

NORTH CAROLINA DEPARTMENT OF WATER RESOURCES
#1 Lee Creek Test
Beaufort Co., N. C.

T. D. 950 feet

Depth

- 0-10' Sand, light gray to tan, sub-rounded argillaceous, micaceous sparsely glauconitic and phosphatic, fossiliferous, fine to coarse grained.
Megafauna (rare)
- 10-20' Sand, as above, but fine to very coarse grained.
- 20-30' Sand, as above, with abundant iron stained pelecypod, gastropod and barnacle fragments.
(70% quartz sand and 30% skeletal remains)
Megafauna (abundant)
Microfauna (rare)
- 30-40' Sand, as above.
(60% quartz sand and 40% skeletal remains)
Caecum sp.
- 40-50' Sand, light gray, sub-rounded, argillaceous, micaceous, glauconitic, very fossiliferous, medium to coarse grained.
Megafauna (abundant)
Microfauna (common)
Hemicythere conradi
Cushmanidea sp.
- 50-60' Sand, very light gray, sub-rounded, micaceous, slightly glauconitic and phosphatic, fossiliferous, fine to coarse grained.
Megafauna (common)
Microfauna (rare)
- 60-70' 85% Sand, as above.
15 % Marl, light gray, glauconitic, micaceous, fossiliferous, slightly sandy.
Megafauna and microfauna (abundant)
Amphistegina lessoni
Nonionella auris
Discorbis candeiana
Leguminocythereis whitei
- 70-80' Marl, as above.
Megafauna (rare)
Microfauna (abundant)

- 80-90' 80% Sandstone, light gray, tight, friable, very calcareous, micaceous, argillaceous, fossiliferous, slightly phosphatic, fine to medium grained.
15% Marl, as above.
5% Gravel, small, composed of quartz and phosphate.
- 90-100' 60% Sandstone, light gray, very friable sub-rounded calcareous argillaceous, micaceous, phosphatic, fossiliferous, fine to coarse grained. (very abundant loose sand)
30% Limestone, white to light gray, quartzose-phosphatic-micritic.
10% Gravel, small, composed of phosphate.
(total sample has approximately 20% phosphate grains)
- 100-110' 80% Sand, 15% Limestone and 5% Gravel, as above.
(total sample has approximately 40% phosphate grains)
- 110-120' 80% Sand, 5% Limestone and 5% Gravel, as above.
10% Dolomite, light greenish-gray, succrosic, phosphatic.
(total sample has approximately 40%-50% phosphate grains.)
- 120-130' 90% Sand, 5% Limestone, and 5% Gravel, as above.
(total sample has approximately 50%-60% phosphate grains)
- 130-140' Sand, as above.
- 140-150' 95% Sand, as above, but fine to coarse grained.
5% Gravel, composed of phosphate and quartz.
(total sample has approximately 15% phosphate grains)
Megafauna (abundant)
- TOP EOCENE - CASTLE HAYNE FORMATION
- 150-160' 50% Sand, and 5% Gravel, as above.
45% Limestone, white, leached, quartzose-micritic-skeletal. (30% quartz sand and 15% skeletal grains)
Megafauna (abundant)
- 160-170' Sample #1, 50% Sand, light gray, sub-angular to sub-rounded, fine to very coarse grained.
40% Limestone, as above. (10% sand and 30% skeletal grains)
10% Shale (mudstone), very light gray mottled ochre, waxy.
Sample #2, 50% Limestone and 50% Sand, as above, with a trace of small quartz Gravel.
- 170-180' Sample #1, Limestone, as above.
Sample #2, 65% Limestone, as above.
35% Sand, light gray, sub-rounded, calcareous (grains coated with soft micrite), medium to very coarse grained.

