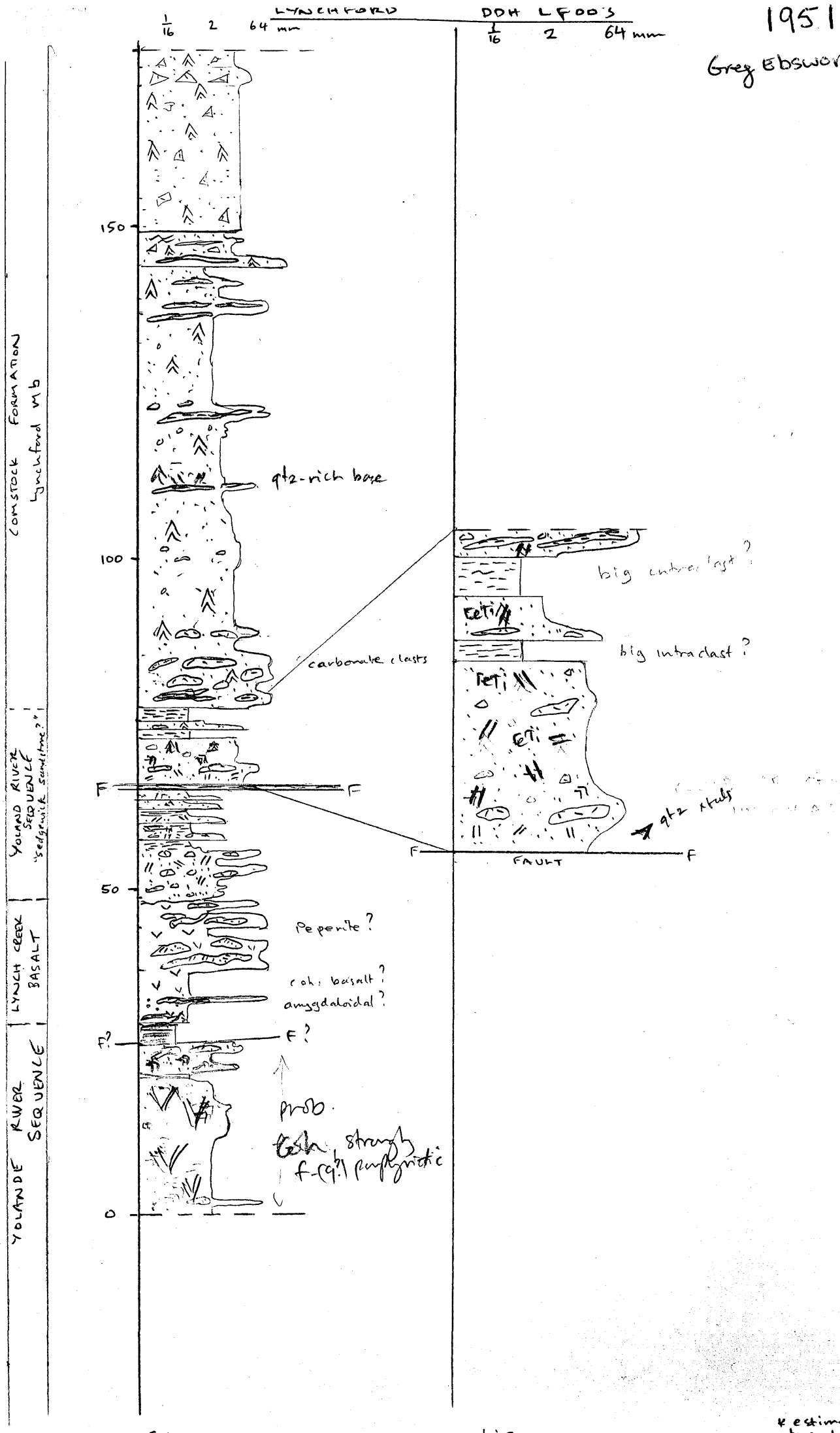
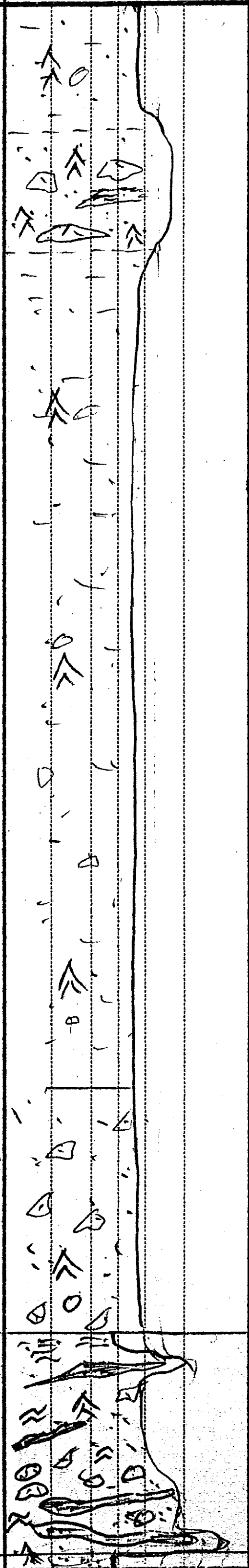


