

- 11.0 - 49.0m SANDSTONE with minor interbedded CLAYSTONE.
SANDSTONE, light grey, clear, translucent, milky and yellow to orange brown FeO stained grains, fine to predominantly medium to very coarse, occasional granular grains, moderately to poorly sorted, sub angular to predominantly sub round to round, loose, trace clay matrix in part, good to very good visual porosity.
CLAYSTONE, medium to dark brown, soft to firm, amorphous, blocky in part, trace carbonaceous specks, dispersive in part.
- 49.0 - 70.0m SANDSTONE with minor interbedded LIMESTONE and CLAYSTONE.
SANDSTONE, clear and translucent, white, occasional FeO staining, fine to very coarse, trace granular grains, sub angular to predominantly sub round to round, moderately to poorly sorted, loose, minor with hard calcite cement, abundant fossil fragments – predominantly bivalve, occasional gastropod and foram, occasional lithics, trace mica, generally good visual porosity.
LIMESTONE, calcarenite, olive grey, common quartz inclusions, common fossil fragments, moderately hard to hard, poor visual porosity.
CLAYSTONE, as above – slightly calcareous, common quartz inclusions and Limestone fragments.
- 70.0 - 130.0m SANDSTONE with minor interbedded CLAYSTONE and COAL.
SANDSTONE, light grey, clear, translucent and milky quartz, fine to very coarse, occasional granular grains, moderately to poorly sorted, sub angular to predominantly sub round to round, occasional frosted and polished grains, trace clay matrix in part, trace to rare shell fragments (bivalve, gastropod, foram), occasional to common dark grey to brown lithics, trace coaly fragments (pyritic), trace pyrite and mica, loose, good to very good visual porosity.
CLAYSTONE, medium grey brown, soft, amorphous, dispersive, slightly calcareous, occasional quartz inclusions.
COAL, dark brown to black, dull, lignitic, soft to firm, common pyrite.
- 130.0 - 184.0m SANDSTONE with minor interbedded CLAYSTONE and COAL.
SANDSTONE, light grey to light grey brown, clear, translucent and milky quartz, medium to very coarse, becoming coarse to very coarse with depth, poorly sorted, sub round to round, occasional frosted and polished grains, occasional clay matrix (washing out of sample), trace to rare shell fragments

(bivalve, gastropod, foram), occasional to common dark grey to brown lithics, trace coaly fragments (pyritic), trace mica, loose, good to excellent visual porosity.

CLAYSTONE, medium brown, soft, amorphous, dispersive, slightly calcareous, carbonaceous in part.

COAL, dark brown to black, dull, earthy, soft to firm, sub blocky, common pyrite to abundant pyrite.

184.0 - 210.0m SANDSTONE with interbedded MARL and LIMESTONE.

SANDSTONE, light grey to light brown, clear, translucent and milky quartz, coarse to very coarse, trace granular and pebble grains, moderately sorted, sub round to round, trace coal fragments, occasional to abundant fossil fragments (bryozoa, bivalve, gastropod), trace to occasional pyrite, loose, good visual porosity.

MARL, light to medium brown, soft to firm, sub blocky, common shell fragments, common coal inclusions, trace to occasional quartz.

LIMESTONE, calcarenite, light to medium grey, moderately hard, occasional shell fragments, grades to Marl in part.

210.0 - 267.0m LIMESTONE with minor MARL.

LIMESTONE, calcarenite, light brown to yellow brown, firm to moderately hard, occasional to locally abundant shell fragments (bryozoa, gastropod, crinoid, bivalve), medium grey, trace to occasional glauconite and carbonaceous specks, minor clay matrix in part.

MARL, light to medium brown, soft to firm, dispersive in part, common Limestone inclusions.

267.0 - 380.0m LIMESTONE occasionally grading to and interbedded with MARL.

LIMESTONE, calcarenite to calcisiltite, light to medium brown, firm to moderately hard, occasional to common shell fragments (bryozoa, foram, crinoid), occasional glauconite and carbonaceous specks, minor micro crystalline fragments, occasional clay matrix in part and grades to Marl.

MARL, light to medium brown, soft to firm, amorphous, dispersive in part, minor Limestone and shell inclusions.

