1988
Iron Cap - Esso hole #16
998.5'

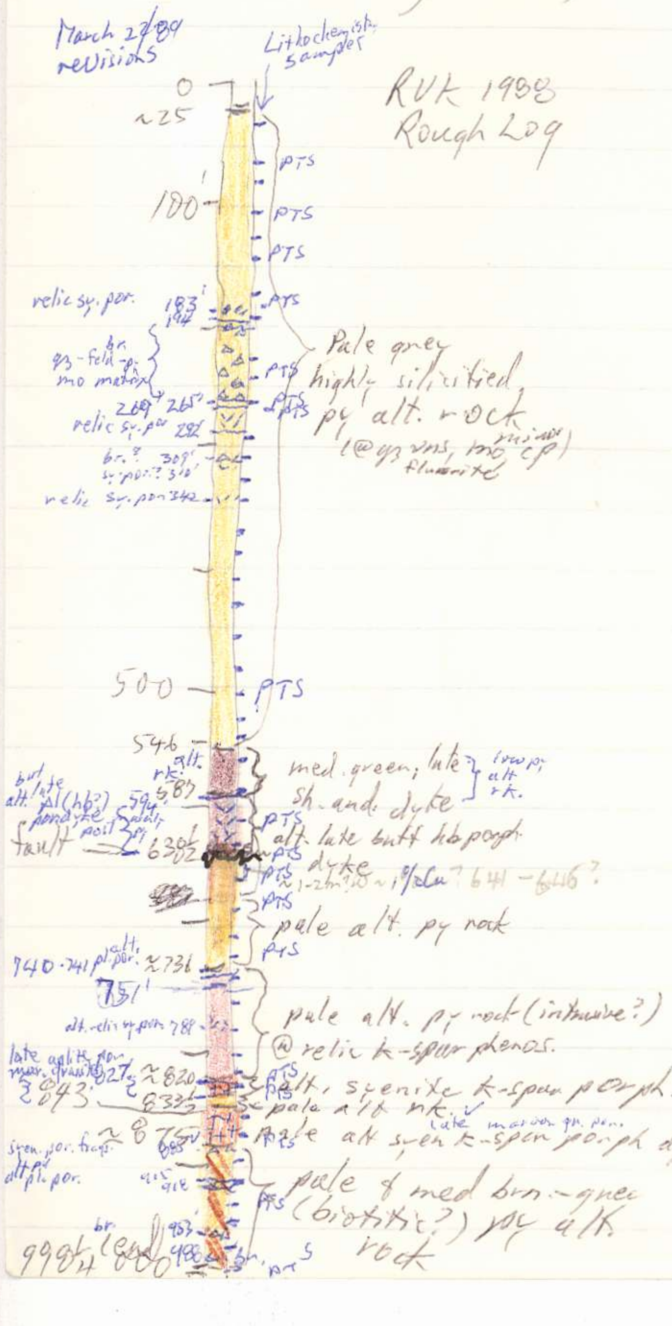
RVK
March 7/89

803939

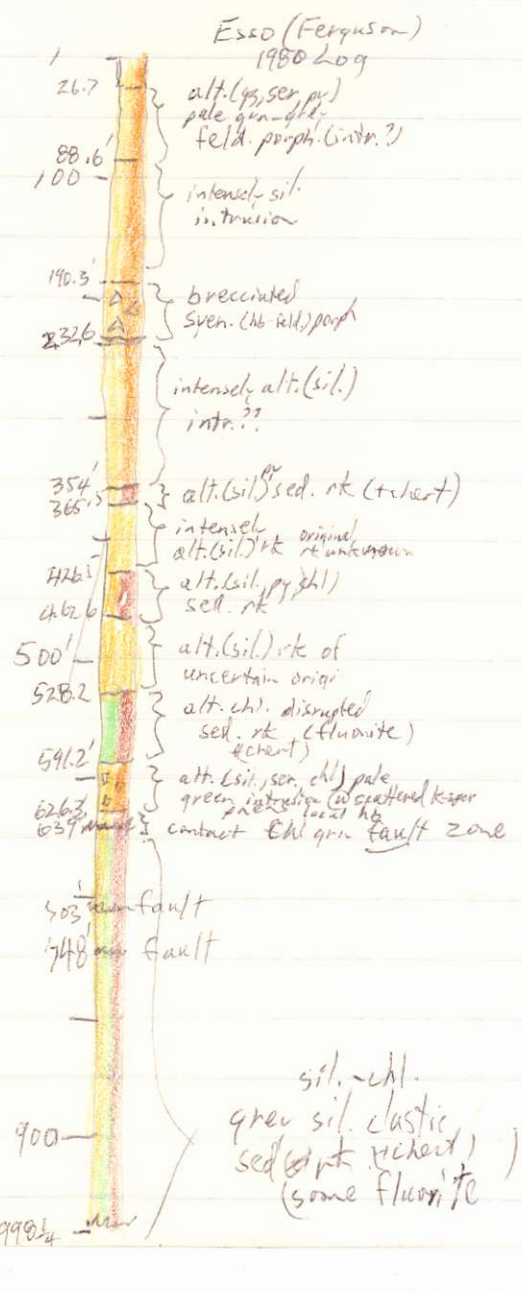
Geochemistry Samples

- 37', 63, 77, [illegible], 105, 129, 145,
177, 195, 227', 244, 265, [illegible],
291, 310, 326, 342, [illegible], 371, 389
412, 428, [illegible], 459, 482', 507,
525, 538, [illegible], 563, [illegible], 594, 619,
[illegible], 641, [illegible], 667, 686, 710,
[illegible], 730, 747, 767, 788', 805, [illegible],
826', 833, 852, 866, 874, 899, 915,
927, 947, [illegible], 973, [illegible], 995'

57 samples



March 22/89 revisions
Lithochemistry samples
RVK 1988
Rough Log
0
~25
100
PTS
relic sy. por.
183'
Pale grey highly silicified, py alt. rock (@ qz vns, mo, minor cp) fluorite
relic sy. por.
relic sy. por. 342
500
546
med. green; late sh. and. dyke
alt. rk.
low py alt rk.
fault
alt. late buff hb porph. dyke
pale alt. py rock
740-741 pl. por.
~736
751'
pale alt. py rock (intrusive?) @ relic k-spar phenos.
~820
alt. syenite k-spar porph. dyke?
pale alt rk.
~875
pale alt syen k-spar porph dyke?
pale & med brn-grey (biotitic?) py alt. rock
998 1/4' (end)



Esso (Ferguson) 1980 Log
26.7
alt. (qz, ser, py) pale grn-grey feld. porph. (intr.?)
88.6
100
intensely sil. intrusion
190.3
brecciated syen. (hb-feld) porph
232.6
intensely alt. (sil.) intr.??
354
