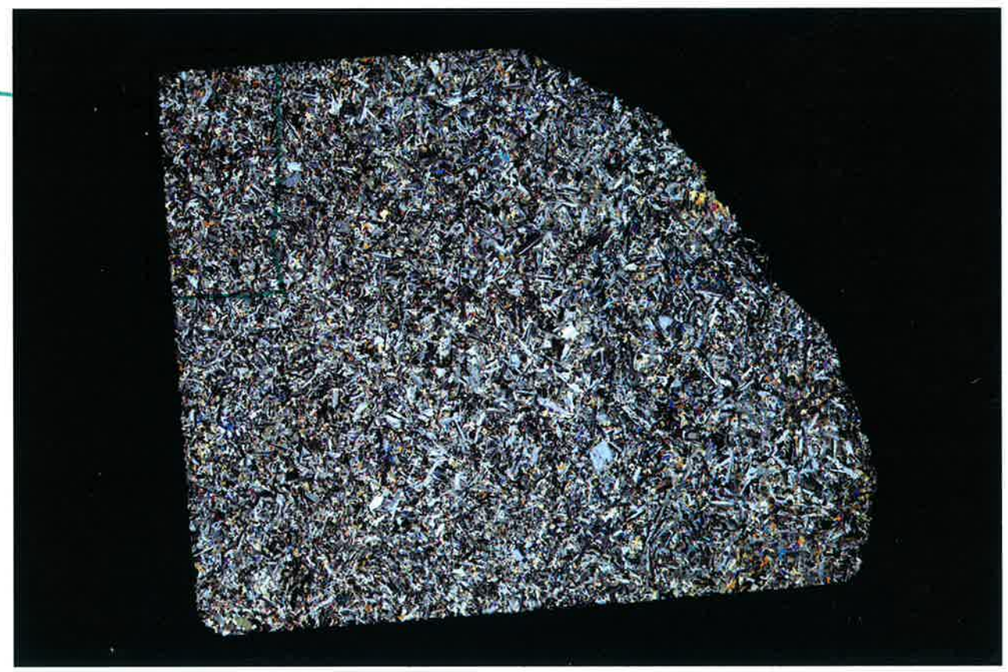
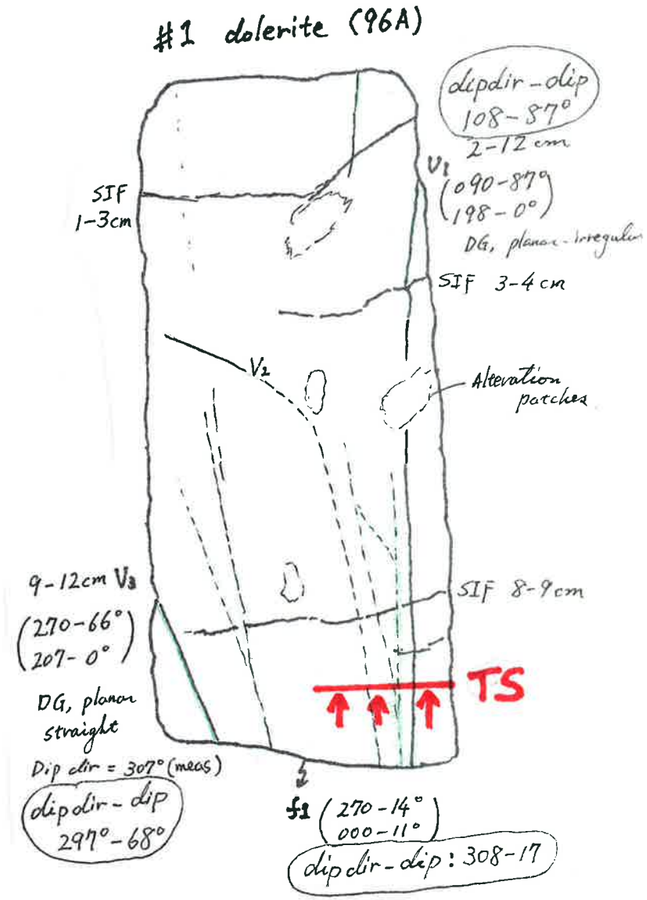
TS Description Sheet (Structure)

335 U1256D 235R1 Piece1 <11-12cm>

TS#2

TS # 2





Check List

Microstructure ;

(1) magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

SPO in plagioclase is consistent with magmatic foliation (+limited mechanical twinning in plagioclase)

grain boundary, fabric intensity, submagmatic fracture,
straigth grain boundaries, moderate SPO, equilibrated microstructures

undulose extinction, deformation twinning,
no undulose extinction, limited/minor mechanical twinning in plagioclase,

recrystallization (dynamic or static)
static recrystallization (no SPO in neoblasts)

clast / matrix, clast size m/a

TS Description Sheet (Structure)

335 U1256D 235R1 Piece5 <23-25cm>

TS # 3

TS # 3

zone 3 "host-rock"

zone 2 (margin)

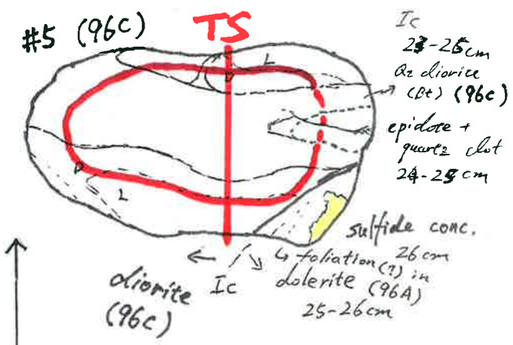
zone 1

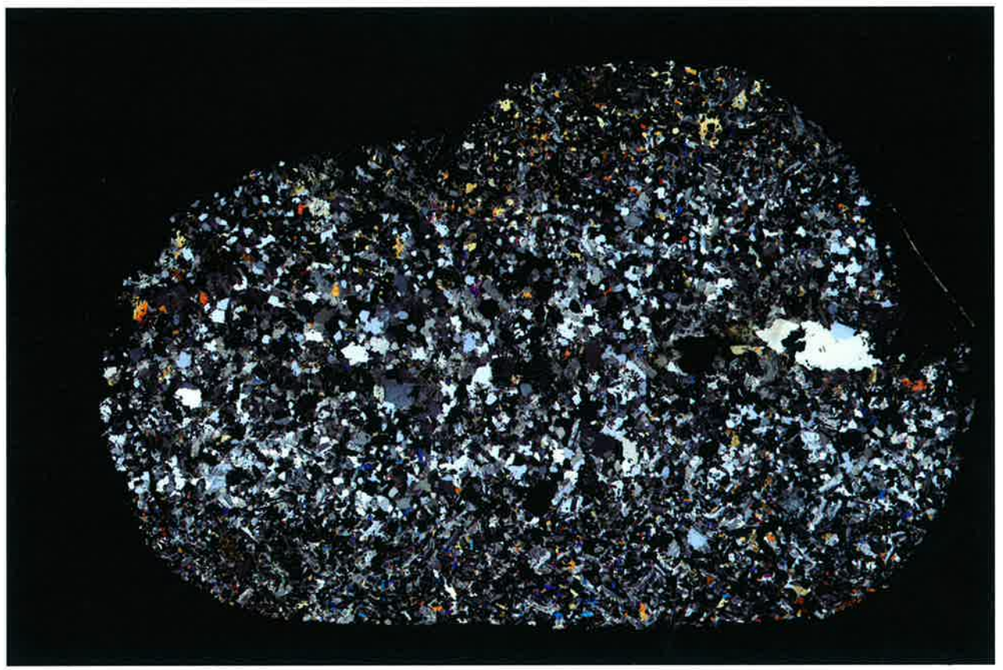
zone 2 (margin)

zone 3 "host-rock"

leucocratic vein (qtz, plag, opaque grains, amphibole)

- medium to fine-grained microgabbro / dolerite with relatively strong alteration of plagioclase, intense recrystallization marked by large poikilitic amphibole grains.





Check List

Microstructure ;

(1) magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

Z1&Z2 : magmatic , Z3 : metamorphic

grain boundary, fabric intensity, submagmatic fracture,
lobate grain boundary in Z1 at plag/qtz contact

undulose extinction, deformation twinning,
some undulose extinction in Z1 quartz grains

recrystallization (dynamic or static)
mostly static in Z3.

clast / matrix, clast size

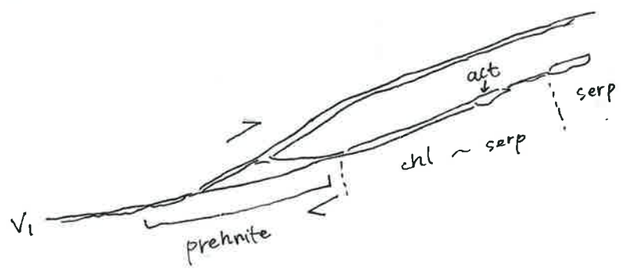
(#4) TS Description Sheet (Structure)

335 U1256D 236R1 Piece1 <0-4cm>

TS #4

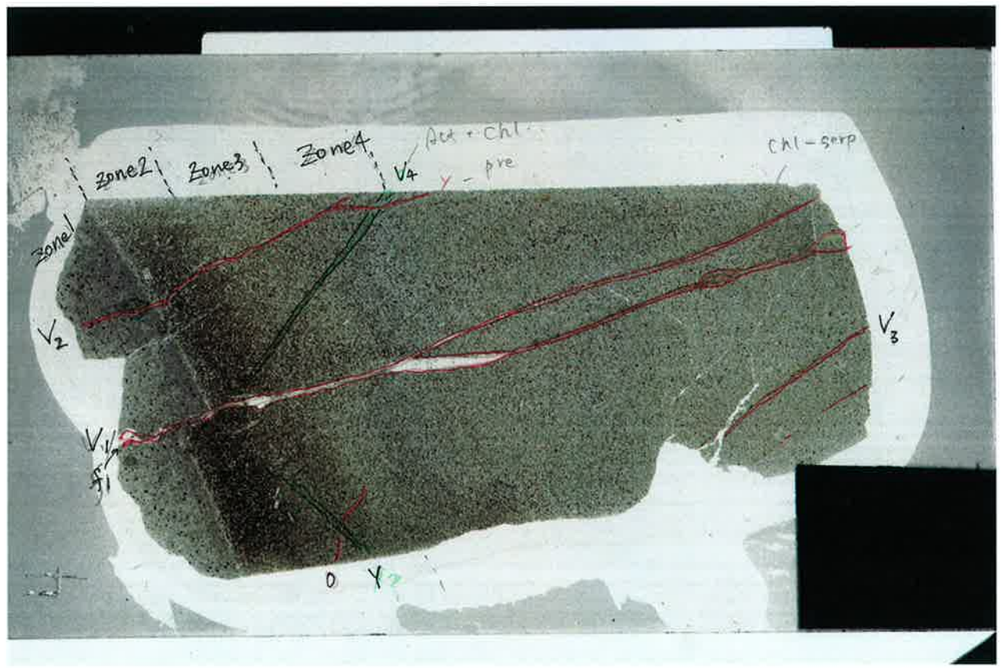
Zone1: undulose extinction in Qtz (± pl?)
+
fine grained actinolite + oxide

Zone2: chl + pl + oxide + qtz.



Zone3: pl + chl + qtz

Zone4: pl + cpx + chl + epi



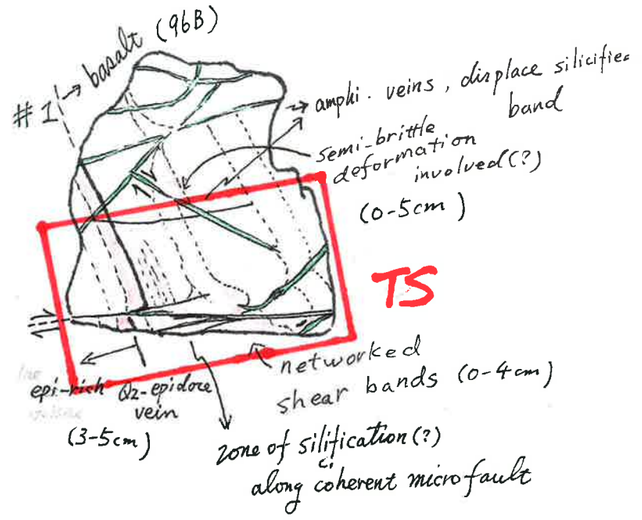
V_2 : pre

V_3 : chl + act

f_1 : faulting postdates contact, predates mineralization of vein materials

V_4 : act ± chl

by Daisuke Endo



Check List

Microstructure ; "hornfels"

1. magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
no clear preferred orientation

undulose extinction, deformation twinning,

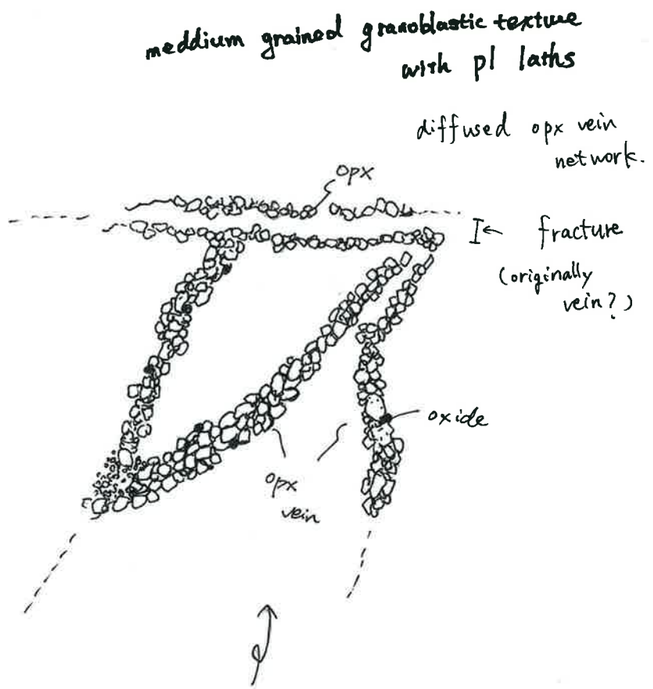
recrystallization (dynamic or static)
static g ranoblastic

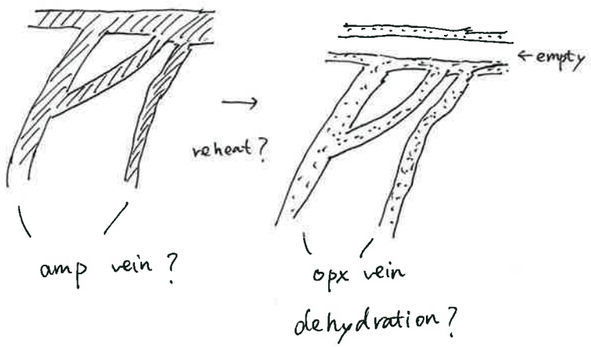
clast / matrix, clast size

(#5) TS Description Sheet (Structure)

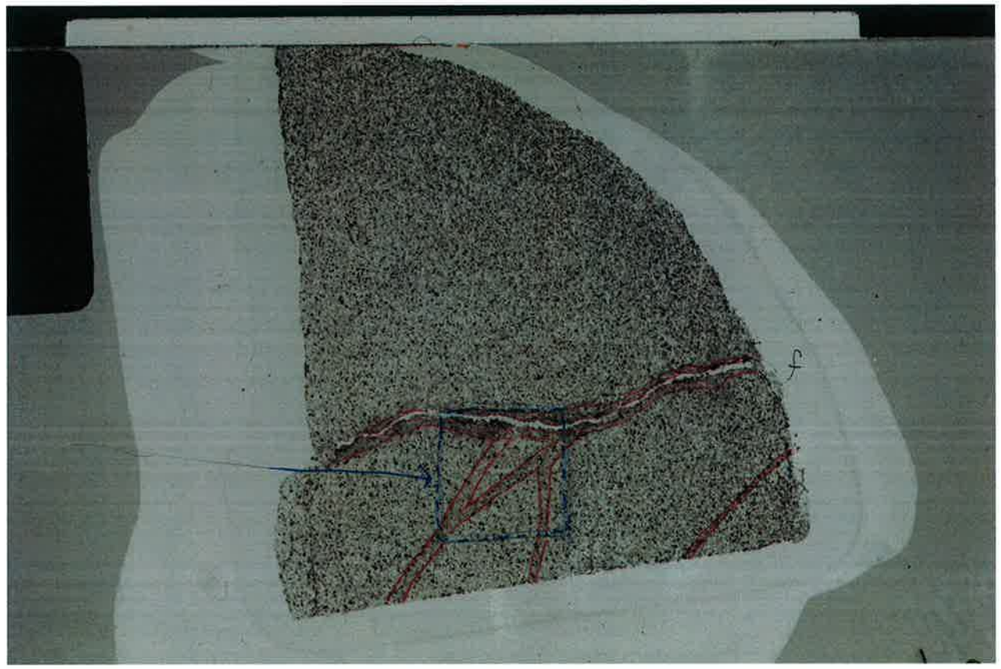
335 U1256D 236R1 Piece7 <38-39cm>

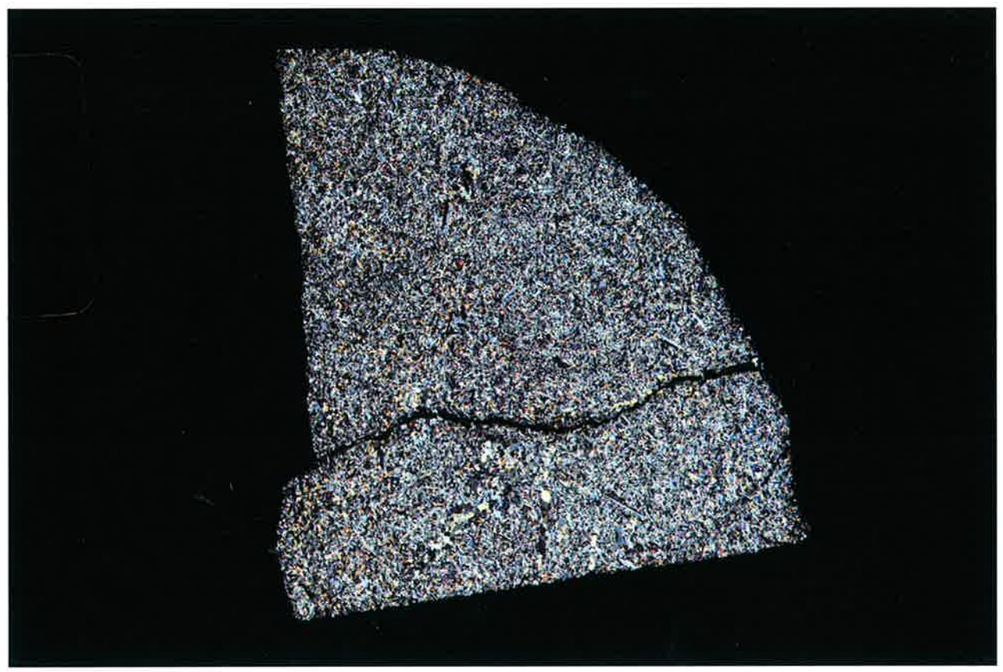
TS#5





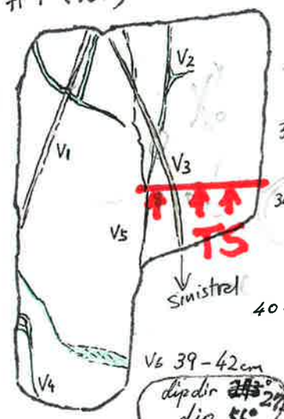
described by Daisuke Endo





* well developped granoblastic texture (pl-cpx-oxide)
pl= subophitic, clean
ox - two-phase

