

Thylacine-2

Lithological Descriptions from Cuttings

Depth Interval (MMDRT)	Lithology
557 - 605	<p>ARGILLACEOUS CALCILUTITE GRADING TO ARGILLACEOUS CALCISILTITE AND MINOR CALCARENITE.</p> <p>Argillaceous Calcilutite (50%): light grey to medium grey, very soft to soft, amorphous, grades to Calcareous Claystone.</p> <p>Argillaceous Calcisiltite (50%): light grey to medium grey, soft to friable, trace skeletal fragments.</p> <p>Calcarenite: medium grey, friable to moderately hard, fine grained, common clay, common calcilutite matrix, minor calcite cement, minor disseminated subround fine quartz grains, minor skeletal fragments, trace glauconite, trace lithic fragments, no visible porosity.</p>
605 - 750	<p>CALCAREOUS CLAYSTONE AND MINOR ARGILLACEOUS CALCISILTITE.</p> <p>Calcareous Claystone (80%): very light grey to medium grey, very soft to soft, trace pyrite, trace glauconite, trace forams and skeletal fragments, trace dark grey and brown lithics, grades to Argillaceous Calcilutite.</p> <p>Argillaceous Calcisiltite (20%): light grey to medium grey, soft to friable, trace skeletal fragments, trace pyrite, trace dark grey and brown lithics.</p>
750 - 960	<p>CALCAREOUS CLAYSTONE AND MINOR ARGILLACEOUS CALCISILTITE.</p> <p>Calcareous Claystone (80%): light to medium grey, olive grey, very soft to firm, amorphous, abundant calcareous clay, minor calcareous silt, trace foraminifera, trace skeletal fragments, trace dark grey lithic fragments, trace glauconite, trace disseminated pyrite.</p> <p>Argillaceous Calcisiltite (20%): very light grey to medium grey, soft to moderately hard, abundant to very abundant calcareous clay, trace glauconite, trace lithic fragments, grading in parts to argillaceous calcilutite, trace disseminated pyrite.</p>
960 - 1210	<p>MASSIVE CALCAREOUS CLAYSTONE.</p> <p>Calcareous Claystone (100%): very light grey to medium grey, soft to firm, amorphous to sub-blocky, very abundant calcareous clay, rare calcareous silt, rare siliceous silt, trace glauconite, trace foraminifera, trace lithic fragments.</p>
1210 - 1260	<p>CALCAREOUS CLAYSTONE AND MINOR ARGILLACEOUS CALCILUTITE</p> <p>Calcareous Claystone (90%): as above.</p> <p>Argillaceous Calcilutite (10%): very light to light grey, soft amorphous, minor calcareous silt.</p>
1260 - 1320	<p>CALCAREOUS CLAYSTONE, COMMON ARGILLACEOUS CALCILUTITE AND MINOR SANDSTONE.</p> <p>Calcareous Claystone (70%): similar to above, light to medium grey, olive grey, soft, minor firm, amorphous to sub-blocky, minor calcareous silt, minor quartz silt, minor disseminated very fine spherical quartz grains, trace pyrite, trace foraminifera, trace glauconite, trace lithic fragments.</p> <p>Argillaceous Calcilutite (25%): as above.</p> <p>Sandstone (5%): colourless, yellow to orange and brown iron staining, loose, predominantly very fine to minor fine grained quartz, subround to round, spherical moderately sorted quartz, rare dark grey silt and dark brown lithic fragments, trace mica, trace glauconite, 25% inferred porosity, no fluorescence.</p>
1320 - 1343	<p>CALCAREOUS CLAYSTONE AND ARGILLACEOUS CALCILUTITE</p> <p>Calcareous Claystone (50%): similar to above, no quartz sand.</p> <p>Argillaceous Calcilutite (50%): very light grey, minor white, soft, amorphous,</p>