- 380.0 - 460.0m LIMESTONE interbedded with MARL.
LIMESTONE, calcarenite to calcisiltite, light to medium brown, firm to moderately hard, trace to occasional shell fragments (bryozoa, crinoid), occasional glauconite, argillaceous in part and grades to Marl.
MARL, medium grey to grey brown, soft, sticky, dispersive and washes out of sample, common Limestone fragments.
- 460.0 - 468.5m LIMESTONE with minor interbedded MARL and SHALE.
LIMESTONE, calcarenite to calcisiltite, micritic in part, very light grey to off white, trace glauconite, trace to occasional shell fragments, soft to firm.
MARL, (only observed between 460.0-461.0m) medium to dark brown, moderately hard, sub blocky, common medium to very coarse multicoloured (clear, translucent, milky, orange, light green) rounded quartz inclusions, argillaceous and grades to calcareous Claystone.
SHALE, (only observed between 460.0-461.0m) very dark brown, hard to very hard, sub blocky to sub fissile, brittle with conchoidal fracture in part. Shale has dull yellow fluorescence, no cut, no residue.
- 468.5 - 508.0m MARL with occasional interbedded LIMESTONE.
MARL, brown to grey brown, soft to firm, amorphous, grades to calcareous Claystone, trace glauconite, trace pyrite below 498m, trace shell and Limestone fragments.
LIMESTONE, light grey to light brown, micro crystalline to micritic in part, calcarenite in part, firm to moderately hard, trace glauconite, trace shell fragments (bryozoa, foram).
- 508.0 - 522.7m MARL with minor LIMESTONE.
MARL, green grey, soft to firm, amorphous, trace to occasional Limestone fragments, trace to rare shell fragments, trace coarse glauconite grains, trace to occasional nodular pyrite (increasing with depth).
LIMESTONE, light brown to cream, micro crystalline, micritic in part, trace glauconite, firm to moderately hard, trace shell fragments.

Core#1 522.7 – 539.2m, Cut 16.5m, Recovered 10.77m,(65.3 %). Latrobe Group coal packed off inner barrel and no Latrobe Group sands were recovered.

- 522.7 - 529.9m MARL, Green grey to grey, soft to firm, grades to Calcisiltite in part, trace pyrite, occasional to common glauconite (increasing with depth), occasional to locally common shell fragments (bryozoa, bivalve, foram), trace pyrite, occasional to common quartz inclusions.
- 529.9 - 532.0m GLAUCONITIC SANDSTONE, green, fine to medium, occasional coarse grains, sub round to round, micritic calcite cement, abundant glauconite (20%), common disseminated and nodular pyrite, firm, very poor visual porosity. Below 531.1m, Sandstone becomes dark grey to grey black, only slightly calcareous and has common very pyritic brown clay matrix.
- 532.0 - 638.0m COAL with occasional interbedded SANDSTONE and CLAYSTONE.
COAL, black, very dark brown, dull earthy, lignitic, firm, sub blocky to sub fissile.
SANDSTONE, light grey to pale brown, clear and translucent quartz, medium to very coarse, occasional granule, sub angular to round, poorly sorted, trace white and brown dispersive clay matrix, loose, very good visual porosity.
CLAYSTONE, medium to dark brown, soft, dispersive, amorphous, commonly carbonaceous.
- 638.0 – 682.5m SANDSTONE with trace interbedded COAL.
SANDSTONE, light grey to pale brown, clear and translucent quartz, fine to granule, occasional pebbles, sub angular to sub round, occasional angular grains, poorly sorted, trace light brown and white dispersive clay matrix, loose, excellent visual porosity.
COAL, as above.
- 682.5 - 705.0m Interbedded SANDSTONE, COAL and trace CLAYSTONE.
SANDSTONE, light grey to pale brown, clear and translucent quartz, medium to very coarse, trace granule and pebbles, angular to sub round, poorly sorted, trace light brown and white dispersive clay matrix, trace pyrite, loose, very good visual porosity.

COAL, as above.

CLAYSTONE, brown, soft, dispersive, amorphous.

- 705.0 - 769.0m SANDSTONE with minor interbedded CLAYSTONE.
SANDSTONE, light grey to pale brown, clear and translucent quartz, fine to very coarse, trace granule, angular to sub round, poorly sorted, trace light brown and white dispersive clay matrix, trace pyrite and mica, trace coal fragments, trace lithics, loose, very good visual porosity.
CLAYSTONE, brown, soft, dispersive, amorphous.
- 769.0 - 843.0m SANDSTONE with occasional interbedded CLAYSTONE.
SANDSTONE with minor interbedded CLAYSTONE.
SANDSTONE, light grey to pale brown, clear and translucent quartz, fine to very coarse, trace granule, angular to sub round, poorly sorted, trace light brown and white dispersive clay matrix, trace pyrite and mica, trace coal fragments, trace lithics, loose, very good visual porosity.
CLAYSTONE, brown, soft, dispersive, amorphous.
- 843.0 - 884.0m Interbedded SANDSTONE and CLAYSTONE.
SANDSTONE, light grey to light grey brown, clear and translucent quartz, fine to very coarse, occasional granule, angular to sub round, moderately to poorly sorted, occasional light brown and white dispersive clay matrix, occasional light to medium grey very fine to fine grained moderately hard aggregates as matrix, trace pyrite, trace lithics, occasional quartz overgrowths, loose, generally good visual porosity.
CLAYSTONE, medium to dark brown, minor white, soft, dispersive, amorphous.
- 884.0 - 907.0m. CLAYSTONE with minor interbedded SANDSTONE (caved?)
CLAYSTONE, red brown, light to medium grey, grey red, oxidised, highly weathered Basalt, soft, amorphous, sticky.
SANDSTONE, as described above – fine to very coarse.
- 907.0 – 964.5m. BASALT highly weathered to CLAYSTONE in parts.

