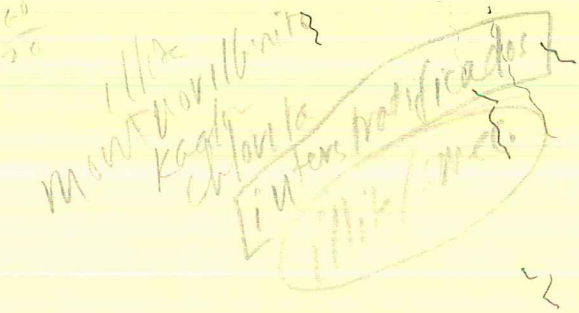
GL04702

	W	qtz. phenos	fsp. phenos.	lithics	ob. aggs
1375.8		5-7 (1.5-2 mm)	12-15	5-7	
1396.8		5-7 (1-1.5)	10-15	7	✓
1420.8		"			✓
1446'					
1529.2' (1st qtz is 2 mm avg. 1 mm)	W-N	3-5% of rock 5-7 of matrix ~~5-7 mod~~			✓
1565.2'	W-N	✓			
1571.4	N-W	phreatomagmatic ash deposit shards, etc 0.3-0.5% Φ	cal/plag str but 0.1-0.3 fsp	✓ (5%)	✓✓
1591.5'	N	1%	1%	accr. lapilli	✓
1623	N	0.5%	1%	great accr. lapilli	
1639.4	N	0.5%	1%	"	
1660	N	7-10% matrix same as above 1529.2			



2.0 - 2.3

LSL debris w/ mostly gr. rx. frags

12.6, - 12.8'

32-32.2'

qtz-ilted volc. ss

gr. qtz. overgrowths μ- fn xln. silic.

tr. det. zirc. prom. ser. prims around some clasts - some voids where clasts were

a few clasts have been dissolved out, then lined with euh. hyd. qtz - some of these vugs ± filled

poss tr. ilsemannite intergrown with qtz.

46.8' — 2 var. FeS2 brassy py dull golden, wuxtive marc? don't know which is early

qtz. ovgrowths on qtz clasts leuc "caulif" & pseudo/ilm(?) in

euh. qtz xl in 0.08X 0.25 abund prim. fl. inclusions ingrowth zone

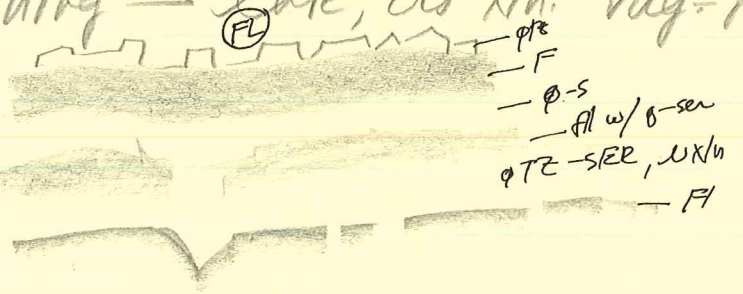
looks like gutted feldspar

tr kaol- 0.1 mm xls lining vugs

96 –

ss filling qtz, illite-lined vugs
py & marc(?) – as 46.8'

- 2 gen. of fluorite — early fx/n vn & vug lining — late, crs x/n. vug-filling (3?)

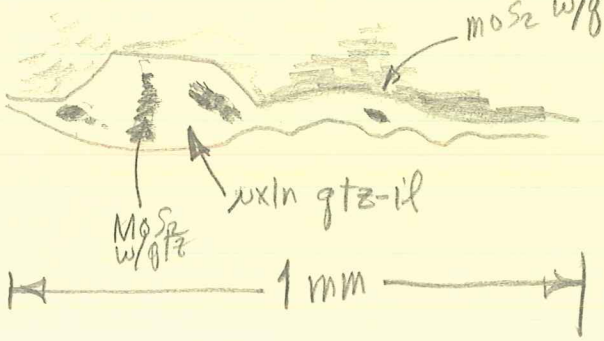


φTZ-SERICITIZED MATRIX

106' – QTZ-SER ROCK – does not appear to be any amorphous material – looks like about 50% illite

qtz-ser vnlt cuts earlier qtz ser mineralization.
also cuts MoS2

118.5'