365.5
alt. (sil.) sed. rk (+chert)
intensely alt. (sil.) rk original rk unknown
426
462.6
alt. (sil. py chl) sed. rk
500'
alt. (sil.) rk of uncertain origin
528.2
alt. chl. disrupted sed. rk (+chert) (fluorite)
591.2'
alt. (sil, ser, chl) pale green intrusion (@ scattered k-spar pheno local hb)
626.3
639
contact chl grn fault zone
703 fault
748 fault
900
sil.-chl. grey sil. clastic sed. rk. (chert) (some fluorite)
end 998 1/4

Sulphurets, B.C. March 21/89

Esso Hole #16 - Samples for Chemical Analyses

(46 total)

37'
63'
77'
105'
129'
145'
177'
195'
227'
244'
265'
291'
310'
326'
342'
371'
389'
412'
428'
459'
482'
507'
525'
538'
563'
594'
619'
641'
667'
686'
710'
730'
747'
767'
788'
805'
826'
833'
852'
874'
899'
915'
927'
947'
972'
995'

C = chem. sample

Esso Hole #16
Specimen descriptions

March 8/89

36' – pale to med. grey intensely alt., sil.? py (~10%) @ ~ 0.2% Mo v.f.g @ qz in br? matrix & veinlets — possibly some white fluorite

C 37' – same as 36'

C 63' – similar 36 & 37 @ possibly 0.3% Mo } chips combined for geochem. sample "#63" (" possibly hydro-brx? in br. zone") — folded qz (mo) vein

C 63.5' – " " 63 " " 0.2% Mo } — 63.5 PTS

76' – " " " but lower mo < 0.1% Mo extensively diss. pale material? — extensive sil. + >20% qz veins

C 77' – " " " " " " " " " " " "

89' – " " " " " " " " " " " (after hb?)

