

CORNWALL COAL ST PAULS RIVER D.D.H. 1

	<u>Estimated Thickness (m)</u>	<u>Estimated Depth to Base of Stratum (m)</u>	<u>Remarks</u>
MUDSTONE, dark brown grey to black, highly fissile	0.195	8.390	
SILTSTONE, light brown grey, highly fissile, minor claystone bands coarsening towards base to a fine to medium lithic sandstone, basal section has parallel laminations, slakes and swells when exposed to air and water	3.035	11.425	
SANDSTONE, tan brown (when oxidised) light grey blue, medium, lithic, moderately well sorted, sub-angular, minor siltstone bands and phases, numerous to common bright coaly wisps and fragments, sandstone well cemented, thickly to massively bedded, bedding dips less than 5°, weathering restricted to defined horizons, micaceous in part along bedding partings, occasional bands (<0.050 m) of intraformational mudstone pellets fracture planar to irregular 30° to LCA at 18.73, 19.50, core slightly broken and close spaced bedding partings from 19.8 to 20.4m, fracture, regular planar 20° to LCA at 22.6m, sandstone unit base abrupt, last ironstaining horizon as a result of weathering at 22.76m	12.825	24.250	

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MUDSTONE, brown black, carbonaceous, coaly in part, silty phases throughout	0.230	24.480	
SILTSTONE, grey brown, highly fissile, some claystone bands, slaking moderate, swelling moderate	0.780	25.260	
MUDSTONE, light grey brown, extremely fissile, very swollen, very disintegrated on exposure to air and water, minor calcite along bedding partings	0.460	25.720	
CLAYSTONE, white fawn, very swollen, puggy, very disintegrated, minor stony coal band 0.040 m in middle of unit, abrupt base	0.315	26.035	
<u>COAL</u> , dull with minor bright bands	0.070	26.105	
MUDSTONE, dark brown, fissile	0.090	26.195	
CLAYSTONE, coaly	0.063	26.258	
MUDSTONE, black, carbonaceous	0.105	26.363	
MUDSTONE, brown, intraformational clasts and rip up structures throughout	0.360	26.723	
CLAYSTONE, black, coaly	0.200	26.923	

201008

CORNWALL COAL ST PAULS RIVER D.D.H. 1

	<u>Estimated Thickness (m)</u>	<u>Estimated Depth to Base of Stratum (m)</u>	<u>Remarks</u>
<u>COAL</u> , dull, transitional lower boundary	0.065	26.988	
CLAYSTONE, brown grey, sporadic carbonaceous bands	0.145	27.133	
<u>COAL</u> , dull, minor cream claystone wisps and lenses	0.390	27.523	
CLAYSTONE, cream, abrupt upper and lower boundary	0.022	27.545	
<u>COAL</u> , dull	0.110	27.655	
, dull with minor bright bands	0.085	27.740	
CLAYSTONE, white cream, abrupt top and base	0.010	27.750	
<u>COAL</u> , dull	0.050	27.800	
, dull with numerous bright bands	0.165	27.965	
MUDSTONE, dark brown, minor wisps of bright coal	0.130	28.095	
CLAYSTONE, light brown grey, fissile, discrete bands have swollen, occasional bands indurated hard, coarsening with depth to siltstone, siltstone in basal 1.5 m of unit	3.565	31.660	

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SANDSTONE, light grey, fine to medium, lithic, minor siltstone interbeds, well cemented, well bedded, dip <5°	2.380	34.040	
SILTSTONE, mid grey, fissile, well bedded, very thinly bedded	2.395	36.435	
SANDSTONE, light grey, medium, lithic to quartz-lithic, well cemented, well sorted, subangular, well bedded, massive to thickly bedded, minor horizons of coal wisps and lenses, laminations defined by carbonaceous material, zone of abundant to common coaly wisps, rip up structures and fragments from 47.80 to 52.50 m - within this zone are occasional very rounded pebbles and intra-formational clasts, coal band 0.045 m thick at 54.81 m	24.155	60.590	
MUDSTONE, brown, fissile, abrupt top and base	0.025	60.615	
<u>COAL</u> , dull with minor bright bands	0.035	60.650	
CLAYSTONE, black, carbonaceous	0.200	60.850	