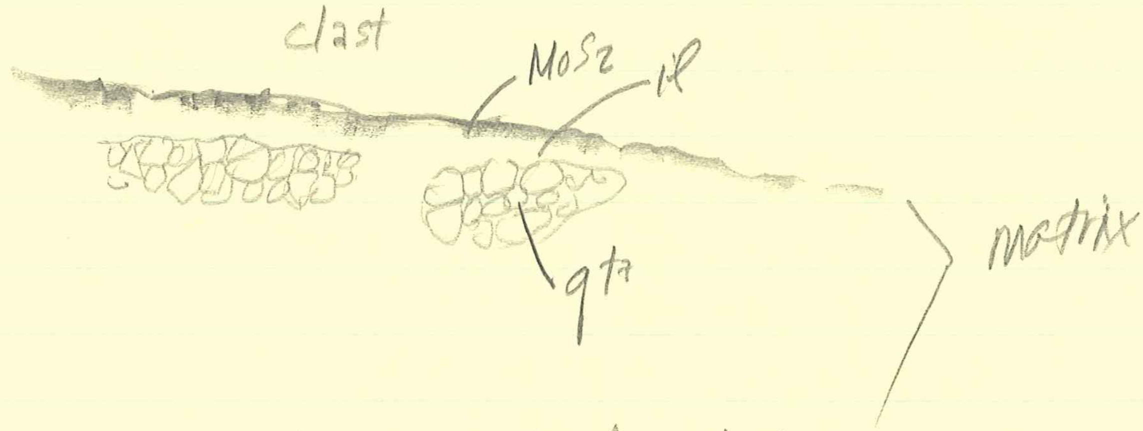
looks like MoS2 w/qtz dep. 1st then locally "popped off" vein walls, incorporated in q-ser.

138'

qtz overgrowths on phenos
many vapor-rich fluid incl's.

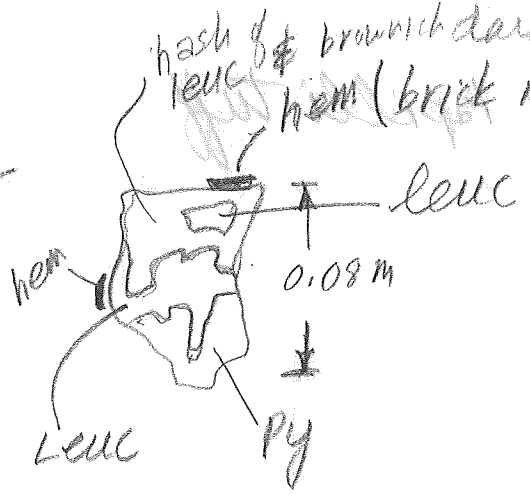
160' in vnlt. vxln illite deposited on
hydrothermal qtz crystals
in vnlt

188.1 bx — matrix rx flour alt. to NX14 qtz, ll,



Looks like at least 2 gener

208.5': MWAFT, qtz-ser. Kfsp. phenos ~~app.~~ studded w/ qtz. (patch) poss repl. of Kfsp, poss dissolution followed by infilling — poss repl. of albite in patch perthite.



