APPENDIX 7

Previous Drilling – Garfield – Summary Logs GAR001 to GAR004

(See Digital File EL20_2003_200505_ 14_ Appendix7.pdf)

DATE: 11 March 2005
TO: File
FROM: Ian J. Tedder
SUBJECT: Summary Log – GAR001.

0.0 – 17.5 m: Sparsely feldspar and hornblende phyric massive pale tan to pale olive green andesitic rock. No visible quartz. Oxidation to about 12 m, strong leaching and partial oxidation to 18, then leaching (still pale green-tan to pale yellow-tan) to 89 – 90 m. Moderate foliation and minor traces of pyrite.

17.5 – 35.6 m: Mid green feldspar-hornblende phyric and occasionally quartz phyric (at least towards base of the unit) andesite-dacite. Moderately strong foliation. Sharp upper and lower contacts – parallel the cleavage.

Photo 1 at 21.0 m. Typical coarse andesite.

35.6 – 89.4 m: Very similar to the first unit – even more weathered than the last unit. Hornblende-feldspar phyric (relatively sparse), massive, though occasional monomict breccia (e.g. 53.2). Minor traces of pyrite.

Photo 2 at 61.2 m: Example of fine grained feldspar-hornblende phyric andesite.

89.4 – 101.9 m: Quartz phyric rhyolite. Appears clastic due to variation on centimetre scale of crude lens like bands, but may be a lava. Mid grey-green and pale green colour.

Photo 3 at 94.1 m: Example of quartz phyric rhyolite.

101.9 – 149.9 m: Fine to medium grained grey green hornblende±quartz phyric, chlorite altered andesite-dacite. The quartz phenocrysts come and go and are relative rare. The rock is characterised by massive even texture with light grey streaks (predominantly feldspar) parallel foliation. Minor traces of pyrite. Iron-carbonate lenses up to 1 cm, most only millimetres thick occur patchily throughout the unit.

106.8 – 110.0: Massive quartz-iron carbonate-chlorite veins
116.0 – 116.4: Massive quartz-iron carbonate veins
143.0 – 143.7: Massive quartz-iron carbonate-(chlorite) veins
147.7 – 148.0: Massive quartz-iron carbonate-chlorite veins

Photo 4 at 120.2 m: Example of fine grained hornblende phyric andesite.

Photo 5 at 127.5 m Example of andesite with light grey streaks.

149.9 – 163.6 m: Very pale cream-yellow quartz porphyry (rhyolite) with small component of sericite (phyllosilicates) in streaks and bands. Quartz phenocrysts well rounded and up to 5mm forming 10 – 15% of the rock. Minor ±1% pyrite.

Photo 6 at 151.1 m: Quartz phyric rhyolite – possibly a clastic here.

163.6 – 188.8: Dark green, fine grained chlorite altered quartz phyric mafic volcanic. Has up to 5% sub-rounded quartz phenocrysts and ±10% pyrite (±chalcopyrite). From 188.7 – 188.9 m there is close to 30% pyrite and chalcopyrite. Pyrite is commonly in disseminated bands parallel moderate foliation.

Photo 7 at 171.8 m: Quartz phyric, generally mafic volcanic.

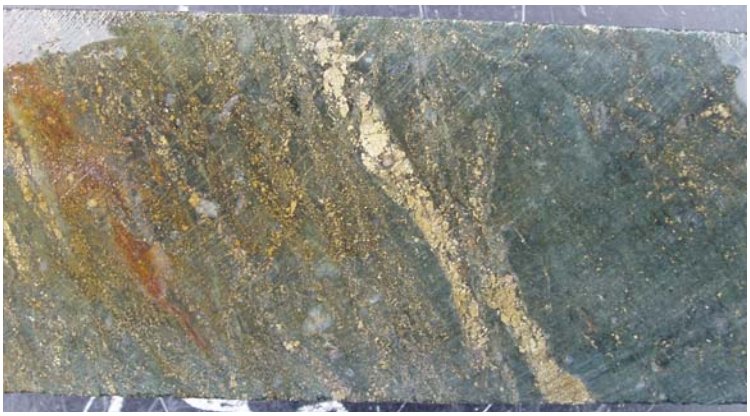

Photo 8 at 178.2 m: Mineralised quartz phyric mafic volcanic.