BASALT, brown black, green black, dark grey green, aphanatic, common phenocrysts of green and minor yellow olivine, occasional to locally common crystalline calcite, moderately hard. Commonly highly weathered to

CLAYSTONE, red brown to orange brown, pinkish to grey brown, soft, amorphous, dispersive.

Possible multiple flows inferred from weathering profile – tops of flows possibly at 886.0m, 924.0m, 946.0m

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964.5 - 1004.0m. Interbedded CLAYSTONE, SANDSTONE and minor COAL.

CLAYSTONE, light to medium grey, light grey brown, soft to firm, sub blocky, trace carbonaceous specks, occasional quartz inclusions.

SANDSTONE, off white to light grey, very fine to occasionally medium, sub angular to sub round, moderately sorted, firm calcareous cement in part, common to abundant off white clay matrix, matrix supported in part and grades to Claystone, common volcanic lithics (green, grey brown), trace coaly fragments, occasional calcite fragments, firm, very poor visual porosity.

COAL, black, dull with vitreous bands, moderately hard, sub fissile, minor with sub conchoidal fracture.

1004.0 - 1095.0m. SANDSTONE with occasional interbedded CLAYSTONE and minor SILTSTONE.

SANDSTONE, light to medium grey, light green grey in part, very fine to medium, sub angular to sub round, moderately well sorted, firm calcareous cement, occasional to locally abundant light grey argillaceous matrix, matrix supported in part and grades to Claystone, common to abundant feldspar and green and grey lithics, trace calcite fragments, trace Coal specks and fragments, firm to moderately hard, poor to very poor visual porosity.

CLAYSTONE, grey to grey brown, minor brown, soft to firm, sub blocky.

SILTSTONE, light grey, firm, blocky, very fine arenaceous, grades to Sandstone in part.

1095.0 - 1109.0m. CLAYSTONE with occasional interbedded SANDSTONE and SILTSTONE.

CLAYSTONE, medium grey, soft to firm, sub blocky, occasional very fine quartz, trace carbonaceous specks.

SANDSTONE, light to medium grey, very fine to fine, occasional medium grains, moderately well sorted, firm calcareous cement, common to abundant light grey argillaceous matrix, common volcanic lithics, soft to firm, very poor to poor visual porosity.

SILTSTONE, light grey, firm, soft, amorphous, common quartz inclusions and grades to Sandstone in part.

1109.0 – 1117.9m. Interbedded CLAYSTONE and SANDSTONE.

CLAYSTONE, as described above.

SANDSTONE, light to medium grey, very fine to medium, sub angular to sub round, moderately well sorted, firm calcareous cement, trace to locally common light grey argillaceous matrix, common volcanic lithics, trace carbonaceous specks, firm, very poor to poor visual porosity.

Core #2 – 1117.9 – 1132.2m, Cut 14.3m, Recovered 4.92m (34.4%)

Recovery: 1117.9 – 1122.82m, highly fractured Sandstone with white to clear crystalline calcite infilled fractures. Fractures dominantly near vertical (80°), some near horizontal. Bedding plane defined by slightly carbonaceous micro laminations near 1118.5m, these show bed dip to be 10°. The Sandstone was medium grey to dark green grey, very fine to fine, common medium grains, sub angular to sub round, moderately well sorted, moderately strong siliceous cement, calcareous cement in part, common greenish grey matrix (chloritic), abundant altered feldspar, common to abundant green and grey brown volcanic lithic grains, trace mica, trace carbonaceous specks, moderately hard, poor to very poor visual porosity.

1122.8 – 1132.2m. No core recovered, descriptions from samples collected while coring. Samples contaminated with caved red brown Claystone / weathered Basalt.

SANDSTONE, as above.

COAL, black, sub vitreous, moderately hard, brittle in part, sub fissile to occasionally sub blocky, minor with sub conchoidal fracture.

CLAYSTONE, medium to dark grey, grey brown, firm, sub blocky to sub fissile, carbonaceous in part.

1132.2 - 1200.0m. SANDSTONE with interbedded CLAYSTONE. Samples contaminated with caved red brown Claystone / weathered Basalt – cavings becoming less with depth.

SANDSTONE, light to medium grey, green grey, very fine to medium, predominantly very fine to fine grained, sub angular to sub round, moderately well sorted, firm calcareous cement in part, siliceous cement in part, occasional to locally abundant light grey and green grey matrix, common altered feldspar and lithics, trace carbonaceous specks, trace mica, occasional to locally common crystalline calcite fragments (fracture fill), friable to firm, poor to very poor visual porosity.

CLAYSTONE, grey brown to grey, soft to occasionally firm, amorphous to sub blocky, trace to occasional carbonaceous specks and fragments.

TOTAL DEPTH

Driller: 1200.0 metres

Logger: 1196.0 metres