

NORTH DAKOTA GEOLOGICAL SURVEY CIRCULAR NO. 80

Summary of the Deep Rock Oil Corporation John Gangl et al "A" #1
Morton County, North Dakota
Permit #480, Well #464

by Carole Smith
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The Deep Rock Oil Corporation--John Gangl et al "A" #1, Morton County, North Dakota. Located: C NW NW, Section 11, T. 135N. R. 82W. (660 feet from west line, 660 feet from north line, Section 11). Elevation: 2,124 feet G.L.

The Deep Rock Gangl "A" #1 was spudded November 19, 1953 and 798 feet of 10 3/4 inch surface casing was set with 500 sacks of cement. Plugs of 15 sacks of cement were set at 4,985-4,935', 3,480-3,430', and 3,270-3,220', a 30 sack plug was set at 825-725; a plug of 5 sacks was set in the top of the surface casing and a steel plate welded on top of the surface casing 3 feet below ground level. The well was abandoned on December 16, 1953 at a total depth of 5,345 feet.

No tests

Cores

3038'-3056 1/2'
4985'-5011'
5130'-5179'

Formation Tops

Cretaceous System	
Pierre Formation	890
Greenhorn Formation	2620
Muddy	3038
Dakota	3280
Jurassic System	
Morrison Formation	3355
Sundance Formation	3455
Piper Lime	3735
Triassic System	
Spearfish Formation	3850
Permian-Pennsylvanian Systems	3935
Mississippian System	
Amsden Formation	4172
Big Snowy Formation	4376
Charles Formation	4615
Mission Canyon	4980
Lodgepole Formation	5270
Total Depth	5345

Formation tops were determined from electric log and samples; not all lithographic formation tops were called. Colors were determined from the rock color chart.

30-120 Fine sand and silt; brownish in part, the sand becoming partly medium at 60; small amounts of heavy minerals.

120-900 Sand; fine to coarse quartz, becoming somewhat more rounded at 520; missing samples: 250-400, 870-900.

900-1150 Shale; medium grey, lumpy, becoming partly firm starting at 960, slightly silty; traces of white calcite and dense, dark grey limestone at 1080; missing samples: 1110-1150.

1150-1270 Shale; medium grey to medium dark grey, firm and lumpy, slightly silty and bentonitic; missing samples 1230-1240.

1270-1330 Shale; medium grey to medium light grey, firm, slightly greenish; scattered traces of bentonite.

1330-1420 Shale; medium grey, firm, becoming rather lumpy and bentonitic beginning at 1390.

1420-1430 Shale; medium dark grey, lumpy, somewhat bentonitic; traces of glauconitic limey sandstone, Inoceramus prisms, and bentonite.

1430-1470 Shale; medium grey to medium light grey, firm; traces of pyrite and Inoceramus prisms (1430-1440).

1470-1540 Shale; medium grey, firm; scattered traces of Inoceramus prisms and iridescent shell fragments.

1540-1640 Shale; medium grey, firm, becoming increasingly bentonitic and lumpy.

1640-1700 Shale, medium grey, rather firm, pyritic, becoming partly lumpy and bentonitic at 1660; missing samples: 1670-1680.

1700-1720 Shale; medium grey, increasingly firm, silty; traces of medium brown siltstone.

1720-1820 Shale; dark grey to grey black, flaky, partly lumpy; scattered traces of bentonite, calcite, and shell fragments; missing samples: 1780-1790.

1820-1860 Shale as above; some bentonite.

1860-1900 Shale; medium grey to dark grey, partly lumpy; some bentonite (ending at 1890).

1900-1920 Shale; medium grey to dark grey, partly lumpy and limey.

1920-1950 Shale; medium grey to medium dark grey, firm and lumpy, rather limey in parts.

1950-2010 Shale; medium grey, firm, becoming partly lumpy and limey starting at 1980.

2010-2030 Limey shale; medium grey to dark grey, firm and lumpy; traces of grey, shaly, chalky limestone.

2030-2070 Limey shale; medium grey, becoming somewhat darker at 2040 with white specks, rather firm; traces of Inoceramus prisms (2050-2070).

2070-2140 Limey shale; medium grey to medium light gray, lumpy and firm; scattered traces of Inoceramus prisms, iridescent shell fragments, and pyrite.