92' – " " " but extensive replac. qz vein mat. (>40%) @ diss. mo (>0.2% mo)

C 105' – " " " " lower mo < 0.1% Mo – after pl–hb porph. (10% py) – some f.g. qz–mo veinlets PTS

107.5' – " " " but very siliceous (>70% qz? veins + br. matrix + replac.) @ > 0.3% Mo?

124' – similar

C 129' – " pale grey very siliceous intensely alt. py rk @ ~0.05–0.1% Mo — graphic material PTS

C 145' – 2 pieces " " " " " " " " minor diss fluor. (@ ~2 cm wide patch

147' – " " " " " " " " ~0.05–0.1% Mo?

C 177' – " " " " " " " " ~0.01–0.02% Mo? — minor purple cal? fluorite in vein

180' – " " " " " " " " ~0.01%? mo minor diss. sp.?

183' – PTS + " " " " " " " " minor cp " [*some relic trachytoid syenite] first time (tonight?) — cut by wh. cal. purple fluor. veh

194' – △ " " " " " " " " " [breccia @] qz–feld–py–mo (0.1–0.2%) matrix

C 195' – △ " " " " " " " " " " " " "

C 227' – △ " " " " " " " " " " " " metrix (very low mo < 0.01%)

228' – △ " " " " " " " " " " " " " (" " " ")

C 244' – PTS △ " " " " " " " " " " " (minor cp ~0.2–0.3% mo) i.e higher than av. grade

245' – △ " " " " " " " " " " " minor mo cp mo (& cp?) (<0.05% mo?)

C 265' – PTS △ " " " " " " " " " " " (~0.2–0.3% mo) " " "

269' – PTS minor moly + more abundant diss. dark min.? pale grey intensely alt. (k-spar?) py (~10%) rk [@ relic syenite porph. texture?] minor cp — cut by late white cal?? veins @ minor fluorite & diss. dark min. — cut by late cal fluor.

274' – ++ " " " " " " " " "vis. diss". cp " " ~0.1% Cu"

C 291' – ++ very low mo " " " " " " " " " " " " " cut by qz veins

292 – ++ " " " " " " " " " " " "

309' – ~3–5% unknown v.f.g. diss. dark met. min. △ " " " " " " " " " [br?] " " " too alt for rk. type " V. intensely alt. rk @ poss. relic br. text.

C 310' – rk type? △ " " " " " very py (15–20%) " " " too alt no obvious relic syen? porph.? " ~2–3% diss. dark ident. min.? minor mo

C 326' – py " " " " " only very dense py (~5%) sil.? poss. metased. but too alt. to tell — only tr. Mo