#7 (96B)



34-40 cm
V1 (090°-77° (silicified? ampi
~~132°~~ 155° - 0° → 065°-78° dipdir-dip
V2 (090°-85° → 084°-85°
34-39cm 174°-0°
V3 (270°-~~65°~~ 65° → 275°-65°
34-40 cm 185°-0°
curved, diffused
yellowish-LG actinolite
V4 (270°-82° → 262°-82°
40-43cm 172°-0°
V5 39-42cm
dipdir ~~245°~~ 279°
dip 56°
V5 (090°-90° Chl. vein
186°-0° → 090°-9
irregular
34-43 cm

Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,

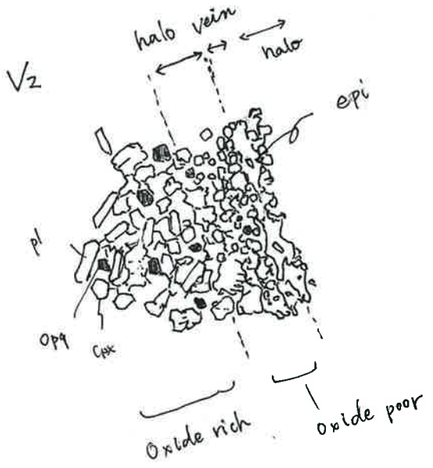
undulose extinction, deformation twinning,

recrystallization (dynamic or (static))

clast / matrix, clast size

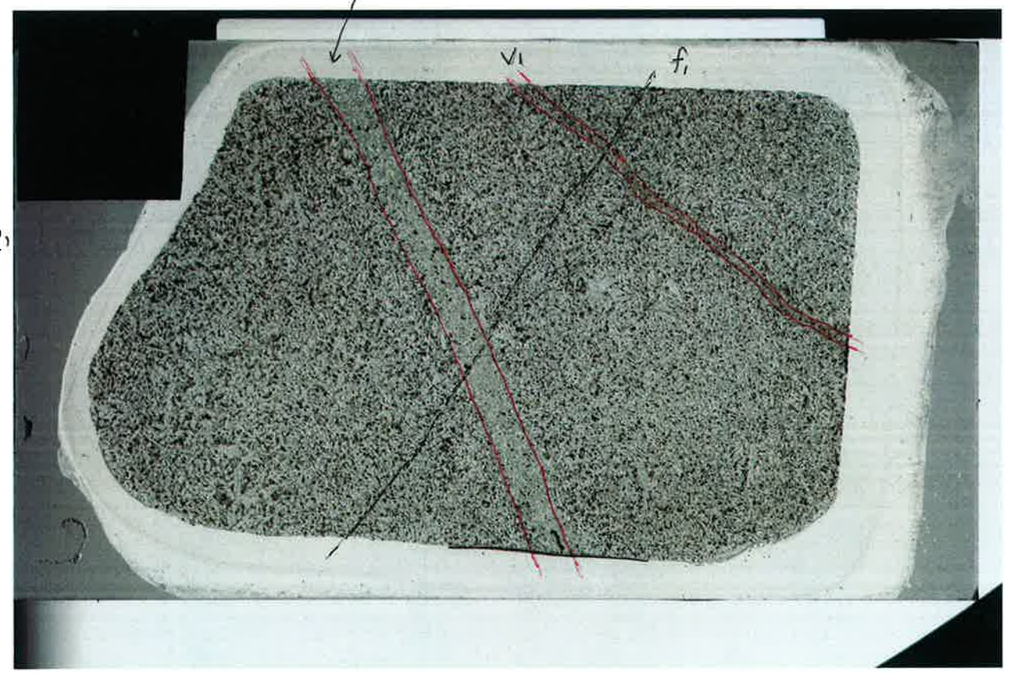
(6) TS Description Sheet (Structure)
335 U1256D 238R1 Piece1 <2-4cm>

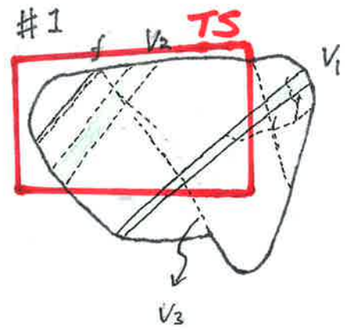
TS #6

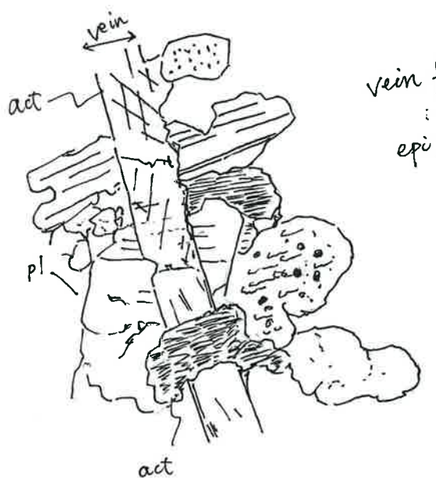


diffused
vein: epi + chl
(epi > chl)

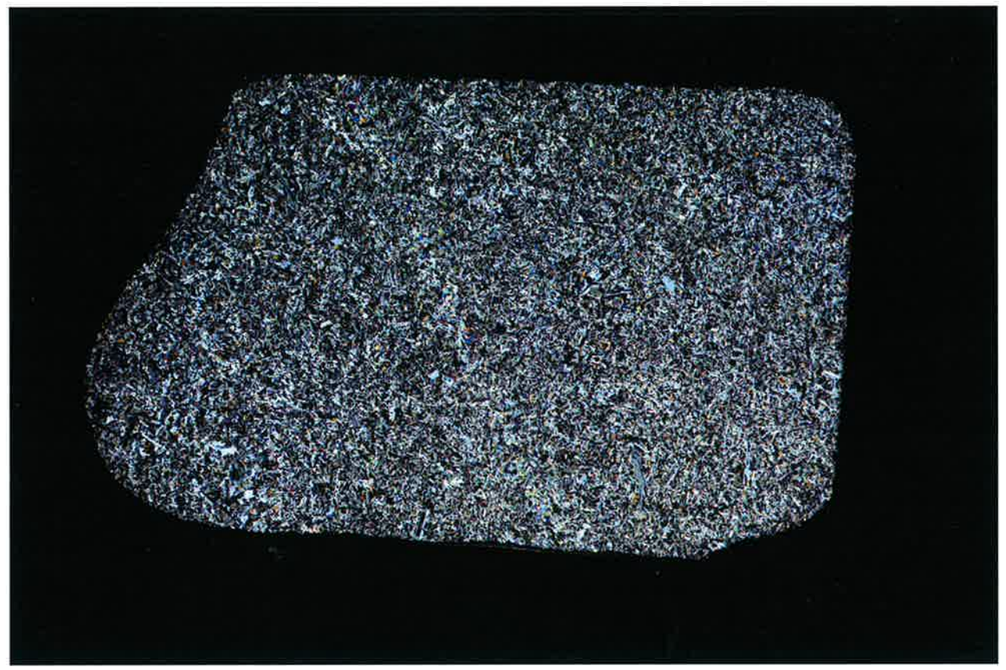
halo: pl + cpx (+opx?)
+ chl
(poikilitic)







vein filling mineralo
: epi + act
epi > act



by Daisuke Endo

Check List

Microstructure ;
1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,

undulose extinction, deformation twinning,

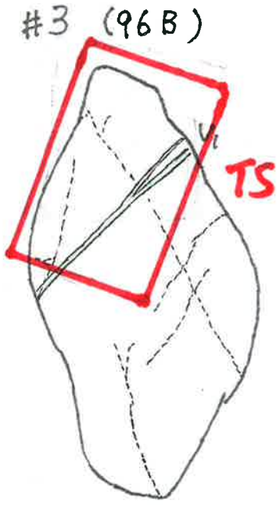
recrystallization (dynamic or static)

clast / matrix, clast size

(#7) TS Description Sheet (Structure)

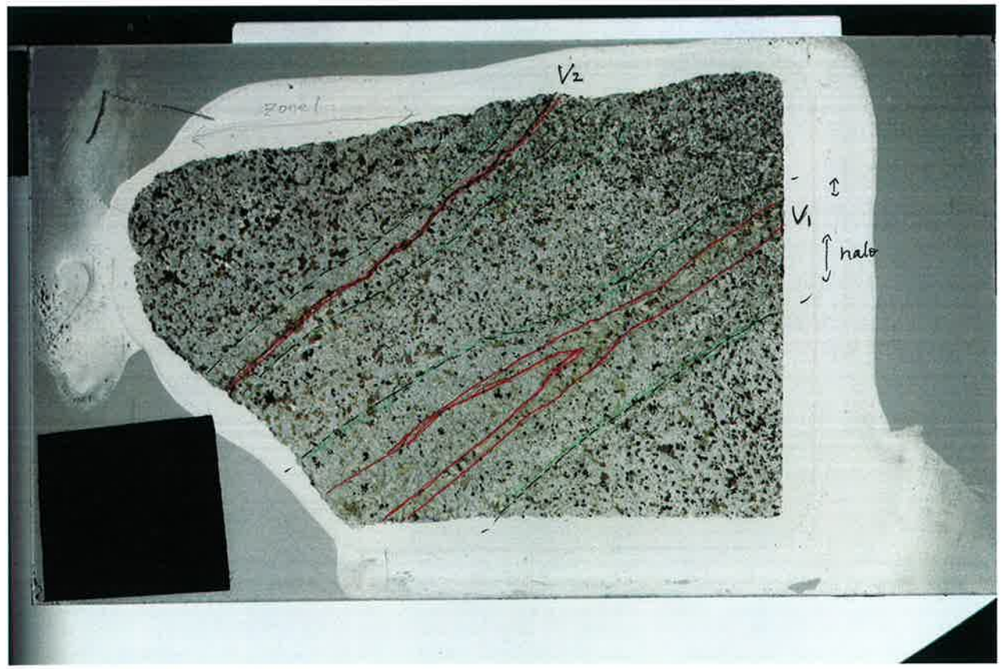
335 U1256D 238R1 Piece3 <13-15cm>

TS#7

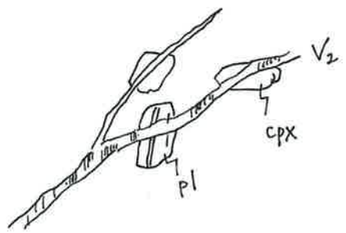


V1 : dark green, Y-shaped vein
planar
(13-16 cm)

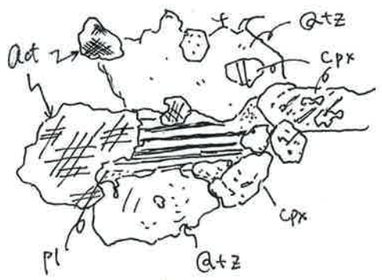
V1 : act
halo: pl + act + cpx
(poor in Chl)



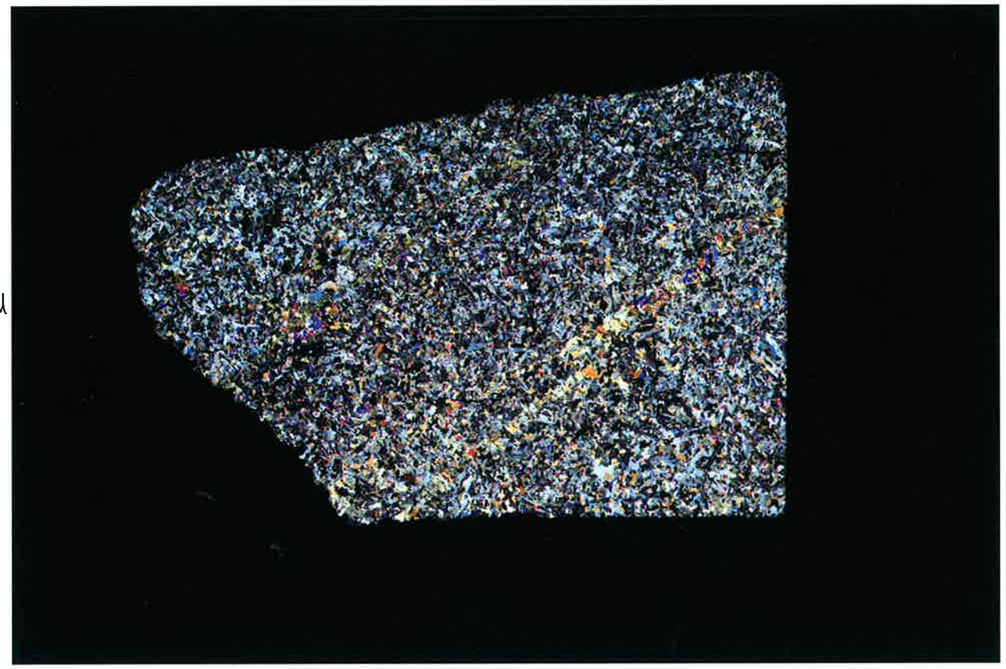
V2 : act (± chl?)



zone I : intersertal Qtz



※ secondary mineral
Qtz, Bt



by Daisuke Endo

Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.)metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,

undulose extinction, deformation twinning,

recrystallization (dynamic or (static))

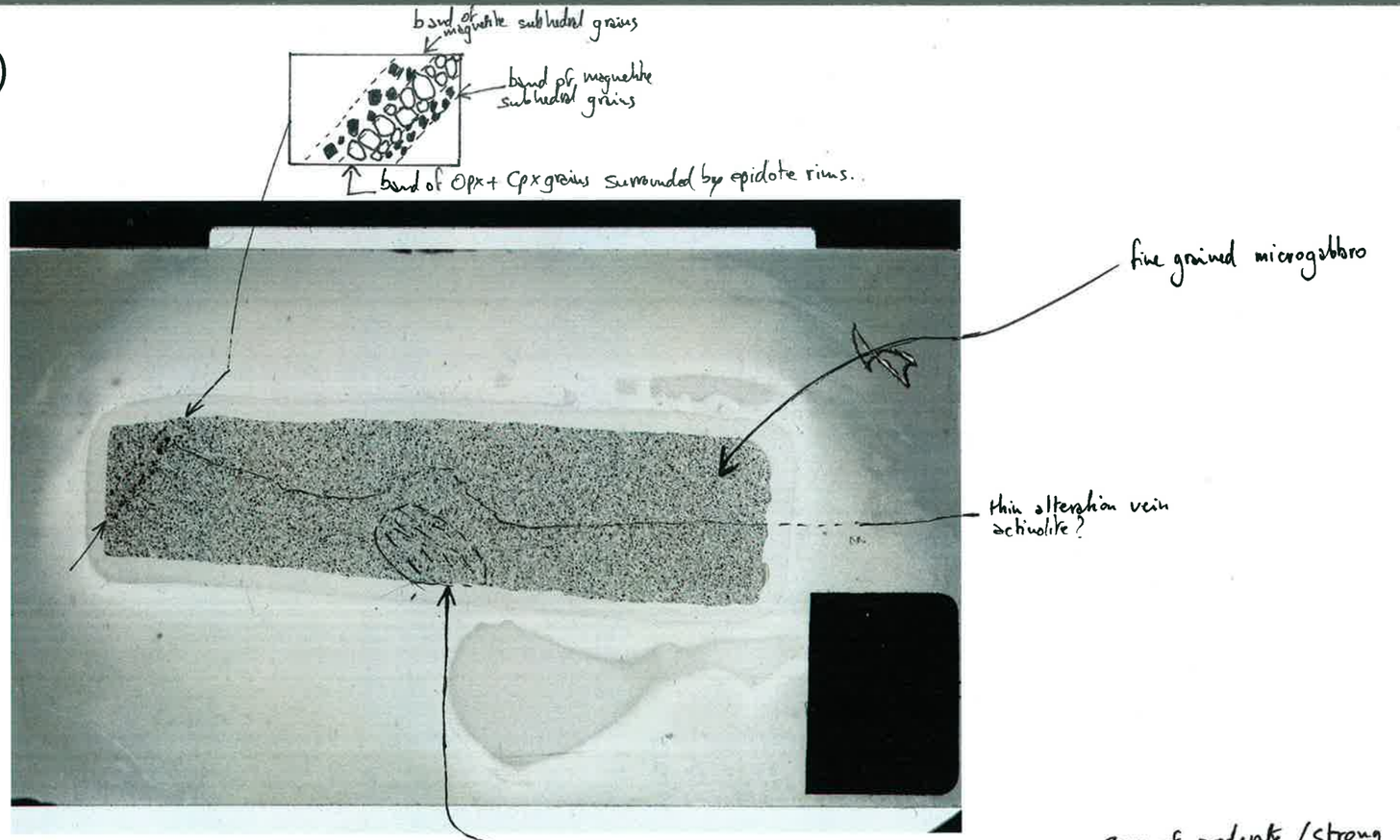
clast / matrix, clast size

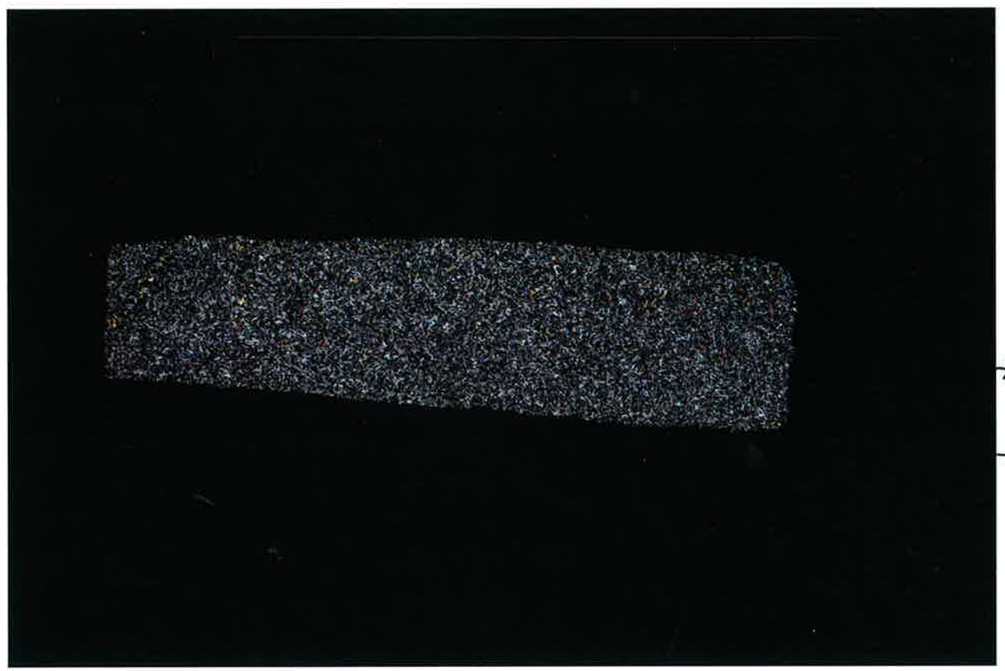
TS Description Sheet (Structure)