2140-2170 Limey shale; medium grey, lumpy, partly firm; traces of pyrite.

2170-2210 Shale; medium grey, lumpy, partly firm, somewhat limey (limier at 2200); scattered traces of pyrite and shell fragments.

2210-2230 Shale; medium grey, rather firm.

2230-2310 Shale; medium grey to medium dark grey, lumpy, partly firm, rather bentonitic pyritic; some dark grey, rather flaky shale at 2300.

2310-2400 Shale; medium grey to medium dark grey, lumpy to firm; traces of light brown siltstone (2310-2330).

2400-2460 Shale; medium grey to medium dark grey, firm and flaky, partly lumpy, pyritic, slightly bentonitic; a trace of grey, glauconitic sandstone at 2420; a trace of white calcite at 2450.

2460-2500 Shale; medium dark grey to grey black, slightly brown, firm to lumpy, partly limey beginning at 2470; a trace of shaly, grey limestone at 2470; a trace of medium grey, white specked, limey starting at 2490.

2500-2540 Shale; medium dark grey, firm and lumpy, slightly bentonitic.

2540-2590 Shale; dark grey to grey black, mostly lumpy, slightly bentonitic; traces of calcite and Inoceramus prisms beginning at 2560.

2590-2640 Shale; dark grey to grey black, mostly flaky, slightly limey, with some white specks beginning at 2600; small amounts of Inoceramus prisms, increasing greatly in quantity at 2620.

2640-2650 Limey shale; dark grey with white specks, much grey, shale, Inoceramus limestone.

2650-2670 Shale limestone to limey shale; dark grey, specked, lumpy; much Inoceramus limestone and prisms.

2670-2690 Inoceramus limestone and prisms; some shaly lime and limey shale as above.

2690-2740 Limey shale; dark grey with white specks, firm; small amounts of Inoceramus limestone and prisms; some black shale (2700-2710).

2740-2770 Shale; dark grey to grey black, mostly lumpy, slightly limey; traces of very light grey; dense limestone beginning at 2750.

2770-2800 Shale; black, lumpy, becoming flaky at 2790, pyritic; scattered traces of Inoceramus prisms.

2800-2840 Shale; black, flaky, partly medium dark grey and firm, slightly limey; traces of Inoceramus prisms.

2840-2960 Shale; grey black to black, flaky; traces of Inoceramus prisms; a trace of fine, white sandstone at 2950.

2960-2980 Shale; dark grey to grey black, firm and lumpy; traces of light brown, limey siltstone.

2908-3010 Shale as above, partly flaky; traces of Inoceramus prisms.

3010-3030 Shale; dark grey, rather firm.

3030-3038 Missing samples.

Cored interval: 3038-3056 1/2

3038-3051 Sandstone; very light grey to white, fine grained, with many fine shale breaks (medium dark grey).

3051-3052 Siltstone; light olive grey, very compact.

3052-3053 Siltstone; very light grey, with medium grey, very fine shale breaks.

3053-3056 Sandstone as above.

3056-3056½ Shale; medium dark grey, with silty and sandy beds.

3056½-3060 Shale; medium grey to dark grey, rather firm.

3060-3080 Shale; grey black, firm to flaky; firm; traces of siltstone, pyrite, and Inoceramus prisms.

3080-3100 Shale; black, flaky.

3100-3140 Shale; dark grey to grey black, lumpy, becoming flaky; a trace of light brown very compact siltstone at 3130.

3140-3150 Shale; medium dark grey, flaky; a trace of dense siltstone and white sandstone.

3150-3170 Shale; medium dark grey to black, lumpy, increasingly flaky, partly silty.

3170-3200 Shale; medium dark grey to dark grey, firm and lumpy; missing samples 3190-3200.

3200-3220 Shale; dark grey to grey black, flaky and firm, becoming lumpy and partly limey; traces of light brown siltstone and glauconitic sandstone.

3220-3230 Shale, dark grey to grey black, flaky, partly lumpy.

3230-3240 Silty shale; dark grey, rather lumpy.

3240-3270 Shale; dark gray, mostly flaky, partly lumpy and silty; traces of pyrite; a trace of fine grained, shaly glauconitic sandstone at 3260.

3270-3296 Shale; dark grey to grey black, flaky, partly lumpy and silty; traces of pyrite, glauconitic sandstone, medium grained (grey) sandstone and siltstone.