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1343 - 1418	<p>ARGILLACEOUS CALCILUTITE INTERBEDDED WITH CALCAREOUS CLAYSTONE.</p> <p>Argillaceous Calcilutite (60%): very light to light grey, soft, amorphous, abundant light grey argillaceous material, minor calcareous silt.</p> <p>Calcareous Claystone (40%): light to medium grey, olive grey, soft, minor firm, amorphous to sub-blocky, minor calcareous silt, minor quartz silt, rare disseminated clear and yellow to brown stained very fine grained subrounded to rounded, spherical quartz grains, trace pyrite, trace foraminifera, trace glauconite, trace lithic fragments.</p>
1418-1464	<p>Calcareous Claystone (90%): light to medium grey, olive grey, soft, minor firm, amorphous to sub-blocky, minor calcareous silt, minor to abundant quartz silt, rare disseminated clear and yellow to brown stained, very fine grained, subrounded to rounded, spherical quartz grains, trace pyrite, trace foraminifera, trace glauconite, trace lithic fragments, grading to:</p> <p>Calcareous Siltstone (10%): very dark yellowish brown to very dark brown, friable, minor moderately hard, blocky, common calcareous clay matrix, rare to minor carbonaceous matter, trace glauconite. Rarely grades to Siltstone and Claystone.</p>
1464 - 1550	<p>CLAYSTONE INTERBEDDED WITH MINOR SANDSTONE AND TRACE CALCILUTITE,</p> <p>Claystone (90%): dark greyish brown, soft to firm, blocky, rare carbonaceous material, trace glauconite.</p> <p>Sandstone (10%): greenish grey, loose, very fine to fine, rarely medium grained quartz, subangular to subrounded, sub spherical to spherical, moderately sorted, rare glauconite, minor carbonaceous fragments.</p> <p>Calcilutite (trace): very light grey, soft, trace carbonaceous matter, trace glauconite.</p>
1550 - 1600	<p>CLAYSTONE INTERBEDDED WITH MINOR SILTY SANDSTONE.</p> <p>Claystone (90%): medium to dark olive grey, soft to firm, slightly sticky in parts to sub-blocky, common siliceous silt, trace very fine carbonaceous detritus, trace glauconite, trace pyrite, trace micromica, trace silty lithics and very coarse grained quartz sand.</p> <p>Silty Sandstone (10%): light to medium grey, olive grey, loose to friable, predominantly very fine to fine common medium rare coarse and trace very coarse quartz grains, subangular, to rounded, poorly sorted, slightly spherical, trace calcareous cement, trace pyrite cement, minor to common brown argillaceous matrix, trace very fine carbonaceous detritus, trace glauconite, trace brown and grey lithic fragments, tight visual porosity, no fluorescence.</p>
1600 - 1690	<p>SILTY CLAYSTONE INTERBEDDED WITH MINOR SANDSTONE.</p> <p>Silty Claystone (90%): medium to dark olive grey, soft to firm, slightly sticky in parts to sub-blocky, abundant quartz and lithic silt, trace very fine carbonaceous detritus, trace glauconite, trace pyrite, trace micromica.</p> <p>Sandstone (10%): white to very light grey, loose to friable, predominantly very fine to fine minor medium trace coarse to very coarse quartz grains, subangular to rounded, poorly sorted, slightly spherical, trace calcareous cement, trace pyritic cement, abundant silt matrix, minor to common argillaceous matrix, trace very fine carbonaceous detritus, trace glauconite, trace brown and grey lithic fragments, tight visual porosity, no fluorescence.</p>
1690 - 1760	<p>MASSIVE SILTY CLAYSTONE.</p> <p>Silty Claystone (100%): medium to dark olive grey, soft to firm, slightly sticky in parts to sub-blocky, abundant quartz and lithic silt, trace very fine carbonaceous detritus, trace glauconite, trace pyrite, trace micromica.</p>
1760 - 1960	<p>MASSIVE CLAYSTONE.</p> <p>Claystone (100%): medium to dark grey, dark olive grey, firm, sub-blocky, minor to common quartz and lithic silt, rare minor very fine carbonaceous detritus, trace micromica, trace glauconite in parts, locally becoming siltier and grading to Silty Claystone.</p>

