Aug 7 & 8, 1993

1993 NVI EXPO EC DD Holes EC 156, 157, 158

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© W. PEMBERTON W bank Youghpan CK.

EC 158 @ near Schlossmacherite occurrence (300m ± to N) on upper road

Casing in place.

DDH EC 158 vertical Casing 0-5 EOH ~498' (box 26)

0-5 Casing

5 - 260.5 Rhyolite (unit 1) (start) Compacted / weeded f.g equigranular — grey pervasive homogeneous colour due to diss > vein f.g. pyrite as perv. matrix replacement. Up to 50% py. Rare clasts to 3-4", subrounded in 'aphanitic' (microxlline) matrix. Dense v.f-granular rock, not slaggy/vuggy — v. little leaching, just pervasive intergranular pyrite. Little fracturing, rare py vnlts << 1/5' Oxidation slight — ~no limonite.

eqc 6' — 93AP-1/2 Locally small pale orbs of dense microxlline (cherty) rhy. clasts.? with v.f.g radial grey qtz cracks but mostly fine granular & wk orientation of plag' grains + blackish glass? to impart suggestion of welding.

@ 19' — 93AP-1/3 typical - note Py fracture filling on end ⊥ & v.f.g py 'vein' is actually layered granular pyrite & 1mm colloform banded py + marcasite? selvage & core q ~ 1cm layer f.g. black tourmaline? + sparse clear xlline grains <1mm gypsum <1%. much gypsum efflorescence throughout (Lm core storage, damp)

layered vein. XRD

19.5 vuggy/slaggy ~25% dk grey, v.f.g qtz xlline overgrowths ± gypsum matrix - v.s. patchy py ≃ x̄ 10% — 22.5

@ 22' — 93AP-1/4 typ. vuggy > 23' more grainy x̄ ~ 1 to 2 mm rhy. 'orbicles' + ☆ greyish is between grains + py

'grainy' rhy is 'grains' of pale buff aphanitic rhy & grey filigree radial & concentric cracks + hair line sos matrix - as it gets ~40-45' qs coarse

@ 44' — 93AP-1/5 (T.S.) texture! typ. (Cs grained) coarsest seen  +1 <1 mm then > 50' v.f.g. << 1 mm x̄ grain size

EC 150

Cont'd >50' v.f. grain size, quite massive looking SOS
pyrite as v.f.g. replacement pervasive to ≥ 30% (max?)

eg 150.5
93AP-1/6
v.f.-g. pyritic rock replacement in typ. grain size, texture v.f.g → aphanitic
- how much pyrite? by vol. (calculate by weight - to do)
texture note faint layering and sparse clasts.
don't confuse drill core grind ⊥ CA layering is ½" 'layers'
note white clast. ~ 60° to C.A.

> ~130 densely needled, massive rock & faint flow banding
but this is ripped apart by v.f/microxlline patches of py (mc?)
~155' with heavy gypsum matrix

@147'-8" f.g massive pyrite vein (band) = layer ± other similar thin bands onward. These include gyps + other hard white sericite? or whatever.

eg 176a
>155'— than 60% pyrite to small 4-5" v.f-f.g massive 90% pyrite
to 177 mass pyrite replacement still rhy clasts visible

eg @ 176'
93AP-1/7 & 93AP-1/7a — looks like Karoko style but is in situ replacement.

177-180 >177' similar f.g. rhy, grey dense & sparse diffuse clasts w/
to less pyrite from 30-50% & few 2-3" massive replacements.

~180' texture Δ — starts f.g vuggy-leached texture !!
(following rest to ~10% by 180')
~ x̄ ≤ 5% vugginess, patchy

vuggy leached silica — small holes still faintly layered (banded)
or black wisps aligned ~~~~ to show
compaction/welding (= flow banding)
fract'd/b'x'd with py interstitial to bx + "veins"

Alt'n Δ — patchy pink alunite
5° 1st trace @ 205' - tiny x/s ∠ 1%

Z 211- lapilli bx & angular clasts to 5" with py matrix
260.5 @ 229' pink alunite matrix vns + patches to 3-4"
93AP-1/8 (XRD) as clast matrix + 'slip' of py replacement
@ 260.5 chilled basal swirly rhyolite flow underlying

Aug 7/93 AP @ Island Cr

~ Contact @ 260.4 93AP-1/9 ← H.S. 260.5

Rhyolite contd. chert ~ 6"

@ 260.5' end of Rhyolite flow #1, chilled convoluted lamellar band 3" & fg py replacement

> 260.5 – (semi) massive sulphides – huge amount of gyp bloom, must be lotsa gypsum. py ~ 80%

Patchy pink 'alunite' here & there.

wk layering imparted by entrained 'clasts', gangue

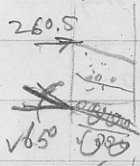
271.5 – (Still ox/lapilli rhy. hostrock?)

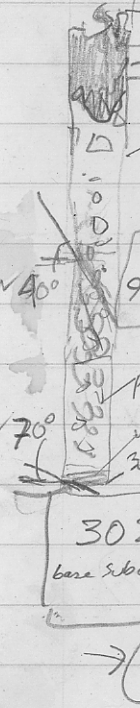
to 274.5 py layer ~ 90%, the rest shale chips

@ 272 – 93AP-1/10

260.5 – 302 TUFFS — Lapilli welded — welded unit @ ~65° to C.A.

