Igneous domai</b> Domain grai Domain text General con	in name: n size: ure: nment:		domaiı fine gr granot	n 1 ained blastic					Domain litholo Grain size dis Relative abun	egy: tribution: dance (%):	fine grained aphyric seriate	basalt, granoblastic o	verprinted
		Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclase		53	55		0.05	2	0.3	subhedral	tabular to elongated	continuous zoning abundant		inclusion-bearing	cpx inclusions; dust of oxide
Clinopyroxe	ne	19	20		0.01	0.4	0.1	anhedral	equant to prismatic		colorless lamellae		often contain tiny oxide inclusions; some show oxide exsolutions as lamellae
Orthopyroxe	ne	18	19		0.01	0.4	0.1	anhedral	equant to prismatic		pale pinkish brown	inclusion-bearing	many tiny inclusions of oxide
Amphibole Opaque		2 6	6		0.01 0.01	0.1 0.2	0.07 0.08	subhedral anhedral	prismatic granular		green	overgrowth	some actinolitic fibrous aggregates overgrows cpx many tiny grains in cpx and opx; exsolutions in cpx
SECONDARY MIN	ERALOGY												
Alteration dom Recrystalliza General alte	ain or feat ation: ration com	ure: ment: %	0	backgr partial	ound to stron	g		Total alteration Recrystallization	ı (%): on degree:	6 3			tiny roundish oxides in cpx and few in opx
		Presei	Comm	ient									
Actinolite Brown homb Talc Chlorite Titanite Chalcopyrite	blende	1 1 2 0.5 0.5	replaci replaci replaci euhedi corona	e cpx as ing cpx ing opx e pyrox ral, coro a arouno	s fine ne as coro in asso ona arou i opx	edles na ciation ind ma	with ta gnetite	lic, replacing pla	ıg				
VEINS AND HALO	S nositional c	omme	nt:				Vein c	eneration.		Average vein t	hicknes (mm):	Halo width (mm):	Total balo (%):
vein net, ofte	en "Y" shap	ed bra	inches							0.01			
MICROSTRUCTUR Microstructu black actinol	RES re commen ite veins cr	its osscut	sample	e; form	parallel	to eacl	hother	or form conjuga	ite sets				



#### SAMPLE: 335-1256D-Run14-EXJB-Folia-TSB32-TS 32 320-1200-Mult HEADProte 1922-1322 microcrystalline to fine grained grandbastic disk with banding and foliation wery heterogeneous rock with a orientated fabric in many parts, but not in all; marked banding due to parallel continuous or discontinuous bands with defined mode (mostly due to amount of opx and oxides); no crystal plastic deformation; could be metamorphic herocitated sheeted disk; mode estimation very uncertain due to inhomogeneity of the rock Rock name: Rock comment: Unit/subunit: Piece no.: Run 14 Folia PRIMARY MINERALOGY Number of domains: 1 Nature of igneous domains: Igneous domain name: domain 1 Domain lithology: microcrystalline to fine grained granoblastic dike, with banding and foliation Domain grain size: Domain texture: General comment: Grain size distribution: seriate microcrystalline to fine grained granular Relative abundance (%): Vol. repl. (%) Size min. (mm) max. (mm) (m m) Present (%) (%) Original ( node Shape Color, exsolution Special features Comment Habit Zoning Size I Size Plagioclase 50 inclusion-bearing crystals are in some banded zones larger and follow foliation; 48 0.01 0.8 tabular to continuous 0.1 anhedral to subhedral crystals are in some banded zones larger and follow foliation; some larger grains bear tincy zor and coxide inclusions implying ghost structures from the magmatic stage rare in the granoblastic matrix; larger grains are poixItilic or polikioblastic (photo) enclosing plag, opx, oxide; some show exsolutions of oxide form clusters or bands; some are completely filled with roundish plag (photo); some show mm-long polikiloblastic columns following the foliation overgrows cpx elongated zoning abundant equant to prismatic 0.01 1.6 0.1 anhedral to subhedral Clinopyroxene 5 5 colorless inclusions 0.01 3 0.1 anhedral to subhedral 32 33 equant to prismatic Orthopyroxene pale pinkish brown inclusion-bearing fibrous aggregates equant Amphibole 2 0.01 0.1 0.05 subhedral pale green to green overgrowth Opaque 12 12 0.01 1.6 0.1 anhedral aggregates tend to form aggregates and to enclose other phases, especially ດກາ SECONDARY MINERALOGY Alteration domain or feature: Recrystallization: background complete Total alteration (%): Recrystallization degree: 1.7 6 totally recrystallized with mineralogical zonations and opx/cpx General alteration comment: fresh with alteration only in veins (%) Comment Pres Actinolite Talc Chlorite Titanite Magnetite Chalcopyrite a. c. VEINS AND HALOS Average vein thicknes (mm): Halo width (mm): Total halo (%): 0.05 0.1 40 Vein fill compositional comment: follows grain boundaries in breccia matrix area Vein generation: when cuts cpx crystal, entire crystal replaced by 0.05 MICROSTRUCTURES Microstructure comments possible former hydrothermats foliation in part of sample defined by alignment of oxides and plag some layers of coarser plag appear to be weakly folded





