North Carolina

Department of Conservation and Development

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Information Circular 3

Selected Well Logs in the Coastal Plain of North Carolina

Compiled by

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Prepared in cooperation with the United States Geological Survey

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Geologic logs of wells in the North Carolina Coastal Plain
compiled by M. J. Mundorff

An investigation of the ground water supplies and resources of North Carolina was begun, by the U. S. Geological Survey, in 1941, as a cooperative project between the North Carolina Department of Conservation and Development and the U. S. Geological Survey. The program is under the direction of Dr. O. E. Meinzer, Geologist in Charge, Division of Ground Water, U. S. Geological Survey, and Dr. J. L. Stuckey, State Geologist of North Carolina.

The investigation has included a large amount of work in the Coastal Plain in connection with ground-water supplies for the different military establishments. During the course of this work, samples were saved from many of the wells, and driller's logs were obtained for many others. The present report was prepared in order to make available, as quickly as possible, the information contained in those well logs.

The Tertiary and Cretaceous formations of the Coastal Plain are covered in most places by thin Pleistocene sand and clay strata. Because the outcrops are so scattered and usually only a few tens of feet thick, well logs give the best information as to distribution, structure, and thickness of these formations.

The driller's logs have been changed chiefly by rewording the description to attain a consistency and uniformity of terminology. They also have been changed by combining, consecutive, and identical, or very similar descriptions.

The correlations indicated for these logs are based chiefly on lithology. The probable depth to the formational boundaries, based on projection of their dip from localities where the depth of the boundaries are known, was also considered.

The logs based on examined samples were prepared, by the author, from samples saved during the drilling of the well. The driller's log has also been considered in preparing these descriptions; especially as to the qualities of the material revealed during drilling, such as hardness, toughness, etc.

In describing the various strata the attempt was made to be consistent in terminology so that similar strata in different wells will have similar descriptions. It is possible, however, that a "clay, very sandy" in one well log might be termed a "sand, very clayey" in another log.

Nearly all of the strata have been included in the six following classifications: gravel, sand, clay, sandstone, limestone, marl. Of course nearly any combination of the above and does, occur, and this is indicated by the qualifying adjectives. Marl is probably the only term that needs to be defined. As used in this manuscript, marl is a soft or only slightly consolidated, earthy calcium carbonate, usually containing more or less sand or clay or both. The same material consolidated to form a rock is called limestone. Thus, "shell rock" and "shell rock marl" are called limestone except when sand predominates, and then they are called "fossiliferous, calcareous sandstone."

Where possible, correlations were made on paleontological evidence. The statement at the beginning of the log, "correlations by _____" means that the paleontologist named fixed the formational boundaries. The statement, "correlations based on paleontological studies by _____" means that the formational

boundaries were drawn by the writer on the basis of paleontological evidence furnished by the person named.

Paleontological studies of the samples are not complete; foraminifera from only a few wells have been determined. Therefore, the correlations should not be considered as absolute or final, as they may be changed in the light of additional information.

Logs of five wells previously reported are included in this manuscript because of their significance and because the publications in which they appeared are no longer generally available.

The locations of the wells, for which logs are given in the text, are shown on the accompanying map.

Principal water-bearing formations in the Coastal Plain

Cretaceous

Tuscaloosa formation and Cretaceous deposits (undifferentiated).--The basal Cretaceous deposits of the Coastal Plain of North Carolina were correlated with the Patuxent formation of Virginia and Maryland by Stephenson[1]. It was later shown by Cooke[2] that the beds of Cretaceous age in the southern part of the Coastal Plain, represent the Tuscaloosa formation, but the age of the basal Cretaceous deposits in the northern part of the Coastal Plain has not been determined. The Cretaceous strata consist chiefly of sand and clay and mixtures of the two, and at some places contain considerable gravel. The materials are commonly arkosic, and the beds are usually lenticular and often cross-bedded. The maximum thickness probably is more than 400 feet.

[1] Clark, Wm. B.; Miller, B. L.; Stephenson, L. W.; Johnson, B. L.; and Parker, H. N., The Coastal Plain of North Carolina: N. C. Geol. and Econ. Survey, vol. 3, pt. 1, 1912.

[2] Cooke, C. Wythe, Correlation of the coastal Cretaceous beds of the southeastern states: U. S. Geol. Survey Prof. 140-F, pp. 137-39, 1925 (1926).

These strata are the chief source of ground water, for drilled wells, in nearly one-third of the Coastal Plain. Large yields are obtained from sand strata through screened or gravel-walled wells. The water is usually soft, except from strata near the top of the Cretaceous deposits where they are overlain by the Yorktown formation.

Black Creek formation.--This formation is of Upper Cretaceous age and crops out, or is covered only by a thin layer of Pleistocene sand and clay, in a considerable area in the southeastern part of the Coastal Plain. It forms a belt roughly parallel to, and southeast of, the Tuscaloosa formation. It consists, typically, of black laminated clays and interbedded sands. Lignitized wood is very characteristic of these strata. Near the top of the formation the strata contains some glauconite and are somewhat calcareous. The maximum thickness

probably is about 800 feet. The Black Creek formation is an excellent aquifer. Wells yielding 500 or more gallons a minute are not uncommon. The water is usually soft, except that from strata in the upper part of the formation which sometimes may be moderately hard.

Peedee formation.--The Peedee formation, of Upper Cretaceous age, crops out, or is covered only by thin Pleistocene deposits, in the southeastern part of the Coastal Plain in a belt southeast of and roughly parallel to the Black Creek formation. It is of marine origin and consists of sand and clay, which are predominantly glauconitic and calcareous, and some marl and limestone. The maximum thickness is probably about 900 feet.

The Peedee formation also is an excellent aquifer. Many wells will yield 400 to 500 gallons a minute, and some will probably yield more than 1,000 gallons a minute. The water is usually moderately hard to hard, and at some places brackish, connate water is encountered at depth.

Eocene

Castle Hayne marl.--This formation, of late Eocene age, occurs in a belt extending southward from near Kinston to beyond Wilmington. It consists of sandy marls, sandy limestone, and some almost pure limestone. The maximum thickness is probably about 270 feet.

This formation yields large quantities of water at a number of places. The best aquifers are porous limestone strata. Usually the wells are neither screened nor gravel-walled. The water nearly always is hard, the only exceptions being water that is brackish.

Miocene

Trent marl.--The Trent marl, of lower Miocene age, occurs in a belt east of the Castle Hayne marl, and extends from the southern part of Onslow County into Beaufort County. It consists of sandy marls and limestone with more or less sand. The maximum thickness probably is about 350 feet.