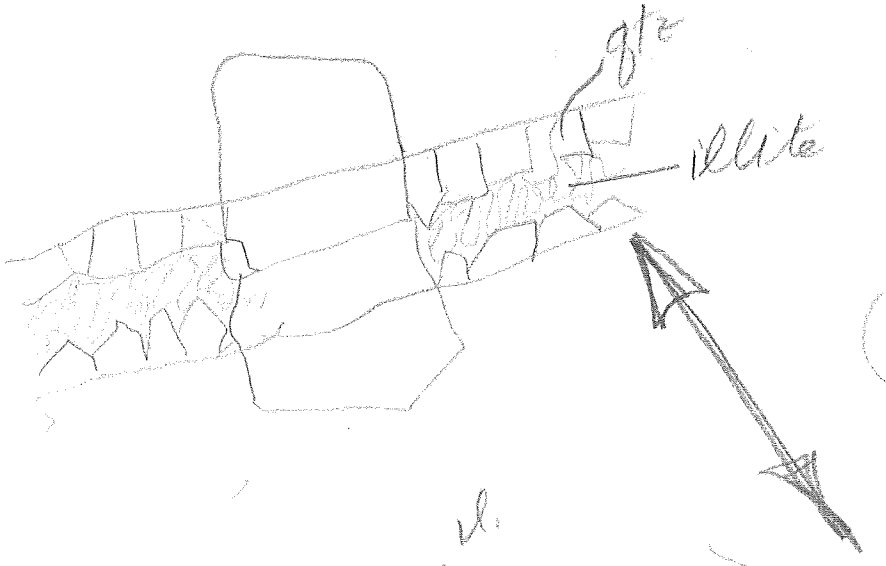
~~305.7~~

279.1

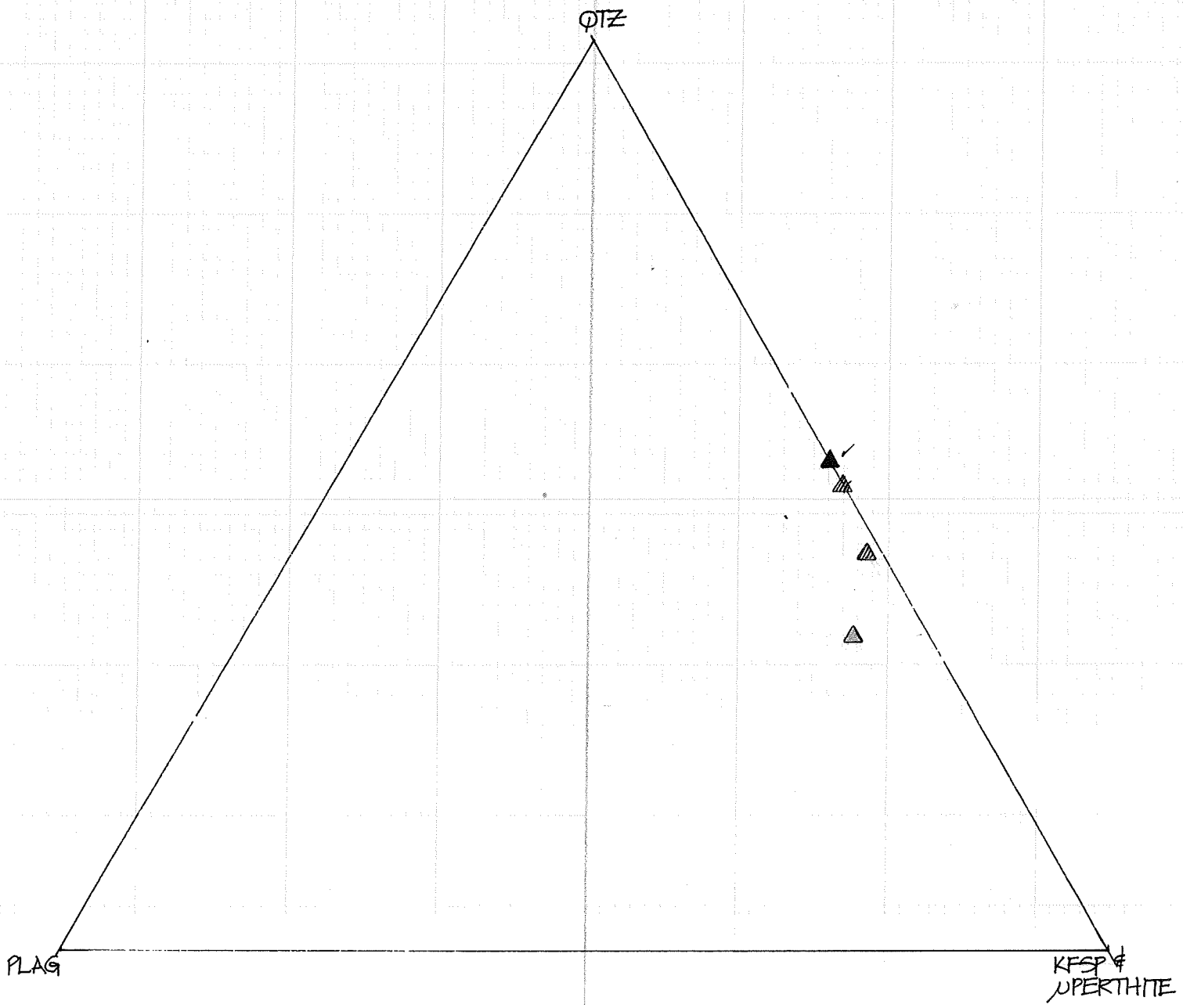
VC-2A QUICK NOTES

looks like ilm has been both replaced by pyrite & has altered to leucoxene plus hematite some of those clots intgrn w/ zircon µxls.