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CLAYSTONE, grey brown, highly fissile, swollen, disintegrated, carbonaceous towards base	2.450	63.300	
SILTSTONE, green grey brown, carbonaceous wisps at top of unit	0.615	63.915	
CLAYSTONE, dark grey to grey green, carbonaceous at top	0.100	64.015	
CLAYSTONE, cream, highly fissile, very disintegrated	0.060	64.075	
<u>COAL</u> , dull	0.030	64.105	
CLAYSTONE, mid grey	0.060	64.165	
<u>COAL</u> , dull	0.215	64.380	
CLAYSTONE, coaly for the top 0.040m grading to grey to green grey	0.430	64.810	
MUDSTONE, grey, indurated hard	0.220	65.030	
<u>COAL</u> , dull	0.070	65.100	
CLAYSTONE, white cream, abrupt top and base	0.030	65.130	
CLAYSTONE, mid grey, carbonaceous wisps and lenses	0.360	65.490	

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	<u>Estimated Thickness (m)</u>	<u>Estimated Depth to Base of Stratum (m)</u>	<u>Remarks</u>
SANDSTONE, light grey, fine at top, medium throughout rest of unit, quartz-lithic, well sorted, sub- angular, siltstone interbeds at top 2.5 m, siltstone interbeds laminated, sporadic irregular intraformational clasts of mudstone, siltstone bands fissile, sandstone well bedded, massive, dip <5°, abrupt basal contact, large intraformational clasts 0.40 m from base	14.765	80.255	
SILTSTONE, grey to light grey, indurated, carbonaceous phases towards base	0.265	80.520	
CLAYSTONE, green grey, highly fissile, moderately disintegrated	0.430	80.950	
<u>COAL</u> , dull	1.140	82.090)
MUDSTONE, grey, white flecks throughout	0.035	82.125) Thickness:) 1.240 m)
<u>COAL</u> , stony	0.065	82.190)
CLAYSTONE, grey, highly fissile, carbonaceous wisps and lenses at top 0.050 m of unit, moderately disintegrated	0.620	82.810)

201012

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	<u>Estimated Thickness (m)</u>	<u>Estimated Depth to Base of Stratum (m)</u>	<u>Remarks</u>
SILTSTONE, grey to brown grey, well bedded, fine sandstone in part	0.250	83.060	
SANDSTONE, light grey, medium, quartz-lithic, well sorted, well bedded	0.985	84.045	
CLAYSTONE, brown, laminated	0.020	84.065)
)
<u>COAL</u> , dull	0.105	84.170)
) PLY 2
SANDSTONE, light grey, fine, abrupt top and base	0.020	84.190) Thickness
) 0.92 m
<u>COAL</u> , dull	0.235	84.425)
, dull with minor bright bands	0.175	84.600)
, dull	0.365	84.965)
CLAYSTONE, black to dark brown, coaly in part	0.130	85.095	
CLAYSTONE, brown grey, abrupt top, graded base, grading into siltstone	0.550	85.645	
SANDSTONE, light grey, medium, quartz-lithic, well sorted, sub- angular, well cemented, well bedded, massive minor coal wisps and fragments, sporadic siltstone phases at top 1.5 m of unit	18.135	103.780	

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	<u>Estimated Thickness (m)</u>	<u>Estimated Depth to Base of Stratum (m)</u>	<u>Remarks</u>
CLAYSTONE, black, carbonaceous, minor coaly bands	0.150	103.930	
CLAYSTONE, grey green, carbonaceous phase in middle of unit, fissile, intraformational clasts of lighter coloured claystone pellets	1.140	105.070	
SILTSTONE, grey, minor sandstone phases, sandstone fine to medium, fining upward sequences, siltstone fissile	1.140	106.210	
SANDSTONE, light grey to green grey, as above sandstone unit, within sandstone unit are numerous fining upward sequences, coarse fractions only moderately sorted, basal part may contain clasts up to 0.040 m, well bedded, massive abundant pyrite crystals, blebs and aggregate in fine sandstone unit at 127.90 m	25.915	132.125	
SILTSTONE, grey green, well bedded, very thinly bedded, coaly at 0.050 m of top of unit, abrupt top, transitional base, minor laminations and wisps, sporadic irregular fractures with slicken- sides, fissile, numerous plant remains at top along bedding partings, sandstone phases towards base	1.860	133.985	