The Trent marl yields a large amount of water to many wells. The best aquifers are the limestone strata which have been rendered porous by solution. Yields of 500 to 1,000 gallons a minute can be expected from the better horizons.

Yorktown formation.--The Yorktown formation occupies a large area in the northern half of the Coastal Plain, cropping out, or being covered only by thin Pleistocene deposits from the Fall Zone eastward approximately to a line through Newbern and Edenton where the increasing dip carries it beneath younger formations. It consists of calcareous clays, sandy marls, with some beds of clean sand, and occasional limestone layers. The maximum thickness is probably more than 400 feet.

In the western half of the area, the formation is usually not more than 50 to 60 feet thick and is generally a poor aquifer, most drilled wells obtaining water from the underlying Cretaceous deposits. However, in a few places, wells in the Yorktown yield up to 200 gallons a minute. Farther east, where the formation is thicker, yields of 500 or more gallons a minute have been recorded.

The water is nearly always hard, and brackish water is encountered at depth in the eastern part of the area.

Duplin marl.--The Duplin marl is considered to be about equivalent in age to the upper part of the Yorktown and is very similar lithologically. It occurs in several thin, isolated patches in Duplin, Sampson, Robeson, Bladen, and Columbus Counties and has been found in wells drilled in Craven, Carteret, and Onslow Counties. It consists chiefly of calcareous sands and clays and marls. Its maximum thickness is probably about 250 feet. Wells ending in the more permeable sands, or porous limestone, will yield several hundred gallons a minute. The water is nearly always hard.

Pliocene

Waccamaw formation and Croatan sand.--These two formations comprise the Pliocene formations of North Carolina. The Waccamaw formation, which consists of shell marl and calcareous sand and clay, is recognized in a few small areas south of the Neuse River. The Croatan sand consists of fossiliferous sand and crops out chiefly along the Neuse River but has also been recognized in cuttings from a number of wells in the northeastern Coastal Plain. The maximum thickness of either formation is about 50 feet.

In the northeastern part of the Coastal Plain, the Croatan sand is a rather important aquifer because the deeper strata are apt to yield brackish water and, in some parts of this area, yields up to 300 gallons a minute probably can be obtained from wells. Elsewhere the strata of Pliocene age furnish small to moderate supplies to some domestic and industrial wells. The water is generally moderately hard to hard.

Pleistocene

Columbia group.--Sediments of the Columbia group occur as a thin blanket over practically the entire Coastal Plain, lying unconformably upon the eroded surface of older formations. These strata consist of arenaceous clay, argillaceous sand, and some clean sand and gravel. The maximum thickness of any of these formations which make up the Columbia group is about 75 feet, and the average is about 25 or 30 feet.

Most domestic supplies, and a number of industrial and a few municipal water supplies, are obtained from the Pleistocene formations. The yield of an individual well is usually small, and batteries of small-diameter wells are used where large supplies are desired. Supplies up to 1,000,000 gallons a day can be obtained in this way. The water from the older Pleistocene formations is usually soft but from the younger formations may be as hard or harder than the deeper formations. The water also often contains a considerable amount of iron.

1. City of Elizabeth City, Pasquotank County, 1932
altitude about 10 feet.
Log from U. S. Geological Survey Water Supply Paper 773-A, p. 14, 1936

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, very fine, and silt	10	10
Sand, very fine, and silt, with a few grains of fine gravel; few shells; Pleistocene and upper Pliocene diatoms at 30-35 and 45-50 feet	20±	30±
Pleistocene and upper Pliocene		
Same as above	20±	50
Sand, very fine, and silt: no large particles	5	55
Silt or clay, with some very fine sand	5	60
Clay; Pleistocene and upper Pliocene diatoms at 70-75 feet	15	75
Upper Miocene		
Sand, medium-grained	5	80
Sand, medium and coarse-grained, with fine gravel; few pebbles as much as 3/16 inch in diameter; water-bearing	7	87
Sand, fine-grained, with some medium-grained, some silt; few shells; contains upper Miocene mollusks and Foraminifera	6	93
Shells, many broken, a few small pebbles, said to have been consolidated; contains upper Miocene mollusks and Foraminifera	2	95
Silt or clay, with very little sand and a few particles of fine gravel; few shell fragments in lower 25 feet	40	135
Silt or clay; some sand grading from coarse to fine from top to bottom, a few shells in lower 5 feet; upper Miocene diatoms at 145-150 feet	40	175
Silt, very fine grained sand, some fine gravel, a few shell fragments; upper Miocene diatoms at 175-180 feet	10	185
Silt or clay, very fine sand, few particles of coarse sand	15	200
Clay; upper Miocene diatoms at 200-205 feet	10	210
Clay, little sand, a few shells; upper Miocene diatoms at 250-255 feet	90	300
Clay, some fine sand, a few particles of fine gravel; a few shells	10	310
Clay; upper Miocene diatoms at 310-315 and 330-335 feet	75	385
Miocene (?)		
Clay, with a few grains of fine sand; no diatoms	95	480
Sandstone, hard, cemented with iron	2±	482±
Sand ? (no sample), water-bearing		

2. Town of Winton, Hertford County, 1938
altitude about 45 feet
Driller's log (Sydnor Pump & Well Co.) with modifications

	Thickness (feet)	Depth (feet)
(no record)	100	100
Miocene, Yorktown formation		
Mud, black and sand	30	130
Mud, black and stiff	4	134
Sand, fine gray	6	140
Cretaceous (undifferentiated)		
Sand, coarse gray and gray clay	6	146
Sand, coarse and less clay	6	152
Clay, sticky white	22	154

Second well drilled near same place
Log is as follows:

(no record)	196	196
Cretaceous (undifferentiated)		
Sand, coarse; water-bearing (this strata tested at 28 g.p.m.)	6	202
Clay, gray and sand	6	208
Clay, light brown	16	222

3. Town of Ahoskie, Hertford County
altitude about 53 feet
Driller's log (Virginia Machinery & Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand	45	45
Miocene, Yorktown formation		
Marl	60	105
Sand	55	160
Sand, fine ("quicksand")	8	168
Sand, marl, and clay	33	201
Cretaceous (undifferentiated)	44	245
Clay, tough, red	44	245
Sand and marl (water-bearing)	13	258
Clay, white	14	272
Sand, and marl	13	285
Clay	52	337
Clay, and sand	38	375

