

**Appendix 4**  
**NCT001 – Summary Log**

(See Digital File EL202003\_200405\_08\_Appendix 4.pdf)

## Appendix 4 - NCT001 Summary Log

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**00.00 – 68.00 m.** Medium grey quartz phyric polymictic volcanoclastic grit. Sparse fine grained chlorite altered subrounded to subangular generally elongate pebbles aligned with foliation. Weak chlorite sericite alteration.

**68.00 – 69.70 m.** Relatively close packed polymictic volcanic conglomerate.

**69.70 – 120.60 m.** Medium grey quartz phyric polymictic volcanoclastic grit. Sparse fine grained chlorite altered subrounded to subangular volcanic siltstone pebbles. Weak chlorite sericite alteration.

**120.60 – 121.40 m.** Close packed polymictic volcanic conglomerate. Clasts predominately fine grained chlorite altered volcanoclastic siltstone.

**121.40 – 155.40 m.** Medium grey quartz phyric polymictic volcanoclastic grit. Sparse fine grained chlorite altered subrounded to subangular, generally elongate volcanic siltstone pebbles aligned with foliation. Weak chlorite sericite alteration. Rare clasts up to 10 cm long. Occasional pink clasts.



Photo 1: Typical interpreted Tyndall Group lithologies. Samples from range of intervals down hole as indicated by core markings.

**155.40 – 162.30 m.** Darker grey, close packed volcanoclastic conglomerate. Patchy quartz phyric sandy matrix.

**162.30 – 163.10 m.** White quartz-chlorite-epidote vein.

**163.10 – 195.20 m.** Medium grey quartz phyric polymictic volcanoclastic pebble – grit. Sparse fine grained chlorite altered subrounded to subangular, generally elongate pebbles aligned with foliation. Weak chlorite sericite alteration. Rare clasts up to 10 cm long. Occasional pink clasts.

**195.20 – 195.35 m.** White quartz-chlorite vein

**195.35 – 197.70 m.** Dark grey green closed framework polymictic volcanic conglomerate.

**197.70 – 203.70 m.** Dark grey green sandy to gritty volcanoclastic.

**203.70 – 219.40 m.** Dark grey green relatively closed framework polymictic volcanic conglomerate. Clasts dominated by fine grained chlorite altered volcanoclastic siltstone with occasional porphyry clasts and rare pink clasts.

**219.40 – 238.30 m.** Medium grey quartz phyric polymictic volcanoclastic pebble – grit. Sparse fine grained chlorite altered subrounded to subangular, generally elongate volcanic siltstone pebbles aligned with foliation. Weak chlorite sericite alteration. Rare clasts up to 10 cm long. Occasional pink clasts.

**238.30 – 241.00 m.** Dark grey green relatively closed framework polymictic volcanic conglomerate.

**241.00 – 387.50 m.** Medium grey quartz phyric polymictic volcanoclastic pebble – grit. Sparse fine grained chlorite altered subrounded to subangular, generally elongate volcanic siltstone pebbles aligned with foliation. Weak chlorite sericite alteration. Rare clasts up to 10 cm long. Occasional pink clasts and rare feldspar porphyry clasts.

**387.00 – 394.9 m.** Finer grained medium grey quartz phyric polymictic volcanoclastic grit. Weak chloritic alteration.

**394.90 – 426.9 m.** Medium grey green quartz phyric massive porphyry with very rare small (<5 mm) pinkish xenoliths.

**426.90 – 432.1 m.** Pale pinkish grey quartz-feldspar porphyry with distinct cleavage partings texture marked by darker iron/manganese (?) oxides.

**432.1 – 434.95 m.** Increasingly intense hematite alteration towards the base of this fine grained brecciated rhyolitic rock. Some minor zones of fine grained chlorite altered breccia also.



Photo 2: Hematite altered fine grained rhyolite breccia. 431 – 434 m.

**434.95 – 443.90 m.** Rhyolite breccia consisting of feldspar phyric (now altered to chlorite) rhyolite and some pinkish grey fine grained rhyolite clasts.

**443.90 – 450.85 m** Rhyolite breccia. Rhyolite clasts characterised by anhedral dark green chlorite replaced feldspar phenocrysts. Minor quartz phenocrysts. Breccia may be autobreccia or hyaloclastite.

**450.85 – 451.50 m** Quartz-chlorite vein with massive chlorite infill.

**451.50 – 464.70 m** Rhyolite breccia. Rhyolite clasts characterised by anhedral dark green chlorite replaced feldspar phenocrysts. Breccia may be autobreccia or hyaloclastite.



Photo 3: Feldspar-(quartz) phyric rhyolite with feldspars altered to chlorite. 452 – 454 m.

**464.70 – 491.00 m** Variety of volcanic breccias, tending to be far less feldspar-(quartz) phyric than other units.



Photo 4: Volcanic breccias at 470 – 472 m.

**491.00 – 509.90 m** Grey glassy quartz-(feldspar) phyric rhyolite. Strongly brecciated in places with fault terminating the unit at 506.4-509.9.

**509.90 – 517.10 m** Strongly cleaved black shale unit with rhyolite breccia and minor volcanoclastic grit bands.



Photo 5: Cleaved black shale and rhyolite volcanoclastic grit; 513-516 m.

**517.10 – 545.00 m** Massive and brecciated grey-green quartz porphyry with minor crystal rich volcanoclastic grit beds (537.6-538.8 m)



Photo 6: Coherent quartz-feldspar phyric rhyolite. 541-543 m.