Photo 9 at 188.7 m: Pyrite mineralised fine grained andesite.

188.8 – 296.0 m: Predominantly fine to medium grained dark grey-green andesite. Has slight streaky look due to foliation alignment of more felsic and mafic components (feldspars and chlorites). Overall impression is of the pyrite and chalcopyrite content decreasing down hole but disseminated magnetite continues strongly throughout. Pyrite as usual in disseminated bands parallel foliation. It is clearly pre-cleavage as pyrite grains and lenses show tension cracks orthogonal to cleavage plane. Iron stained carbonate commonly associated with the pyrite bands and as disseminations. In places the lithology could be termed feldspar phyric with crowded small phenocrysts. Also, uncommonly there is quartz phyric intervals in the unit. Possibly mostly massive extrusive but some evidence of clastic component as well (Photo 10)

Relatively minor massive quartz-iron carbonate-chlorite veins occur around 262 – 264 m. From about 277 to 326 m is a zone with abundant iron-carbonate veins – 3 to 5 per metre and up to 15 cm thick.

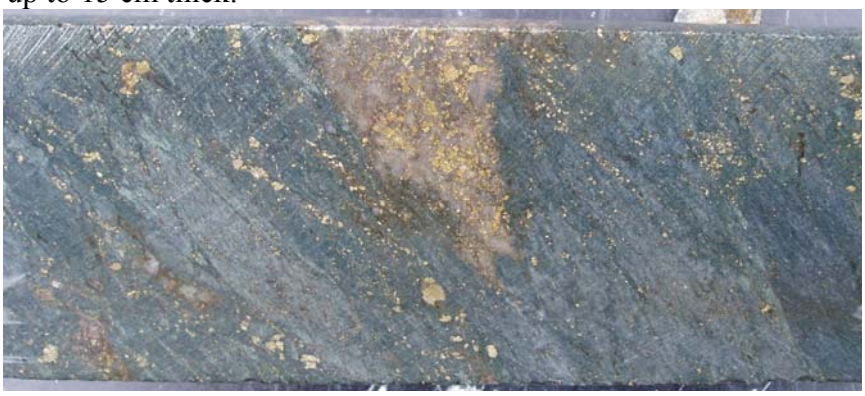

Photo 10 at 198.4 m: Shows mineralisation style. Note clastic texture of volcanics.

Photo 11 at 213.1 m: More felsic example of the andesitic lithology.