Contact @ 260.5 has ~6" cs dust/fine ash possibly graded, then ~2' ash tuff & distinct layering @ ~65° to CA. Some black streaks define layers @ 1/2-3" – carbon? lower part is wkly layered & compaction/welding look





Rhy dyke @ ~281 to 284'

>284 lapilli tuff – matrix of ash/lapilli to 80% clasts layers pink & whites

matrix (grey) – supported some recognized rhyolite, subangular x̄ clasts ash, max to 3" (rare), compaction layering ~30° to CA

base 6" is f-g. ash poss. laminated now up to 50% pyrite

overall pyrite is patchy up to 50%, x̄ 10-25% basal contact ~70° to CA

302 – 457 TUFFS – Ash, airfall ↑ felsic lithic tuff ± <5°, acid leached

base siboulite 457

pink/grey paler than above, looks more clay acted

5° @ 306' as ⓞ grains in vugs in clast.

vuggy look – must be somewhat acid-leached

py 2 to max 5% intergranular lotsa gyps+clay scuzz on old core

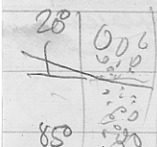
rel homogeneous in gross sense pink/grey cs ash/lapilli unit, no fabric clasts-supported, rounded clasts

wk py ~1% ± lotsa 5°, clay? Prob. ftmed gypsum

(mineral)

Cont'd pink/grey ash (airfall) tuff @ 5° wk leach

Some distal gradations in 5–15' thicknesses between ash/cs ash, rare lapilli sized clasts/units



CA 70° @ 320'

85° @ 341'

typ. colour, comp clast size range ash→cs ash, some vuggines, / good 5° grain in split face up to 10% diss 5° in matrix.

C321
93AP-1/12

C334 – 93AP-1/13 coarsest size ash (lapilli) tuff but there are rare 4–8" layers in overall #1/12 ash size.

acid leaching 340–380±

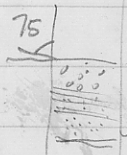
→ C340 – 93AP-1/14 – start of acid leach textures (in patches) becomes moderate to locally st. in 4" patches but trails off >380° to weak in T

also C358' 93AP-1/15 Some calc bleaching of clast rims on certain clasts, and locally small pockets of py

increased >5–10% fg py in matrix, 5° in vugs

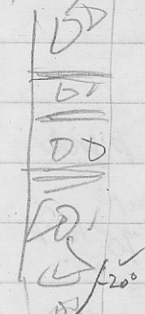
>380 leaching is incl. wk in T but pervasive, pyrite increases to pervasive matrix to 10%

75



C388' – 4" laminated beds (reverse graded) mud→sand ie dust to fine ash, laminated →75° CA in typ. sas pink clast, grey lapilli T.

some patchy heavy py in matrix @ ~398' some clasts are v.f. py & look like transported frags.



lam. beds also C416' – 4" C418' – 1"

C420' – 8" overall sl. larger clast (pink) lapilli (bx) is between laminated beds

all ~80° CA

hot much leaching evident py 2–3%

!! minzata @ 415' 1 fracture with CV (?on enargite??) fract open with mud ≤1mm grains, no other gangue

XRD!

93AP-1/16 @ 415'

minzata – heavier layers << diss. pyrite throughout + patchy bleaching

alth (silicification ie) silica added ~435–438, 442–444, 450–451'

½ py ~10–15% Some greenish gyps & Cu?

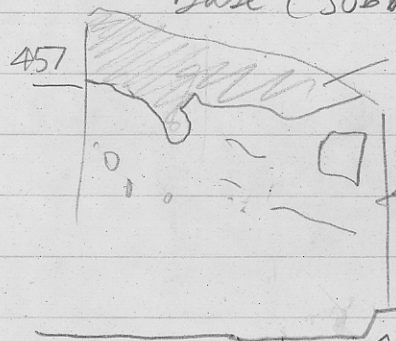
tr v.f.g. dark grey specs – enargite? on fracts & py

C437 2" mgns py layer

EC158 cont'd

Rhyolite Lapilli Tuffs airfall? hyaloclastic flow??

base (subunit subdivision) @ 457'



contact @ 90° CA

(poly) -> 457 – SOS lapilli T, less pyritic

457-498 eoh

-457- Lithic lapilli T- polylithic, rare F.P. clasts, mainly felsic >> other clasts

@ c481- but frq. sulphide clasts are present, also felsic clasts & py vnlts & fract filling, plus matrix dissem'ns.

[See also EOH 93AP-1/18]

@ 479' - 93AP-1/17 - typ. polylithic lapilli T- cs lapilli in ash matrix

XRD? 'clay' See F.P. 1" subrounded clast. tr S° spots.

this more polylith. unit is

Subtle Δ in alt'n less silicified, somewhat clay altd with clay blebs between clasts.

@ 500' 93AP-1/18 EOH Sample

498? XRD? 'clay'