4. Town of Woodland, Northampton County, 1941
altitude about 70 feet
Driller's log (Sydnor Pump & Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene, Wicomico formation		
Clay, yellow	29	29
Sand, yellow and clay	20	49
Miocene, Yorktown formation		
Clay and sand (water-bearing)	10	59
Clay, blue	44	103
Cretaceous (undifferentiated)		
Clay, gray, and sand	46	149
Clay, red	12	161
Sand, gray and clay	25	186
Clay, hard	15	201
Clay, gray (sticky)	51	252
Clay, sand (water-bearing)	13	265

5. Town of Jackson, Northampton County, about 1940
altitude about 90 feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene, Sunderland formation		
Top soil	2	2
Clay, tough	10	12
Clay, red	3	15
Clay, sandy	2	17
Sand, fine	1	18
Clay, red	2	20
Miocene, Yorktown formation		
Clay, light	8	28
Sand, fine gray	18	46
Hard sand and marl	18	64
Cretaceous (undifferentiated)		
Clay, very hard gray	22	86
Clay, red	10	96
Clay, blue; hard pan	54	150
Clay, soft blue	10	160
Hard pan	40	200
Sand, fine	10	210
Sand, coarser	28	238
Sand, fine and red clay	7	245
Clay, hard brown	15	260
Basement rock		
Rock		

6. Town of Scotland Neck, Halifax County, 1937
altitude about 100 feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene, Sunderland formation		
Top soil	2	2
Clay, red, sandy	14	16
Sand, coarse, brown	25	41
Miocene, Yorktown formation		
Marl, blue, with sand and shells	12	53
Clay, soft	5	58
Sand, gray, with oyster shells	21	79
Cretaceous (undifferentiated)		
Clay, tough	41	120
Clay, soft, red	16	136
Pocket	2	138
Hard pan	2	140
Pocket	2	142
Clay, tough, red	21	163
Sand and clay, gray	16	179
Pocket	3	182
Clay, soft, red	28	210
Clay, tough, red		

7. C. B. Griffin at Lewiston, Bertie County, 1943
altitude about 70 feet
Log based on examined samples

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, medium to coarse, subangular, and brown clay	15	15
Sand, and clay, mottled pink and white	10	25
Sand, medium to coarse, white, with a little clay	5	30
Sand, very fine, and clay, orange; with a few coarse sand grains	10	40
Miocene, Yorktown formation		
Clay, dark gray (a little sand may be from above or from thin sandy lenses)	15	55
Sand, coarse, gray, and clay	1	56
Sand, coarse, reddish brown, and clay; with some quartz pebbles	2	58
Sand, very fine, light gray	17	75
Sand, fine, gray, with a little clay and shell	7	82
Clay, light gray, sandy with a few pebbles	8	90
Sand, fine to coarse gray, and a little clay	10	100
Cretaceous (undifferentiated)		
Clay, light buff to gray, sandy	36	136
Clay, red and white, tough; sandy	9	145
Sand, fine and clay, yellow-orange	15	160
Sand, medium to coarse, and clay, dark brown	3	163
Sand, fine to coarse, subangular, clean (water-bearing)	6	169

8. Town of Windsor, Bertie County, 1939
altitude about 10 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	16	16
Miocene, Yorktown formation		
Clay, blue	16	32
Sand, fine to coarse	18	50
Clay, yellow	8	58
Sand, coarse	14	72
Clay, blue	10	82
Shell rock	16	98
Clay, blue	12	110
Sand and clay in seams	24	134
Clay, blue	84	218
Sand, coarse	2	220
Clay, blue	32	252
Cretaceous (?)		
Sand, fine	10	262
Clay	28	290
Sand	28	318
Clay	16	334

9. Town of Colerain, Bertie County, 1939
altitude about 50 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	35	35
Miocene, Yorktown formation		
Clay, black, and sand (water bearing)	180	215
Clay, black and dry	5	220
Shell rock and sand	12	232
Sand, fine and shell	14	246
Eocene (?)		
Clay, green	12	258
Clay, black; little sand	15	273

10. Town of Edenton, Chowan County, 1927
altitude about 14 feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene and Pliocene		
Sand, fine	40	40
Sand, very fine	10	50
Miocene, Yorktown formation		
Sand, fine, blue	24	74
Clay, hard	2	76
Shale, hard	8	84
Clay and fine sand, shells	21	105
Clay and shells, very hard	31	136
Shells, hard	3	139
Clay, hard, and shells	26	165
Clay, hard, streaks of shells	40	205
Clay, soft	5	210
Sand and shells	8	218
Rock	1	219
Clay, hard	3	222
Sand, good (well flowed)	8	230
Shale, hard, and rock	3	233
Sand, good	7	240
Shell rock	1	241
Clay, shell, and rock, in layers	10	251
Shell rock, and hard clay	5	256
Sand, coarse	14	270
Sand, with shale streaks	12	282
Sand, good	5	287
Shale	2	289
Rock	1	290
Sand	5	295
Clay and sand	20	315
Clay and black sand	5	320
Sand, black, hard	6	326
Sand, good	12	338
Sand, good, hard	10	348
Rock and clay	3	351
Sand, pepper	5	356
Sand, gray	4	360
Rock and clay	4	364
Sand	27	391

11. Marine Corps Air Station, 4 miles southeast of Edenton, Chowan County, 1943
altitude 15 feet

Log based on examined samples, correlations by Dr. H. G. Richards, Associate Curator, Academy of Natural Science, Philadelphia

	Thickness (feet)	Depth (feet)
(no samples)	10	10
Pleistocene and Pliocene		
Clay, light brown, sandy	10	20
Sand, fine to medium, gray, and clayey	10	30
Sand, medium, white, clean	6	36
Sand, fine to coarse, light brown; clayey	24	60
Miocene, Yorktown formation		
Clay, light gray; sandy, with shell	12	72
Sand, medium, gray; much shell (water bearing)	8	80
Sand, gray; clayey; with shell (yields a little water)	20	100
Sand, fine, greenish gray to bluish gray, with clay and shell; clay increasing toward bottom	50	150
Clay, light bluish gray and fine sand	30	180
Clay, light gray	60	240
Clay, light gray; with shell	5	245
Sand, black; and clay; glauconitic and phosphatic	2	247
Sand, medium, dark gray, with much shell; glauconitic and phosphatic	3	250
Clay, light gray with some sand and much coarse shell	5	255
Sand, fine, gray, calcareous, lightly cemented with some shell	15	270
Limestone, whittish, sandy	3	273
Sand, fine, white, calcareous with foraminifera	2	275
Sand, very fine, clean; mostly white quartz with a few pink and some orange; glauconitic	5	280
Sand, very fine, light gray, slightly micaceous	1	281
Marl, light gray, sandy; with molds and casts	7	288
Sand, medium, light gray, well rounded, clean (water bearing)	12	300
Sand, fine, light gray; with clay and shell	10	310
Sand, very fine gray, and clay	50	360
Clay, light greenish gray; glauconitic sand and pebbles of phosphate	10	370
Sandstone, soft calcareous, with fossils molds and casts	15	385
Sand and clay, olive green; glauconitic and phosphatic	30	415
Sand and clay, light greenish gray with gravel and shell; glauconitic and phosphatic	5	420