335 U1256D Run11 EXJB - J1

TS #8

TS #8





Check List

Microstructure ;

1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

magmatic "domainal" foliation overprinted by static thermal overprint

grain boundary, fabric intensity, ~~submagmatic fracture,~~ lobate to equilibrated in plg. / equigranular to equilibrated in pyroxenes

undulose extinction, deformation twinning, no plastic deformation

recrystallization (dynamic or static) static recrystallization

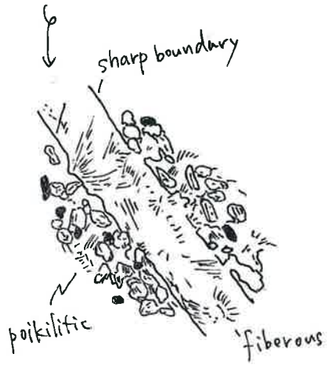
clast / matrix, clast size

(#9) TS Description Sheet (Structure)
335 U1256D Run11 EXJB - J2

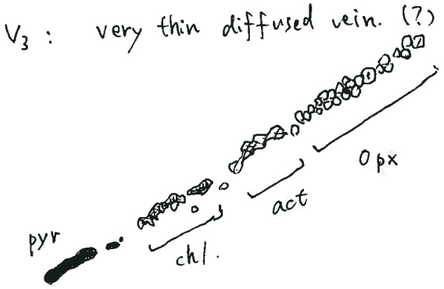
TS#9

fine grained granoblastic texture

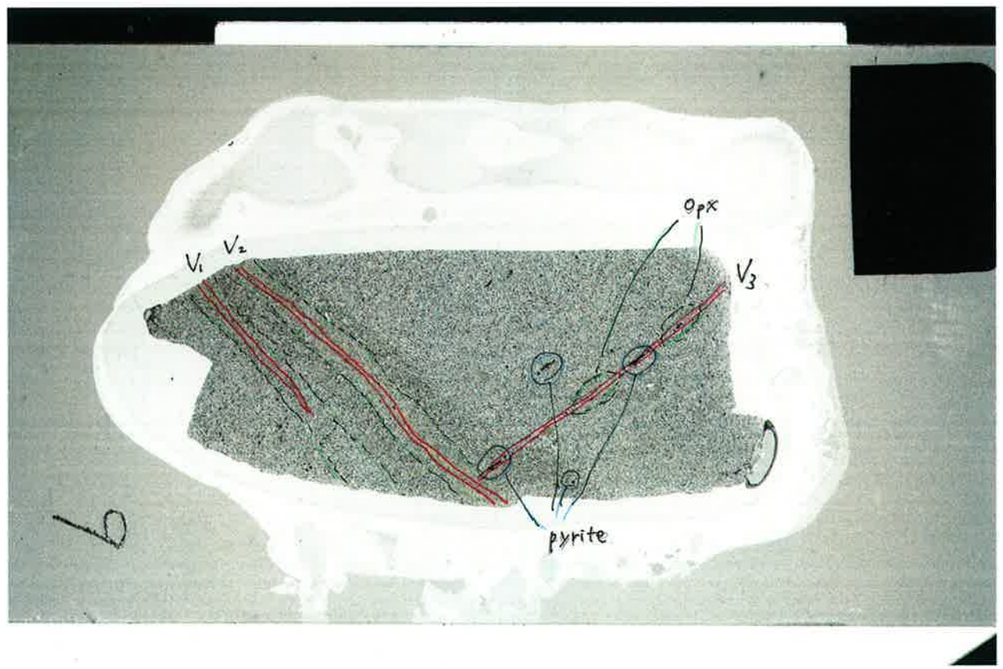
V_1, V_2: Act + Chl vein with halo

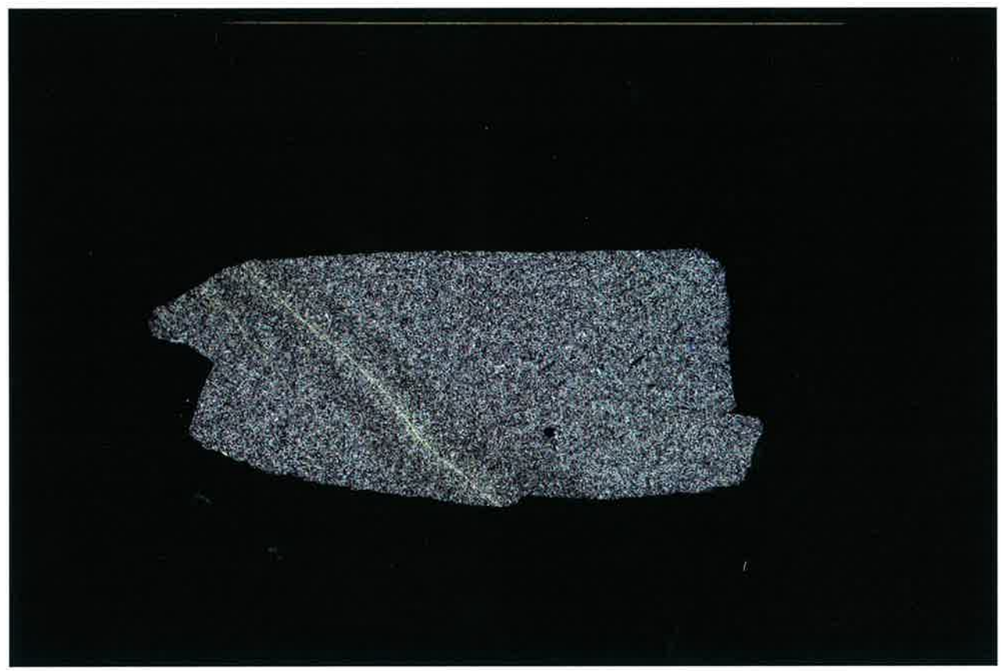


V_3: very thin diffused vein. (?)



by Daisuke Endo





Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

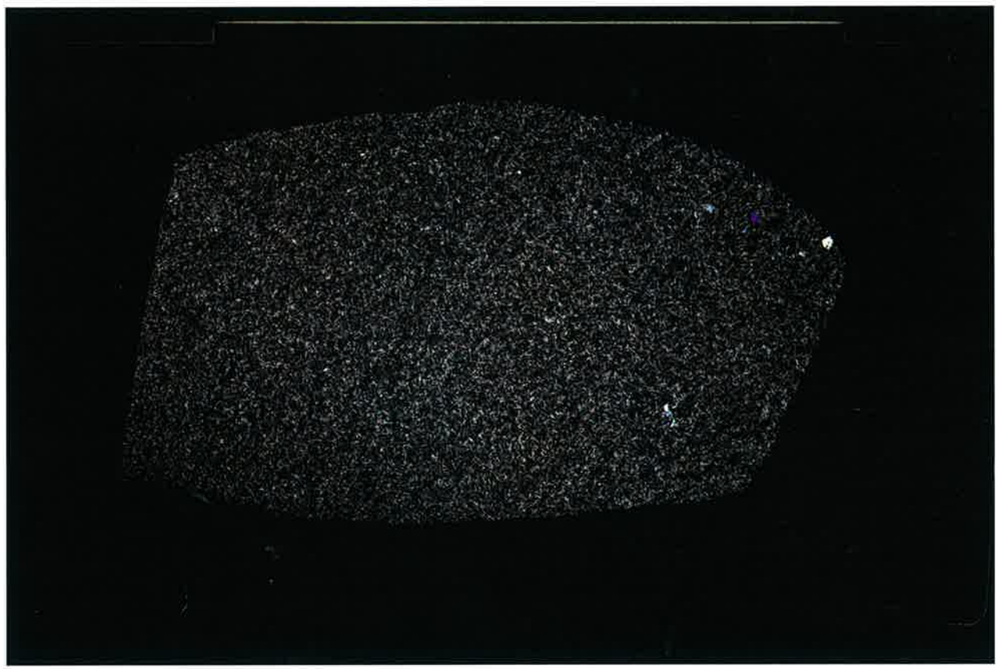
grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, deformation twinning,
none none
recrystallization (dynamic or (static)) - strong

clast / matrix, clast size

(#10) TS Description Sheet (Structure)
335 U1256D Run11 EXJB - J3

TS #10

fresh basalt



no SPO

Check List

Microstructure ;
(1) magmatic - 2. submagmatic - 3. metamorphic - 4. CPF
not metamorphosed

grain boundary, fabric intensity, submagmatic fracture,
straight isotropic

undulose extinction, deformation twinning,
none none

recrystallization (dynamic or static)
none

clast / matrix, clast size

(#11) TS Description Sheet (Structure) Described by Jeremy & Daisuke

335 U1256D Run11 EXJB - J4

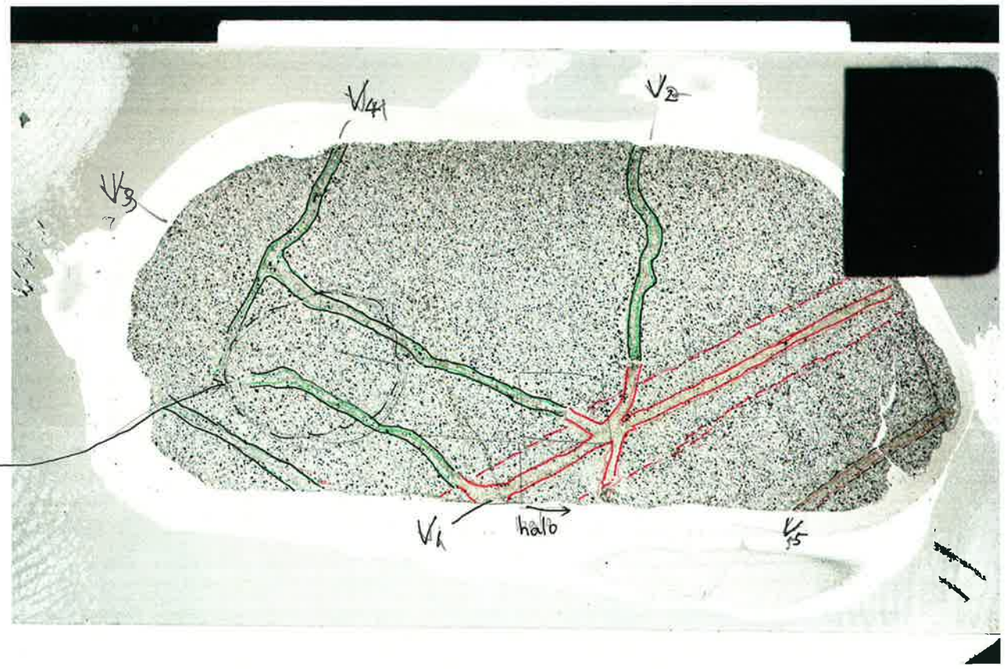
TS # 11

V_1: Act ± Epi planar, sharp boundary

V_2 ~ V_4: diffuse. Px (Opx rich) ± Pl vein

V_5: Epi + Act

flow texture of Pl & Px. ?



by Daisuke

Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic

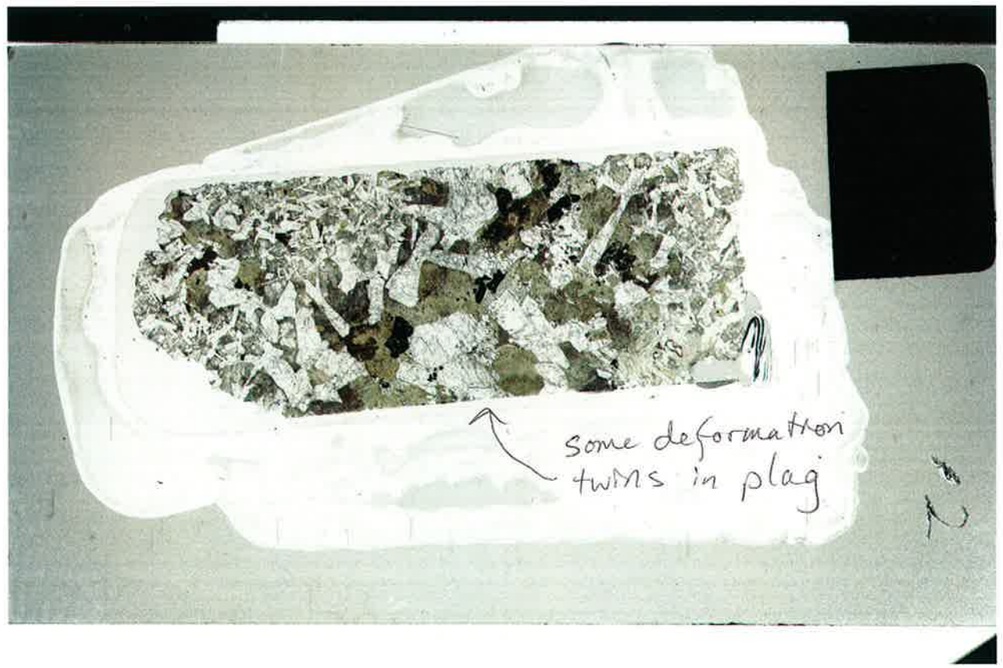
undulose extinction, deformation twinning,
none none

recrystallization (dynamic or (static) - strong

clast / matrix, clast size

12 - TS Description Sheet (Structure) - Described by Jeremy
335 U1256D Run11 EXJB - J5

TS #12



Check List

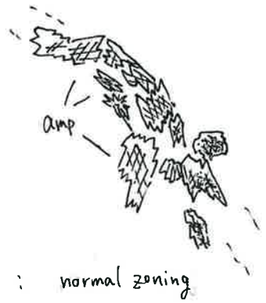
Microstructure ;
(1) magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
straight isotropic
undulose extinction, deformation twinning, - plag
none
recrystallization (dynamic or static)
none
clast / matrix, clast size

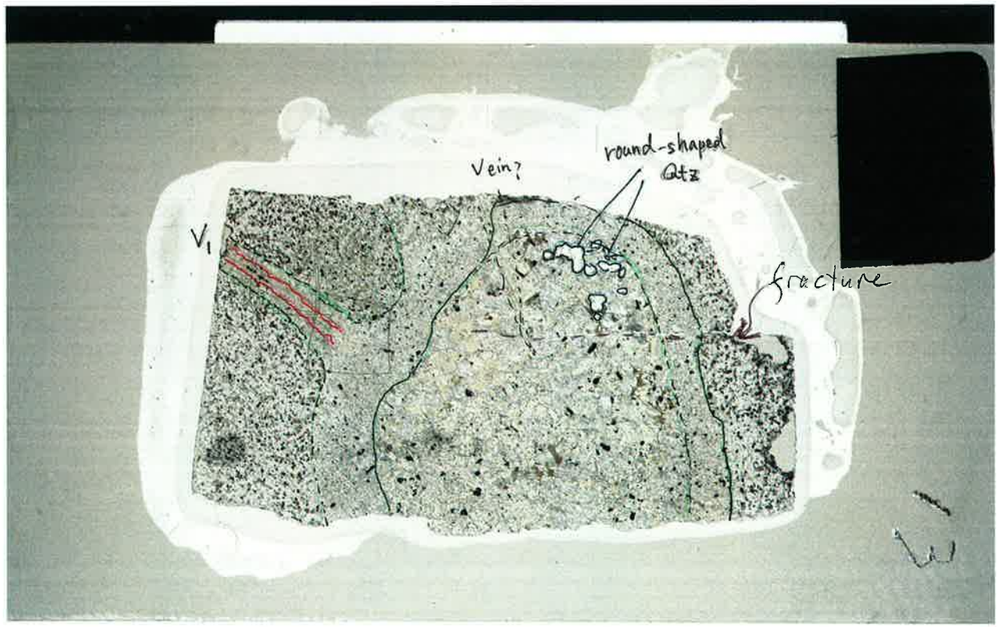
(#13) TS Description Sheet (Structure)
335 U1256D Run11 EXJB - J6

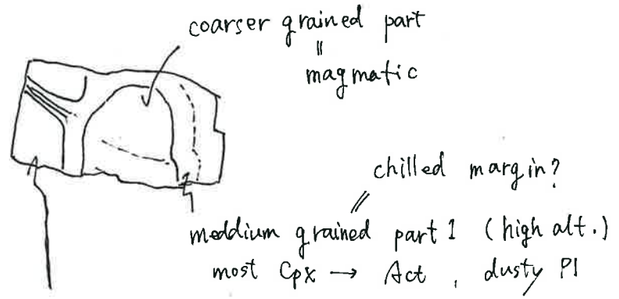
TS #13

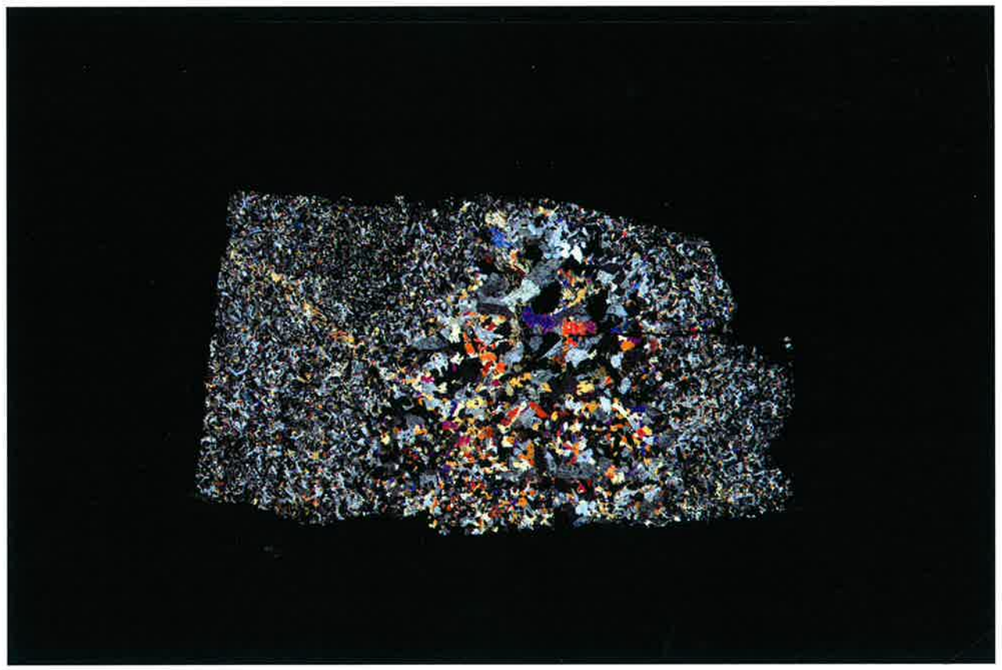
diffused boundary
V_1: Amp (Act) 85%, Chl 10%
halo: Amp 70% Chl 30%