SCALE 1:750 1:200

* estimated true thickness

DIAMOND DRILL LOG	LOCATION: LYNCHFORD	HOLE NO:
	AMG: E N	LF003
	RL: DIP: AZ:	Page 1 of 6

Depth	Mag. sus.	Structure	grainsize mm ($\frac{1}{16}$ $\frac{1}{2}$ 2 8 64)	ALT	Description (Logged by: GBF; Date: 10/12/0[illegible])
0	2-3				Red brown, strongly weathered, ferruginous, gravelly clays with kernels of lithic, xtal-rich vc bx.
	16-17			w-mod chlor	From 4.0 - 8.05 - fresh f (pyx) xtal-rich lithic VC bx. Clasts most strongly f-q porphyritic pink or greenish felsic volc - some with perlite, mostly subangular to sub-round, several very ragged, possibly pumiceous. Minor finely laminated slst? Bx is matrix supported, ~ 15% v. poorly sorted clasts 1-2mm to 2 cm. Probably POLYMICTIC
10	2-3				
20		Massive			
	2-3				
30					
					34.3 grad'l
	5-15	Massive, 80-18/CA		~Box	F (Fq?, pyx) (mt) xtal-rich-lithic vc bx as prev. Mostly felsic volc clasts, 2mm - 0.5cm - rare 1-2cm, oxid q-f-porph felsic. Some aphyric alt, bleached clasts.
40					42.3 m sharp dep. base
	0.2-3	So 25/CA		W-M chlor	Fine f(q pyx) CRUS - vitric? with common but minor 0.5-1cm black wispy pumices; POLYMICTIC. 45.2 m 10 x 0.5-1 cm wispy pumice? (ser alt) or vc slst. 45-47 m common pink 1-2cm q-f felsic volc clasts. 48.3 m - 3-4 x 6.5 cm wispy ser alt pumice? or vc slst. 49.3 - irreg, 20 cm green vc slst clast or pumice? 49.8 depth: base with alt marking slightly...
50					



LF3/06 43.5m small chlor pumices

DIAMOND DRILL LOG

LOCATION: LYNCHOFORD
AMG: E N
HOLE NO: LF003

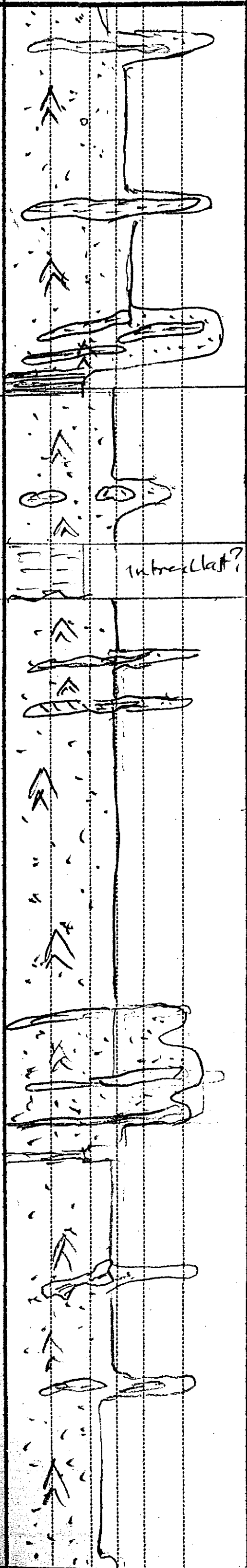
RL: **DIP:** **AZ:** **Page** 2 **of** 6
Logged by: GBE **Date:** 10/12/01