305.7' — no ilm or hem — kg-leuc. (calc) honey yellow (sphene)



170



– · QTZ & FSP. PHENOCRYSTS

ASH-FLOW TUFFS

□ UPPER TUFFS

▲ TSHIREGE

▨ OTOWI

△ LOWER TUFFS

VC-2A 305.6' 11/14/87

QTZ. PHENOS. — (50)

KFSP. PHENOS. — (28)

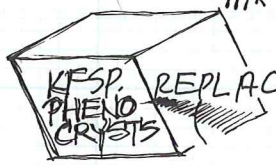
MICROPERTHITE —

PLAG. PHENOS.

MAFIC PHENOS.

LITHIC FRAGS — (7)

FINE-GR MATRIX — (200)



REPLACED WITH SER IN ∪PERTH. PATTERN — (15)

REL. CRS-GR, EUH-SUBH. GRANOPHRIC CLOTS — (12)

also gran. OBVIOUS FIAMME (4)

TL 316

hyd. qtz
hyd. ill.
hyd. sph. 1

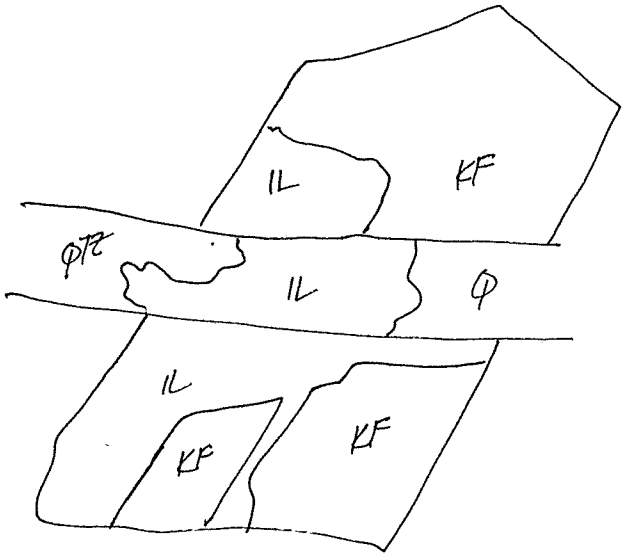
also leuc. <1% (✓ again)

PHENOS → 93 (29.4%)
LITHICS → 7 (2.2%)
MATRIX & PUMICE → 216 (68.4%)
316

QTZ. PHENOS. ~~26~~ 50 %
KFSP (& ∪PERTH) - 43 %
LITHICS - 7 %
100

QTZ - 50 ^53.7
KFSP - 43 46.3
& ∪P
93

333.3' DW Rhy AFT
many fsp. phenos. dissolved – app. where albite used to be – some voids now lined w/ qtz. x/s.



tr. chl. – clot enclosed by qtz. phenocryst.

345.2 Can see no glass petrographically.

387.1'

Large KF Phenocrysts — undissolved, and w/no albite.

qtz-ilm-py veinlets

612.3' First signs of glass in thin sectin

sericite replaces some chlorite

sericite veinlets cut large chlorite rosettes in feldspar phenocrysts

650' —

tr. fl. in gutted fsp. xl.

11/11/88

1200.5 VEIN

① discontinuous band/layer of uxln. chlor. flakes – individual xls + fibers
2-4u length or diameter. → band up to 0.03 mm wide
in wispy segments up to 0.10 mm length (1b) – includes: stain & uxls. to 15% brick-red hem

② uxln quartz band – mostly continuous – pinches & swells up to 0.07 mm wide w/ individual xls. (forming mosaic aggregate) up to 0.03 mm dia, but avg <10u dia. ◦ irregular, interlocking grains

locally incorporates 2-10u flecks of irreg. reddish brown and an unid. whitish opaque ~~grain~~ mineral

also incorporates & fragments and 2u–0.1 mm & chunks of the host rock and its constituents.