3296 Circulation 1 hr. Shale; dark grey to grey black, much white, very fine grained sandstone to siltstone; some pyrite.

3296-3310 Shale; medium dark grey to dark grey, flaky; some light orange brown, pitted, concretionary quartz; traces of pyrite and glauconitic sandstone.

3310-3330 Shale; dark grey to grey black, flaky; some concretionary quartz, ending at 3320; traces of white siltstone.

3330-3340 Shale as above; small amounts of concretionary quartz, sandstone, siltstone, and pyrite.

3340-3380 Shale; dark grey, flaky; much very fine to coarse, limey, white sandstone, decreasing in quantity; missing samples: 3360-3370.

3380-3390 Shale; dark grey, rather lumpy and silty.

3390-3420 Shale; medium dark gray, slightly green, lumpy, silty, limey.

3420-3440 Shaly siltstone to silty shale; medium grey, slightly green, lumpy, limey, becoming siltier.

3440-3450 Shaly siltstone; medium grey, limey; some silty shale.

3450-3480 Shale, medium grey to medium dark grey, flaky; much grey, shaly, partly glauconitic siltstone, decreasing somewhat in quantity.

3480-3510 Shale; medium grey to grey black, flaky, partly silty; small amounts of siltstone and medium sandstone increasing at 3500 in quantity; traces of green shale.

3510-3560 Shale, medium grey to grey black, flaky; some greenish grey shale, traces of pyrite and limey sandstone.

3560-3590 Shale; medium grey (silty) to grey black, flaky; traces of siltstone, sandstone, and silty reddish shale increasing somewhat in quantity; small amounts of green shale beginning at 3580.

3590-3600 Shale as above; traces of pyrite and reddish siltstone.

3600-3630 Shale; greenish grey, flaky, somewhat limey; some grey shale as above; traces of pyrite and siltstone (white to reddish).

3630-3670 Shale; greenish grey, rather flaky, limey; traces of grey shale, siltstone, and shell fragments.

3670-3680 Shale as above; some light brown to pale reddish brown, silty, limey shale; small amounts of grey shale, calcite fragments, and limy fossil fragments.

3680-3700 Shale, grey black, firm; much greenish shale as above; partly silty; traces of reddish, silty, limey shale; small amounts of Inoceramus prisms; some grey, limey siltstone beginning at 3690.

3700-3730 Shale; greenish grey, and greyish green, limey; some sandstone, siltstone; dense limestone, and shell fragments; some reddish brown, limey siltstone and silty shale beginning at 3710; some light grey, fine grained, limey sandstone beginning at 3720.

3730-3740 Shale; medium grey to dark grey; much greenish (partly limey) shale as above; some reddish brown, shaly, limey siltstone; traces of pyrite, shell fragments and anhydrite.

3740-3760 Shale; greenish grey to grey green, limey, flaky; much almost white, lithographic limestone; traces of dusky yellow and moderate red shale beginning at 3750.

3760-3770 Limestone; almost white to white, sublithographic to lithographic, much dark grey and green, limey, splintery shale; small amounts of dark reddish brown shale and siltstone.

3770-3800 Shale; pale green, partly greenish grey, limey, splintery and flaky; some pale reddish purple, dense, shaly limestone, becoming partly white and increasing in quantity; traces of chert at 3790.

3800-3820 Shale as above; some pale red, dense, shaly limestone, increasing in quantity; some very light grey, sublithographic limestone; traces of anhydrite and grey shale.

3820-3850 Limestone; very light grey, sublithographic; much black and green shale; small amounts of the limestone are pinkish and moderate red at 3840.

3850-3870 Shale; black, shaly siltstone and silty shale, becoming much less silty; traces of anhydrite.

3870-3880 Shale; black and (limey) greenish; some reddish limey shale; some white, sublithographic limestone; traces of anhydrite.

3880-3890 Shale, reddish, limey; some grey and green shale; small amounts of white limestone and white anhydrite.

3890-3920 Shale; moderate red to moderate reddish brown; much black and green shale, decreasing in quantity; some white anhydrite, partially red stained.

3920-3950 Shale; moderate reddish brown, silty; some black and green shale; traces of anhydrite (increasing) and gypsum.

3950-3970 Sandstone; pale reddish orange to very pale orange to white, coarse; some black, green, and reddish shales; small amounts of pale dense limestone.