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SANDSTONE, light grey, fine to medium, quartz-lithic, abrupt regular basal contact, minor mudstone intraformational clasts and laminations	1.125	135.11	
MUDSTONE, dark grey, carbonaceous, minor siltstone pennybands and laminations, fissile in basal half of unit, core broken from 135.5 m to base of unit	0.755	135.865	
<u>COAL</u> , dull	0.030	135.895	
SILTSTONE, grey green, fissile, fine sandstone band in middle of unit, abrupt base and top, well bedded	0.550	136.445	
SANDSTONE, grey to grey green, medium, quartz-lithic, well sorted, subangular, massive, very minor carbonaceous wisps and lenses	7.975	144.420	
CLAYSTONE/LAMINITE, 60:40, dark grey to black:light grey green; laminations straight parallel, bedding dip <5°, fissile in part, carbonaceous in part, minor dull coal bands less than 0.030m, minor phases of bioturbation, sporadic sandstone infilled dykelettes	3.215	147.635	

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MUDSTONE:SILTSTONE LAMINATED, ratio 40:60. Mudstone, grey green; siltstone, light grey; laminations parallel straight to wavy, minor infilled worm burrows, regularly bedded, dip <5°, minor fractures regular planar 45° to LCA, some fractures lined with calcite, minor scour and fill structures	6.410	154.045	
CLAYSTONE LAMINITE, 80:20, black:light grey; fissile siltstone laminite towards basal section	1.510	155.555	
SANDSTONE, light grey, medium, lithic, well sorted, subangular, well cemented, numerous coaly and carbonaceous wisps, blebs, lenses, abrupt base	0.245	155.800	
<u>COAL</u> , stony, abrupt base	0.042	155.842	
CLAYSTONE, white, abrupt base	0.030	155.872	
<u>COAL</u> , stony, abrupt base	0.035	155.907	
, dull	0.070	155.977	
CLAYSTONE, light grey brown, wavy irregular coaly wisps and lenses throughout, bedding highly irregular, abrupt top and base, irregular	0.060	156.037	

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<u>COAL</u> , dull, abrupt base	0.085	156.122	
CLAYSTONE, white cream, abrupt base	0.030	156.152	
<u>COAL</u> , dull	0.030	156.182	
CLAYSTONE, white cream, abrupt top and base	0.010	156.192	
<u>COAL</u> , dull with minor claystone pennybands, abrupt base	0.410	156.602	
CORE LOSS	0.048	156.650	
<u>COAL</u> , dull	0.040	156.690	
SILTSTONE, light grey, fissile, slightly carbonaceous at top, rare carbonaceous wisps and lenses	0.530	157.220	
SANDSTONE, light grey to grey green, fine to medium with coarse phases, quartz-lithic, well sorted, subrounded, well cemented, occasional siltstone bands, laminations parallel wavy and straight, defined by dark grey mudstone, well bedded, thickly to very thickly bedded, bright coal band at 158.8 m 0.030m thick, siltstone bands fissile, abrupt base	7.905	165.125	

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MUDSTONE, grey green, abrupt base	0.170	165.295	
<u>COAL</u> , dull, hard	0.1-0	165.395	
CLAYSTONE, black to dark grey, carbonaceous, fissile	0.610	166.005	
CLAYSTONE, light grey, abrupt top and base	0.040	166.045	
MUDSTONE, dark grey, well bedded, silty phases and bands throughout, intraformational clasts towards base of unit, clasts of mudstone	0.390	166.435	
<u>COAL</u> , dull , dull, silty band towards middle of unit, unit has transitional upper and lower boundary	0.030 0.320	166.465 166.785	
CLAYSTONE, buff brown, silty in part, gradational base	0.130	166.915	
SILTSTONE, green grey, fine sandstone phases in part	0.580	167.495	
CLAYSTONE, mid grey green, minor carbonaceous wisps and laminations, fractures spaced less than 0.10m towards base, 5 in 0.20m, 40° to LCA, planar regular	0.670	168.165	