Depth scale: 50, 60, 70, 80, 90, 100

Mag. sus.: 20–25; 0.5; 5; 2; low; 0.5; 3; low; low; low; 94.5; m–high 5–20 up to 40

Structure: Massive; S0 20/CA

grainsize mm: 1/16, 1/2, 2, 8, 64



ALT: W–M ē patchy S chlor; 65.5 S ser py; 67.6; W–M chlor M–S ser py; W–M ser py patchy S chlor; 84 S ser 85; 87 S ser py 91; 99 ...

Description

49.8 – 50.7 m well sorted fine f(q, px) CRUS, very magnetic, grading DH to coarser f(pyx) CRUS to 51.5 m with single 15 cm sub-ang green vc slst(?) clast? at 51.45 m. Unit then coarsens gradl'y to med grd. f(pyx) CRUS – no obvious lithic!

[LF3 01 56.0 m] f CRUS (5–6 mag)

At 57 m wispy 20 cm x 10 cm green f-phyric ser-alt clast – pumice? [LF3 07 57.3 m] big pumi

From 60.1 – 61.45 m – common 5–15 cm lam, grey-green vitric? vc slst + minor mudstone clasts – prob rip-ups, then vc slst interbed or 62.2 m large rip-up clast.

F(q-pyx) CRUS as prev, well sorted, rare 1–2 cm alt ... or volc? clasts at 66 m

67.6 – broken core.

Parallel lam. grey – dk pink grey vc slst.
68.9 m – sharp but irreg – sub-parallel to CA

Med grd F(q-pyx) well sorted CRUS. possibly more qtz rich.

71.2 m – 8 cm irreg, partly alt slst clast.

73.5 – 15 cm lam vc slst clast – microfault lamina at high angle to contacts ē CRUS.

82.3 m 8 cm x 1 cm lam. slst clast

84–85 – Strong ser? alt – destroys fabric → ghosts of f + qtz xtals

84.4 9 cm x 1 cm lam slst clast.

85.9 17 cm x 5 cm wispy, lam slst / mudstone clast

86.3 18 cm x 5 lam slst clast

86.9 20 cm slst-mudstone I/B or large I/clast lam. disrupted / microfaulted within

87–91 – minor 1–3 cm late qtz veins in alt zone.

91.4 – 10 cm, very irreg slst-mudstone intraclast

~94 – 94.3 – broken core ē slst clasts?

From 94.3 to 99.5 finer grd, then med grd f(q-pyx) CRUS as prev.

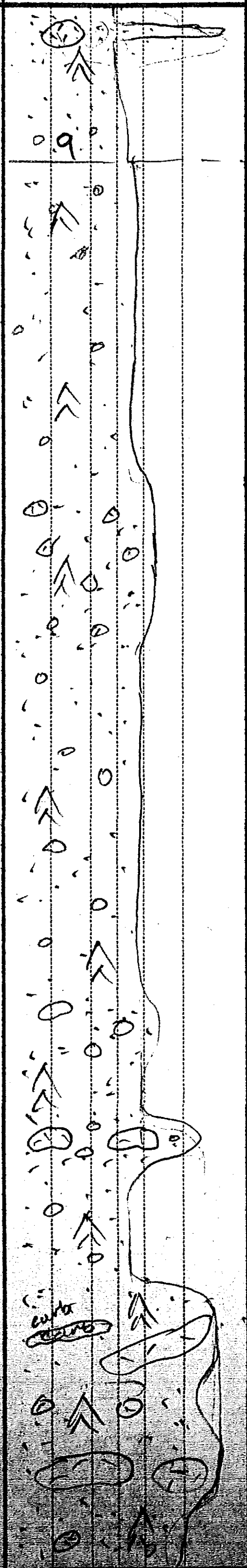
Diamond Drill Log	**Location:** LYNCHFORD **AMG:** E N	**Hole No:** LF 003
RL: DIP: AZ:	Page 3 of 6	
Description	Logged by: GBE	Date: 10/12/01