- 180-190' 70% Sand and 30% Limestone, as above.
- 190-200' Sand and Limestone, as above.
- 200-210' Limestone, white, porous, leached, glauconitic-quartzose-micritic-skeletal.
(40% skeletal grains and 60% micritic cement)
- 210-220' 75% Sand, light gray, sub-rounded, calcareous (soft micrite coating grains), fossiliferous, medium to coarse grained.
25% Limestone, as above.
- 220-230' 80% Sand, as above, but fine to coarse grained.
10% Limestone, as above.
10% Sandstone, light-gray, porous, sub-rounded grains very calcareous, slightly glauconitic, very fossiliferous, fine to coarse grained.
- 230-240' 60% Sandstone, and 40% Limestone, as above.
- 240-250' 80% Sand, light gray, sub-rounded, slightly glauconitic and fossiliferous, fine to coarse grained.
10% Sandstone, as above.
10% Limestone, as above.
- 250-260' 80% Limestone, and 20% Sand, as above.
(limestone contains 20% quartz sand and 30% skeletal grains, and 50% micritic cement)
- 260-270' Limestone, as above, but very glauconitic.
- 270-280' 80% Limestone, white to light gray, slightly, glauconitic, quartzose-skeletal-micritic.
20% Sand, light gray, sub-rounded, fine to coarse grained.
(limestone contains 70% loose skeletal grains, predominantly megafaunal, and 30% micritic cement)
- 280-290' Limestone, as above, but skeletal.
(less than 5% micritic cement)
- 290-300' 90% Limestone, as above.
10% Sand, light gray, sub-rounded, fine to very coarse grained.
- 300-310' Limestone, as above.
- 310-320' Limestone, light gray, vuggy, quartzose-micritic-skeletal.
- 320-330' 50% Limestone, as above.
50% Sand, light gray, sub-rounded, glauconitic, fine to coarse grained.

- 330-340' 60% Limestone, white to light gray, quartzose-skeletal-micritic. (80% grain, and 20% micritic cement)
40% Sand, as above.
Megafauna and microfauna (abundant)
Echinoid plates and spines
Asterigerina texana
Bryozoa
- 340-350' 70% Limestone and 30% Sand, as above.
Bairdoppilata cf. B. delicatula
- 350-360' 85% Limestone, as above, but glauconitic.
15% Gravel, small composed of glauconite and phosphate.
- 360-370' 60% Limestone and 5% Gravel, as above.
35% Sand, light gray, sub-angular to sub-rounded, glauconitic, fine to very coarse grained.
- 370-380' 50% Limestone, 45% Sand, and 5% Gravel, as above.
- 380-390' 60% Sand and 30% Limestone, as above.
10% Gravel, small, composed of quartz, glauconite and phosphate.
- 390-400' 75% Sand, 15% Gravel, and 10% Limestone, as above.
- 400-410' Sand, light gray, sub-angular to sub-rounded, glauconitic, very phosphatic, fine to coarse grained.
(total sample has approximately 30% phosphate grains)
- 410-420' 95% Sand, as above, but fine to very coarse grained, and very fossiliferous and glauconitic.
5% Sandstone, light gray, tight, quartzitic, glauconitic, fine to medium grained.
(total sample has approximately 15% phosphate grains)
- 420-430' Sand, as above, but fine to very coarse grained.
- 430-440' 60% Sand, very light gray, sub-rounded, calcareous (soft micrite coating grains), fossiliferous, glauconitic, fine to medium grained.
20% "Greensand", composed of dark green medium to coarse glauconite.
20% Limestone, white, soft, glauconitic-quartzose-micritic-skeletal.
Megafauna and microfauna (abundant)
- 440-450' 50% "Greensand", composed of dark green fine to very coarse glauconite.
30% Limestone, as above.
20% Sand, as above.
Globigerina pseudo-bulloides

450-460' 60% Sand, as above, but fine to coarse grained.
40% Limestone, as above.
Megafauna (abundant)
Microfauna (common)

TOP PALEOCENE - BEAUFORT FORMATION

460-470' 80% Sand, light tan to ochre, sub-angular to sub-rounded, iron stained, glauconitic, fossiliferous, fine to very coarse grained. (soft-white micrite coating grains)
20% Limestone, as above.

470-480' Sand, and Limestone, as above.
Nodosaria sp. (fragment)

480-490' 70% Sand and 30% Limestone, as above.
Megafauna (abundant)

490-500' 50% Sand, as above.
50% Limestone, white to light gray, glauconitic-quartzose-skeletal-micritic.
Megafauna and microfauna (abundant)
Eponides elevatus
Dentalina alabamensis
Anomalina midwayensis

500-510' Sand, light gray, sub-angular to sub-rounded, very glauconitic, fossiliferous, with abundant tan fecal pellets, fine to very coarse grained.

510-520' Sand, as above.

520-530' Limestone, white to greenish gray, glauconitic, quartzose-skeletal-micritic. (70% grain, 30% micrite)
Megafauna and microfauna (abundant)

TOP CRETACEOUS - PEEDEE FORMATION

530-540' Sand, pink to red, iron stained, sub-angular to sub-rounded, limonitic, fossiliferous, fine to very coarse grained.
Bairdeppilata pondera

540-550' Sand, as above.