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CLAYSTONE, white buff, highly fissile	0.025	168.190	
SANDSTONE AND SILTSTONE INTERBEDDED, ratio 70:30. Sandstone, grey green, some light grey brown bands, fine to medium, lithic; siltstone, green grey, well bedded, moderately thickly bedded, numerous laminations parallel wavy, micro cross laminations sporadic, dip less than 5°, minor coaly fragments and wisps, single open fracture with slicken- sides inclined 30° to LCA at 171.10 m, abrupt base	6.590	174.780	
CLAYSTONE, dark grey blue, laminated with green grey laminae	0.115	174.895	
CLAYSTONE, dark grey, carbonaceous in part, slightly fissile	0.290	175.185	
SANDSTONE AND CLAYSTONE INTERBEDDED, ratio 90:10. Sandstone, dark brown green, medium, lithic; claystone, dark grey, carbonaceous	0.220	175.405	
CLAYSTONE, black, carbonaceous, fissile, very sporadic stony coal pennybands, silty towards base	1.040	176.445	

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SANDSTONE AND CLAYSTONE INTERBEDDED, ratio 90:10. Sandstone, mid grey, coarse, lithic; claystone, coaly	0.195	176.640	
SANDSTONE, light grey, coarse, lithic, moderately sorted, well bedded, moderately thickly bedded, numerous wisps, lenses and laminations of coaly material and carbonaceous material, dip 7°, pyrite blebs sporadic, pyrite also along bedding partings	4.650	181.290	
CLAYSTONE, brown buff, carbonaceous in part, silty bands and phases towards base, fissile	0.950	182.240	
SANDSTONE AND MUDSTONE INTERBEDDED, ratio 70:30. Sandstone, buff brown grey, medium to coarse, lithic, moderately sorted; mudstone, dark grey, carbonaceous, parallel to irregular laminations throughout, scour and fill structures, well bedded, fissile in part, abrupt base	1.840	184.080	
CLAYSTONE AND SILTSTONE LAMINATED, ratio 70:30. Claystone, black to dark grey; siltstone, buff brown, laminations irregular, moderately well bedded, single open regular planar fracture at 185.0m slicken- sided, calcite lined	1.725	185.805	

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CLAYSTONE, mid grey brown, highly fissile, gradational base	0.380	186.185	
CLAYSTONE, black, carbonaceous, dense	0.430	186.615	
<u>COAL</u> , dull, dense	0.050	186.665	
CLAYSTONE, black, coaly	0.058	186.723	
CLAYSTONE, black, carbonaceous, fissile	0.242	186.965	
<u>COAL</u> , dull, compact	0.075	187.040	
, stony	0.047	187.087	
CLAYSTONE, green grey, carbonaceous at top, minor fracture at top 45° to LCA	1.100	188.187	
MUDSTONE, buff brown, intra- formational clasts of mudstone in top 0.050 m of unit, abrupt base, fissile, carbonaceous band of mud pellets in middle of unit, abrupt base	2.300	190.487	
<u>COAL</u> , dull with minor bright bands	0.275	190.762	
CLAYSTONE, black, carbonaceous in part, basal sandstone unit 0.115m thick abrupt base	0.520	191.282	