Depth (m): 100 – 150

Mag. sus.: 5–20 up to 40; 15–30; most 10–15; 8–10; 1–2; partly Mag? low

Structure: Massive; Massive; broken

grainsize mm: 1/16 1/2 2 8 64



ALT: M chlor; S ank patchy – wispy carb.; S carb; M chlor M carb; S carb; M chlor M carb

Description

101.64 – 9cm subangular, red, q-(f)(ferromag) porphyritic volc. clast

In lowest metre or so, qtz to 5.0mm common but still minor. XTS LF3/02 105.0 CRUS c qtz (mag)

105.10 m – ser-alt shear, possible boundary of dep units

Graded POLYMICTIC ~~unit~~ with f-med f (q-cpx) lithic CRNS with distinctive orange, mod-strongly q(f)-phyric (phenos up to 30%, av. 10-20%, 1-2 mm) felsic volc. clasts, these increase in size + abundance downhole as follows:

105 – 115m – minor to ~ 2%, 2-10mm av. 5mm

115 – 121m – 5-15%, 2-30mm, av. 10mm minor grey cherty or alt clasts.

121 – 135.5m – 2-5%, 2-10mm, av. 8mm minor – rare 3-5cm volc rare 2-5 x 0.5mm wisp carb (alt) clasts

135.5 – 136.5m Minor 2-3cm and 5-15cm, very f-grd (alt?). matrix with only rare 2-3mm clasts Rare wispy white carbonate (alt?) clasts 2-5cm. Matrix carb alt

136.5 – 140.8 – rare 1-3cm pink f volc clasts, patchy – wispy carb alt.

140.8 – 148.0m Common 5 – 15, some ~~10~~-30 cm red felsic volc. 20-30 cm! felsite volc. clasts at: 142.8m, 147.3 + 147.6m. At 142.6-143.5 common 5x2 cm wispy carb (calt?) clasts c carb alt matrix

148.0 – 151m v. Minor 5-10mm of rare 2-5cm, red felsic volc. in fine grd, chloritic CRVSS

DIAMOND DRILL LOG

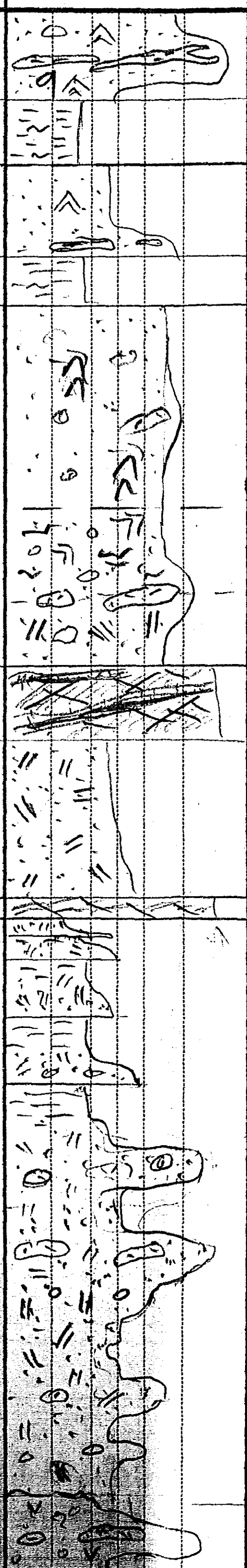
LOCATION: LYNCHFORD

AMG: E N

HOLE NO: LF003

RL: DIP: AZ:

Logged by: GBE Date: 10/12/01



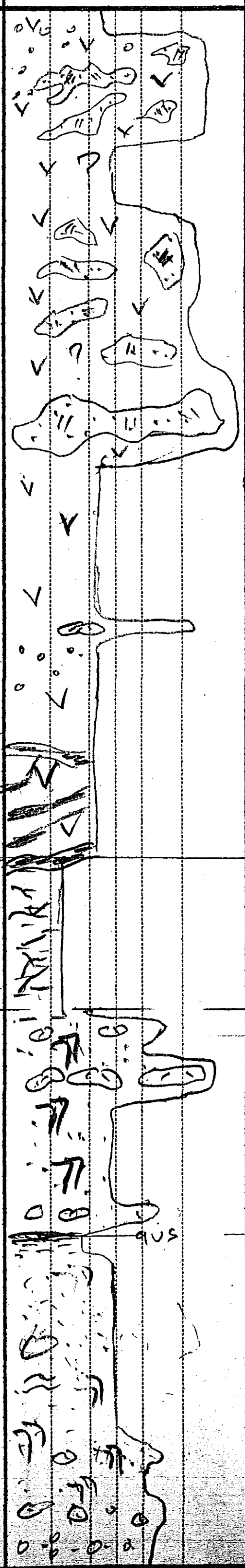
Depth	Mag. sus.	Structure	ALT	Description
150	low	So 37.5°/CA	M chlor	151 – 152.80 Fgnd F (q, cpx) CRUS with two ragged, highly irreg. vc slst/mudstone intraclasts at 151.8m (10cm) and 152 (15–20 cm) 152.80m SHARP. LF3 08 150.1
	low	So 37/CA	Patchy silic	Grey, shard-rich vc slst or large clast? 155.30m SHARP, irreg, conformable
	low		Patchy silic	Fgnd F (q, cpx?) possibly vitric CRUS with rare 1–2cm pink q-phyric F volc clasts. Patchy silic. alt → pseudo bx. Possible minor slst int. clasts at base (2 to 5cm?) 157.95m SHARP
	low	So/S1? 18°/CA	patchy silic + ser py	Grey vitric? vc slst – interbed or intraclast? 159.40m obscured by alt
160	low / 10–15	Massive	M chlor	F (q, cpx) – lithic CRUS POLYMICTIC with rare–minor 0.5–5cm pink q(f)-phyric felsic volc clasts. At 161.25m, 15cm very irreg (lobate) vc slst intraclast. F. volc. clasts more common → base of depositional unit. LF3 09 162.40 lithic F CRUS & pumices. ~166.0m gradational
	1–2 / low	Massive / 29°/CA	W–M chlor + M ser-py; M–S carb + ser py	From ~166.0m qtz xtal content increases signif. and by ~169.0m the rock has 30% 2–4mm qtz xtals in a vitric (pumice CRUS?) matrix. Minor 2–5cm q-phyric volc. clasts – 5–8cm at 169m & one carb- 171.25m SHARP, sheared. alt. clast. LF3 10 168.50
170	V low	FAULT broken	S carb ser + py	FAULT – with strong qtz–carb veining and gouge development. 173.40m
	V low	Massive ?, 35/CA	Patchy silic; S ser + py	Strongly ser? alt & patchy silica alt and 1–2mm irreg. carbonate veined, siliceous qtz-xtal-rich vc SS – Possibly vitric (→ ser) Qtz-xtals 0.5–1mm at top, coarsening to 1–2mm downhole. 178.50m SHARP
	V low	FAULT	S. ser [illegible]	179.0m FAULT – Puggy, sericitic [illegible] prev. unit
180–190	low	27/CA So 40/CA	M–S ser py carb silic; M–S ser; S. ser; S. carb	Q(F?) – lithic slst – CRUS – lithic vc bx form a series of small m.f. dep. units. Much of the interval is obscured by S. alt. Q xtals – 30–50% 1–2.5mm, lithics mostly q-phyric volc, some cherty clasts, most 2–5mm some 2–5cm, rare 5–15cm. Sharp bases at 179.2m (UH), 180.2 (UH) 182.49 (UH), 184.45m (UH?), 5–15cm q-phyric volc 187.5–188.5 then [illegible]. Abt 5–10cm f. volc clasts at 188.4–189.30m. Some sharp contacts may be alt. fronts, but UH + DH grading is present within unit(s). At 194.70–195m – common weak-mod q-phyric 0.5–3cm subround clasts. At 196.80–197.25m, highly irreg. contact of ser alt. f. CRUS and coarser unalt q CRUS either alt. front or soft-sed. defm. LF3 12 190.50 alt q-f lithic CRUS? LF3 13 197.5m q CRUS alt + [illegible]. 197.80m obscured by S. carb alt – irreg?
200	low–M		M–S carb	Green grey, f'gnd, mod fol, finely vesicular?/amygdaloidal? carb alt coherent basalt? with