12. Town of Tarboro, Edgecombe County, 1899
altitude about 50 feet
Modified from log in "The Coastal Plain of North Carolina" N. C. Geol. and Econ. Survey, Vol. 3, pt. 1, pp. 104-105, 1912

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, white	15	15
Miocene, Yorktown (?) formation		
Sand, caving	10	25
Clay, sandy	15	40
Sand, white	25	65
Cretaceous (undifferentiated)		
Clay, stiff bluish	8	73
Clay, sandy yellow	12	85
Sand, white	5	90
Clay, white stiff	5	95
Clay, bloodred, and slate ?	10	105
Clay, sandy, white and pink	10	115
Sand, coarse, white (with a little water)	10	125
Clay, sandy yellow	3	128
Sand, yellow	4	132
Clay, red and yellow	18	150
Clay, sandy yellow	2	152
Clay, stiff red and yellow	18	170
Clay, sandy yellow	4	174
Clay, sandy, and coarse gravel	8	182
Sand, coarse (little water)	8	190
Clay, stiff yellow	4	194
Clay, sandy yellow	2	196
Sand, coarse	3	199
Clay, stiff, red, yellow, brown, tan, white, and black	54	253
Sand, yellow	3	256
Sand, fine	1	257
Clay, yellow, blue, and red	21	278
Sand, fine	4	282
Marl, rock	2	284
Clay, stiff blue	6	290
Clay, hard red	10	300
Sandstone, red	3	303
Clay, hard red	2	305
Clay, dark	6	311
Clay, dark and gravel	17	328
Basement rock		
Clay, dark, like rotten soapstone	4	332
Clay, tan	2	334
Rock	4	338
Clay, tan	2	340
Clay, hard and gravel ?	3	343
Rock, dark	3	346
Clay, hard and gravel ? mixed	3	349
Sandstone, hard		349

13. Town of Pinetops, Edgecombe County, 1925 ?
altitude about 100 feet
Driller's log (Virginia Machinery and Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene, Sunderland formation		
Top soil and red clay	27	27
Miocene, Yorktown formation		
Sand -- some water	30	57
Marl, blue, and shells	18	75
Cretaceous (undifferentiated)		
Clay, chocolate colored	5	80
Clay, red	25	110
Sand, water-bearing	5	115
Clay, red	15	130
Sand, water-bearing	10	140
Clay, gray	5	145
Clay, red tough	170	315
Clay and talc ?	5	320
Clay, red tough	22	342
Basement rock		
Granite	104	446

14. Town of Williamston, Martin County, 1941
altitude about 60 feet
Log based on examined samples; correlations by Dr. H. G. Richards, Associate Curator, Academy of Natural Sciences, Philadelphia

	Thickness (feet)	Depth (feet)
(no samples)	10	10
Miocene, Yorktown formation		
Sand, fine, light yellowish-gray	10	20
Sand, fine, and clay, gray; shells	20	40
Sand, fine, light gray; shells	20	60
Clay, light gray; much shell (chiefly turritellas)	40	100
Sand, medium, clear quartz, and about 40 percent glauconite green sand, phosphatic grains and much shell	10	110
Clay, gray sandy, calcareous, glauconitic and phosphatic; considerable shell	130	240
(no samples; driller reports material to be same as above to 400 feet) (lignitized wood at 300 foot)	160	400
(no samples)	20	420
Cretaceous (?)		
Sand, fine to coarse, mostly clear quartz, but considerable blue, yellow, and red quartz grains; glauconite and phosphate grains, sharp and angular; some fragments of sandstone. Probably some sandstone strata (becomes more arkosic, coarser, and contains more blue quartz towards bottom, less glauconite and phosphate)	80	500

15. Dr. A. B. Williams, 9 miles east of Wilson, Wilson County, 1942
altitude about 123 feet
Driller's log (Heater Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Miocene, Yorktown formation		
Clay, blue and shell	60	60
Cretaceous (undifferentiated)		
Sand	98	158
Sand and clay, red	57	215
Clay, brown	30	245
Basement rock (Huronian (?) slates)		
Rock, soft green	55	300
Shale	15	315
Sand rock	20	335

16. Town of Fountain, Pitt County, 1936
altitude about 105 feet
Driller's log (Sydnor Pump and Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Clay, yellow	20	20
Miocene, Yorktown formation		
Mud, blue	68	88
Cretaceous (undifferentiated)		
Clay, yellow and red	22	110
Mud, white and sand	30	140
Clay, yellow and red	23	163
Sand	21	184
Mud, white and sand	1	185
Sand, hard and mud	7	192
Sand	1	193

17. Town of Farmville, Pitt County, 1937
altitude about 80 feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Clay, yellow	16	16
Sand, coarse	12	28
Miocene, Yorktown formation		
Clay, blue and sand	8	36
Sand, fine, clay, and shell	9	45
Sand, fine, clay, and shell	47	92
Cretaceous (undifferentiated)		
Sand, hard	4	96
Clay, sandy	20	116

(cont'd)

17. Town of Farmville, Pitt County, 1937 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous (undifferentiated) (cont'd)		
Sand	5	121
Clay, hard	13	134
Sand, coarse	4	138
Clay, hard, sandy	13	151
Sand	13	164
Clay	7	171
Clay, sandy	25	196
Sand	10	206
Clay, sandy	9	215
Sand	8	223
Clay, sandy	12	235
Sand	17	252
Clay, white and red; and sand	19	271
Clay, hard and marl	9	280
Clay and sand, mixed	21	301
Sand, hard and clay	35	336
Clay	7	343
Clay, hard	8	351
Clay	11	362
Clay, soft, and sand	8	370
Clay, colored, and sand	16	386
Sand, hard, and clay	16	402
Sand	3	405
Clay, hard	10	415
Clay and sand	50	465
Basement rock, Granite		
Rock	7	472

(Four wells at water plant in Farmville between 472 and 503 feet deep; rock struck at 465, 479, and 490 feet and not struck at 480 feet. Several reliable persons report having seen a core from one of the wells and that the rock was granite.)