Microstructure comments magmatic veins crosscut the sample disaggregating the granoblastic gabbro. The magmatic veins form interesting patterns, some anastmosnig, others form 'V' shapes. The opx-rich veins have similar orientation of 'V's' but the plag-rich veins are in a different orientation. a larger magmatic vein crosscuts a large portion of the section disaggregating the granoblastic gabbro, forming a network vein



### SAMPLE: 335-1256D-Run17-BSJB-TSB34-TS\_34 320-1200-Mail (17-8506-135-4-13\_5-4 microcystalline abilitie oxide intra) magmatic structures and textures are blurred. One end of the rock shows slightly coarser grain size. Primary malic phase is probably oxide. Metamorphic phases: porphytoplastic epidote and clinopryoxene; brownish homblende; leucoxene (itanite/limente-alteration). Primary mode very uncertain, due to the pervasive alteration. Rock name: Rock comment: Unit/subunit: Piece no.: Run 17 PRIMARY MINERALOGY Number of domains: 1 Nature of igneous domains: Domain lithology: Grain size distribution: Relative abundance (%): Igneous domain name: domain 1 microcrystalline albitite, oxide rich Domain grain size: Domain texture: General comment: microcrystalline granular equigranular Vol. repl. (%) Size min. (mm) (mm) Size max. (mm) Original (%) Present (%) node Habit Zoning Color, exsolution Special features Comment Shape Size I Plagioclase strongly altered to dusty brown masses; ghost crystal from the subequant to 0.05 0.8 90 0.1 subhedral magmatic stage are visible secondary, probably diopside; grows in part poikilitically from the matrix high-T amphibole (brownish) together with epidote tabular prismatic 0.05 1.6 0.1 subhedral Clinopyroxene colorless twinnings 0.05 0.2 0.1 subhedral green to brownish green Amphibole flaky to fibrous 6 0.01 0.2 0.1 anhedral tend to form aggregates and to enclose other phases Opaque granular SECONDARY MINERALOGY Alteration domain or feature: Recrystallization: General alteration comment: background Total alteration (%): 57 strong to complete Recrystallization degree: 5? presence of rutile needles within ilmenite. variation of the alteration degree (%) Comment Actinolite 3 replacing cpx Actinolite Green hornblende Brown hornblende Epdote Chlorite Secondary plag. Other Ca-Al sec. Titanite Ilmenite replacing cpx replacing cpx replacing cpx a mphibole replacing plag & interstitia replacing plag & amph replacing plag & amph replacing plag interstitial replacing magnetite

VEINS AND HALOS

Vein fill compositional comment: Vein generation: Average vein thicknes (mm): Halo width (mm): Total halo (%):

MICROSTRUCTURES

Microstructure comments weak banding (?)of regions of different grain size and possible slight preferred orientation of opaque grains