Margin notes: F CRUS 10→30% qtz in slst or large clast? alt. matrix; 5–10% to 20–30% qtz; LF3 11 17[illegible] F q CRUS Qtz [illegible] in [illegible]

DIAMOND DRILL LOG	**LOCATION:** LYNCHFORD **AMG:** E N	**HOLE NO:** LF003

RL:	DIP:	AZ:	Page 5 of 6

Mag. sus.	Structure	grainsize mm 1/16 1/2 2 8 64	ALT	Description	Logged by: GBE	Date: 11/12/01



200

low (or? as) — S1? 30/CA — S carb

zones of very irreg shaped q-CRVS forming clasts + coarse peperitic? bx? Parts of the basalt are strongly amygdaloidal with carb. infill – as shown.

TS* LF3/03 201.4m peperite + basalt ? f(q?)crvs — check

LF3/14 202.7 basalt / alt or sed contact

210

low

From 215.18 – massive, green

low — M chlor

220

220.15m – 15cm Q-CRVS

TS* LF3/04 222.75m coh. basalt?

(At 220.8–248.5m zone of strong qtz-carb veins – most 5–10cm, some 0.5–1m @ 223.5–225.5, 247–248m (low CA))

227.4m — QV obscures contact

227.4 — Sheared Strong fol & carb veins 70–40/CA — V low — S carb py

Black-grey sheared, qtz-carb veined vc s/st + mudstone?

Small fault? 231–231.20m.

230

~232.0m gradational?; obscured.

231.5

F-(q?)crvs – lithic bx — patchy carb

strongly carbonate alt, qtz veined, generally obscure features, but def! qtz-xtals + q-phyric felsic volc. clasts, indicate prob. mass-flow dep. unit as prev.

232.5m – 1–2cm f volc, 234.3–234.9m – 5–8cm subr. alt f volc (almost f work sup bx) 238.9m – 1–3cm f. volc. → base?

V low — QVS

240

M-S fol ~70/CA — M-S ser chlor + carb

~240–248 – prob. crvs – obscured by alt & qtz veining.

V-low

~248 – 251m Abt 2mm – 2.5cm felsic volc, cherts, sed? clasts, fines downhole?

250

DIAMOND DRILL LOG	LOCATION: LYNCHFORD AMG: E N	HOLE NO: LF003

Mag. sus.	Structure	grainsize mm (1/16, 1/2, 2, 8, 64)	ALT	RL: DIP: AZ: Page 6 of 6 — Description	Logged by: GBE	Date: 11/12/01

250

Mag. sus.	ALT	Description
v low	M + ser + chlor	F-med gnd F-(f?)-CRUF – mini wispy chlor. – after pumices?? Unit is so alt – gen. patchy – difficult to see textures, but can see f? xtals 0.5 – 2.5 mm.
	pseudo bx due to M-S chlor + carb	TS * LF3/05 261.5 m — var. amygdule(?) coh. f-phyric vol. strongly porphyritic
	263.0 patchy S ser 264.5	
	271.0	~269.9 m – 8cm rounded q-(f) phyric felsic vol clasts
	S. ser 271.5	271.5m EOH

260

270

280

<u>Note</u>: ① The 'basalt' and assoc. 'peperite' at 197.8 – 227.4 m is not convincing – some appears to have shadowy qtz. The lithols are similar to the lower part of seq where strong chlor/carb alt. gives pseudo bx appearance (~ eg LF3/05). The basalt + peperite could be patchy, strong chlorite-carb alt. of Q(F)CRUS. Petrog. needed for LF3/03 + 04.

② Sample LF3/02 has <u>signif</u>. <u>qtz</u> xtals cf LF3/01. This contradicts the trend of f-dom. to q-dom in Lynchford – Mt Julia Members (White, 96) but supports grad. contact to YRS seen at ~ 166 – 171 m. ie dacitic – andesitic – dacitic – rhyolitic
Lower Lynch — Upper Lynch — Mt Julia MB — YRS