Pl: normal zoning







by Daisuke

Check List

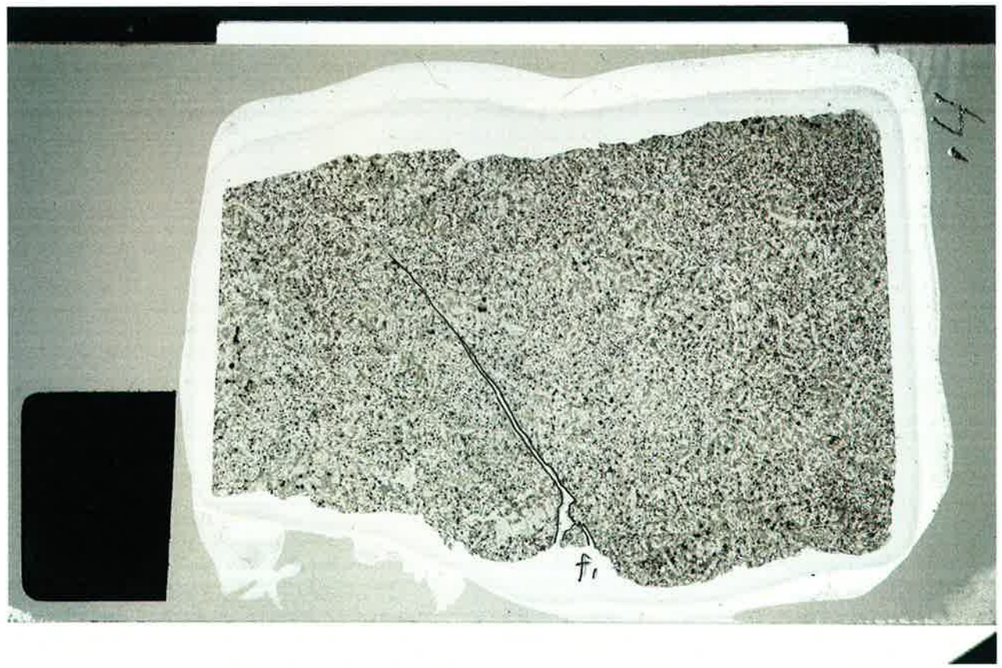
Microstructure ;
(1.) magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, deformation twinning,
none none
recrystallization (dynamic or (static) - weak

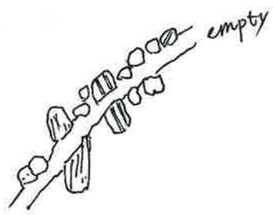
clast / matrix, clast size

(#14) TS Description Sheet (Structure)
335 U1256D Run11 EXJB - J7

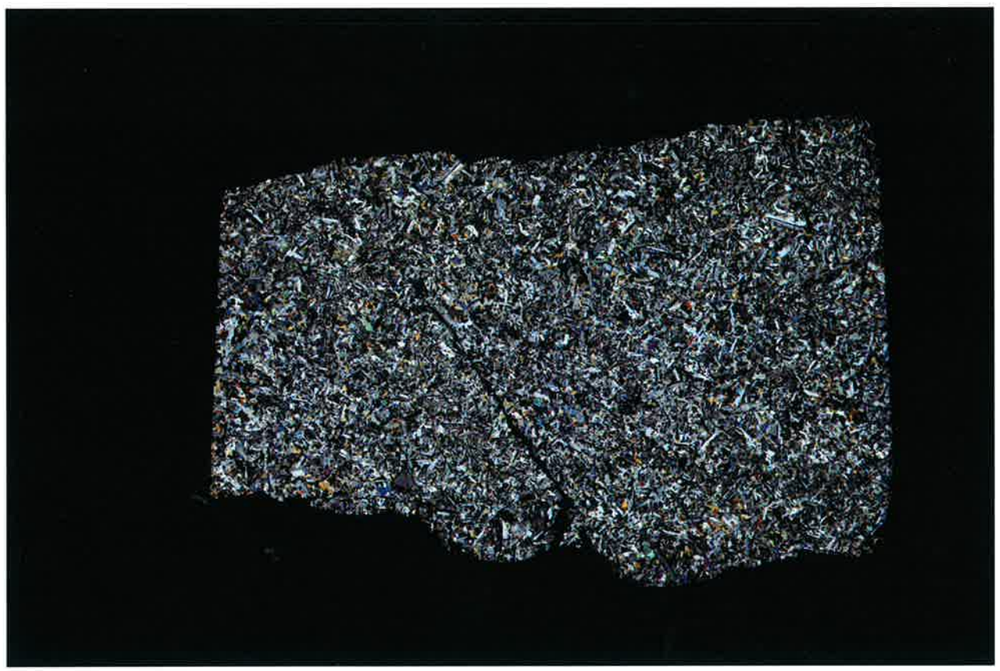
TS #14



f1



pl : normal zoning



pl, cpx, opx medium grained dolerite

Check List

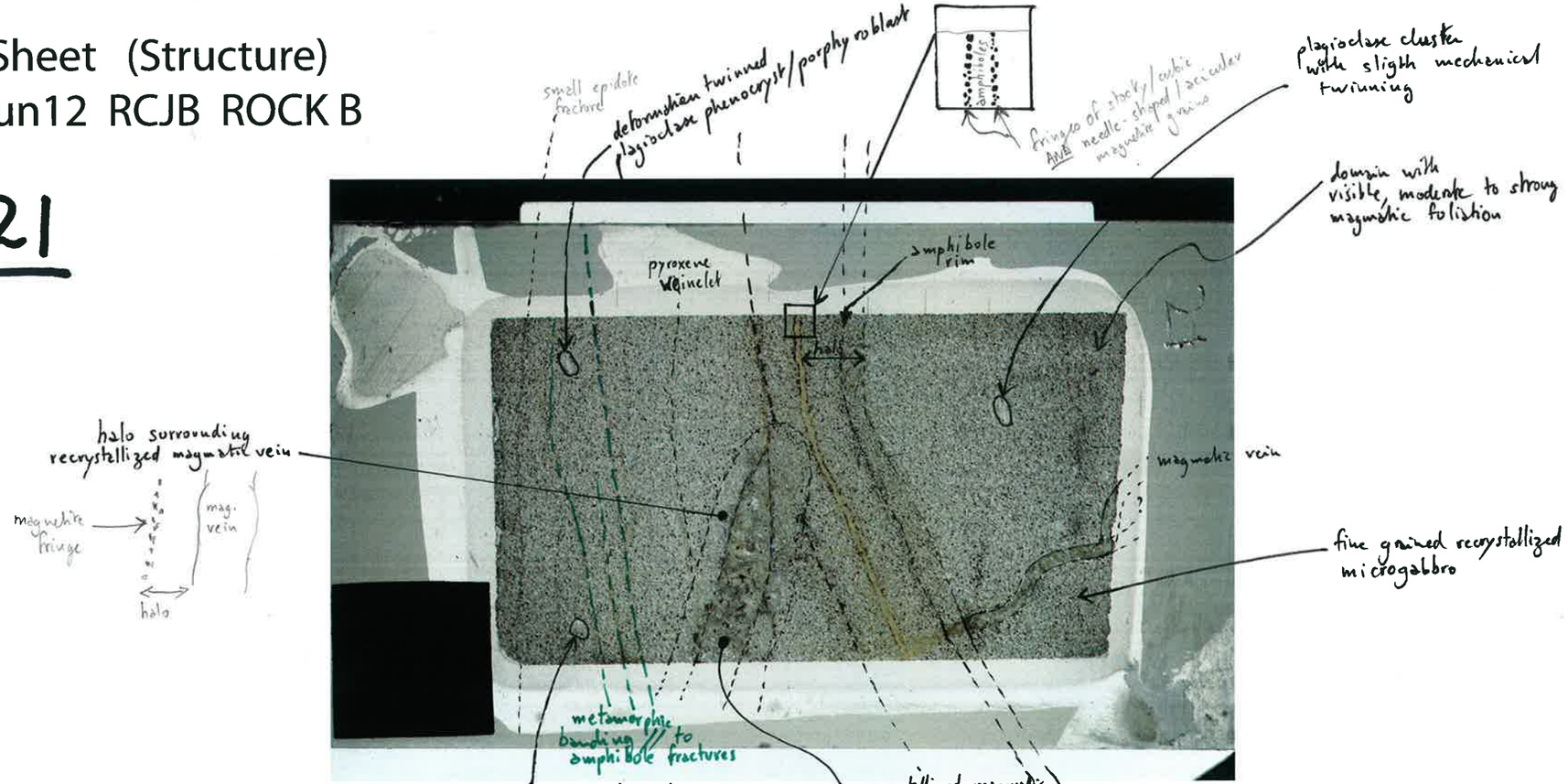
Microstructure ;
1. magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, deformation twinning,
none none
recrystallization (dynamic or (static) - partial

clast / matrix, clast size

(#21) TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK B

TS # 21



Check List

Microstructure ;
1. magmatic - 2. submagmatic (3) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, deformation twinning,
none none
recrystallization (dynamic or (static) ← complete

clast / matrix, clast size

1256D
Ex.335
TS#21

very thin Amp (± Epi?) diffuse vein

Amp diffuse vein

dusty & fiberous Amp halo

clear Amp halo

V1 no halo (Chilled margin?)

f f

diffuse Opx alignment

poor Oxide zone

chilled margin?

V1: magmatic vein
Pl + Cpx (±Opx?)
↓
altered

Amp diffuse vein

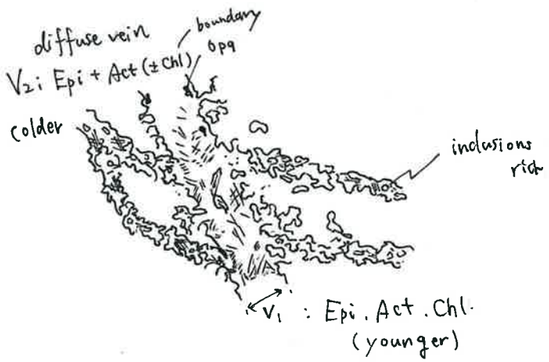
halo

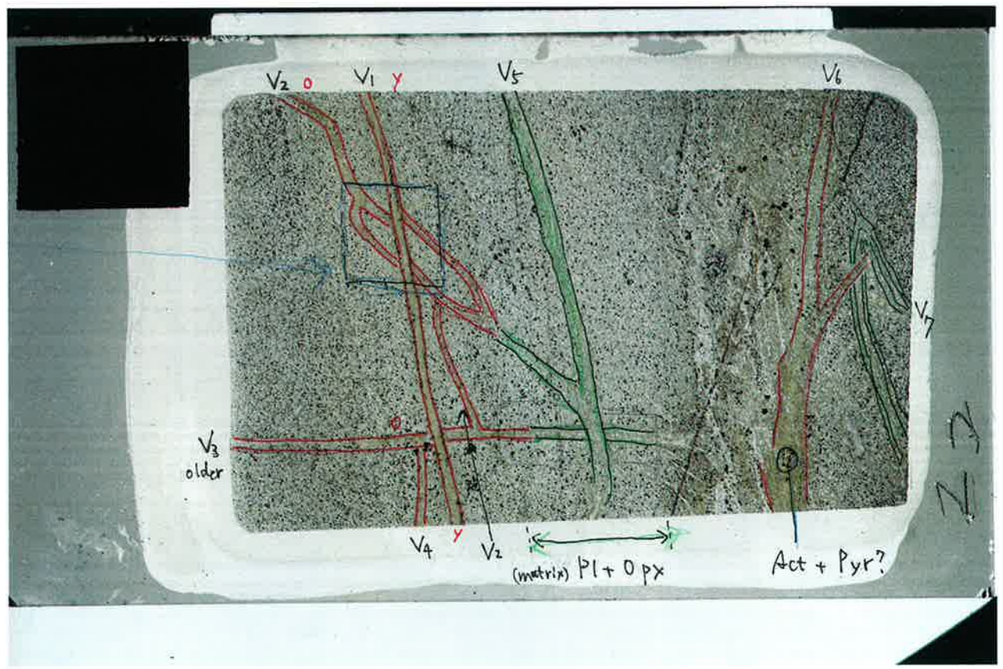
dusty

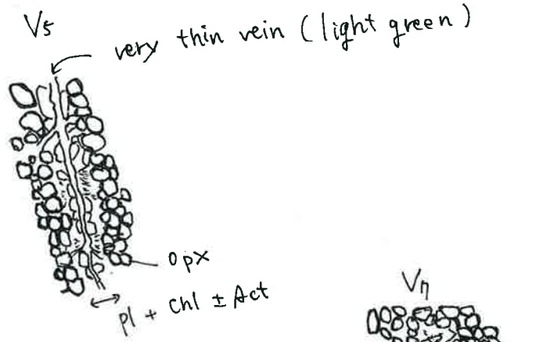
V2 : Amp (Act) vein
with fine grained or needle shaped oxide and sulfide minerals

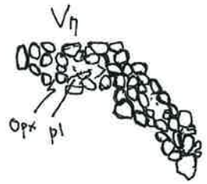
(#22) TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK C

TS # 22



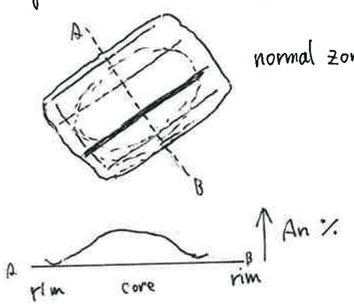






V_6 : similar to V_1

V_3, V_4 : coarser grained vein



by Daisuke Endo

Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF
several cross-cutting veins

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic

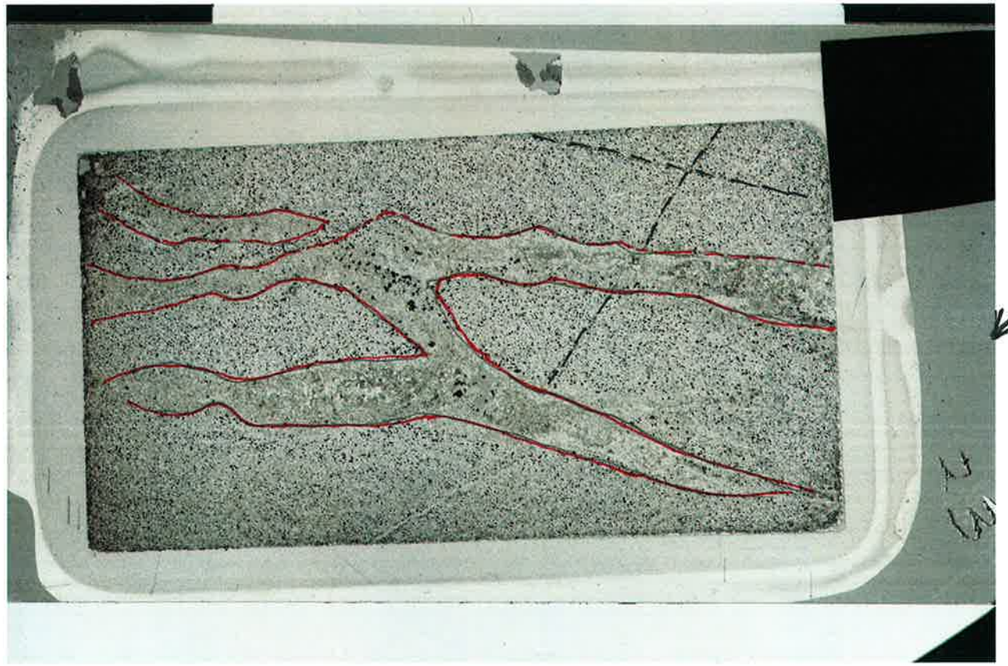
undulose extinction, deformation twinning,
none none