#### SAMPLE: 335-1256D-Run19-RCJB-RockC-TSB40-TS 40 score zouch will remote house i concerning the second seco Rock name: Rock comment: Unit/subunit: Piece no.: PRIMARY MINERALOGY Number of domains: 2 Nature of igneous domains: diorite probably intruded the dike Domain lithology: fine grained aphyric basalt, granoblastic overprinted Grain size distribution: equigranular Ralativa abundance (%): 70 State texture, converted to granulite facies assemblage; a few grains of interstitial quartz Igneous domain name: Domain grain size: Domain texture: General comment: domain 1 granoblastic dike with primary intergranular or (um) (mm) (%) (%) (%) Original ( repl. node Present min. max. Shape Habit Zoning Color, exsolution Special features Comment Vol. Size r Size continuous zoning abundant Plagioclas 52 55 0.05 2 subhedra tabular to elongated inclusion-bearing cpx inclusions; dust of oxide Clinopyroxene 15 19 0.01 0.4 0.2 anhedral equant to prismatic colorless lamellae often contain tiny oxide inclusions Orthopyroxene 15 19 0.01 0.4 0.2 anhedral to equant to prismatic pale pinkish brown inclusion-bearing many tiny inclusions of oxide subhedral 0.1 0.4 0.2 anhedral 5 Amphibole prismatic, green to brown hbl flakes in the zone near the dioritic vein; some actinolitic fibrous aggregates overgrows cpx many tiny grains in cpx and opx; some grow interstitially enclosing matrix minerals . flaky 8 7 0.01 0.4 0.2 anhedral Opaque granular domain 2 medium grained granular large fresh hornblendes; zircon, apatite; intere Domain lithology: medium grained homblende diorite, qtz bearing Grain size distribution: equigranular Relative abundance (%): 30 socked with offshooting vein infiltrating granoblastic matrix; this offshoot contains quartz, the main vein not Igneous domain name: Domain grain size: Domain texture: General comment: (mm) (mm) (u u) (%) (%) Present (%) Original ( mode repl. max. min. Shape Habit Zonina Color, exsolution Special features Comment Vol. Size r Size n Size n 23 32 Plagioclase 0.1 3 subhedral tabula very patchy altered: some with ghost cores patchy zoning abundant prismatic Clinopyroxene 1 1 0.1 0.9 0.3 anhedral to subhedral colorless to pale twinnings poikilitic growth, only in the offshoot vein, enclosing granoblastic poikilitic prismatic green green to brownish green minerals forms clusters 0.1 9 2 subhedral Amphibole 70 65 Opaque 1 1 0.1 2 0.3 anhedral to equant interstitial grains show elongated inclusions (titanite?) subhedral 1 1 0.1 0.4 0.2 anhedral Quartz equant SECONDARY MINERALOGY Total alteration (%): Recrystallization degree Alteration domain or feature: Recrystallization: background partial 16.5 2 background with some ox inclusions in a cpx partially recrystallized and altered. numerous plag laths General alteration comment: opx more altered than cpx % Comment replacing cpx & opx replacing cpx & opx replacing pyrox replacing plag replacing opx replacing opx replacing plag & pyrox replacing plag replacing magnetite se Actinolite Green hornblende Brown hornblende Epdote Talc 3 0.5 0.5 Talc Smectite Chlorite Secondary plag. Titanite Magnetite Chalcopyrite Pyrolite 0.5 replacing plag replacing magnetite as corona replacing cyx with amphibole replacing cyx with amphibole replacing opx as corona. interstitial o.5 interstitial and corona around opx magmatic vein Total alteration (%): not present Recrystallization degree: presence of zircon and relics of magmatic poikilitic cp 41 0 Alteration domain or feature: plag and amphibole assemblage without recrystallization Recrystallization: General alteration comment: Present (%) Comment replace amphibole & plag replacing brown hbl & former pyrox 55% of total brown hbl with 45% igneous. 10% replacing cpx and primary hbl Actinolite Green hornblende Brown hornblende 6 10 Epdote replacing plag as laths Chlorite replacing plag 4 8 7 1 replacing plag as small veins Secondary plag. Other Ca-Al sec. clays replacing plag replacing oxides in plag Titanite Alteration domain or feature: Recrystallization: General alteration comment: vein halo partial presence of zircon Total alteration (%): Recrystallization degree: 46.8 2 idem background with more alteration (% Comment replacing cpx & opx replacing cpx replacing cpx & opx replacing plag replacing opx replacing opx Actinolite 13 Green hornblende Brown hornblende 5 2 Epdote Talc Smectite Chlorite Secondary plag. Titanite Teplacing plag & pyrox replacing plag veplacing plag veplacing plag veplacing magnetite as corona veplacing magnetite Ilmenite VEINS AND HALOS Average vein thicknes (mm): Halo width (mm): Total halo (%): Vein fill compositional comment: amphibole when cross cutting intrusion Vein generation 0.1 0.1 0.1 0.1 diffuse, not coherent linear feature, interconnecte variable thickness, crosscuts magmatic intrusion 0.05 MICROSTRUCTURES