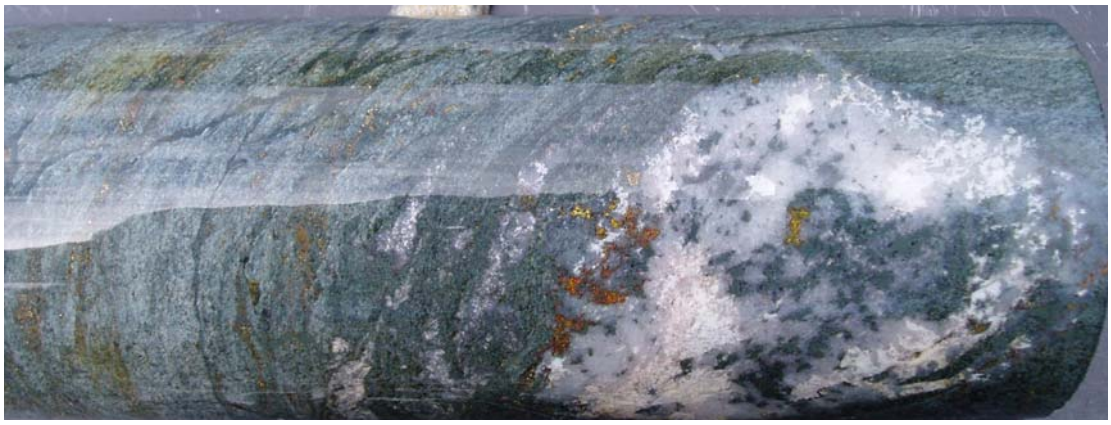

Photo 12 at 242.9 m: Chalcopyrite mineralised quartz-chlorite blob in andesite.

After a concerted effort, only one quartz-iron carbonate-fluorite (purple) vein was found – at 247.8 m. The fluorite was centred in the middle of the thickest part of the quartz.

296.0 – 299.1 m: Small interval of strongly foliated medium-light tan-green quartz phyric rhyolitic volcanic.

299.1 – 319.5 m: Unit same as for 188.8 – 296.1. One small interval around 314 – 315 metres has a series of millimetre to 1 cm thick laminated quartz-magnetite-apatite veins, sub-parallel cleavage in strong chlorite altered fine grained andesitic volcanic. The magnetite-quartz veins are cut by tension features filled with iron carbonate. The veins are also disrupted by the cleavage – oblique microfaults displace laminated blocks of the veins. There is very fine magnetite disseminated abundantly through out the lithology – often as very thin laminations grading up to the thicker magnetite-quartz veins seen in photo 13

Photo 13 at 314.6 m: Laminated quartz-magnetite veins parallel cleavage.

319.5 – 388.6 (EOH). Gradational top contact (over ±1m). Lithology becomes pale tan-cream green and quartz phyric rhyolite. Quartz phenocrysts content is initially minor but increases to 10 – 15% of the unit by around 325 m. Alteration is now sericite-pyrite (and iron carbonate). Chlorite drop out near top contact of this unit. Strong foliation.

The unit is clastic in part as there are intervals with clasts of quartz phyric fine grained rhyolite up to 2 cm long. Also flattened quartz phyric phyllosilicate rich pumice (?) clasts – e.g. around 347 – 350 m.

Photo 14 at 336.0 m: Example of quart phyric clastic. Weak sericite-pyrite alteration.

Photo 15 at 367.4 m: Example of quartz phyric rhyolite with minor sericite-pyrite alteration.

DATE: 9 March 2005
TO: File
FROM: Ian J. Tedder
SUBJECT: Summary Log – GAR002.

0.0 – 23.8 m: Crowded plagioclase-mafic-(quartz) phyric andesite. Minor foliation. Grey green colour. Phenocrysts ±2-3mm. Weak oxidation to ±12m. Mafics elongate (due to foliation) and altered to chlorite-calcite.

Photo 1: Sample from 17.4 m (HQ core)

23.8 – 69.5: Grey-green massive sparsely plagioclase phyric andesite (or dacite thought quartz not seen). Minor foliation. Rare pyrite. Weak leaching of calcite to ±40 m. Plagioclase partly altered to calcite which is subsequently leached.

Photo 2: Sample from 47.3 m. NQ core from 35.5 m to EOH.

69.5 – 84.0 m: Jarosite stained, foliated volcaniclastic sandstone of approximate rhyolite composition. It has 2-5% rounded quartz phenocrysts up to 1 mm. Sericite (or phyllosilicates) altered groundmass. Minor disseminated pyrite. Strong foliation suggests it is a deformed clastic.

84.0 – 88.3 m: Very fine grained siltstone.

88.3 – 89.8 m: Plagioclase rich volcaniclastic sandstone.

89.8 – 90.5 m: Very fine grained siltstone.
90.5 – 119.0 m: Strongly foliated volcanic sandstone of mid grey-green colour with traces of disseminated pyrite. No bedding obvious in any of the units.