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1960 - 2040	MASSIVE CLAYSTONE. Claystone (100%): medium to dark grey, olive grey, firm, sub-blocky, common mica, quartz and lithic silt, minor very fine to silty carbonaceous detritus, trace disseminated pyrite and pyritic microlaminae, trace micromica, trace dolomitic inclusions, becoming locally more silty and grading to Silty Claystone in parts.
2040 - 2109	INTERBEDDED CLAYSTONE AND SILTY CLAYSTONE Claystone (100%): medium to dark grey, olive grey, firm, sub-blocky, common mica, quartz and lithic silt, minor very fine to silty carbonaceous detritus, trace disseminated pyrite and pyritic microlaminae, trace micromica, trace dolomitic inclusions, becoming locally more silty and grading to Silty Claystone in parts. Silty Claystone (50%): olive grey to dark olive grey, moderately hard, sub-blocky, rare carbonaceous matter, minor mica silt, rare pyrite, trace lithic fragments, trace glauconite, rarely grades to Argillaceous Siltstone.
2109 - 2112	INTERBEDDED CLAYSTONE AND SILTY CLAYSTONE Claystone (40%): medium to dark grey, olive grey, firm, sub-blocky, common mica, quartz and lithic silt, minor very fine to silty carbonaceous detritus, trace disseminated pyrite and pyritic microlaminae, trace micromica, trace dolomitic inclusions, becoming locally more silty and grading to Silty Claystone in parts. Silty Claystone (60%): olive grey to dark olive grey, moderately hard, sub-blocky, rare carbonaceous matter, minor mica silt, rare pyrite, trace lithic fragments, trace glauconite, rarely grades to Argillaceous Siltstone.
2112 - 2122	SILTY CLAYSTONE GRADING TO ARGILLACEOUS SILTSTONE Silty Claystone (50%): olive grey to dark olive grey, moderately hard, sub-blocky, minor mica silt, rare carbonaceous matter, rare pyrite, trace lithic fragments, trace glauconite, grades to Argillaceous Siltstone. Argillaceous Siltstone (50%): increasing abundance with depth, olive grey, moderately hard to hard, sub-blocky, brittle, quartzose, rare silica cement, rare carbonaceous detritus, rare coarse mica, trace pyrite, trace glauconite, rarely grades to Siltstone.
2122 - 2137	ARGILLACEOUS SILTSTONE GRADING TO SILTSTONE Argillaceous Siltstone (30%): olive grey, moderately hard to hard, sub-blocky, brittle, quartzose, rare silica cement, rare carbonaceous detritus, rare coarse mica, trace pyrite, trace glauconite, grades to Siltstone. Siltstone (70%): grey to olive grey, moderately hard to hard, sub-blocky, brittle, abundant clay matrix, rare silica cement, rare carbonaceous material, rare coarse mica, trace pyrite, trace glauconite.
2137 - 2140	SILTSTONE Siltstone (100%): similar to above, medium grey to grey, brownish grey, friable to moderately hard, sub-blocky, quartzose, rare silica cement, minor clay matrix, minor disseminated subangular to subrounded, slightly spherical, very fine grained quartz sand, rare carbonaceous material, trace pyrite, trace glauconite.
2140 - 2146	SILTSTONE WITH MINOR SANDSTONE INTERBEDS Sandstone (70%): very light brownish grey to very light olive grey, predominantly loose, becoming more aggregated and friable with depth, very fine to coarse grained, predominantly medium grained, rarely coarse grained, subangular to minor subrounded, subspherical, poorly sorted to moderately sorted quartz, aggregates have trace silica cement, argillaceous matrix increasing from minor to common with depth, minor silt matrix, trace carbonaceous material, trace mica, trace glauconite. Rarely grades to Argillaceous Sandstone. Aggregates have 10 % visible intergranular porosity, loose grains 25% inferred porosity. No fluorescence. Siltstone (30%): as above, medium grey to grey, brownish grey, friable to moderately hard, sub-blocky, quartzose, rare silica cement, minor clay matrix, minor disseminated subangular to subrounded, slightly spherical, very fine grained quartz sand, rare carbonaceous material, trace pyrite, trace glauconite.