③

11/11/87 1206.3 vein continued

③ ~~calcite~~ -

adularia-calcite band — calcite >> adularia
band variable width, from 0.1 to 0.35 m avg ≈ 0.2 mm
dominantly calcite as ~~an irreg~~ a mosaic of
irregular interlocking crystals 2 ν - 0.08 mm dia (avg. ≈ 0.02 mm) — both inner and outer contacts highly irregular (especially inner) ~~<5 5<10%~~
up to 5% adularia (erratic distribution) seemingly occupying interstices between calcite grains - mostly in masses < 0.01 mm
pale, generally solid-inclusion-rich
≠ inclusions of matrix, qtz & KF phenocrysts are common.
locally incorporates rare chlorite flakes as in band 1, up to 0.03 mm. max. dimension.
locally ad. forms irreg. masses up to 0.4 mm as mosaic aggregates of subh. xls. 10 ν - 0.1 mm avg ≈ 30 ν these appear to have filled etched cavities in the calcite
Includes scattered, unid. opaque (dk. & lt.) grains < 2 ν.

④ Chorite band — v. discontinuous
up to 0.3" wide, ~~or~~ individual clots up to 2 mm in length
clots are formed of ~~individual~~ xls, flakes, fibers 2-4 ν in length or diameter, as well as fan-like to radial aggregates of fibrous xls — aggregates up to 0.1 mm dia — chl is pleochroic from lt. brownish pink to ~~vivid~~ brownish-green very beautiful.

⑤ ~~v. rare~~ euhedral quartz xls., euh. adularia xls
~~< 0.01~~ mm. max. dimension.
(elsewhere up to 0.15 X 0.03 qtz. xls, 0.8 X 0.04 mm adularia xls) in discontinuous bands up to 0.06 wide & 1 mm long qtz xls long axis // to the veinlet wall.

⑥ clear quartz, v. few incl. blebs w/s but no terminations on qtz xls — goes directly to [7]

1206.3' (CONTD.) 11/11/87

radiating from pt toward interior.

(17) Distinctive quartz band very ratty-looking up to 0.6 mm. wide, irregular boundaries esp. interior — consists of coalesced, radiating sheaf-like aggregates of ~~bladed-appt~~ columnar xls. up to 0.33 mm. in length — xls. are ~~stc~~ anhedral to subhedral (SP) terminations are extremely rare — ~~openings~~ former openings between sheaves are filled w/ uxln. qtz aggregates (8%) (irreg. interlocking mosaic grains.)

• this quartz is extremely dirty-appearing, with 3-5% <2μ flakes & shreds of calcite & rarer chlorite (probably plucked from next outward band); also 5-10% vapor-rich fluid inclusions — many clearly not due to necking — many are elongate, both // to and ⊥ to c-axes of quartz xls. — appear to have been trapped primarily in intercrystalline space, highly irreg to elongate liquid-rich quartz

Broken 2.64 mm L
(2.86) (2.7 EUH)
1.52, 0.194 2.0 mm
1.5, 1.68

QTZ-06-1

VC-2A
433M/1420.6'

Q - 𝍸 𝍸 𝍸 𝍸 … (tally marks)

0.66, 1.4, 1.2 0.66
1.7, 2.6 1.6
1.55 2.2 euh 1.2

MP (tally marks)

KF 𝍸 𝍸

0.18, 0.142

PL //

0.24 X 0.27 stubby lath-shaped chl w/ minor leuc. & ab, tr. ap.

MAFIC - 1

0.68.
0.08

PUM - (tally marks) (+23)

10 μ - avg.
2-40 μ range

GMASS (tally marks)

1.1 mm X 0.84 mm some elongate crudely lent.