119.0 – 121.5 m: Gritty to pebbly volcaniclastics of possible andesitic-dacitic derivation with strong foliation.

Photo 3: Sample with clastic texture from 119.7 m

121.5 – 166.0 m: Similar to last unit but with clasts less obvious. Generally streaky appearance (due to foliation) of darker and lighter green with brown (oxidised iron carbonate) streaks. Occasional dark flattened feldspar phyric chlorite clasts. Two subunits within; 126.0 – 131.4 and 135.7 – 148.6 which consists of strongly foliated silica-phyllosilicate-pyrite altered volcanic/clastic. Alteration style is somewhat similar to that seen on the hanging wall (east) of Henty mineralisation. There was no Au or Cu grade in this silica-phyllosilicate zone. Cut core for assays starts at 125 m.

Photo 4: Example of silica-phyllosilicate-pyrite altered volcanic/clastic from 129.2 m

Photo 5: Henty core for comparison – Mt Julia area. It can be more sericitic.

From 148.8 – 166.0 the rocks are consistently dark grey-green, possibly of flattened pumiceous quartz phyric clasts (at least to 156 m) with strong chlorite-calcite-pyrite alteration overprint. Possibly finer clastics below 156 m. Pyrite (and chalcopyrite - far less obvious) disseminated in bands generally parallel foliation.

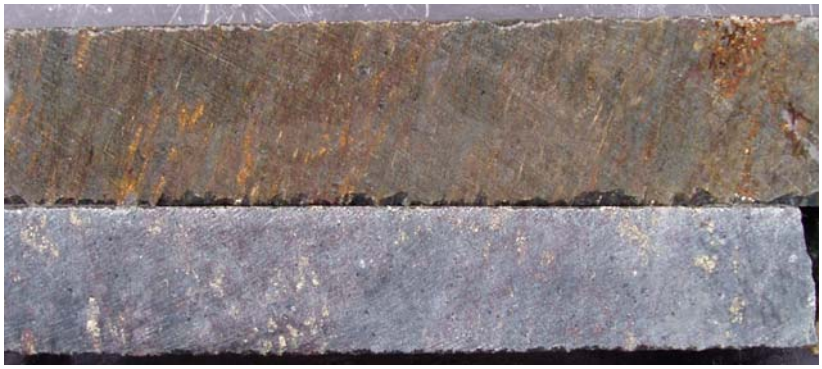

Photo 6: Sample of tarnished and recently cut surface from 156.6 m

Photo 7: Sample of recently cut surface showing texture and disseminated pyrite at 187.4 m

166.0 – 263.7 m: Slight change to medium grey-green rocks but otherwise very similar lithology to last unit – clastics of andesitic to dacite derivation. Still strongly foliated.

209 – 249 m: This is an interval of calcite-quartz-fluorite veins, some with disseminated (relict?) chlorite throughout or on the margins of the veins. Veins are from millimetres to 3-4 cm

thick with roughly one every 2 to 5 m. Simple quartz-calcite veins either side of this interval for 10 – 15 m. Not sure if it is real zoning or coincidental as there are only a couple of scattered veins at each end of the zone.