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2146 - 2150	SANDSTONE Sandstone (100%): similar to above, predominantly as friable aggregates, very fine to medium grained, predominantly fine to medium grained, minor calcite cement, 10% visible intergranular porosity. No fluorescence.
2150 - 2174	These lithologies described from core, poor quality. Claystone (90-95%): light to medium grey, soft, sticky to dispersive, common siliceous silt, trace silty to very fine carbonaceous detritus, trace disseminated pyrite, trace glauconite. Sandstone (5-10%): , colourless, clear to translucent, loose, predominantly very fine common fine rare medium grained quartz, subangular to subrounded, slightly spherical, moderately sorted, 10% inferred porosity. No fluorescence.
2174 - 2200	Claystone (50-70%): similar to above, light to medium grey, soft, dispersive to sticky, common to abundant silt, rare carbonaceous matter, trace 1% pyrite, grades to Silty Claystone. Sandstone (30-50%): similar to above, colourless, very light grey, loose to friable, very fine to medium grained, predominantly very fine to fine grained, subangular to subrounded, slightly spherical quartz, rare calcite cement, common to abundant clay matrix, minor silt matrix, trace carbonaceous matter, trace pyrite, trace lithic fragments, trace feldspar, 5% visible intergranular porosity, grades to Argillaceous Sandstone. No fluorescence.
2200 - 2232	End of Lithology as described from core. SANDSTONE with trace SILTSTONE. SANDSTONE (100%): colourless, very light grey, clear to translucent, predominantly loose rare friable aggregates, very fine to fine grained quartz, subangular, moderate sphericity, well sorted, trace calcareous / dolomitic cement, minor very light grey argillaceous matrix, trace partially altered feldspars, trace carbonaceous detritus trace glauconite, trace red brown lithics, trace dark grey siltstone? lithics, trace mica, 15% inferred porosity, no fluorescence. SILTSTONE (trace): dark grey, soft to firm, subblocky, common dark grey argillaceous material, rare very fine quartz grains, trace glauconite, trace micro mica, trace carbonaceous detritus, trace disseminated pyrite.
2232 - 2237	SILTSTONE interbedded with SANDSTONE. SILTSTONE (80%): as above. SANDSTONE (20%): as above.
2237 - 2242	SANDSTONE (100%): colourless, very light grey, clear to translucent, predominantly loose rare friable aggregates, very fine to fine rare medium and trace coarse grained quartz, subangular, moderate sphericity, moderately sorted, trace siliceous cement, minor very light grey argillaceous matrix, trace partially altered feldspars, trace carbonaceous detritus trace glauconite, trace red brown lithics, trace dark grey siltstone? Lithics, 15% inferred porosity, no fluorescence.
2242 - 2247	SILTSTONE interbedded with minor SANDSTONE. SILTSTONE (70%): as above. SANDSTONE (30%): as above.
2247 - 2258.5	SANDSTONE interbedded with minor SILTSTONE. SANDSTONE (80%): as above, trace moderately hard aggregates with trace pyritic cement. SILTSTONE (20%): as above.
2258.5 - 2297	SANDSTONE interbedded with minor SILTSTONE. SANDSTONE (80%): colourless, very light grey, clear to translucent, predominantly loose rare friable aggregates, very fine to fine rare medium and trace coarse grained quartz, subangular, moderate sphericity, poorly sorted, trace siliceous and pyritic cement, minor very light grey argillaceous matrix, trace partially altered feldspars, trace carbonaceous detritus trace glauconite, trace red brown lithics, trace dark grey siltstone? Lithics, 15% inferred porosity loose grains (aggregates 5% visual porosity), no fluorescence. SILTSTONE (20%): dark grey, soft to firm, sub-blocky to sticky, common argillaceous material, minor very fine to grained quartz, trace to minor micro-mica, trace to minor carbonaceous detritus, trace disseminated pyrite, trace partially altered feldspar.

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2297 - 2316	<p>SANDSTONE interbedded with SILTSTONE.</p> <p>SANDSTONE (70%): colourless, very light grey, clear to translucent, loose to moderately hard, subangular, poorly sorted, slightly spherical, predominantly very fine grained, abundant fine grained, rare medium grained, trace coarse to very coarse grained quartz, trace very coarse quartz shards, trace siliceous and pyritic cement, common light grey argillaceous matrix associated with aggregates, trace carbonaceous detritus, trace dark grey and red brown lithic fragments, trace partially altered feldspar, 15% inferred porosity (5% visual porosity from aggregates), no fluorescence.</p> <p>SILTSTONE (30%): as above.</p>
2316 - 2478	<p>SANDSTONE interbedded with minor SILTSTONE.</p> <p>SANDSTONE (80%): light grey, loose to friable, very fine to fine predominantly fine grained, subangular, slightly spherical, common quartz silt matrix, minor clay matrix, trace calcite cement, rare silica cement, rare to minor fine carbonaceous streaks, rare to minor lithic fragments, rare to minor pyrite, grades to Silty Sandstone, 5 - 20% intergranular porosity. No fluorescence.</p> <p>SILTSTONE (20%): dark grey, hard, sub-blocky, minor carbonaceous matter, rare lithic fragments, minor pyrite.</p>
2478 - 2525	<p>SANDSTONE interbedded with minor SILTSTONE.</p> <p>SANDSTONE (90%): colourless, very light grey, opaque to clear, loose rare friable, medium to coarse rare very fine minor fine, coarse, very coarse and granular quartz grains and shards (conglomeratic in parts), angular, to subangular, very poorly sorted, slightly spherical, trace siliceous cement and minor light grey argillaceous matrix associated with rare aggregates, trace carbonaceous detritus, 20% inferred porosity, (5 to 10% visible porosity from aggregates), no fluorescence.</p> <p>SILTSTONE (10%): grey black, firm to hard, sub-blocky to subfissile, abundant to very abundant carbonaceous detritus and microlaminae, grading in parts to Carbonaceous Siltstone, trace very fine grained quartz, trace lithic fragments, trace disseminated and nodular pyrite.</p>