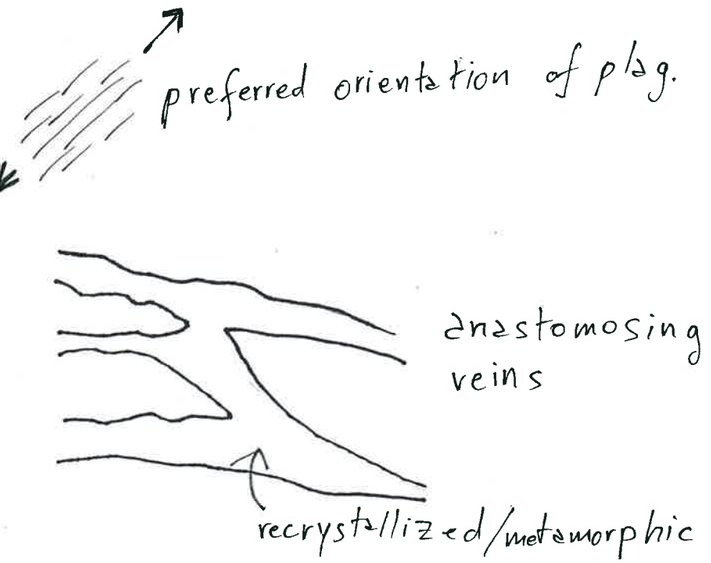
recrystallization (dynamic or (static)) - complete

clast / matrix, clast size

23 TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK D

TS#23





Check List

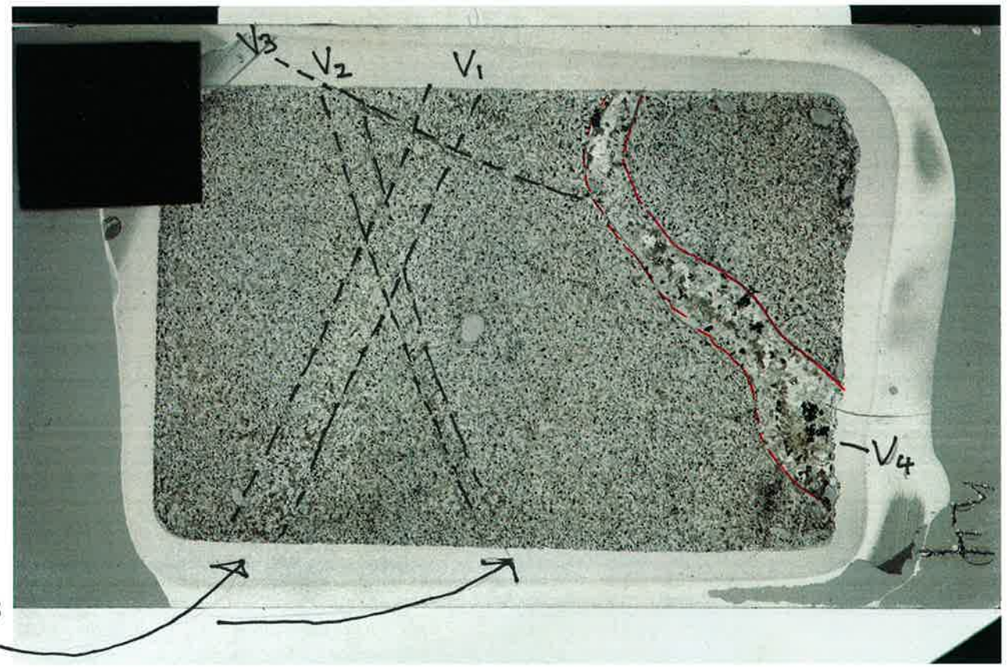
Microstructure ;
(1.) magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, ~~fabric intensity~~, submagmatic fracture,
~~Varied~~ weak
undulose extinction, ~~deformation twinning~~, - plag
none
recrystallization (dynamic or (static)) - strong

clast / matrix, clast size

24 - TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK G

TS#24



V4: magmatic vein

V1, V2
metamorphosed veins?
diffuse bounclaries

V3 later, sharper

Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

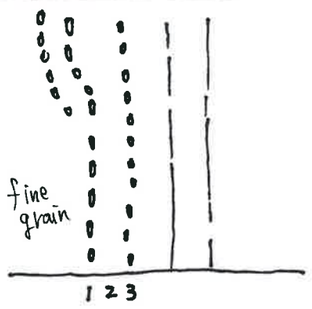
grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, (deformation twinning), - plag
none
recrystallization (dynamic or (static)) - partial

clast / matrix, clast size

(#25) TS Description Sheet (Structure)

335 U1256D Run12 RCJB ROCK Q

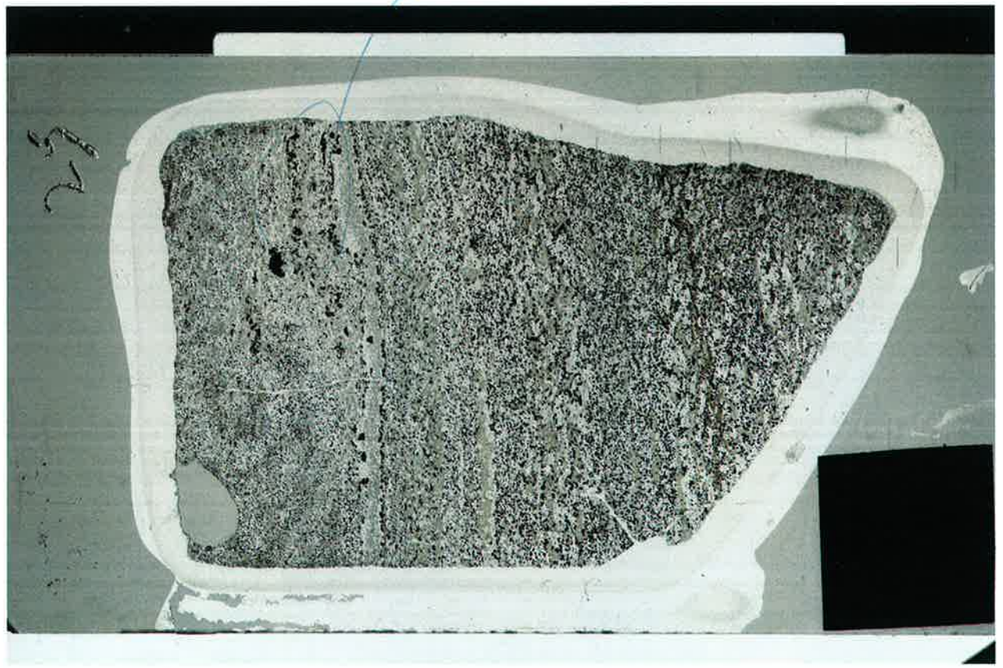
TS#25

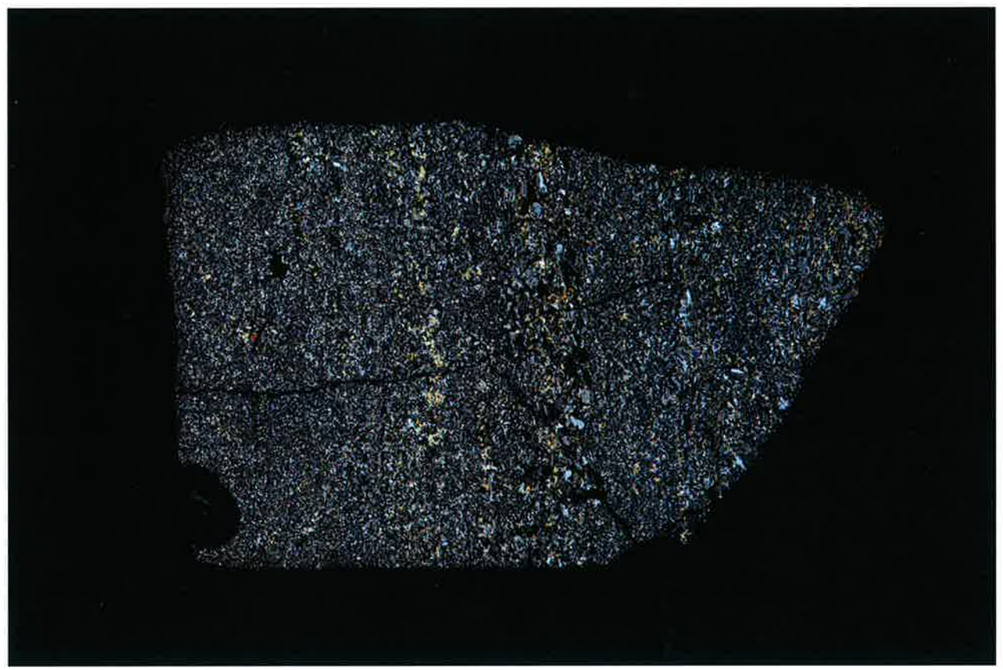


1: coarse Pl + Opq (sulfide rich)

2: fine Opx + Pl + Cpx

3~23 : attatched sheet





foliation defined by aligned elongated sulfide
^ almost

plag-rich layers contain preferred orientation of irregular plag grains with incipient recrystallization

fine-grained plag is isotopic

Check List

Microstructure ;

1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

compositional layering
alignment of oxides and coarse plag

grain boundary, fabric intensity, submagmatic fracture,

straight-varied weak CPF strong magmatic

undulose extinction, deformation twinning,

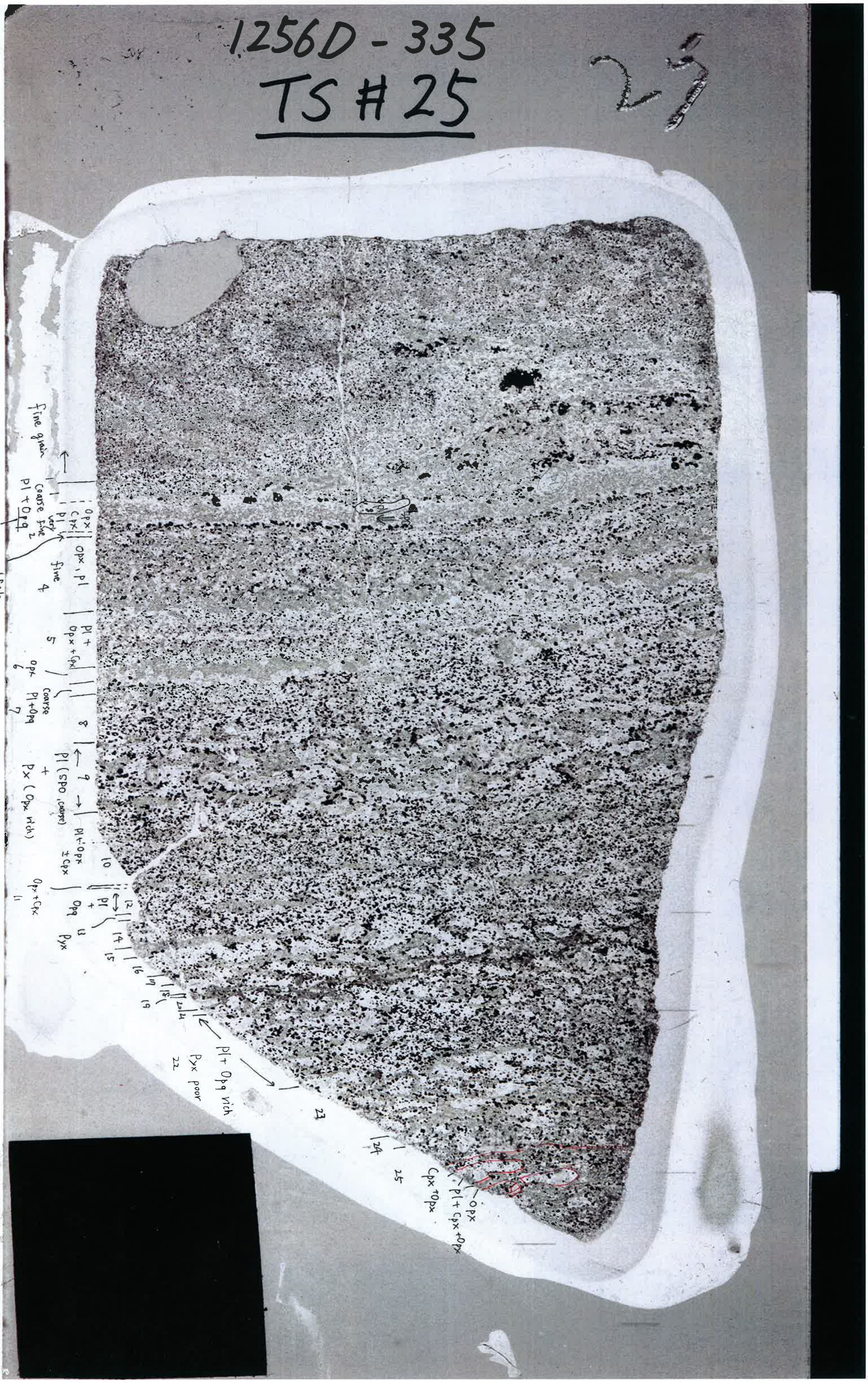
recrystallization (dynamic or static)

clast / matrix, clast size

1256D - 335

TS #25

23



TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK S

TS #26

Check List

Microstructure ;
(1). magmatic - 2. submagmatic - (3). metamorphic - 4. CPF
domain 2 domain 1

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic

undulose extinction, deformation twinning, - common in domain 1
none

recrystallization (dynamic or (static)) - (1) strong (2) weak

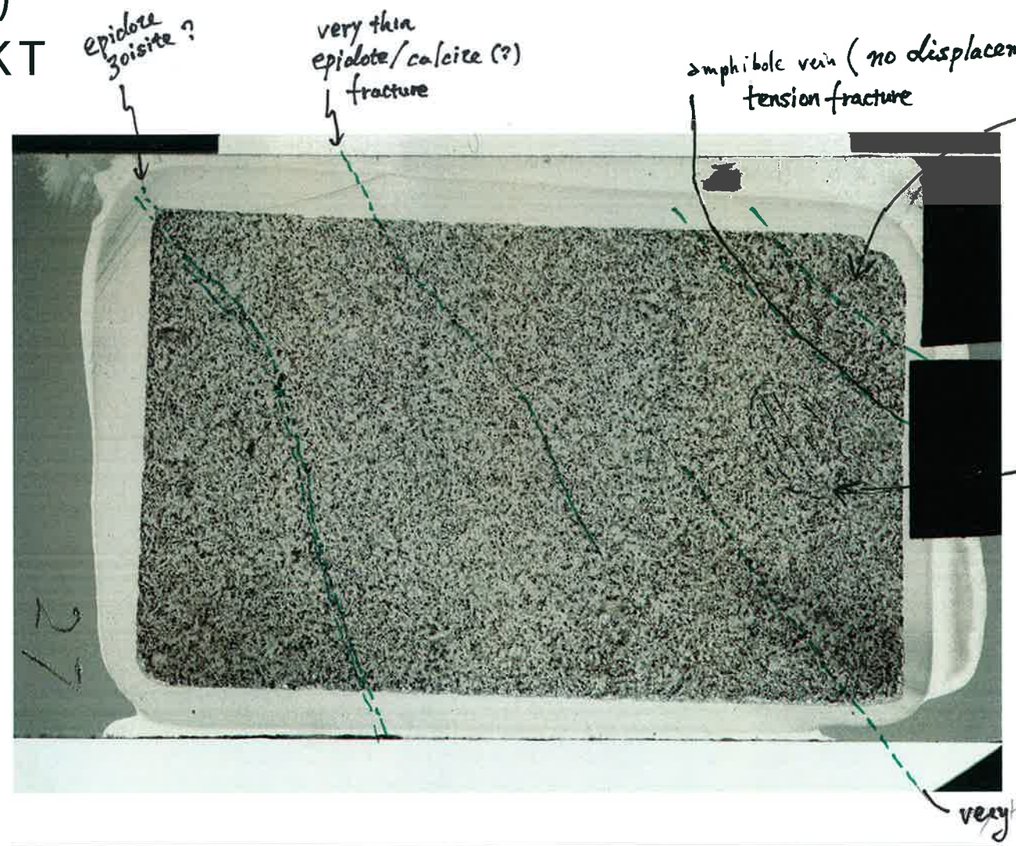
clast / matrix, clast size

(#27)

TS Description Sheet (Structure)

335 U1256D Run12 RCJB ROCKT

TS#27



Check List

Microstructure ;

1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

magmatic fabric overprinted by metamorphic static recrystallization

grain boundary, fabric intensity, submagmatic fracture,

lobate grain boundaries, moderate fabric intensity

undulose extinction, deformation twinning,

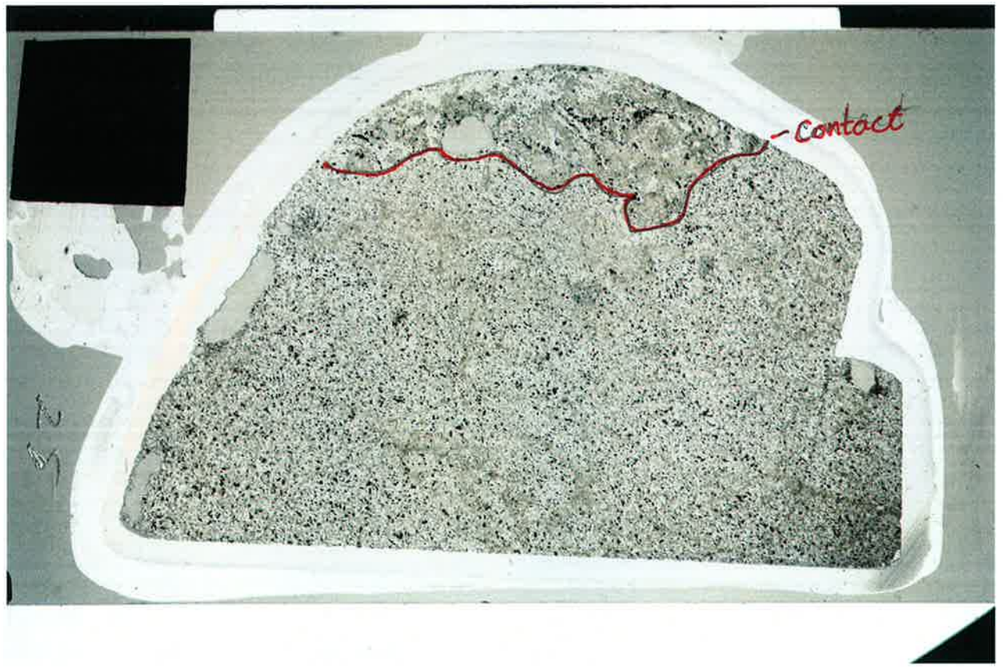
no observable undulose extinction

recrystallization (~~dynamic or~~ static)

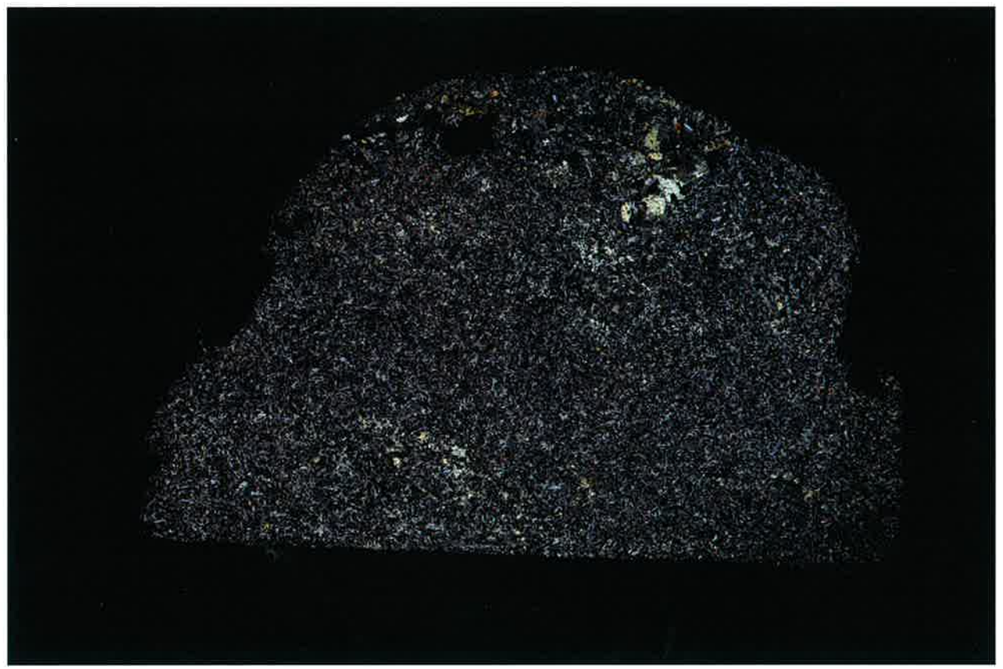
clast / matrix, clast size

28 TS Description Sheet (Structure)
335 U1256D Run12 RCJB ROCK V

TS #28



possible weak magmatic foliation



Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

grain boundary, (fabric intensity), submagmatic fracture,
varied weak
undulose extinction, deformation twinning - plag
maybe
recrystallization (dynamic or (static) - partial

clast / matrix, clast size

TS Description Sheet (Structure)