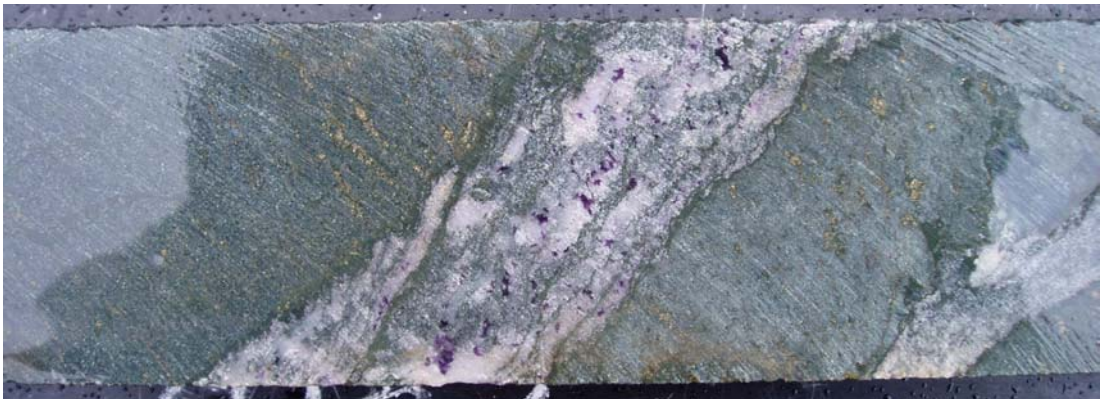

Photo 8: Sample of calcite-quartz-fluorite vein from 213.4 m

Photo 9: Part of interval 217 – 218 m (with the thick cp-py band) which returned the highest grade vis; 1.6 g/t Au and 2.5% Cu. Next metre returned 0.4 g/t Au and 1.5% Cu.

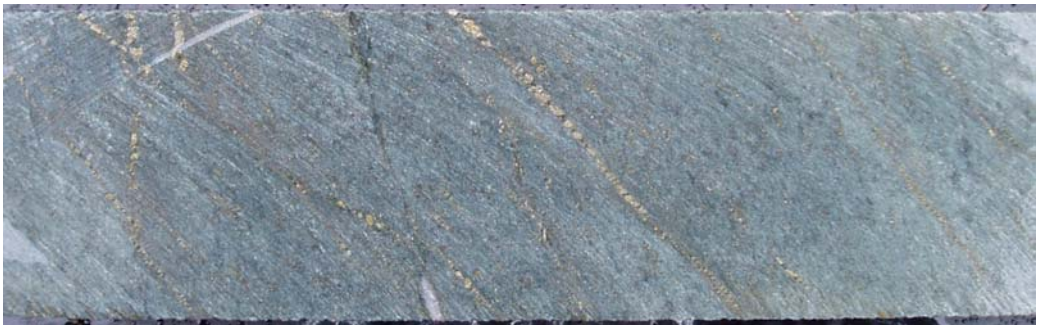

Photo 10: Sample showing pyrite distribution at 232.1 m.

253.5 – 254.3 m: Massive calcite-chlorite vein.

262.8 – 268.2 m: Series of massive quartz-calcite-chlorite veins with contorted foliated volcanics at edges. (Could this be the 'major fault' that supposedly cuts off the andesitic lithologies to the south?)

End of cut core at 265 m.

263.7 – 266.2 m: Disrupted zone with massive quartz-calcite-chlorite veins dominant.

266.2 – 283.8 m: Dark grey-green strongly foliated medium grained volcaniclastic sandstone textured volcanics. Minor disseminated magnetite observed. Possibly of andesitic composition like the last unit as it generally lacks obvious quartz. From 277.8 – 279 .0 m though is quartz phyric clastics.

283.8 – 289.6 m: Medium - pale grey strongly foliated felsic volcanic - streaked with darker green chlorite 'flasers'. Possibly andesitic clastic. No obvious quartz.

289.6 – 300.1 m: Generally dark green foliated fine grained chlorite altered volcanic siltstone (?). One small patch of felsic rich streaky volcanic at 292.7 – 293.3.

300.1 – ~334.0 (EOH): Predominantly felsic volcanic similar to the streaky unit at 283.8-289.6 m but less felsic in places. Some quartz phenocrysts.

Disseminated pyrite and chalcopyrite (the latter very difficult to identify due to tarnishing) form 2 – 5% of the rocks from around 126 – 127 through to 263-264m. The disseminations are concentrated in bands parallel foliation though some bands are oblique to it also.

DATE: 10 March 2005
TO: John Holliday
FROM: Ian J. Tedder
SUBJECT: Summary Log – GAR003.