3970-4010 Shale; dark grey to black, partly green; small amounts of reddish shale, sandstone, anhydrite and limestone.

4010-4020 Shale as above; some pink to orange, medium to coarse, limey sandstone; traces of anhydrite and dense limestone.

4020-4040 Shale; dark grey to black; some limey, grey green shale, small amounts of reddish shale (partly silty) and sandstone.

4040-4050 Dolomitic limestone; very light brown to very pale yellow brown, micro-sugary to dense, tiny vugs in parts; much grey and green, splintery shale; traces of anhydrite.

4050-4070 Shale; black and limey greyish green, splintery; traces of reddish shale and sandstone; much pinkish, micro-sugary, shaly, dolomitic limestone.

4070-4090 Dolomitic limestone; very pale yellow brown; pinkish, micro-sugary, much grey and green shale; traces of reddish shale, sandstone and anhydrite.

4090-4120 Sandstone; pink, fine to medium, becoming partly coarse, slightly limey; much black and green shale, increasingly green, limey and fossiliferous; traces of reddish shale and dolomitic limestone.

4120-4150 Shale; black to (limey) green, decreasing in quantity; some pink to red, coarse sandstone, increasing in quantity; some very light grey, micro-sugary, dolomitic limestone, increasing in quantity.

4150-4168 Shale; black, some green (limey); much white to yellow to pink, coarse sandstone; small amounts of reddish shale; traces of pale, dense, limey dolomite and dolomitic limestone; missing samples: 4160-4168.

4168-4180 Shale; black, dark grey, reddish; some white, coarse sandstone; small amounts of pinkish, sublithographic limestone, traces of anhydrite.

4180-4190 Shale; greenish, slightly limey, some grey and red shale; some white, fine to coarse sandstone; some white and pink, sublithographic limestone; traces of anhydrite.

4190-4200 Shale; black and greenish (slightly limey); some moderate reddish brown shale; small amounts of pale, micro-sugary, dolomitic limestone; traces of glauconitic shale and shaly, brown siltstone.

4200-4210 Shale; yellow, red, grey, green; some pinkish grey, micro-sugary to dense, dolomitic limestone and limey dolomite.

4210-4230 Shale; medium grey to dark grey, greenish; small amounts of reddish shale, increasing in quantity; some white, medium, limey sandstone, decreasing in quantity; small amounts of anhydrite (4210-4220); small amount of pale brown to white, lithographic limestone (4220-4230).

4230-4260 Shale; medium grey to black, becoming mostly greenish; small amounts of reddish shale; traces of limestone and anhydrite.

4260-4270 Dolomitic limestone; very light brown to almost white, argillaceous, sublithographic; some shale as above; traces of anhydrite.

4270-4280 Dolomitic limestone; light grey to almost white, dense to micro-sugary, argillaceous; small amounts of shale.

4280-4290 Dolomite; very pale yellow brown to almost white, sublithographic; some red and black shale; traces of green shale, sandstone and anhydrite.

4290-4330 Shale; black, flaky; some reddish shale; small amounts of greenish shale; traces of grey, dense, shaly dolomitic limestone; much very light grey, dense to sublithographic, slightly dolomitic limestone (4310-4320); small amounts of white anhydrite beginning at 4310 and increasing in quantity at 4320.

4330-4360 Shale; black flaky, some red; some medium grey and greyed red shale beginning at 4350; traces of pyrite; traces of lithographic limestone beginning at 4350.

4360-4370 Shale as above; some white and grey anhydrite, and shaly, grey, sublithographic limestone.

4370-4420 Shale, dark grey to black, brittle, some reddish; small amounts of white anhydrite; scattered traces of green shale, pyrite and dense limestone.

4420-4440 Shale; medium dark grey to black; small amounts of reddish shale; traces of anhydrite and dense dolomitic limestone ending at 4430; much yellow brown dense, dolomitic limestone and very pale yellow brown, lithographic limestone (4430-4440).

4440-4460 Shale; black, small amounts of red, olive, brown, green, and grey shale; traces of dense, dolomitic limestone; small amounts of crystalline and or lithographic, very pale yellow brown limestone at 4450.

4460-4470 Shale; dark grey to black, pyritic; small amounts of reddish shale; traces of dense dolomitic limestone to limey dolomite, pyrite, and anhydrite.