18. Town of Washington, Beaufort County, 1940
altitude about 6 feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	10	10
Miocene, Yorktown formation		
Sand and shell	10	20
Miocene, Trent marl		
Limestone, soft	10	30
Limestone, hard	10	40
Shell rock	2	42
Shell rock, hard	40	82
Limestone, very hard	14	96

(cont'd)

18. Town of Washington, Beaufort County, 1940 (cont'd)

	Thickness (feet)	Depth (feet)
Miocene (?) or Eocene (?)		
Sand, black	39	135
Eocene, Castle Hayne marl		
Limestone and white sand, in layers	28	163
Shell rock and clay, in layers	27	190
Shell rock and white sand	27	217
Clay and shell rock	10	227
Shell rock and sandy clay	22	249
Eocene (?) or Cretaceous (?)		
Clay, sandy, and shells	45	294
Cretaceous, Peedee formation		
Clay, blue	106	400

19. Town of Snow Hill, Greene County, 1928
altitude about feet
Driller's log (Layne Atlantic Co.) with modifications

	Thickness (feet)	Depth (feet)
(no record)	188	188
Cretaceous (Tuscaloosa (?) formation)		
Sand, fine; water-bearing	5	193
Sand, fine gray	15	208
Clay, blue	5	213
Sand, fine brown	5	218
Clay, hard	3	221
Sand, good	39	260

20. Seymour Johnson Field, Well 3, 4.5 miles southeast of Goldsboro, Wayne County, 1942
altitude 64 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	15	15
Cretaceous, Black Creek formation		
Clay, black	10	25
Sand, with wood	25	50
Clay	4	54
Sand, with clay lenses	47	101
Cretaceous, Black Creek (?) formation or Tuscaloosa (?)		
Clay	9	110
Sand and clay	6	116
Sand, coarse	19	135
Cretaceous, Tuscaloosa (?) formation		
Clay, red	18	153
Rock	4	157
Clay, red	23	180

21. Seymour Johnson Field, Well 6, 1100 feet east of Well 3
altitude about 60 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	15	15
Cretaceous, Black Creek formation		
Sand	45	60
Clay, black	11	71
Sand, coarse	15	86
Cretaceous (Tuscaloosa (?) formation)		
Clay, red	34	120
Clay, yellow	5	125

(Basement rock was encountered at 185 feet in Well 1 and 167.4 feet in Well 2 at Seymour Johnson Field)

22. Town of La Grange, Lenoir County
altitude about 105 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	15	15
Cretaceous, Black Creek formation		
Sand, red	113	128
Clay, blue	14	142
Clay and sand in layers	43	185
Marl, blue	20	205
Sand	5	210
Cretaceous, Tuscaloosa (?) formation		
Clay, gray	40	250
Sand, white	20	270
Clay	34	304
Sand	28	332

23. City of Kinston, 1 mile west of, Lenoir County, 1922
altitude about 50 feet
Driller's log (Virginia Machinery & Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Clay and sand	26	26
Cretaceous, Peedee formation		
Shell rock, soft	7	33
Clay and sand layers with thin strata of shell rock	67	100

(cont'd)

23. City of Kinston, 1 mile west of, Lenoir County, 1922 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Black Creek formation		
Clay, slightly sandy	60	160
Sand (water-bearing)	23	183
Mud, black	2	185
Sand (water-bearing)	6	191
Mud, black	6	197
Sand (water-bearing)	18	215
Clay, gray	45	260
Sand (no water)	4	264
Clay, green	16	280
Sand, coarse, and some gravel (large water supply)	24	304
Mud, black	6	310
Sand (water-bearing)	15	325
Clay, black	20	345
Sand (water-bearing)	9	354
Clay	3	357
Sand (water-bearing)	15	372
Clay, blue	33	405
Cretaceous (Tuscaloosa (?) formation)		
Sand, hard (no water)	11	416
Sand (water-bearing)	29	445
Clay	3	448
Gravel, coarse, red (some water)	9	457
Sand, red	13	470
Clay, sticky, red	25	495
Clay, sticky, red (very slow drilling)	25	520
Clay, sticky, yellow (caves)	23	543
Clay, red and fine sand	27	570
Clay, sandy (with some whitish material)	5	575
Sand, red, and clay	5	580
Sand, red; and gravel, mixed with chalky clay	5	585
Clay, blue, and sand	23	608

24. Naval Auxiliary Air Station, 4.5 miles north 25° west of Kinston, Lenoir County, 1943
altitude about 80 feet
Log and correlations based on examined samples.

	Thickness (feet)	Depth (feet)
(no samples)	5	5
Pleistocene		
Clay, grayish brown, sandy	10	15
Cretaceous, Peedee formation		
Clay, gray to greenish gray, sandy, contains glauconite grains	20	35
Clay, light gray, compact, micaceous	5	40
Clay, gray, sandy, micaceous	10	50

(cont'd)

24. Naval Auxiliary Air Station, 4.5 miles north 25° west of Kinston, Lenoir County, 1943 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Peedee formation (cont'd)		
Sand, greenish-gray, glauconitic, clayey, some shell	40	90
Sand, fine to medium, glauconitic	10	100
Cretaceous, Black Creek formation		
Clay, dense, black	5	105
Clay, dark gray, very sandy; and shells	20	125
Clay, dark gray, compact; micaceous; some shell ? (large pyrite nodule at 140 - 145 feet)	20	145
Clay, dark gray, sandy; and shell	35	180
Sand, fine to coarse, wood and shells	4	184
Sand, very fine to medium, and a few much coarser grains much wood and a little shell	34	218
Sand, fine, gray, and a little wood	12	230
Clay, brownish-gray, compact; slightly sandy	10	240
Clay, buffish-gray, compact	38	278
Clay, reddish brown and buff, tough, compact	7	285
Sand, fine to medium, light gray to brown, clayey	13	298
Clay, tan, tough, compact	8	306
Sand, medium, gray clayey	4	310
Clay, light gray, slightly sandy	7	317
Sand, light gray, medium, clayey	23	340
Clay, light gray, fine, sandy; and wood	40	380
Sand, fine gray, and a little clay	10	390
Sandstone; sand, fine to coarse, arkosic (basal conglomerate ?)	17	407
Cretaceous (Tuscaloosa (?) formation)		
Clay, varigated, yellow, brown, and red, very tough, compact	18	425
Sand, light gray, micaceous, clayey	15	440
Clay, light gray, micaceous, sandy	5	445
Clay, red, yellow, gray, brown, very tough, compact	19	464
Sand, fine to medium, yellowish gray	6	470

25. City of New Bern, Test Well 8, 3 miles west of, Craven County, 1943
altitude about 20 feet
Log based on examined samples. Correlations based on paleontological determinations by Dr. A. J. Cushman and Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, fine, yellow, and a little clay	16	16
Sand, fine, yellow, clean	7	23
Sand, fine, gray, clean	12	35
Miocene, Trent marl		
Sand, very fine and much shell, loosely cemented	5	40
Limestone, light buffish gray to light gray, sandy, very fossiliferous	50	90
Eocene, Castle Hayne marl		
Sand, very fine, calcareous, glauconitic, slightly phosphatic, fossiliferous (foraminifera, etc.)	108	198

26. City of New Bern, Craven County, 1916
altitude 12 feet

Log given in unpublished manuscript "City Water Supply at New Bern, North Carolina" by W. N. White, U. S. Geological Survey, 1928. Correlations added.