Only one pallet of core from 79.8 to 250.3 m located and logged. No photos taken.

79.8 – 91.5 m: Pale grey to jarosite stained sericite-(silica) altered quartz phyric volcaniclastic. Strong foliation marked by bands of phyllosilicates. Quartz phenocrysts are rounded and up to 4-5 mm. The unit may be pumiceous. Pyrite 1-2%. Sharp contact to next unit.

91.5 – 112.2 m: Medium to dark green-grey, foliated sandy volcaniclastic- possibly of andesitic composition (lacks obvious quartz). It is chlorite altered, has some apparent clasts up to 3-4 cm elongate in the plane of foliation. Pyrite 1-2%, locally (over 10cm intervals) there is 10-15% pyrite concentrated in disrupted disseminated stringers and bands parallel foliation. Distinctly magnetic in part. Minor quartz phyric clastics from 108.0 – 108.2 m.

104 – 106.1: Massive quartz-iron carbonate-chlorite veins with chunks of country rock incorporated.
Gradational contact to the next unit.

112.2 – 124.5 m: Light grey gritty chert rich volcaniclastics. Common jarosite stains. Pyrite averages around 5% as disseminated bands. No magnetite. Strong foliation. No obvious quartz grains. Cherty grit appears to be volcanic – light greyish green colour, well rounded and up to 1 cm across. Gradational contact over 20 cm or so to the next unit.

124.5 - ~159.0 m: Medium-dark green fine-medium grained volcanic rock with characteristic light greyish streaks (<1 mm thick ±1 cm long) in plane of foliation. Relatively abundant disseminated magnetite, very little pyrite (<0.5%) except in couple of bands (e.g. 134-136 m). Particularly abundant magnetite in bands (early veins or seams) around 136 – 145 m. About 138.2 or 138.3 m a magnetite seam is cut and displaced by a carbonate-chlorite veined fracture.

139 – 150 m is a zone of quartz-iron carbonate-purple fluorite veins. Above and below this zone are some quartz-iron carbonate veins without fluorite.
Very gradational contact to the next unit.

~159.0 – 181.0 m: Similar to last unit but pale medium grey-green colour. Again, like the last unit it is not clear whether is a clastic or massive volcanic. Interpreted to be a fine to medium grained volcaniclastic sandstone, but not much variation (i.e. Bedding or sorting evident). Disseminated pyrite ±2% in concentrated in bands. Chlorite as tiny streaked out clots. No significant magnetite.

181.0 – 190.5 m: Starts as a grey-green rock, becomes lighter felsic pale cream-grey in last 5 m. Very gritty with subrounded clasts of pale greyish chert up to 5 – 8 mm

and rounded quartz grains ±2-3 mm, forming up to 5% or more of the rock. No magnetite. Small patches of pyrite.

Sampling ended at 194 m.

190.5 – 199.0 m: Mixed fine to medium grained chlorite altered grey-green volcanic sandstone to more felsic paler grey-green chlorite altered quartz phyric sandstone.

199.0 – 202.1 m: Massive series of quartz-iron carbonate-chlorite veins plus some country rock. Represents a relatively major fault.

202.1 – 250.3 m: Lumping last 50 m – all fairly similar. Consists of quartz phyric (±1-2% quartz generally) pale tan-grey to pale greenish-grey strongly foliated volcaniclastics. No magnetite and very little pyrite. Some quartz-iron carbonate veins at around 230-231 m up to 40 cm thick.

DATE: 10 March 2005
TO: John Holliday
FROM: Ian J. Tedder
SUBJECT: Summary Log – GAR004.

0.0 – 20.0 m: Feldspar phyric andesite – pale brown-olive green, oxidised massive volcanic. No quartz. Chlorite alteration.

20.0 – 24.5 m: Fine grained volcanic siltstone more sheared and saprolitic.