(#29)335 U1256D Run11 EXJB

TS#29

- olivine gabbro norite

olivine grains contain "dendritic" platelets -

Check List

Microstructure ;

1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

alteration + recrystallization

grain boundary, fabric intensity, submagmatic fracture,

lobate subisotropic

undulose extinction, deformation twinning,

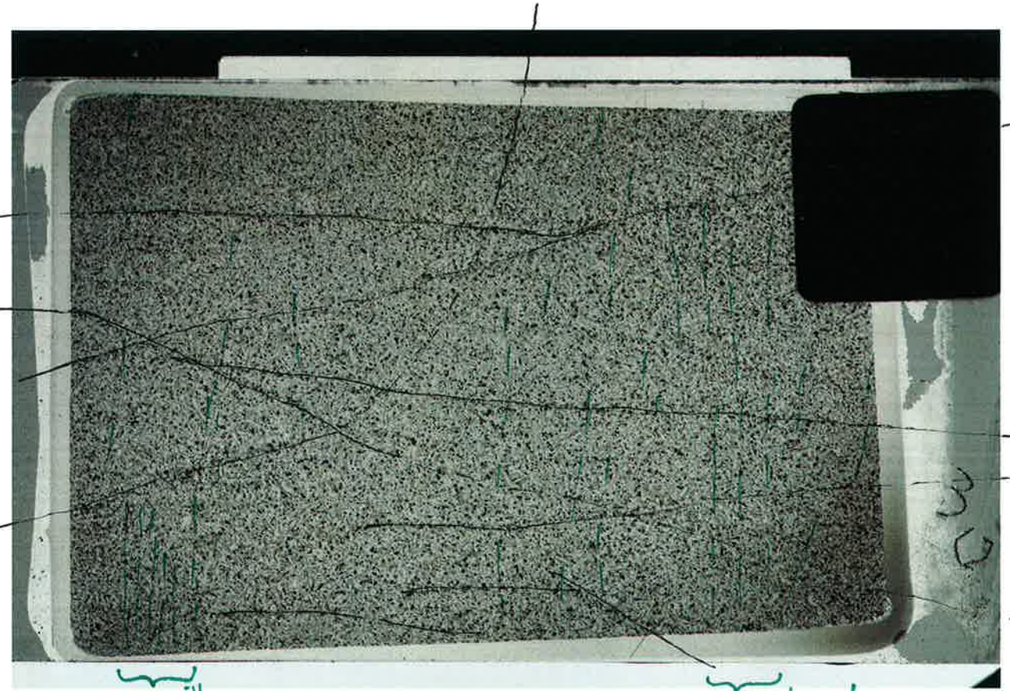
recrystallization (~~dynamic or~~ static)

clast / matrix, clast size

30- TS Description Sheet (Structure)
335 U1256D Run13 RCJB ROCK B

TS #30

Groundmass : recrystallized microgabbro
foliated domains



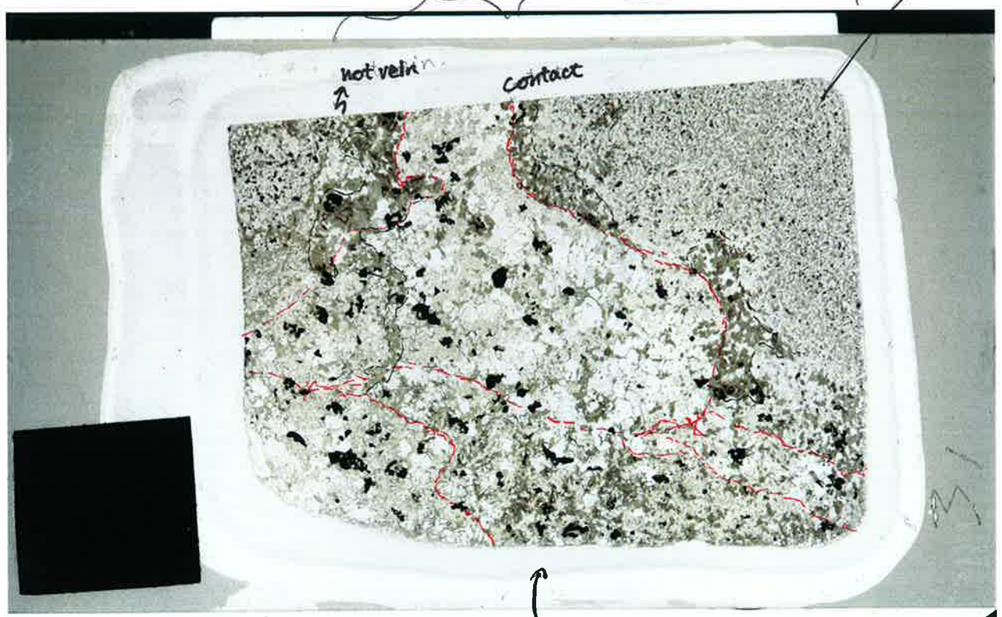
Check List

Microstructure ;
1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF
moderate foliation in certain domains
static thermal overprint
grain boundary, fabric intensity, submagmatic fracture,
equilibrated to lobate
undulose extinction, deformation twinning,
no plastic deformation
recrystallization (~~dynamic or~~ static)

clast / matrix, clast size

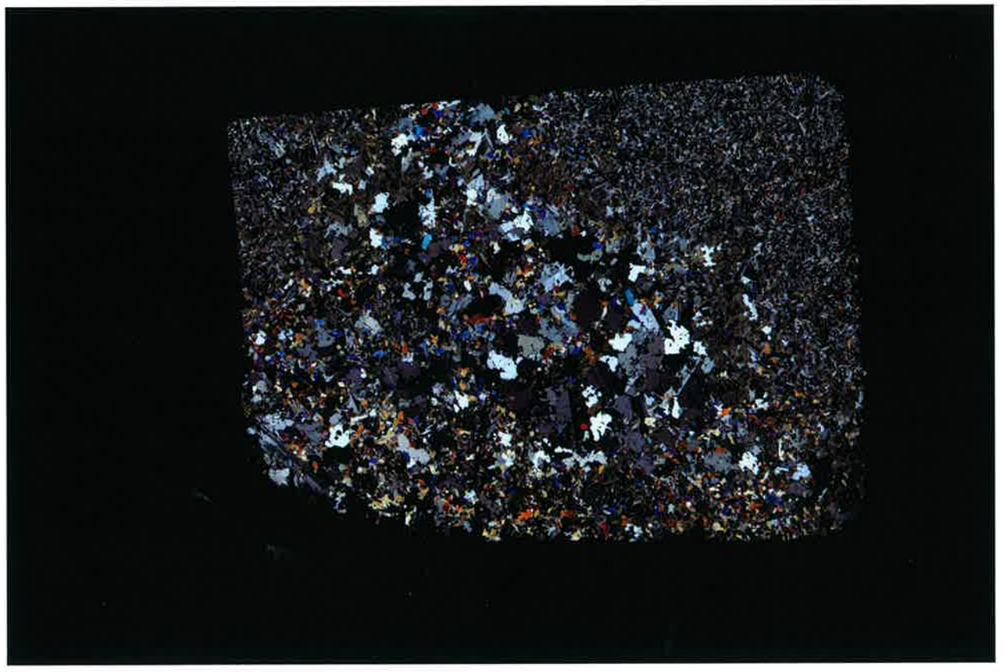
(#31) TS Description Sheet (Structure)
335 U1256D Run13 RCJB ROCK A

TS #31



weak plagioclase foliation in domain 1

Qtz diorite
coarse grained Qtz. pl (albite twin) + Cpx, opx, amphi, zr, ap.



Check List

Microstructure ;
(1.) magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF
domain 2 domain 1

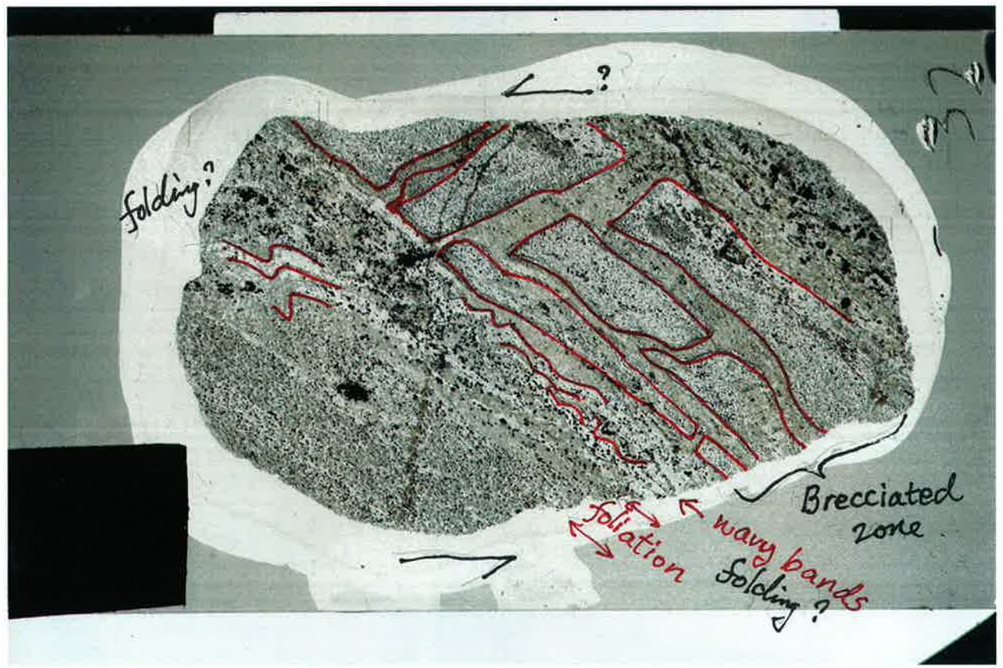
grain boundary, (fabric intensity,) submagmatic fracture,
complex weak
undulose extinction, (deformation twinning,) - plag

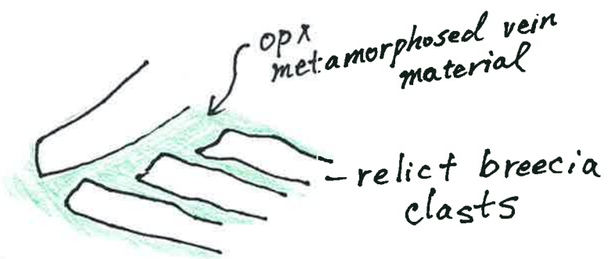
recrystallization (dynamic or (static)) - strong in domain 1

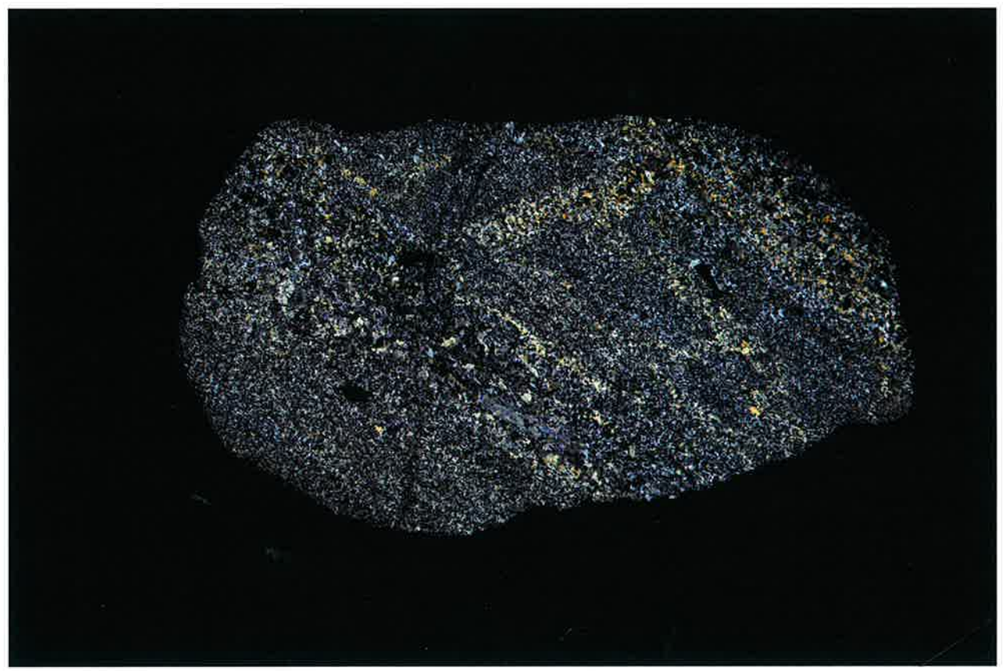
clast / matrix, clast size

(32) TS Description Sheet (Structure)
335 U1256D Run14 EXJB FOL

TS#32







Check List

Microstructure ;
①. magmatic - 2. submagmatic - ③ metamorphic - 4. CPF
⑤ cataclastic

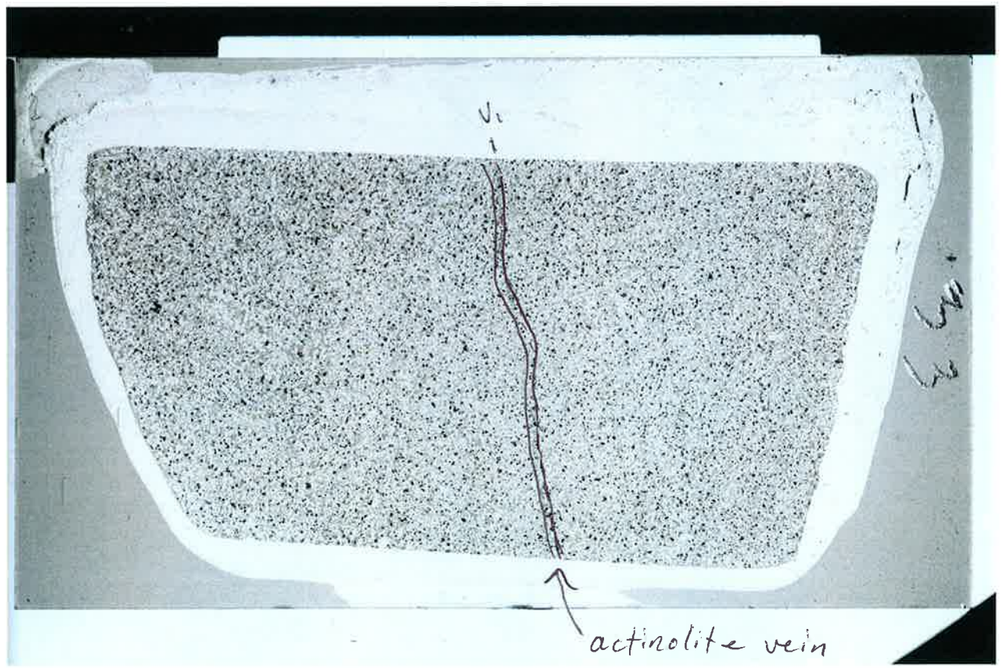
grain boundary, fabric intensity, submagmatic fracture,
varied moderate
undulose extinction, deformation twinning, - rare

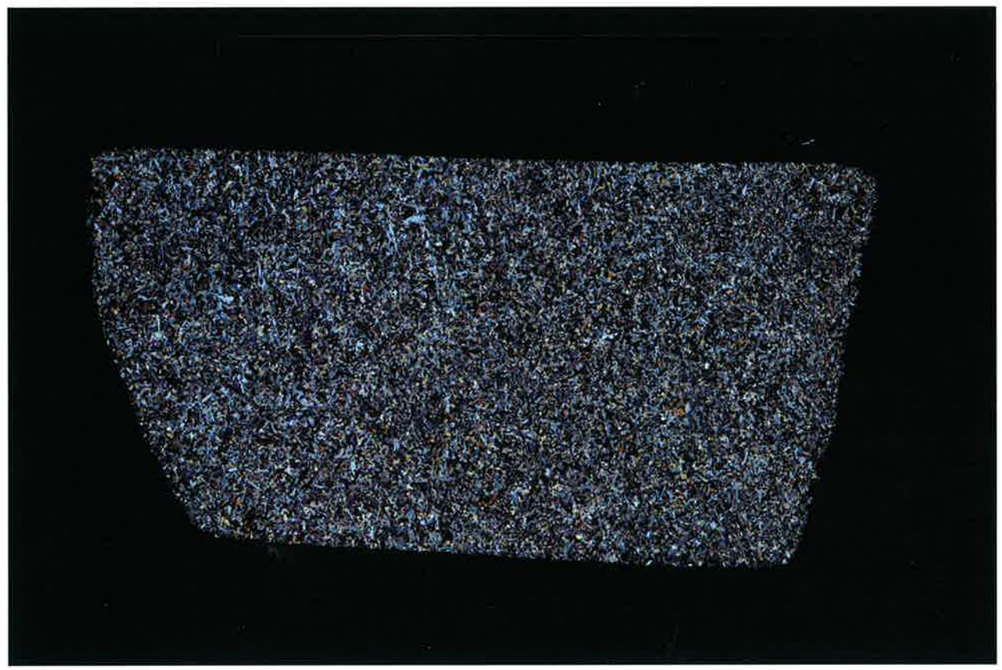
recrystallization (dynamic or static) - strong

clast / matrix, clast size

(TS #33) TS Description Sheet (Structure)
335 U1256D Run13 RCJB RockB

TS # 33





Check List

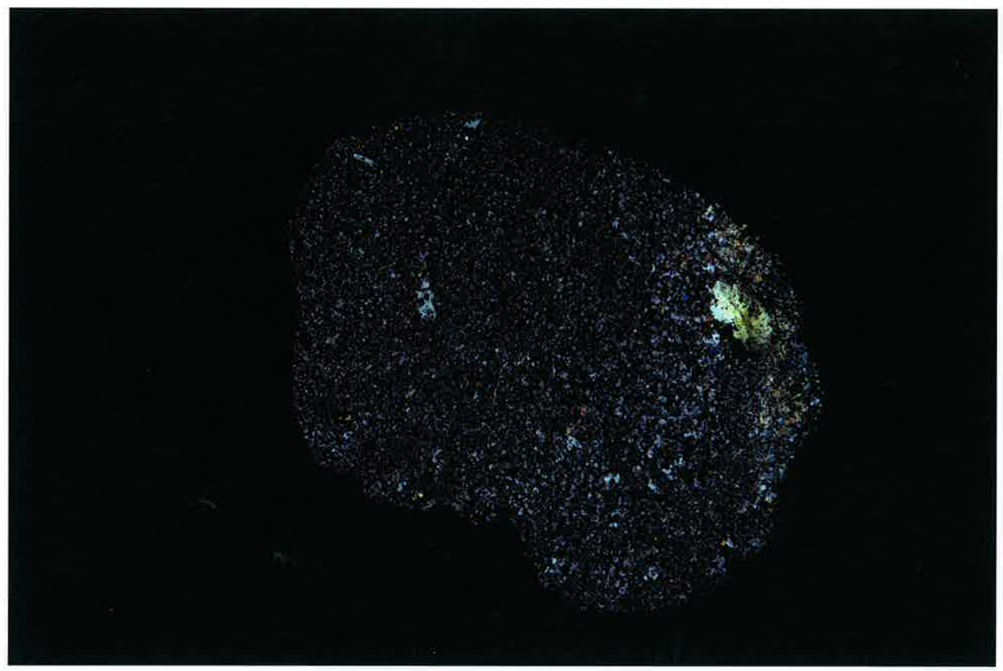
Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, (deformation twinning,) - rare
recrystallization (dynamic or (static)) - partial
clast / matrix, clast size