	Thickness (feet)	Depth (feet)
(no record; bottom of old 6-inch well)	354	354
Cretaceous, Peedee formation		
Sand rock	54	408
Hard pan	1	409
Sand and sand rock	93	502
Mud, blue	135	637
Rock	8	645
Cretaceous, Black Creek formation		
Mud, sand, and wood	29	720
Sand and wood	62	782
Shell rock	1	783
Sand and wood	55	838
Rock (salt water at 839 feet)	1	839
? (no record)	7	846
Sand, coarse, shells and wood	22	868
Rock	1	869
Sand and wood	20	889
Sand, fine (running)	3	892
Shell rock	5	897
Sand, wood, and 1 foot of rock	32	929

27. Oil-prospecting Well, Great Lake Drilling Co., 5 miles west of Havelock, Craven County, 1924-1925
altitude about 30 feet

Modified from log previously published (Mansfield, W. C., Oil-prospecting Well near Havelock, N. C., N. C. Dept. of Conservation and Development, Economic Paper No. 58, 1927).

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and soil	7	7
Sand, blue-gray (water-bearing)	8	15
Clay, blue, with sand	10	25
Clay, blue, plastic	15	40
Pliocene (?)		
Sand, compact, contains corals	1	41
Sand, gray, (water-bearing)	5	46
Sand and shells	4	50
Sand, compact with shells, chiefly pelecypods	5	55
Sand, medium to coarse, quartz pebbles, phosphatic pebbles, shells	15	70
Miocene, Duplin (?) marl		
Clay, gray, calcareous, plastic	35	105
Clay, gray, calcareous, sandy; with layers of fossiliferous sand; quartz and phosphatic pebbles	52	157

(cont'd)

27. Oil-prospecting Well, Great Lake Drilling Co., 5 miles west of Havelock, Craven County, 1924-1925 (cont'd)

	Thickness (feet)	Depth (feet)
Miocene		
Sand, medium to coarse, gray, compact, with shells, quartz pebbles and phosphatic nodules. Layers of less compact sand	73	230
Miocene, Trent (?) marl		
Sand, medium to coarse, gray, argillaceous, with layers of indurated marl and calcareous sandstone; shells	48	278
Miocene, Trent marl		
Sandstone, gray, calcareous, fossiliferous	177	455
Miocene (?), Trent (?) marl		
Sand, medium to coarse, gray; with shells	59	514
Sand, fine to medium, with shell; layers of sandstone	13	527
Sandstone, medium-grained, calcareous slightly phosphatic	36	563
Eocene (?), Castle Hayne (?) marl		
Clay, soft, light brown, calcareous, sandy	109	672
Sand, medium to coarse, and gravel, glauconitic, contains phosphatic nodules	12	684
Cretaceous, Peedee formation		
Sandstone, hard gray, calcareous, slightly glauconitic	14	698
Sand, gray, calcareous, slightly cemented	10	708
Sandstone, hard, dark gray, calcareous and slightly glauconitic	14	722
Clay, dark gray, sandy, contains quartz pebbles and large pelecypods	18	740
Clay, light brown, sandy, calcareous	40	780
Sand, dark gray, argillaceous, calcareous	25	805
Sand, medium to coarse, gray	43	848
Clay, dark gray, sandy, slightly glauconitic	82	930
Clay, gray, sandy, micaceous and slightly glauconitic	97	1027
Clay, green, gray and bluish, sandy, finely micaceous highly glauconitic, plastic to compact, contains pelecypods, pyrite	251	1278
Sandstone, glauconitic, calcareous, contains pyrite; alternates with softer strata	8	1286
Sand, coarse dark gray, glauconitic, argillaceous; quartz and phosphatic pebbles, and carbonaceous material	30	1316
Sandstone, fossiliferous, glauconitic, calcareous; conglomerate in lower part	19	1335
Cretaceous, Black Creek formation (marine facies)		
Clay, soft, gray, glauconitic, very sandy	30	1365
Clay, semi-plastic, light green, micaceous, very sandy	98	1463
Clay, compact, light brown; a little sand and pebbles	2	1465
Clay, plastic, very dark gray, micaceous, slightly sandy	77	1542
Sandstone, dark gray, calcareous; with alternating strata of dark gray sandy clay and pyrite	53	1595
Sand, coarse green, glauconitic, micaceous	35	1630

(cont'd)

27. Oil-prospecting Well, Great Lake Drilling Co., t miles west of Havelock, Craven County, 1924-1925 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Black Creek formation (continental facies)		
Sand, coarse, white to pink angular; with pebbles, carbonaceous fragments	63	1693
Clay, very tough, micaceous, mottled-vermilion to gray, sandy	25	1718
Sand, compact, white to light gray quartz	4	1722
Clay, very tough, micaceous, mottled-vermilion to gray-sandy; a few pebbles	50	1772
(not revealed, but inferred to be an indurated, ferruginous sand)	1	1773
Clay, moderately soft, red to gray, sandy; with small angular pebbles	12	1785
Cretaceous, Black Creek formation (marine facies)		
Sand, compact to indurated, greenish, micaceous, clayey; chunks of dirty white calcareous sand and carbonaceous material with shell impressions	53	1838
Limestone, fossiliferous, impure	46	1884
Clay, compact, bluish green, finely micaceous; a little sand and pyrite. Pelecypods	62	1946
Clay, moderately soft, bluish, finely micaceous; with a little sand	19	1965
Sandstone, gray, pyritic; with alternating strata of bluish to greenish, finely micaceous sandy clay; pelecypods	89	2054
Shale, dark gray to black, carbonaceous, pyritic shale; with alternating strata of dark gray sandy clay; Bryozoa, vertebrate remains and shells	71	2125
Cretaceous (Tuscaloosa (?) formation)		
Clay, reddish brown, plastic, micaceous, sandy with thin strata of deeper red arenaceous clay; a few pink to red, angular pebbles	51	2176
Clay, stiff to plastic, brick red to gray, sandy	136	2312
Sand, and gravel, semi-indurated, angular	6	2318
Basement rock		
Granite	33	2351