Esso Hole #16

p. 2

Depth	Description
336 -	pale grey alt. (k-spar) cut by large late pink calcite vein
C 342' -	++ pale grey intensely alt (k-spar) py (<5%) syenite porph. ~0.1+% v.f. diss. Mo; "retrograded"? probably at least 2 stages of alteration &
355 -	pale to med. brn-grey " " + bio + ser?? " (~10%) dk too alt - only minor Mo
356' -	" " " " " " " " too alt - negl. vis Mo or cp; " " or fragmt?.
C 371' -	" " " " " " " " too alt " " " " " "
382' -	" " grey " " (k-spar) py (~5%) alt. rk too alt. to ident. rk type; negligible vis. cp +/- mo
383' -	" " " " " (" ?) " " " " relic py porph. text; cut by ser & bio vein
C 389' -	" " " " " " ? " " vol. or intr.?; late qtz py veins; negl. vis cp but ~0.1% Mo (i.e. higher f. diss. qz. dde than above)
397' -	" " " " " " ? " " late white qz.-cal veins; too alt. rk. alt; minor diss cp & v.f. g. diss. mo (~0.1% Mo?)
398' -	" " " " " " " " ~8% " " " " " " " " late qz & py veins
C 412'	" " " " " " " " " " " ~0.02% mo?) sl. lower grade; some mo smears along fractures
C 428'	" " " " " " " " ~6-8% " " " some qz (mo) might be matrix to br.; ~0.1% Mo? some mo smears
440'	med. brn-grey " " " " ~10% py " " " negl. vis. mo or cp; poss. vol. br.????
443'	" " " " " " " 15-20% py " " " negl. vis mo or cp; uniform text.
447'	" " " " " " " 3-4% py " " " mainly cut by late pink & white cal. vg.; minor sl. mo-bearing pockets
C 459'	mottled " " " " " " " ~10-15% " " " some late wt. qz vein; negl. vis mo or cp
C 460'	" " " " " " " " " " " " "
C 482	" " " " " " " ~7-8% " " " too alt minor f.g. diss. mo
484'	" " " " " " " ~8-10% " " " " negl. mo or cp; cut by 3cm wide late qz (py) cal. (fluorite) vein
C 507' PTS	med grey intensely alt. (k-spar?) py (~10%) rk. too alt to det. rk. type but poss. relic syenite porph.?; (w v. minor f. diss. mo? minor cp?)
508'	" " " " " " " " " " " " negl. Mo & cp; ? & some late wh. cal.-fluor.? or qz? veins
C 525'	" " " " " " " " " " " " " " " "
534	" brn. " " " " " " " " @ negl. mo & cp?; cut by late cal (fluorite) "breccia" veinlets
C 538	(f.g. py) mottled " " " " " " (15-20%) " " " " late cal veinlets; some v.f.g. py; "sed"? relic layering?
548	" x to dark " " " " ? — (only 1-2% py?) " " " " (abnormally low py?
C 563'	sl " med. grey " " ? py (~7-10%) too alt. " "
579'	no anal. or PTS bec. minor rk type; similar to 563 but darker & magnetic; mottled med to dark brn-grey " " (k-spar? biot) ~1% py; only ~1% cp; too f.g. dis. & 1-2% mag. in veinlets (hb?) leucoxene relic hb?? tr py only 1-2% diss mag; (" " ") or intr. rk?? possibly meta-sed ... and... or mgnz?
C 594'	note part py dyke contact inclusion?; med. grey (sl. grn) alt. trachytoid plag. porph. @ aphanitic or f.g.? matrix dyke
600'	contact cutting py (~10%) alt host rocks
605'	same as 594! " sl. grn. " " " " " " " ~1% diss. mag & tr py; ~1% late wh. cal. veins
613'	" " " " " " (hb) " " " " " " tr cp & py
C 619' T.S.	rel. pristine sample " " " " " " ?? " " " " " " " minor late qz.-cal. py veins
623'	" " " " " " " " " " " " " " " only minor mag.
625'	" " " " " " " " " " " "

Esso Hole #16
p. 3

629' rel. pristine similar 619 med. sl. grn grey alt. f.g. plag.(hb??) porph. (post py dyke?) monz. or dior.? aphan. matrix ~2-3% diss. mag. negl. py

fault 637.5' contact pale " " "(carbonate?) py(2-4%) " " " " " " " " " carb. & py alt. near fault? no mag. no visible mo or cp

640' somewhat mottled med grey intensely alt. (k-spar?) py (7-8%) v.f. (too alt) minor late white veins & mottling * negl. visible cp or mo & minute drusy qz

C 641' PTS includes tenn vein " " " " (" sil.) " (~10-15%) " " @ ~3% cp relic cgl or breccia texture?? erratic mo (higher? in assay slice) cp, py, tenn?? but ~30% of spec. cut by irregular white late tenn. or mt? veins

642' " " " " " " " " " " " " " "

647' similar 641' " " " " " " " " (7-8%) " " " ~2% cp tr mo? ~2% v.f. diss. dark min. fluorite

649' " " " " " " " " " " " " " " <0.5% cp? " " small negl. mo some late xtlline qz fluorite calcite

665' " pale to " " " " " " " " " " " " " ~0.3-0.5% Cu? " " negl. mo. some v.f. diss. dark min.