Microstructure comments

magmatic vein crosscuts sample. qtz exhibits undulose extinction; the plag exhibits deformation twinning; and the amphibole is sometmes kinked







SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:		335-1256D-Run20-RCJB-TSB37-TS_37 medium grained disseminated oxide olivine gabbro opx-bearing												
		Run 20												
PRIMAR	Y MINERA	LOGY		Numbe	er of do	mains:		1		Nature of igne	ous domains:			
<b>Igneo</b> Do Do Ge	ous domain omain grain omain textu eneral com		domair mediur suboph	n 1 m grain nitic to g	ed Iranular				Domain lithology: Grain size distribution: Relative abundance (%):		medium grained disseminated oxide olivine gabbro, opx-bearing equigranular to poikilitic			
	Present (%)				Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
OI	ivine		7	10		0.2	2	1	subhedral	prismatic			inclusion-bearing	contains mu-sized wormy exsolutions of probably oxides; roundish inclusions with radiating cracks (former melt inclusions?); trails of micrometer sized oxides
Pla	agioclase		40	48		0.05	2.4	0.8	subhedral	tabular to elongated	patchy zoning abundant			very patchy zonation exhibiting "ghost" cores; these "cores" also show dust of oxide particles
CI	inopyroxen	10	20	35		0.2	2	0.8	anhedral	poikilitic		colorless	twinnings	overgrown by green to brownish hbl, which is in turn replaced by actinolite
Or Ar	thopyroxer nphibole	ne	1 25	2 4		2 0.1	2 0.4	2 0.2	subhedral anhedral	prismatic interstitial		colorless green to brown	interstitial growth	one grain, coexisting with cpx some crystals with brownish domains grew interstitially implying a magmatic origin: often associated with oxide
Of	paque		1	1		0.1	0.8	0.4	anhedral	equant			interstitial	some of the larger oxides are associated with brown amphibole; lots of tiny secondary oxides around the olivines; largest tend to poikilitic growth
SECONDARY MINERALOGY														
Altera Re Ge	ation doma ecrystalliza eneral alter	ain or fea ition: ration com	ture: ment:		backgr not pre classic	ound sent al olivin	e-gabb	ronori	Total alteration Recrystallization te with highly alt	(%): 55.9 single alteration in degree: 0 single alteration ared cpx, opx and olivine. abundant smectite around olivine. 3 types of corona around olivine: oxide, smectite, chlorite+actinolite assembleg				
		(%) used												
Ac	tinolite	landa	10	replaci	ng pyro	x, ampl	nibole							
Br	own homb	lende	5	replaci	ng cpx		WITTIDI							
la Sr	nectite		5	replaci	ng olivi ng olivi	пе & ор пе & ор	x x as co	rona						
Cł	nlorite Isty CPX		8 10	replaci	ng plag	& olivir	ne, fibro	ous at	the grain bound	aries. replacing	probably pyrox	also		
Se	econdary pl	lag.	3	3 replacing plag										
Ot Tit	ther Ca-Al : anite	sec.	1 clays replacing plag 0.5 replacing oxides within hbl 3 replacing ox within amphibole, corona around olivine & opx											
Ma	agnetite													
Ot	her oxide		0.2	rutile in	n amphi	bole cle	avage	s 8 cou	ona around oliv	ine				
Py	rolite		0.2	replaci	ng chal	copyrite	within	amph	ibole, within alte	red pyrox & co	rona around oliv	ine		
VEINS A		S		t:				Voin -	operation		Augrage 10-1-	hisknes (mm):	Hole width (mm)	Tetal hole (9/ ):
as	as microveins around placioclase in some areas							vein g	eneration:		0.01	nicknes (mm):	naio width (mm):	Total Halo (76).
co	composition varies along vein										0.1			
MICROS	TRUCTUR	ES												
oli	vine has no	re comme ormal exti	nts nction											