24.5 – 27.5 m: Feldspar phyric andesite. Pale tan colour to the altered and weathered feldspars (relative crowed) as in the first 20 m of this hole. Chlorite altered.

Hole is strongly oxidised and weathered to 25-28 m then a zone of moderately saprolitic (greenish) volcanic before back to oxidised (hematite stained) down to 33 m. Below 33 m rocks more saprolitic with leaching of carbonates.

27.5 - ~36 m: Fine grained volcanic siltstone – massive in part, some greyish green the rest a limonitic brown. Strong cleavage.

~36.0 – 54.0 m: Pale greyish lapilli felsic clastic, poorly sorted lens shaped polymictic felsic fragments. Some finer grained (sandy to gritty) zones. From 71 m down hole it gradually becomes finer grained – sandstone to siltstone.

54.0 – 60.0 m: Fine grained bedded volcanic siltstone.

60.0 – 71.0 m: Medium grey clastics as per 36 – 54 m. Fines rapidly down hole below 71 m.

71.0 – 79.0 m: Medium grey volcanic sandstone.

79.0 – 83.0 m: Fine grained grey volcanic siltstone. Faint bedding laminations sub-parallel cleavage.

Photo 1: Example of volcanic siltstone around 81 m.

83.0 – 125.4 m: Mid-grey medium grained volcanic sandstone. But there are a number of reasons for thinking it may be massive rhyolite lava. 1) Some sporadic cavity fill of iron carbonate-quartz. 2) Massive unit with no hint of sorting or bedding. It features dark grey quartz grains 1 – 2%. Some 3 – 5 mm nodules of granular and cubic pyrite scattered about. Moderately strong foliation. Strong shear from 121.0 – 123.0 m.

Photo 2: Possible massive volcanic or volcaniclastic sandstone. Original open space (?) infilled with iron carbonate-quartz arrowed.

125.4 – 125.9m: Fine grained volcanic siltstone – grey with some big clasts near the base (down hole).

125.9 – 138.6 m: Gritty volcaniclastic – coarser (±1cm) at top (or up hole) – possible overall fining down hole. Grey colour. Foliated as usual. Dominant clastic is fine grained light cream grey rhyolite. Matrix is darker and sandy textured with abundant lens shaped (due to foliation) zones of phyllosilicate, pyrite, quartz-iron carbonate. Chlorite is not common. Pyrite lenses are quite discrete and up to 1 cm long but less that 1% by volume. Quartz crystal form up to 5% of rock and are very dark translucent.

138.6 – 139.3 m: Quartz-iron carbonate vein.

139.3 - ~142.0 m: Fine grained massive (but foliated) volcanic. Maybe a siltstone (but??)

142.0 – 170.9 m: Same rock type as that seen 125.9 – 138.6 m. It is slightly more polymictic looking – some fine grained darker grey siltstone clasts (e.g. 166-167 m) and also lighter grey siltstone clasts (bed incorporated at 166.8m and at 163.1m). From 168 to 170.9 m it becomes fine grained. Also has about 5% dark translucent quartz grains.