28. Marine Air Station, Well 52, Cherry Point, Craven County, 1942
altitude 24.2 feet

Log based on examined samples; except 0 - 17 feet and 116 - 195 feet which are from well inspector's record. Correlations based on paleontological study by Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene and Pliocene		
Sand, fine gray and brown, clayey	17	17
Clay, blue, slightly sandy	8	25
Sand, medium gray; shell and a little clay	15	40
Sand, fine dark green, glauconitic and phosphatic, clayey; with shell	20	60

(cont'd)

28. Marine Air Station, Well 52, Cherry Point, Craven County, 1942 (cont'd)

	Thickness (feet)	Depth (feet)
Pleistocene and Pliocene (cont'd)		
Sand, medium, light greenish gray, slightly glauconitic, phosphatic, clayey	4	64
Sand, fine to medium, gray, well rounded pebbles; shell and shark teeth	6	70
Miocene, Duplin marl		
Marl, white, very sandy with some round pebbles, fossiliferous	33	103
Sand, very fine, light greenish gray, clayey	13	116
Clay, green, and shell	4	120
Sand, medium, and clay; shell	10	130
Clay, green, and coarse shell	5	135
Sand, medium; and shell	5	140
Clay, blue; and coarse shell	20	160
Shell, coarse	10	170
Marl, white, and shell	10	180
Gravel, stone, and shell	5	185
Miocene, Trent marl		
Limestone and shell	10	195
Limestone, grayish white, fossiliferous, sandy	25	220
Coquina, white, fine textured, slightly sandy	5	225
Limestone, grayish white, fossiliferous, sandy	25	250
Limestone, white, fossiliferous, slightly glauconitic and sandy	15	265
Limestone, white, slightly glauconitic, very sandy (sand is very fine quartz)	15	280
Eocene, Castle Hayne marl		
Limestone, light gray, fossiliferous, sandy	43	323
Sand, very fine, light gray, calcareous, and shell	46	369

29. Marine Corps Auxiliary Air Base, Atlantic, Carteret County, 1942
altitude 15 feet

Log based on examined samples. Correlations based on paleontological study by Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, medium, dark brown, quartz	20	20
Sand, fine, dark brown; with shell	10	30
Pliocene, Croatan sand		
Sand, fine, gray, calcareous; with shell	30	60
Sand, fine, gray, calcareous, phosphatic and considerable shell	30	90
Miocene, Duplin marl		
Limestone, sandy, fossiliferous	5	95
Limestone, hard, white, sandy	10	105
Marl, very sandy, light gray, with shell	25	130
Marl, with much coarse shell, sandy	10	140

(cont'd)

29. Marine Corps Auxiliary Air Base, Atlantic, Carteret County, 1942 (cont'd)

	Thickness (feet)	Depth (feet)
Miocene, Duplin marl (cont'd)		
Sand, fine to medium, light gray, calcareous, with shell	40	180
Sand, very fine, dark gray, slightly calcareous, and clayey	10	190
Sand, fine, greenish gray, phosphatic, calcareous	30	210
Marl, dark gray, with very fine sand	20	230
Sand, fine gray, calcareous	50	280
Marl, light gray, sandy	50	330
Miocene, Trent marl		
Limestone, gray fossiliferous, sandy	30	360
Marl, dark, greenish gray, sandy	30	390
Limestone, light gray, sandy, fossiliferous	18	408

30. U. S. Navy, Section Base, Morehead City, Carteret County, 1942.
altitude 23 feet

Log based on examined samples. Correlations by Dr. H. G. Richards.

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, fine light yellow, with a little clay	20	20
Sand, medium orange-yellow, with a little clay	10	30
Pliocene (Croatan sand) and Miocene (Duplin marl)		
Sand, fine dark gray, phosphatic, with clay and shell	42	72
Sandstone, hard	1	73
Sand, fine, greenish gray, phosphatic and glauconitic, clayey	24	97
Miocene, Duplin marl or Yorktown formation		
Limestone, soft, gray, sandy, fossiliferous	13	110
Sand, fine to medium, clear quartz; with considerable amount of brown and black phosphate grains	6	116
Sand, medium, gray, clayey; with some small quartz pebbles and shell	5	121
Sand, fine to medium, gray; with shell and thin strata of sandy, fossiliferous limestone	29	150
Miocene, Trent (?) marl		
Limestone, white, sandy, fossiliferous, with shark teeth	63	213
Coquina, porous, fine grained, sandy	8	221
Limestone, white, very sandy	14	235

31. Fort Macon State Park, east end of Bogue Banks, 3 miles south of Morehead City, Carteret County, 1940
altitude about 10 feet

Log based on examined samples. Correlations based on paleontological study by Dr. H. G. Richards.

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, fine to medium, gray; with much shell	50	50
Sand, very fine, gray, clayey, calcareous, with shell	20	70
Pliocene and Miocene, Duplin marl		
Marl, greenish gray, fossiliferous, very sandy	10	80
Limestone, white, fossiliferous; fine quartz sand and round black phosphate grains and pebbles	40	120
Marl, gray, fossiliferous, very sandy	30	150
Sand, coarse, well rounded; with many small round quartz pebbles and black phosphate grains and pebbles	2	152
Clay, green, slightly calcareous, and fine sand	36	188
Coquina, grayish white, sandy; phosphate grains	4	192
Sand, fine to medium, gray, quartz; with a few quartz pebbles and considerable amount of black phosphate grains and pebbles, and much shell	-	192

32. U. S. Marine Auxiliary Air Base, Bogue, Carteret County, 1942
altitude 18.5 feet

Log based on examined samples. Correlations based on paleontological determinations by Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, fine brownish gray, clayey; with some shell	40	40
Pliocene (?) or Miocene (?)		
Sand, light gray, medium to coarse, well rounded, with coarse black phosphatic grains, and shell	53	93
Miocene, Duplin marl		
Marl, very fine, white, sandy, and much shell	37	130
Sand, medium to coarse, white, phosphatic, calcareous	20	150
Sand, fine to medium, gray; and limestone	25	175
Miocene, Trent marl		
Limestone, light gray, sandy, some pebbles	55	230
Limestone, grayish white, very fine sand	30	260