(TS #34) TS Description Sheet (Structure)
335 U1256D Run17 BSJB

TS#34

layering/banding between regions of different grain size



Check List

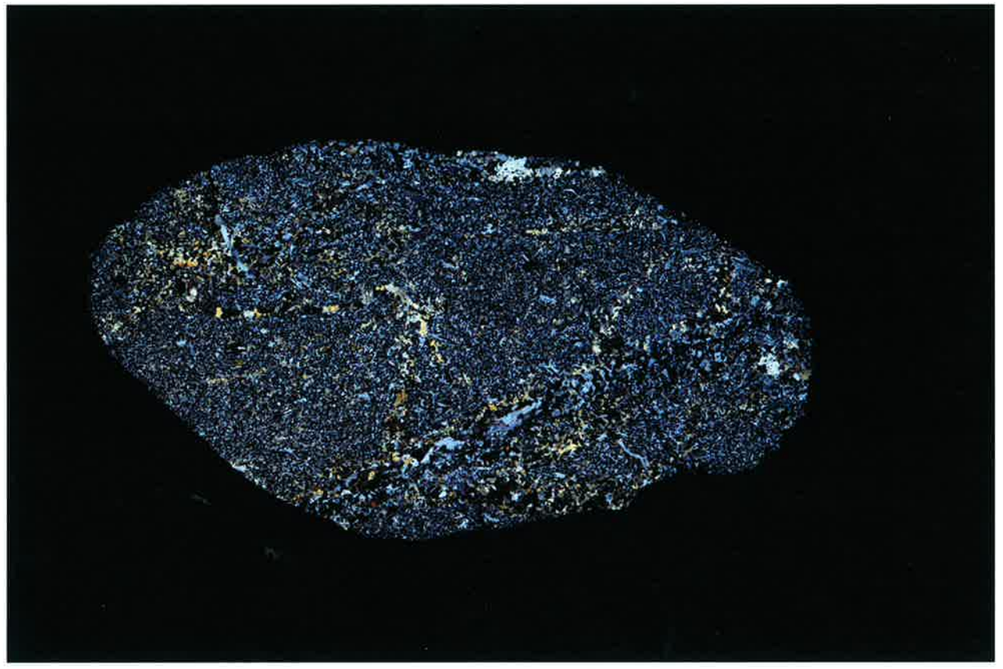
Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, (fabric intensity), submagmatic fracture,
Polygonal (weak)
undulose extinction, (deformation twinning),
weak (rare)
recrystallization (dynamic or (static)) - strong

clast / matrix, clast size

(TS #35) TS Description Sheet (Structure)
335 U1256D Run15 EXJB TSB 35

TS#35



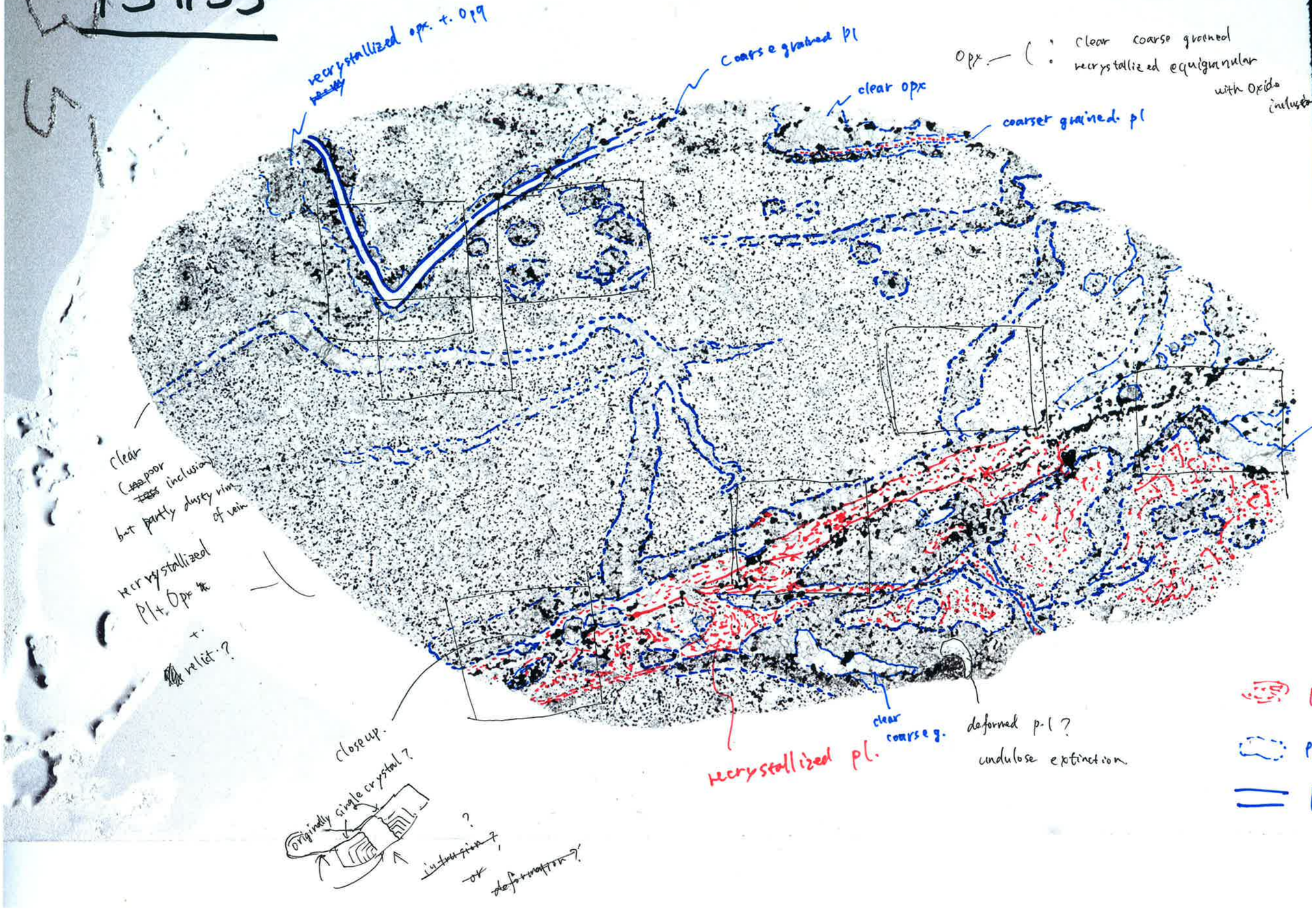
Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

grain boundary, ~~fabric intensity~~, submagmatic fracture,
varied weak
undulose extinction, deformation twinning, - plag
common
recrystallization (dynamic or static) - strong

clast / matrix, clast size

12560 - 335
TS#35

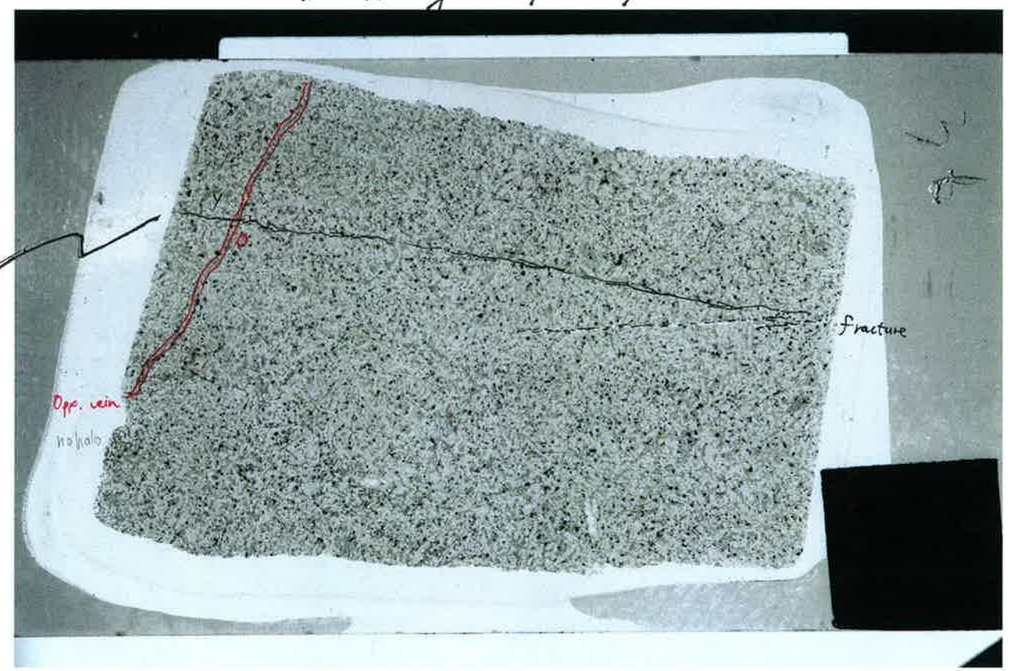


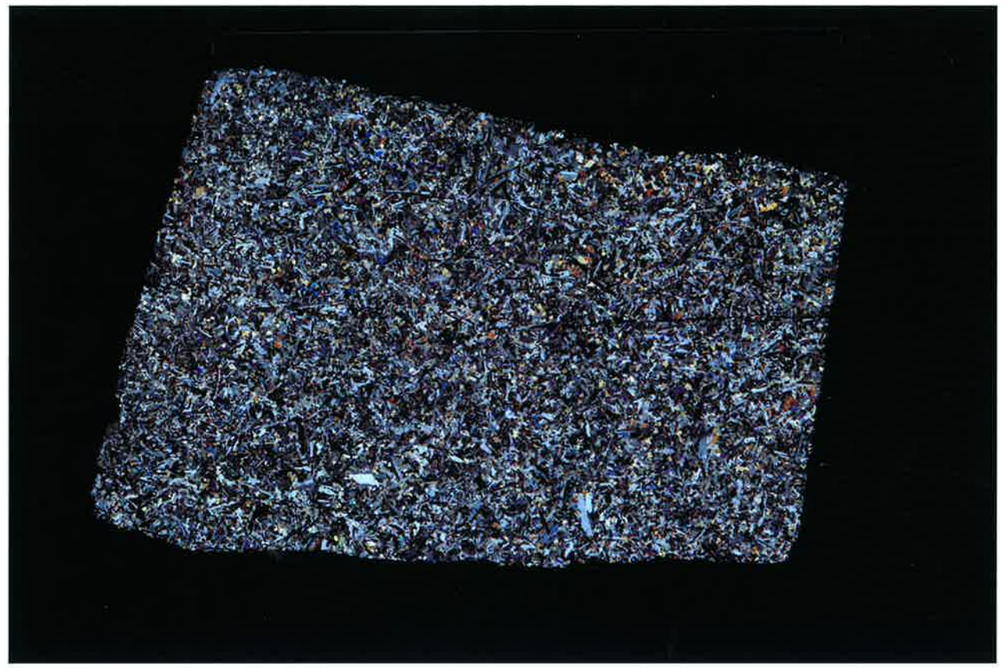
(TS #36) TS Description Sheet (Structure)
335 U1256D Run11 EXJB TSB 36

TS #36

moderately recrystallized

diffuse & very thin black vein (chlorite ?)





Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, (deformation twinning),

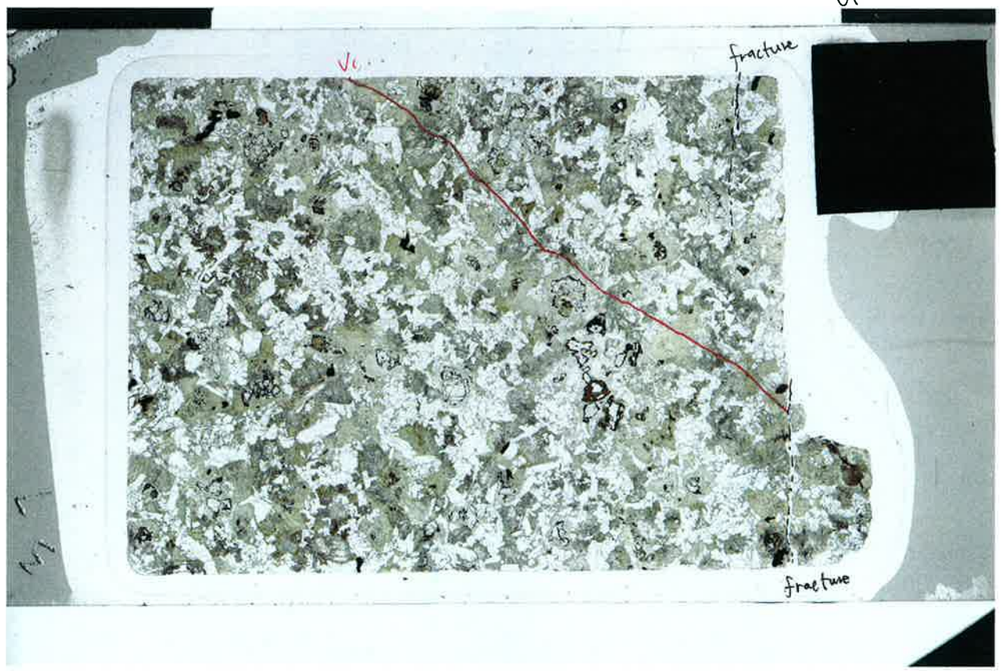
recrystallization (dynamic or (static)) - partial

clast / matrix, clast size

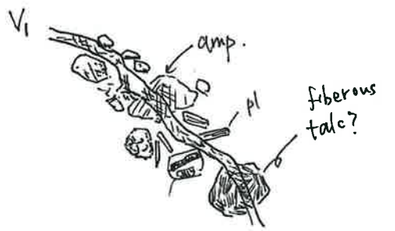
(TS #37) TS Description Sheet (Structure)
335 U1256D Run20 RCJB TSB 37

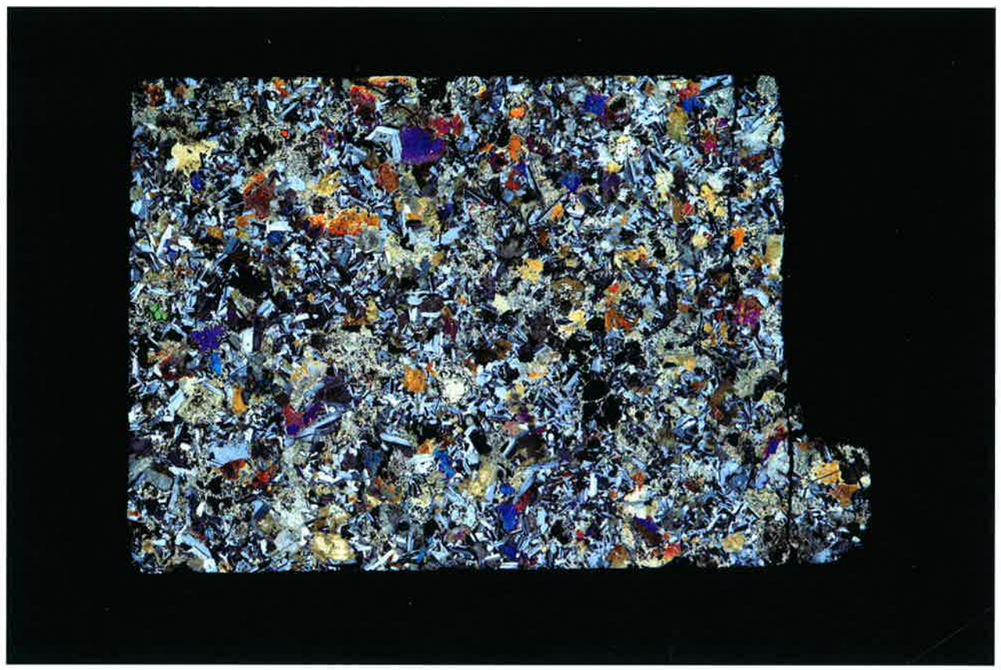
TS#37

50% altered Gabbro



V_1 : Chlorite vein with clearly strict boundary without alt. halo (partly altered)