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:		335-12 contact	1256D-Run20-RCJB-TSB39-TS_39 st: a libitie, qtz-diorite in 1 is noncesimula altered to altibitie, and the primary magmatic structures and textures are blurged													
		Run 20 Rock E	1 is pe	ervasively	y altered	to albi	tite, and	a the p	rimary magmai	tic structures an	id textures are b	lurred				
PRIMA	RY MINER	ALOGY		Number of domains: 2							Nature of igneous domains:			contact between two lithologies; sutured contact		
Igneous domain name: Domain grain size: Domain texture: General comment:		:	domain 1 microcrystalline granular protolithic rock of unknown s chlorite, diopside, actinolite,					is completely a /ilmenite-altera	Domain litholo Grain size dis Relative abun Itered to albitite tions, titanite. N	ogy: stribution: idance (%): , and the primar lo primary mode	microcrystalline albit equigranular 90 y magmatic structures , due to the pervasive	litte, oxide rich is and textures are blurred; probably former granoblastic dike; metamorphic phases: e alteration.				
			Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment		
ī	Plagioclase Opaque		95			0.05 0.01	0.4	0.1	subhedral anhedral	subequant to tabular granular			aggregates	strongly altered to dusty brown masses; ghost crystal from the magmatic stage are visible oxide distribution very uneven: two domains, one oxide-rich, and one nearly oxide-free		
Igneous domain name: Domain grain size: Domain texture: General comment:			:	domaii coarse granul strongl	n 2 9 grainec ar ly altere	i d; mod	e very u	uncerta	ain, due to coar	Domain litholo Grain size dis Relative abun se-grained rock	ogy: stribution: adance (%): s an only very lim	coarse grained quar equigranular 10 hited rock in the ts	tz diorite,			
			Present (%)	Original (%)	Vol. repl. (%)	Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment		
ī	Plagioclase		80	90		0.4	5	3	subhedral	tabular	patchy zoning abundant			strongly altered		
	Quartz			10		0.1	0.8	0.4	anhedral	equant			undulatory extinction	interstitial		
SECO	NDARY MIN	IERALO	GY													
Alte	Alteration domain or fea Recrystallization: General alteration con		eature:	ire: coarse grained patch not present ent:					Total alteration Recrystallizati	n (%): ion degree:	64.5 0					
-																
Actinolite     5     replacing magmatic amphibole, fibers & plag       Epdote     4     replacing plag as laths       Chlorite     5     fibrous & globular, replacing plag & amphibole       Quartz     3     corona around plag       Secondary plag.     25     albite, replacing plag as inswithin primary plag       Zaclite     1     replacing plag       Prehnite     1     replacing plag       Other Ca-Al sec.     20     calyse replacing plag       Titholite     0     calorize or plag																
Alteration domain or fea Recrystallization: General alteration con			eature:	ture: oxide-poor zone Total alteration not present Recrystallizatio							87.5 0					
-		Present (%)	Comm	nent												
	Actinolite Green hornt Epdote Chlorite Quartz Secondary p Zeolite Prehnite Other Ca-Al Titanite	2 4 6 2 32 1 3 35 1.5	replaci replaci replaci replaci replaci replaci replaci replaci clays r	ing magi e cpx? ing plag ing plag ing plag ing plag ing plag replacing itial	matic a as sma & qtz g plag	mphibo all laths	vie & p	lag, tibers								
Alte	eration dom Recrystalliza General alte	eature:	:	oxide-ri not pre:	ich zon sent	e		Total alteration Recrystallizati	n (%): ion degree:	78 0						
			Present (%)	Comm	nent											
	Actinolite Green hornt Epdote Chlorite Quartz Secondary p Prehnite Other Ca-Al Titanite	blende plag. I sec.	3 1 3 6 1 28 1 30 5	replaci replaci replaci replaci replaci replaci clays r replaci	ing magi e cpx? ing plag ing plag ing plag ing plag ing plag ing magi ing magi	matic a as sma & qtz g plag netite a	mphibo all laths round o	ele & p	lag, fibers s							
VEINS	AND HALO	DS Ipositiona	al comm	ent:				Vein g	eneration:		Average vein t	thicknes (mm):	Halo width (mm):	Total halo (%):		
	branch of qt branch of th prehnite and	tz+chlorit le qtz/chl d chlorite	e+prehi orite/ac replaci	nite vein tinolite/ca ng qtz	arbonate	vein					0.1 0.2 0.1 0.1 1					
MICRO	carbonate p	RES	ithin qtz	, chlorite	along v	ein					1					