Q-AB aggr. (tally marks)

LITHICS - 𝍸 𝍸 𝍸 𝍸 𝍸 //

VUGS - 1

VNLT 𝍸 𝍸 ///

1420.6'		%	% (LITHIC-FREE)
Q PHENOS	- 76	11.0	11.5
MP+KF "	- 96	13.9	14.5
PL "	- 2	0.3	0.3
MAFIC "	- 1	0.1	0.1
PUMICE	- 133	19.3	20.0
GMASS & Q-AB AGGR.	- 356	51.5	53.6
LITHICS	- 27	3.9	
	691		

691
27
664

FSPS 174 T
Q - 43.7%
PL - 1.2%
MP, KF - 55.1

0.04 X 0.01
Leucoxn - 1

euh - 0.16 mm cubic
Py - 1

narrow, irreg. qtz. discontinuous overgrowths ragged 0.01 - ~~0 - up to~~ avg. 0.02 mm to 0.10 mm wide

heavies 0.08 X 0.06 high biref. incl. extinct. yell-green?

Lith - sparsely ppyric andesite - ////

VC-2A
448.2M / 1470.4'

1.34 1.30
1.14 2,20 0.72
1.70 2,10 2.80
1.4 1.90 0.66

0.32 1.1 0.42

Q – ||||

KF – ||||

MP – ||||

PLAG.

MAF

PUM – ||||

GMASS – ||||

0.14 ---- qtz. agg – ||||

LITHICS – ||||

		LITHIC-FREE BASIS (562 pts TL)
QTZ. PHENOS – 64	10.3%	Q – 11.4%
MP+KF PHENOS – 67	10.8%	MP+KF – 11.9%
PUM. – 63	10.1%	PUM 11.2%
GM + qtz agg & overgr. – 368	(59.1%)	GMS – 65.5%
LITHICS – 60	9.7%	

PYRITE – 6

628 622

py = 1%

py – ||||

qtz. overgrowth – ||

rhyol. volc |

Lith – rhyo. mgrn. – ||||

v.v. fgr rhy – ||||

perlite? – |

unkn. µbx – ||||

Q – s. rock – |

ser. chert

and. ppy ||||

commonly embayed, bipyramidal.

euh, embayed 2.5 mm 0.24
1.36 euh. emb. 0.8 0.6
euh - bip - 0.72 mm
euh - 0.32

some ν

VC-2A
515.1 M / 1690'

Φ - |||| |||| |||| (14)

0.9 0.6 1.1 1.6 0.98 1 mm 1.4 mm

MP - |||| |||| | (11)

0.45 mm 0.24 0.49

KF - |||| |||| || (12)

0.17 untw 0.2 mm 0.07

PLAG - ||| (3)

MAFIC (0)

sek alt to chl-ser + PUM - |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| (54)

~~GRAN. AGGR.~~

GROUNDMASS - |||| ... (181)

LITHIC - |||| ... (145)

i'n gmass → QTZ-ALBITE CLOTS - |||| |||| || (12)

Φ-CH-AB-clots - |||| | (6)

	%
Φ	3.2
MP+KF	5.3
PLAG.	0.7 %
PUM	12.3 %
GMASS (+) "CLOTS"	37.2 %
LITHICS	41.3 %
	100 %

LITHIC-FREE BASIS

QTZ	4.8 %	35.0
MP+KF	7.9 %	57.7
PLAG.	1.0 %	7.3
PUM	18.4 %	(100.0)
MATRIX	67.9 %	

438 PTS. TOTAL

293 W/O LITHICS

LITHICS

some sericite rims — FELSIC VOL - |||| |||| |||| |||| |

sandstone - matrix chl-ser ||

lenc-Φ-ser. rock - ||

~~[illegible]~~ - |||| |||| |||| |||| |||| || |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||

0.12 - <0.14 x 0.3 mm apatite needles; 0.12 mm dia ap. — INTM. PPY - |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||| |||

~~intm~~ INTM. VOLCANIC - |||| |||| |||| |||| |

v.v. fxln (uxln) ax. devitrid felsic ppy - ||||

VC-2A 1700'

330 PTS.

Q - 6%	(21)	
F - 7	(23)	
LITH. 25	(82)	
PLM 8	(27)	
GMS 54	(177)	
	330	
	(248)	

RECALC. W/O LITHICS

Q - 9%
F - 9%
PLM - 11%
GMS - 71%

191.8'