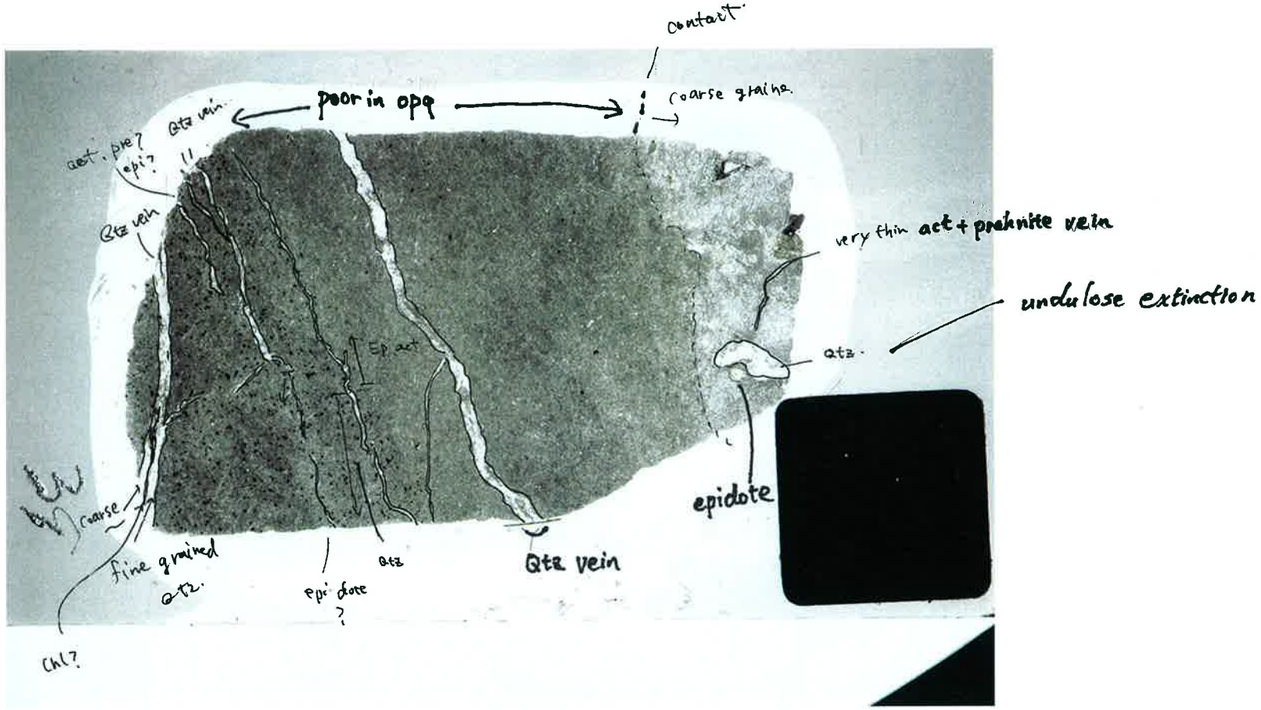
Check List

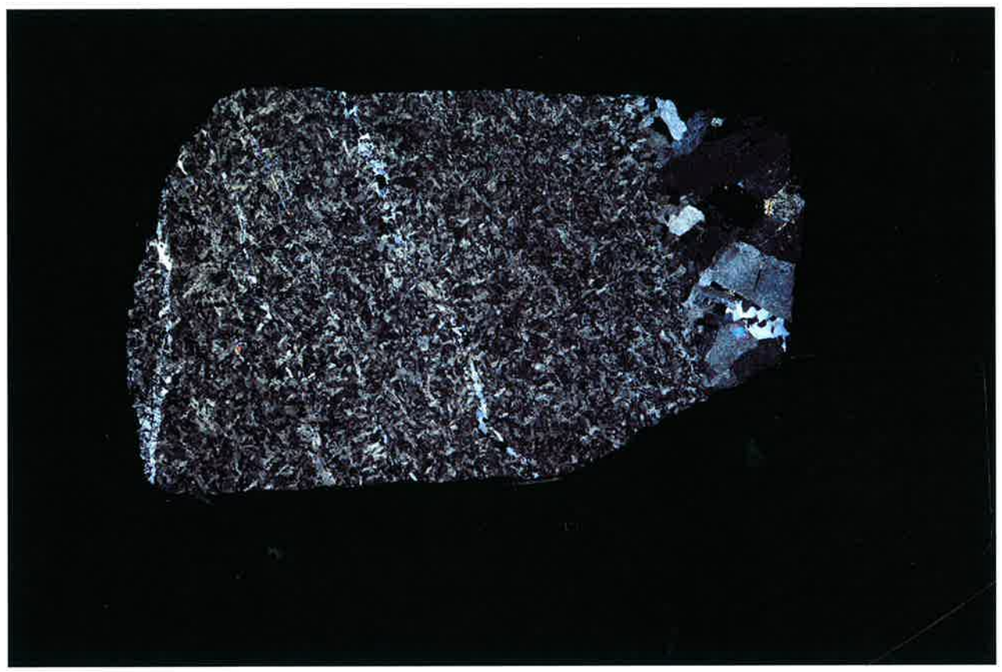
Microstructure ;
(1.) magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied isotropic
undulose extinction, deformation twinning,
none
recrystallization (dynamic or static)
none
clast / matrix, clast size

(TS #39) TS Description Sheet (Structure)
335 U1256D Run20 RCJB TSB 39

TS#39





Check List

Microstructure ;
1. magmatic - 2. submagmatic - (3.) metamorphic - 4. CPF
sharp contact and compositional banding

grain boundary, (fabric intensity,) submagmatic fracture,
Varied weak

undulose extinction, deformation twinning,
patchy

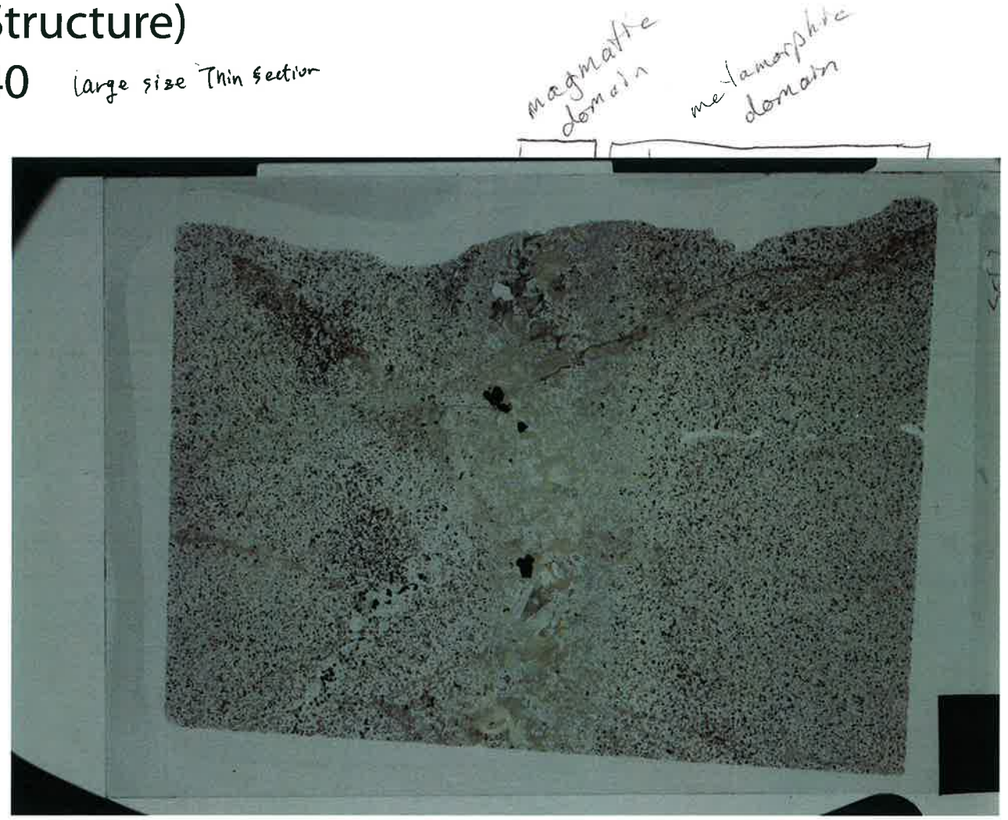
recrystallization (dynamic or static)
none

clast / matrix, clast size

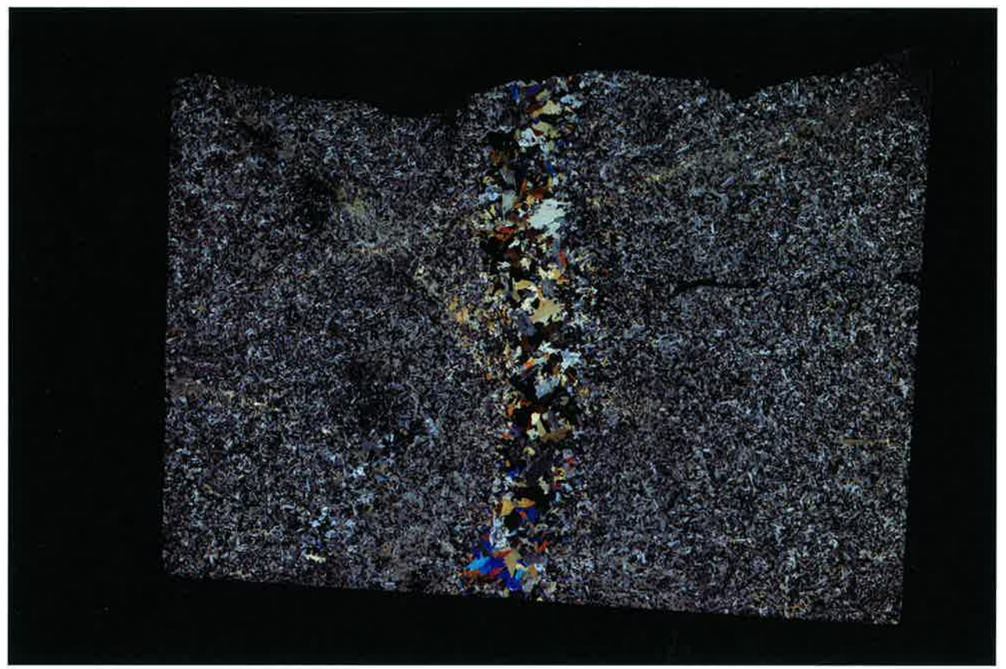
(TS #40) TS Description Sheet (Structure)

335 U1256D Run19 RCJB TSB 40 large size Thin section

TS #40



-See larger image



Check List

Microstructure ;

(1) magmatic - 2. submagmatic - (3) metamorphic - 4. CPF

magmatic vein intruded into dike

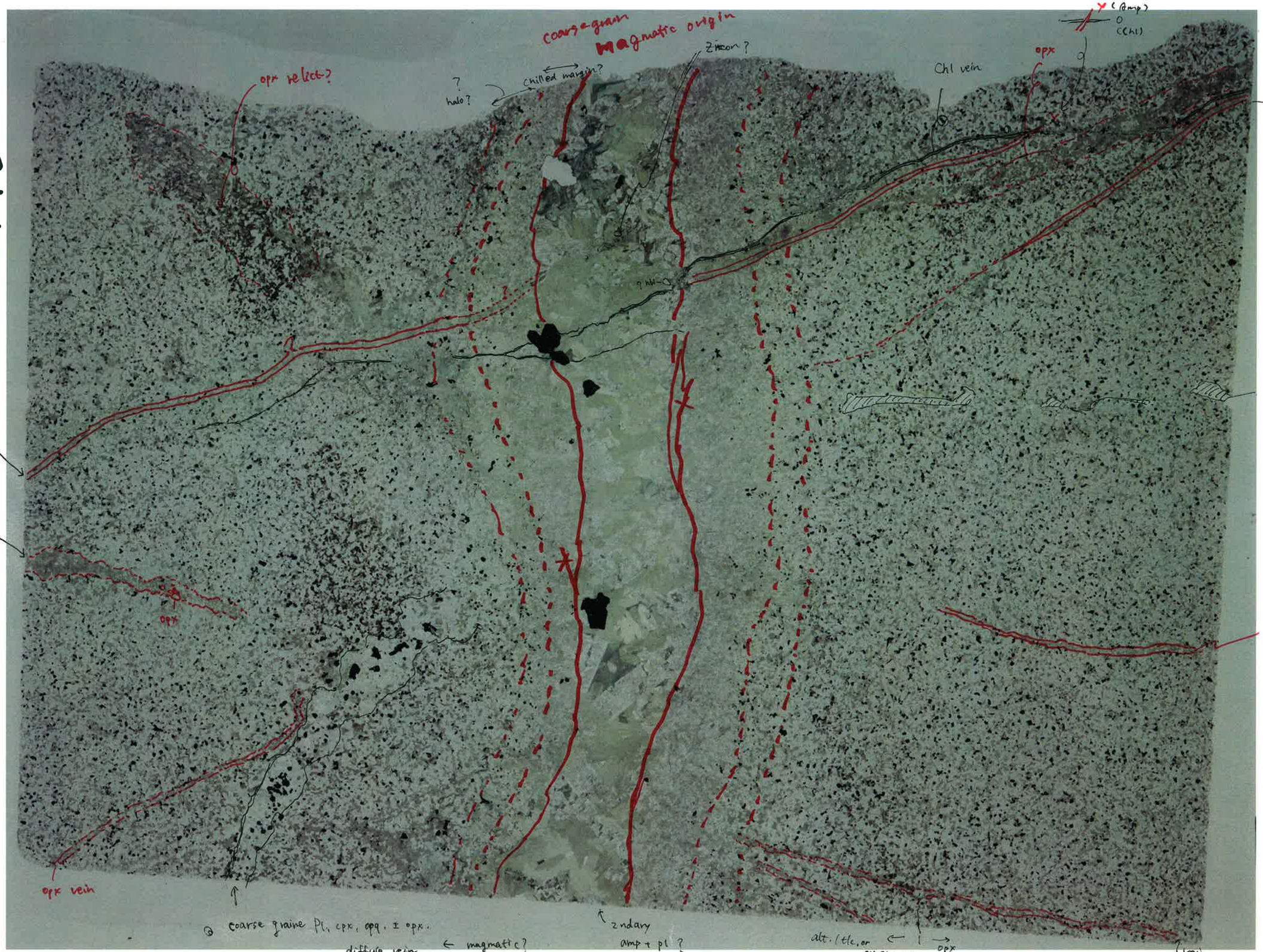
grain boundary, fabric intensity, submagmatic fracture,

undulose extinction, deformation twinning, common in plag
(in quartz)

recrystallization (dynamic or (static)) strong outside vein

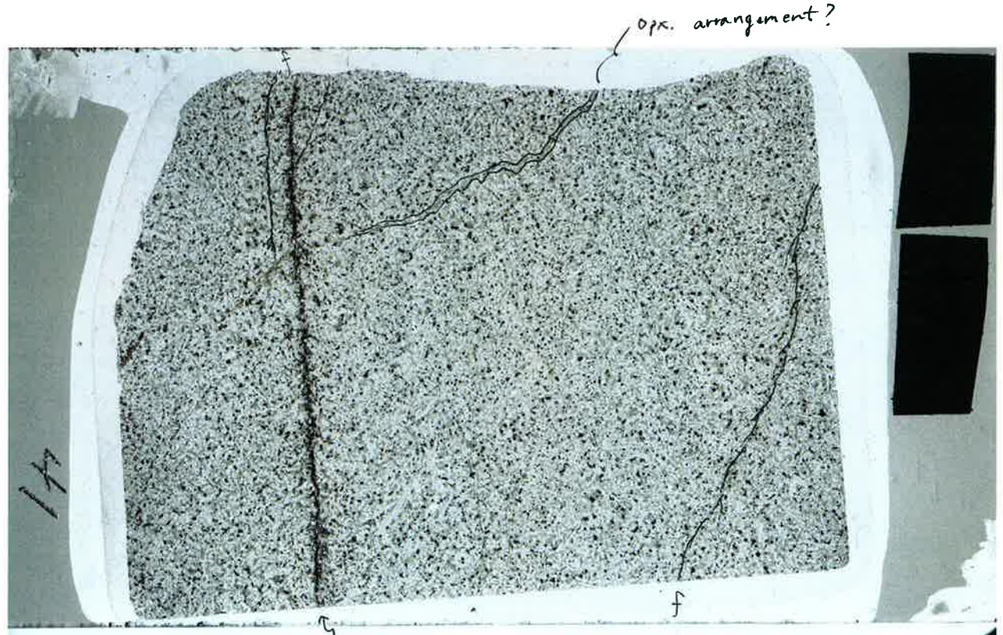
clast / matrix, clast size

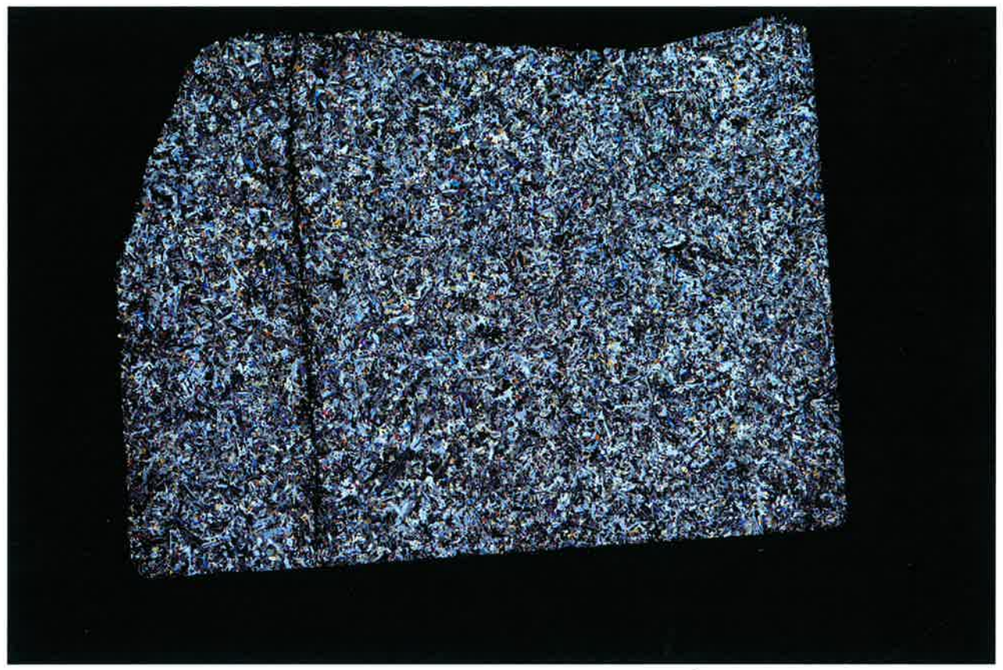
TS #40


coarse-grain
magmatic origin
Zircon ?
opx relict?
?
halo?
chilled margin?
Chl vein
opx
Y (Amp)
O
C (Chl)
amp (act?) vein
amp (act?) vein with diffuse alt. halo
originally opx ± Cpx vein ? (relict)
opx
opx vein
opx + Cpx
with opq inclusion
fracture or crack
coarse grains Pl, cpx, opq, ± opx.
diffuse vein ← magmatic?
2ndary amp + pl ? ± opq
alt. (tlc, or ~~tlc~~ Chl ?)
opx
vein

(TS #41) TS Description Sheet (Structure)
335 U1256D Run20 RCJB TSB 41

TS #41





Check List

Microstructure ;
1. magmatic - 2. submagmatic - 3. metamorphic - 4. CPF

grain boundary, fabric intensity, submagmatic fracture,
varied
undulose extinction, deformation twinning - plag
none
recrystallization (dynamic or static) - partial

clast / matrix, clast size