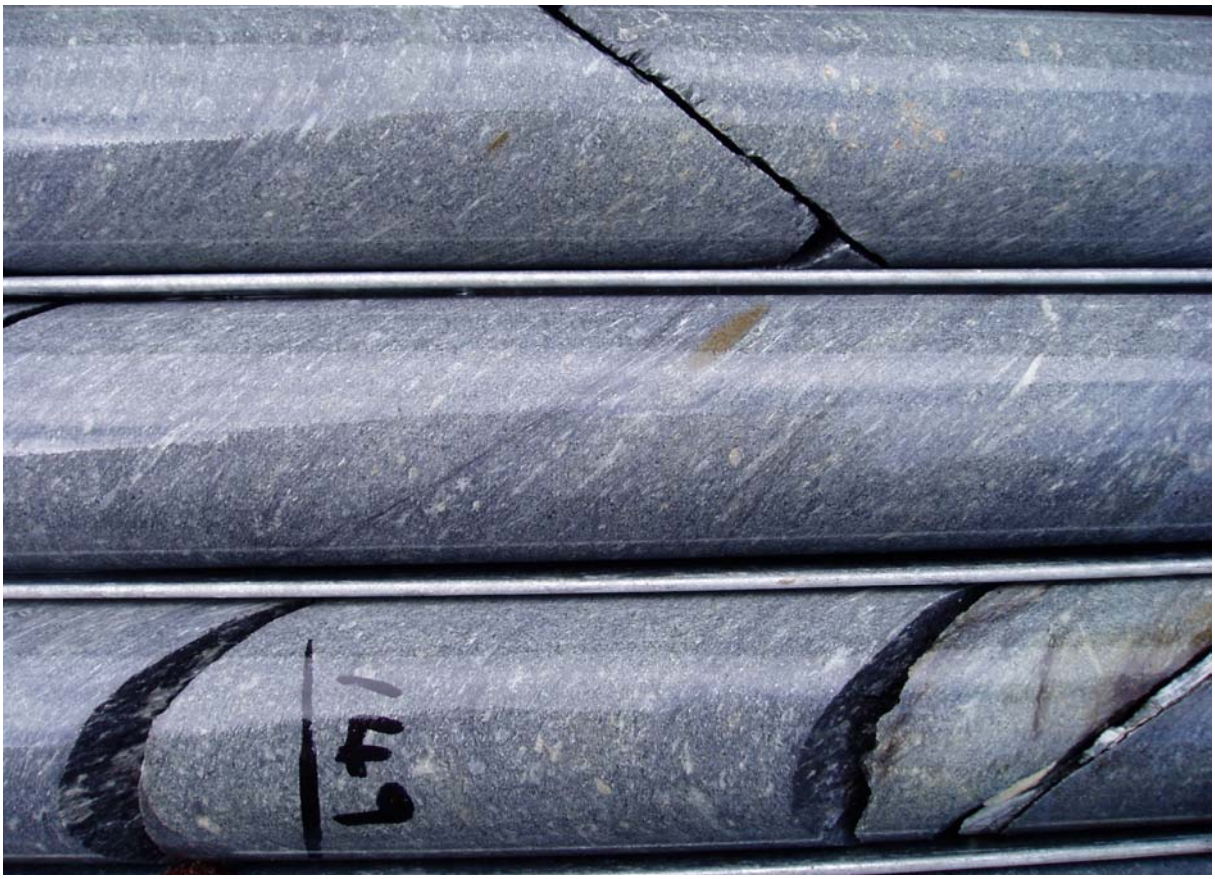

Photo 3: Example of unit 142 – 170.9 m.

170.9 – 171.7 m: Fine volcanic siltstone.

171.7 – 238.4 (E.O. core not end of hole). Basically one unit comprising felsic volcanic sandstone, gritty in part. Occasional clast up to 5 cm long of fine grained dark gray siltstone/shale or quartz-pyrite blobs (179.2 m) or pale grey rhyolitic clasts. All flattened – elongate in strong foliation. Zones in this unit are coarser (e.g. 202 – 210 m) with both sand sized quartz (dark translucent) and larger rounded pebble like clast up to 1 cm – non flattened.


Photo 4: Felsic unit of quartz phyric (clastic?) volcaniclastic. Note the ellipsoid shaped quartz aligned in foliation with tension cracks filled with calcite (in box – see blow up below). Small dark translucent grains also evident.

Photo 5: Blow up of Photo 4.

Hole was only sampled from 157 – 165, 173 – 183 and 207 – 214m.

Most noticeable feature of this hole is the lack of chlorite alteration. Much of the hole was judged by Ken Morrison (at least to 138.6) to be of Tyndal Group because of the polymictic nature of the clastics with high quartz component.