550-560' Sand, as above.
Megafauna (common)
Microfauna (abundant)

560-570' Sand, as above, reddish-gray,
Eucytherura curta

- 570-580' 70% Sand, light gray, sub-angular to sub-rounded, glauconitic, fossiliferous, fine to medium grained.
30% Marl, medium to light gray, shaley, micaceous, glauconitic, sandy, very fossiliferous.
Velarocythere arachoides
- 580-590' 60% Sand, medium to light gray, sub-angular to sub-rounded, argillaceous, micaceous, very fossiliferous, glauconitic, fine grained.
20% Marl, as above.
20% Limonite, thin bedded, earthy.
Megafauna and microfauna (abundant)
- 590-600' Sand, as above, but fine to medium grained with common gypsum crystals.
Marl and Limonite, as above.
- 600-610' 60% Sand, 35% Marl, and 5% Limonite, as above.
- 610-620' 70% Marl, 25% Sand, and 5% Limonite, as above.
- 620-630' 95% Sand, as above, but fine to coarse grained.
5% Marl, as above.
Megafauna (common)
Microfauna (abundant)
- 630-640' 60% Sand, and 35% Marl, as above.
5% Limonite, thin bedded, earthy.
- 640-650' 75% Marl, 20% Sand, and 5% Limonite, as above.
Dorothia bulletta
- 650-660' Marl, as above, with sparse pyrite.
- 660-670' Marl, as above.
- 670-680' Sample missing.
- 680-690' Marl, as 660-670', with sparse coarse glauconite grains.
- 690-700' Marl, as above, with an increase in glauconite content.
- TOP BLACK CREEK FORMATION - SNOW HILL MEMBER
- 700-710' 70% Marl, as above.
30% "Greensand", composed of loose dark green medium to coarse grained glauconite.
- 710-720' 80% Marl, as above.
10% "Greensand", as above, but with calcite cementing grains.
10% Sand, sub-angular to sub-rounded, fine to coarse grained.
Megafauna and microfauna (common)

- 720-730' 90% Marl, as above, but becoming increasingly fissile.
10% Sand, fine to coarse grained, as above.
- 730-740' Marl and Sand, as above.
- 740-750' 60% Marl, as above.
40% Sand, light gray, sub-angular to sub-rounded,
glauconitic, fossiliferous, fine to very coarse
grained, with abundant gypsum crystals.
- 750-760' 60% Sand, as above, but medium to very coarse grained.
40% Marl, as above.
- 760-770' 80% Sand and 20% Marl, as above.
Cythereis verricula
- 770-780' 90% Sand and 10% Marl, as above.
Kyphopyxa christneri
- 780-790' 90% Sand, as above, but fine to very coarse grained.
10% Marl, as above.
Vaginulina taylorana
- 790-800' Sand and Marl, as above.
Brachyocythere plena
- 800-810' 60% Sand, as above, with an increase in glauconite
content.
40% Marl, as above.
- 810-820' 60% Sand and 40% Marl, as above.
- 820-830' 50% Sand, 40% Marl
10% "Greensand", composed of medium to coarse grained
glauconite.
- 830-840' 70% Marl, and 30% Sand, as above.
- 840-850' 60% Sand, vari-colored, iron stained, sub-angular to
sub-rounded, glauconitic, fine to very coarse grained.
40% Marl, as above.
Citharina texana
- 850-860' 70% Sand and 30% Marl, as above.
- 860-870' Sand and Marl, as above.
- 870-880' Sand and Marl, as above.
- 880-890' 50% Sand and 50% Marl, as above.
Megafauna (common)
Microfauna (abundant)

- 890-900' 70% Sand and 25% Marl, as above.
5% Gravel, small, vari-colored, sub-angular to sub-rounded highly fractured, composed entirely of quartz.
- 900-910' Sand, Marl, and Gravel, as above.
- 910-920' 60% Sand, and 40% Marl, as above.
Gravel (trace)
Citharina texana
Bryozoa
- 920-930' 50% Sand, 30% Marl, and 20% Gravel, as above.
- 930-940' 70% Sand, 20% Marl, and 5% Gravel, as above.
5% Sandstone, medium gray, tight, very calcareous, micaceous, glauconitic, fossiliferous, very fine to fine grained.
- 940-950' 50% Sand, 40% Marl, and 10% Sandstone, as above.
Exogyra sp. (fragment)