C 667' PTS " " " " " " " " " " " " " " " ~0.3% Cu " " negl. mo @ much irreg. sil. & qz veins

675' mottled med. brn-grey " " " " "ser. " (~10-15%) " " ~0.3-0.5% Cu - " negl. mo. " " "

686' PTS " med. grey " " (ser.?) py (" ") " " ~0.7-0.8% Cu (cp) & minor tenn.?? veinlets negl. mo

702' " dark grn-grey " " (chl.? ser.?) " (~2-4%) " " negl. cp & mo etc some wh. late qz veins

C 710' " " " " " " " " " (~4-5%) " " minor cp negl. mo. " & py veinlets late cal & fluorite veinlets "

713' " " " " " " " " " (~5-7%) " " " "

C 730' PTS " " " " " " ( ) " (" ") " ~0.1-0.2% Cu tr tenn.? ~1-2% diss. mag. min. sp. in late br. veinlets some late veins

731' " " " " " " " & pale grn ser. " " " " " " ~1-2% diss mag. minor cp in late br veinlets

738' not a late dyke? med. (sl. grn) " " " k-spar, ser. (chl.) " (~2-3%) " ~0.7-0.9% Cu+

740' " " " " " " " (ser, chl. (chl. patches) " (~8-10% f.g.) frag. vol.? ~10% 15 relic pl. phenos. ~0.2-0.4% Cu??

741' similar 740' " " " " " " " " " " " " " " " " " minor cp?

C 747' " " " " " " " (k-spar?) " " " " " too alt ~0.8% Cu (cp)

?751' contact? in spec.? minor sy. por.? " " " " " " (" " ") " " " " ~0.2-0.4% Cu (cp)

C 767' mottled pale grey " " (") py (~7-10%) too alt. but could be syen porph??? (similar 774??) only minor? cp minor late wh. & py veinlets

784' " " to med " " " " " " " " " " " ~0.4-0.5% Cu? tr mo ± tenn?

C 788' " " " " " " " " " " " " ~0.1-0.3% cp some late wh. veinlets

789' " " " " " " " " " definite relic syenite porph. texture @ pink & wh. k-spar " " cp

804 " " " " " " (~10%) too but probably alt. after syen. porph minor cp?

C 805' # some 804 frags. " " " " " py (10-12%) " " " 0.1-0.2% Cu some late wh. fluorite veins

808' " " " " " " " " " " " " tr mo? ± tenn?? @ late pink & white at veh down centre

C 816 PTS " " " " " " " " " " " " " " " " " " "

C 826 PTS " " " " " " " " " " " " " " " " " "

Esso Hole #16 — March 20/89

p. 4

contact " maroon " (actually pale pink) grey

828' pale grey intensely alt. (K-spar) py (~2-4%) definite relic ?89 (pink & wh k-spar) syen. porph. texture — some diss. dark min. minor cp?? — more late white veinlets w/ dyemaber

~~882~~ 820.5' " " " " " " (1-2%) i.e. late? dyke " " diss. dark min. " "

C 833' PTS — featuring of late aplite / purple granite @ aplite margin " " " " " " plus " (" ") ~0.1-0.2% Cu " " " fluor.

833.5' highly sheared " " " " later ser? (phyllic) alt. " (2-3%) " " " "

837' " " " " " " "(4-5%) too alt but poss. after earlier syen?? tr. tenn? some late cal-qz-py veins

838' contact — mottled " " " " " / ser. " (8-10%) " " " " " tr. tenn.? " "

848' " " " " " " (~2-3%) definite relic syen or monzonite porph. ~0.1% Cu? " " traces of some late veins

C852' " " " " " " " " " " " ~0.2% Cu " "? highly fract.