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CLAYSTONE, black, carbonaceous	0.115	191.397	
CLAYSTONE AND SANDSTONE INTERBEDDED, ratio 85:15. Claystone, brown grey, highly fissile; sandstone, brown, lithic, medium	1.702	193.099	
SANDSTONE, green grey, medium, quartz-lithic to lithic, well sorted, well cemented, laminations defined by siltstone regular parallel straight, bedding dip <7°, well bedded, thickly to massive bedding, minor claystone bands rare - up to 0.040m thick, abrupt base	19.993	213.092	
CLAYSTONE, green, highly fissile, abrupt base	0.560	213.652	
SANDSTONE, white cream, hard, well cemented, disturbed irregular laminations of carbonaceous material, medium, lithic, abrupt top and base, irregular boundaries	0.110	213.762	
SANDSTONE, light grey green, medium, lithic, well sorted, fining upward cycle, abrupt base, carbonaceous mudstone at top 0.060m of unit, siltstone phases within top 0.50 m of unit, siltstone fissile, well bedded, dip <5°	1.960	215.722	

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CLAYSTONE, brown greyy grey, carbonaceous in parts, highly fissile	0.750	216.472	
CLAYSTONE LAMINITE, claystone and fine sandstone 90:10. Claystone dark green grey, sandstone buff cream, numerous sandstone dykelettes (infilling mud cracks?), laminations parallel wavy, regular	0.685	217.157	
CLAYSTONE, black, carbonaceous, lower boundary formed by steep plane slickensided, lined with calcite	0.080	217.237	
CLAYSTONE AND SANDSTONE INTER- BEDDED, ratio 90:10. Claystone, green grey, fissile. Sandstone, light green grey, fine to medium, lithic, minor mudstone pellet phases	2.750	219.987	
<u>COAL</u> , dull, calcite along cleat surfaces	0.140	220.127	
CLAYSTONE, green grey, carbonaceous at top, single closed fracture at 220.73, 50° to LCA, partly slicken- sided	0.890	221.017	

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CLAYSTONE, dark grey green, carbonaceous in part, fissile, buff puggy claystone towards base	0.135	221.152	
SANDSTONE, light buff to green grey, fine to medium, lithic, abrupt base, carbonaceous lenses, sporadic	0.200	221.352	
CLAYSTONE AND SILTSTONE LAMINITE, ratio 80:20. Claystone, dark grey to black; siltstone, light grey to mid grey, laminae parallel straight, carbonaceous at base, base abrupt	0.360	221.712	
SANDSTONE, light grey, fine coarsening to medium towards base, claystone at top 0.70 m of unit, well bedded, dip <5°, sporadic coal fragments and plant fragments abrupt base	8.793	230.505	
<u>COAL</u> , dull with minor bright bands, pyrite along cleat surfaces	0.115	230.620	
SANDSTONE, SILTSTONE AND CLAYSTONE INTERBEDDED, ratio 60:20:20. Sandstone, light grey to cream, medium, quartz-lithic, well cemented, bioturbated at base; siltstone, grey green; claystone, dark grey green, bedding <5°, scour and fill structures, abrupt base	3.225	233.845	

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MUDSTONE, black, carbonaceous, fissile, well formed sandstone dykelette, gradational base	0.170	234.015	
MUDSTONE, buff brown, pelletoidal, transitional base	0.080	234.095	
CLAYSTONE, grey green, fissile, coarsening down into fine sand- stone, abrupt base, base bioturbated	0.505	234.600	
SANDSTONE, buff brown, medium, quartz-lithic, well cemented, abrupt base, claystone towards middle of unit	1.140	235.740	
MUDSTONE, black, carbonaceous, fissile, plant remains along bedding partings	0.080	235.820	
CLAYSTONE, SANDSTONE AND SILTSTONE INTERBEDDED, ratio 90:5:5. Claystone, dark grey green to black, carbonaceous in part; sandstone, light grey, medium, showing irregular laminations, disturbed bedding, abrupt bases; siltstone, dark grey; sandstone blebs within claystone; claystone fissile, abrupt base, irregular	2.840	238.660	

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SANDSTONE, cream white, medium, quartz-lithic to quartz-arenite, well cemented, cement siliceous, numerous laminations of coaly to carbonaceous material in upper part of unit, numerous scour and fill structures, load structures, infilled worm burrows, laminations disturbed in part, wavy to irregular, rip up structures, blebs and clasts of mudstone sporadic, massive bedding, laminations dip up to 25°, cross laminations sporadic	11.240	249.90	

BASE OF HOLE