contact between fine grained and coarse grained rocks is sharp. the coarse grained section seems to have a chilled margin. several veins crosscut the sample but are parallel to eachother



SAMPLE: Rock name: Rock comment: Unit/subunit: Piece no.:	335-1256i fine graine opx vein Run 20	D-Run ed phy	20-RCJI rric basa	B-TSB4 It granol	1-TS_4 blastic (	1 overpri	nted						
PRIMARY MINERALOGY Number of domains: 1 Nature of in							1		Nature of igne	ous domains:			
Igneous domain name: Domain grain size: Domain texture: General comment:			domain fine gra granob	n 1 ained lastic					Domain lithology: Grain size distribution: Relative abundance (%):		fine grained aphyric basalt, granoblastic o equigranular		verprinted
	Present (%)				Size min. (mm)	Size max. (mm)	Size mode (mm)	Shape	Habit	Zoning	Color, exsolution	Special features	Comment
Plagioclas	ie	54	55		0.05	3	0.4	subhedral	elongated	continuous zoning abundant		inclusion-bearing	cpx inclusions; dust of oxide
Clinopyrox	kene	22	24		0.01	0.5	0.2	anhedral	equant to prismatic		colorless lamellae		often contain tiny oxide inclusions
Orthopyro	xene	13	16		0.01	0.4	0.2	anhedral to subhedral	equant to prismatic		pale pinkish brown	inclusion-bearing	some bear inclusions of oxide
Amphibole Opaque	9	3 5	5		0.1 0.01	0.4 0.2	0.2 0.1	subhedral anhedral	fibrous granular		green		actinolitic fibrous aggregates overgrow cpx many tiny grains in cpx and opx; some grow interstitially enclosing matrix minerals
SECONDARY MI Alteration do Recrystalli General al	INERALOGY omain or feat ization: Iteration com	ment: (%) ment:	Comm	backgro strong dusty pl ent	ound ag freq	uent. n	elativel	Total alteration Recrystallizatic	(%): in degree: e according to t	14.2 3	standards		recrystallized pyrox with remaining plag laths. presence of roundish oxides wihtin cpx & few in opx. roundish cpx in plag
Green hon Brown hor Talc Smectite Chlorite Quartz Secondary Titanite Magnetite Other oxid Chalcopyri Pyrolite	nblende mblende y plag. le ite	2 1 2 1 1 2 1 0.5 0.1 0.1 0.5	replacii replacii replacii replacii replacii 2% igni replacii replacii replacii rutile w corona interstit	ng cpx ng pyrox ng opx, 1 ng opx ng plag eous? ng plag ng magr ng pyrox ithin cpx around tial and o	( fibrous & cpx, 1 hetite in ( with a ( & plag opx corona	in coro needle: coron; mphibo J arounc	na s withir a ble, cor I pyrox	n primary grain ona around opy and oxide	¢				
VEINS AND HAL	-OS mpositional c	omme	ent:				Vein g	eneration:		Average vein ti 0.01 0.01 0.01 0.1	nicknes (mm):	Halo width (mm):	Total halo (%):
MICROSTRUCTI	UKES												

Microstructure comments several veins crosscut the sample. a thicker actinolite vein is crosscut by a thinner actinolite anhedral vein