856' " " " " " " " " " " 0.1% Cu? (dark min.) " "

866' " " " " " " " " " " " " " "

C 874' PTS contact " " " " " " " " " " " " " " shr. fractures

875' mottled " " " " " " (5-6%) too alt. but poss. old syen? NO most only minor — uniform hard alt. rk

879' " " " " " (plus phyllic overprint) " " " " " " @ syen. porph. clast ~0.1-0.2% Cu

880' contact? " med. " " " " " " " (~6-8%) too alt. ~0.3-0.5% Cu (v.f.g. cp)

884' dark grn-grey " " " (chl. ser) py (~8-10%) " ~0.1% Cu?

885' med. " " " " " " " k-spar? " " too alt. clear frags. of syenite porph. br.?? — minor cp — late wh-calcite fluorite veinlets

887' contact? — mottled?? to dark " " " " " " " " " " minor syen. porph. frags. br.??? minor cp

898' pale grey " " " (K-spar, ser) " (~5% too alt.) tr. k-spar xls.?? ~0.1% Cu — cut by late qz veinlets

C899' " " " " " " " " ~5-7% " " " "

905' " " " " " " " " " " too alt. but one syen. clast — unknown pink min. in veinlets — pink alt. @ Cu — late cal & fluorite veinlets @ ?? minor cp

C915' contact — mottled & med. " " " " " " " " f.g.c. " ~0.05-0.1% Cu

916' dyke? uniform med. grn-grey alt. (ser, chl.) pl. porph. py (~5-6%) dyke? cal?-qz-py veinlets no vis. cp

918' contact " " " " " " " " " " " " " "

C927' PTS — mottled sk " brn-grey intensely alt. (K-spar? ser? biotite?) py " rk. too alt. minor cp — late cal veinlets

932' " " " " " " " " " " " " " possible frags. there?? unknown pink min. spar??

935' " " " " " " " " " no vis. cp " " " min. dark min. "

C 947' " pale toned grey " " (K-spar?) py ~6-8% " " ~0.1% Cu " " late wh veinlets @ cp?

953' " " toned " " " " " ~5% " but br @ carb.? matrix — no vis. cp

956' " med. brn-grey " " " biot. " " " " " unknown pink min. ~0.2-0.3% Cu

C 972' uniform pale to med. grey " " " (minor ils) " ~6-8% " tr. cp? late wh. vein

Esso Hole #16

p5

973'	uniform pale toned grey (sl. brn) intensely alt (k-spar + minute biot. flecks?) py (~6-8%) minor? cp too alt. late whitish
975'	" " " " " " rk @ high py (~30% to 50%) too alt & ~2-5% cp high sulph spec.
980'	paletoned (sl. brn.) grey " " (" ; biot.) wk py (~6-7%) too alt. minor cp? some late brownish
988'	" brn - grey " " " " " x (~10-12%) " sl. bi texture? 0.1-0.3% Cu? tr mo?
C995'	dense " " " " " " (minor sil.? biot.?) " " (~5-7%) " 0.3-0.5% Cu
997' PTS	" " " " " " " " " (~2-4%) too alt tr cp? tr mo?

Summary comments:

1) Most rocks are too altered to determine original rock types.
2) However, some recognizable syenite porphyry & pale maroon porph. granite @ aplitic matrix & some sections @ scattered recognizable syenite porphyry clasts.
3) Probably fault ~638½' and some contact recognizable from detail specimen examinations (sawed).
4) Upper part of hole has more mo.
5) Late white veins (mainly calcite? but should be checked) with some quartz and purple (& clear?) fluorite + scattered cp (xtls) + py. Hole should have high fluorine content
6) Intense coherent alteration zone @ ~8-10% py, 0.3-0.9% cp + mo in upper part. Could be on edge of large Cu zone.
7) Both logs are wrong to some degree but Ferugson's probably contains major errors (e.g. no abundant sed. rks.)