4470-4480 Shale as above; some variegated shales; small amounts of dolomite; limestone; and anhydrite.

4480-4510 Shale, black, brittle; traces of reddish and yellowish shales, increasing in quantity; traces of almost white, lithographic limestone and anhydrite.

4510-4530 Shale; dark grey to black; much limey, dusky yellow shale (4510-4520); traces of reddish shale; some white, chalky to dense limestone, decreasing in quantity.

4530-4540 Shale; black, moderate red, dusky yellow; some white to grey, coarse sandstone, becoming finer grained; traces of white to grey, dense to chalky limestone.

4540-4560 Shale; dusky yellow, and moderate reddish, partly limey; some pale grey and green shale; traces of anhydrite and chalky, white limestone.

4560-4570 Shale; black, some limey, reddish shale.

4570-4580 Shale; variegated, partly limey and silty; traces of white, lithographic limestone.

4580-4610 Shale; dark grey to black, green, pale reddish, partly silty and limey; scattered traces of white, lithographic limestone.

4610-4640 Shale; black, small amounts of reddish and yellowish; small amounts of very light grey to white, lithographic limestone, increasing greatly at 4630.

4640-4650 Shale; black, red, olive, green, traces of pink; much white to pale yellowish brown, chalky to crystalline limestone, some black and white specked limestone, traces of anhydrite.

4650-4680 Shale; black, some red, yellow, green and brown; much grey to brown, micro-sugary and/or chalky, partly crystalline limestone (4650-4660); small amounts of white anhydrite and lithographic limestone beginning at 4670 and increasing in quantity.

4680-4685 Shale; variegated; some white lithographic limestone and white anhydrite.

4685-4700 Shale; variegated; small amounts of white anhydrite and limestone, ending at 4695.

4700-4710 Shale; dark grey to black, traces of reddish and yellow; some very pale yellow brown, lithographic, partly crystalline limestone.

4710-4740 Shale; dark grey to grey black, partly green, small amounts of red and yellow; traces of anhydrite and very light grey, fine sugary; shaly limestone.

4740-4765 Shale; dark grey to grey black; some reddish and greenish shale; traces of dusky yellow shale; scattered traces of anhydrite and white; lithographic limestone; small amounts of very light grey, sublithographic to chalky limestone beginning at 4760.

4765-4770 Limestone; light gray to light brown, micro-sugary to sublithographic, argillaceous, some variegated shale.

4770-4790 Shale; variegated (mostly greys), partly limey; traces of limestone and anhydrite as above; missing samples 4780-4790.

4790-4800 Shale; medium grey to dark grey, much red, yellow and olive; some white anhydrite; traces of pyrite and fine sandstone; small amounts of lithographic, white limestone beginning at 4795.

4800-4815 Limestone; pale yellow brown, micro-sugary and chalky, pseudo-oolitic, becoming partly crystalline; some red and grey shale and traces of dusky yellow shale, increasing in quantity at 4810.

4815-4820 Limestone; pale yellow brown, sublithographic to chalky, partly crystalline; small amounts of reddish and grey shale.

4820-4845 Shale; dark grey to black, some red, green and yellow; much limestone as above, decreasing in quantity; small amounts of anhydrite; traces of pyrite, inoceramus prisms, and shell fragments beginning at 4835; some yellow brown, sublithographic and crystalline limestone (4835-4840).

4845-4860 Shale; variegated; small amounts of dense, white, partly chalky limestone and anhydrite, increasing in quantity at 4855; traces of sublithographic white dolomite at 4855.

4860-4865 Dolomitic limestone; very pale yellow brown to white, sublithographic; some light olive grey chert; much black shale; small amounts of red; yellow, and green shales.

4865-4875 Shale; dark grey to black, some variegated; much micro-sugary to dense, very pale yellow brown to white limestone.

4875-4900 Limestone; almost white, mostly lithographic, with yellow brown, included crystals; some grey, red and green shale, increasing greatly at 4890-4895.

4900-4915 Shale; medium grey to dark gray, small amounts of colored shale, becoming more variegated and greater in quantity; much pale, lithographic limestone decreasing in quantity; scattered traces of anhydrite and dense, blue grey dolomite beginning at 4905.

4915-4935 Shale; mostly dark grey, some yellow, green, and reddish shales; small amounts of white, grey, and blue grey anhydrite; traces of shell fragments beginning at 4925.

4935-4945 Shale; grey, green, red, yellow, partly silty and limey; becoming mostly dark grey; some almost white, sublithographic limestone; decreasing in quantity; traces of anhydrite.

4945-4950 Shale; grey black, flaky; much green, flaky, limey shale; traces of limestone as above.

4950-4965 Shale; dark grey, some red and greenish, partly flaky and limey; traces of anhydrite (increasing somewhat at 4960) and lithographic limestone.

4965-4975 Shale; dark grey to black, some red, traces of yellow and light grey; some white to light olive grey, dense dolomite; small amounts of white anhydrite (4965-4970).

4975-4985 Limestone; pale yellow brown, sublithographic, some variegated shale; some dense dolomite (4975-4980); small amounts of anhydrite at 4975.

Cored Interval 4985-5011

4985-4990 Anhydrite; medium grey, partly white and light olive grey, dense.

4990-4995 Limestone; medium light grey to light olive grey, micro-sugary with tiny vugs; some pale yellow brown, well cemented, oolitic limestone with anhydrite crystals; some anhydrite as above.

4995-5000 Limestone; pale yellow brown, micro-sugary to sublithographic, partly vuggy and oolitic with anhydrite crystals.

5000-5005 Oolitic limestone; pale yellow brown; fine to medium, tiny vugs, partly micro-sugary, few yellow brown crystals.

5005-5011 Oolitic limestone; yellow brown, very fine, well cemented.

5011-5030 Limestone; very pale yellow brown to pale yellow brown, sublithographic to chalky, partly very fine oolitic, becoming fine sugary at 5020; small amounts of black shale and traces of anhydrite.

5030-5100 Limestone; pale yellow brown, fine sugary and/or chalky, partly very fine oolitic, becoming partly crystalline at 5060; small amounts of grey shale, increasing at 5085.

5100-5110 Limestone; pale yellow brown, fine sugary and/or chalky; small amounts of grey shale.

5110-5129 Limestone; very pale yellow brown, chalky to lithographic, becoming partly crystalline and darker at 5120; some dark grey shale; missing samples 5115-5120; some light grey, micro-sugary, dolomitic limestone 5125.

Cored interval 5130-5179

5130-5139 Anhydrite; medium grey, very dense.

5139-5144 Anhydrite; light olive grey to white, dense; some pale yellow brown, sandy dolomite; some very light grey, micro-sugary, sandy dolomite.

5144-5149 Limestone; pale brown, fine sugary to dense; partly very pale yellow brown, chalky and lithographic, with tiny oolites and anhydrite crystals.

5149-5154 Limestone; pale brown to pale yellow brown, micro-sugary, with traces of tiny oolites and anhydrite crystals.

5154-5159 Limestone; yellow brown, oolitic; much micro-sugary, yellow brown, dolomitic limestone.

5159-5164 Oolitic limestone; yellow brown, coarse, partly micro-sugary, and dolomitic, partly yellow brown, micro-sugary, with thin shale breaks.

5164-5179 Oolitic limestone; yellow brown, medium to coarse oolites, partly micro-sugary beginning at 5169.

5179-5190 Limestone; very pale yellow brown with brown streaks, sub-lithographic, partly dolomitic; small amounts of dense, blue grey, dolomitic limestone.

5190-5210 Limestone; yellow brown, oolitic, partly fine sugary to dense; small amounts of black shale.

5210-5230 Oolitic limestone; pale yellow brown, partly chalky; small amounts of black shale.

5230-5240 Oolitic limestone; very pale yellow brown, well cemented, partly fine sugary and chalky; small amounts of black shale.

5240-5260 Limestone, greys to white, becoming slightly light olive grey, crystalline and dense, partly chalky, somewhat shaly; small amounts of black shale.

5260-5310 Limestone; very light grey to pale yellow brown, micro-sugary to chalky, becoming partly crystalline and greyer at 5280; much dark grey shale, decreasing in quantity.

5310-5330 Limestone; pale yellow brown, micro-sugary and chalky, partly fine, well cemented oolitic, small amounts of shale and limestone as above.

5330-5345 Limestone; pale yellow brown to light grey, micro-sugary to chalky, partly crystalline; some dark grey shale.

5345 Total Depth.