33. U. S. Marine Corps Auxiliary Air Base, 3 miles west of Polloksville, Jones County, 1942
altitude about 30 feet

Log based on examined samples, except from 0 - 20 feet and 280 - 300 feet. Correlations based on paleontological determinations by Dr. H. G. Richards and Dr. J. A. Cushman

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand	20	20
Miocene, Trent marl		
Marl, yellow, sandy	15	35
Sandstone, hard, buffish white, fossiliferous, calcareous	10	45
Marl, light gray, sandy	8	53
Limestone, hard, gray, fossiliferous	4	57
Eocene, Castle Hayne marl		
Marl, very fine, sandy (shell fragments in some of the samples)	163	220
Sandstone, gray, calcareous; with glauconite green sand	15	235
Limestone, marl; with coarse sand and gravel, phosphate grains and pebbles; fossiliferous	15	250
Sandstone, dark gray, calcareous; with glauconite and phosphate grains and coarse shell	30	280
Cretaceous, Peedee formation		
Clay, blue, sandy	20	300

34. Well D, Marine Corps Tent Camp, 1½ miles southwest of Jacksonville, Onslow County, 1941

Log and correlations based on examined samples

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, fine to medium, brownish gray, with a little clay	10	10
Miocene, Trent marl		
Marl, light gray, with a little very fine sand	20	30
Limestone, grayish white, sandy, fossiliferous with black grains and fragments of phosphatic material	39	69
Marl, light gray, slightly sandy and clayey	36	105
Eocene (?), Castle Hayne (?) marl		
Limestone, hard, gray, fossiliferous, sandy (medium grained sand) with some dense, fine grained fossiliferous, gray limestone	5	110
Limestone, gray to white, fossiliferous, slightly sandy	20	130
Limestone, white, chalky, fossiliferous	40	170
Limestone, hard, blue, sandy; also porous white coquina	14	184

35. Rural Electrification Authority, Power Station, 5 miles southeast of Jacksonville, Onslow County, 1942
altitude about 20' feet

Log based on examined samples, except 0 - 38, 199 - 228, 301 - 315, and 327 - 335 which are from driller's records. Correlations based on paleontological determinations by Dr. H. G. Richards and Dr. J. A. Cushman.

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, beach, roots, etc.	5	5
Sand, and clay, medium coarse	33	38
Pliocene (?)		
Clay, fine gray sandy	20	58
Sand, very fine, white, clean	15	73
Miocene, Trent (?) marl		
Limestone, soft porous, light gray, fossiliferous, sandy	6	79
Marl, light gray, fine, sandy	4	83
Limestone, light gray, porous, fossiliferous, very sandy, phosphatic	5	88
Eocene (?), Castle Hayne (?) marl		
Marl, tough, gray, fine sandy	111	199
Clay, hard, fine, gray sandy (Marl ?)	29	228
Marl, tough, light bluish gray, fine, sandy	25	253
Cretaceous, Peedee formation		
Sandstone, hard, light gray, fine grained; with phosphate grains	4	257
Marl, light gray sandy and clayey; with some shell	7	264
Marl, tough, gray, sandy	37	301
Mud, gray sandy (marl ?)	14	315
Marl, greenish gray, very fine, sandy	4	319
Marl, dark greenish gray, sandy; with molds and casts of shells	8	327
(soft streak with pieces of shell rock)	8	335
Marl, gray; medium grained, sandy; with shells	32	367
Marl, gray, fine grained, sandy. Sand, fine, light gray, calcareous	25	392
Sand, medium, gray, calcareous; with shell	11	403
Marl, dark gray, fine sandy	109	512
Marl, sandy, with thin hard gray sandstone strata	14	526
Sand, very fine, dark greenish gray, slightly clayey	40	566
Sand, medium, gray, clayey	22	588

36. Test well 4; New River, Marine Base, Onslow County, 1941
altitude 31.5 feet

Log based on examined samples, except 0 - 78, 116 - 125, 297 - 311, and 398 - 567. Correlations based, in part, on paleontological determinations by Dr. J. A. Cushman and Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene and Pliocene		
Sand	78	78
Miocene (?), Duplin (?) marl)		
Sand, fine, colorless; and white shell	13	95
Sand, very fine, light gray; with a little shell and very fine shiny black phosphate grains	21	116
Miocene, Trent marl		
Rock, soft, gray, and quicksand	9	125
Sand, medium, white and colorless, quartz and shiny brown and black phosphate grains; much shell fragments	13	138
Coquina, white	7	145
Eocene, Castle Hayne marl		
Sand, very fine, light gray, contains black phosphate grains, with shell	152	297
Rock, hard, white	3	300
Mud, blue	11	311
Limestone, white, slightly sandy	39	350
Limestone, gray, sandy; contains large amount of glauconite greensand	10	360
Sand, very fine, bluish gray, calcareous, clayey	38	398
Gravel, coarse	16	414
Cretaceous (?), Peedee (?) formation		
Mud, blue	6	420
Shale, rock, semi-soft	4	424
Sand, blue	11	435
Shale	1	436
Quicksand	4	440
Shale, hard (thin layer) quicksand below	11	451
Gravel, coarse, and sand	3	454
Rock with sand	21	475
Quicksand	10	485
Rock	5	490
Sand, fine white, and gravel	77	567

37. Town of Holly Ridge, Onslow County, 1942
altitude about 60 feet
Log based on examined samples. Correlations based on paleontological determinations by Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Pleistocene, Pliocene, and Miocene (?)		
Sand, fine, gray clean	70	70
Sand, very fine, gray, slightly clayey	56	126
Eocene (?), Castle Hayne (?) marl		
Limestone, light gray, phosphatic and glauconitic, sand, very fossiliferous	2	128
Clay, white, with shell	10	138
Limestone, hard, white, dense, fossiliferous	42	180
(driller reports 155 - 165 is softer than rest)		

38. U. S. Army, New Topsail Inlet, on the barrier, 10 miles southwest of Camp Davis, Pender County, 1942
altitude about 8 feet
Log based on examined samples, except 112 - 116 feet, which is from driller's log. Correlations by Dr. H. G. Richards

	Thickness (feet)	Depth (feet)
Recent		
Sand, fine gray; with much shell	7	7
Sand, fine to medium, clean; with much brown and black water-worn shell material	8	15
Miocene, Duplin-Yorktown unit		
Sand, fine to medium, with shell	15	30
Sand, very fine, gray, phosphatic, slightly clayey; with shell	40	70
Sandstone, gray, fossiliferous, fine clear quartz and black and brown phosphate grains cemented with calcium carbonate	3	73
Eocene, Castle Hayne marl		
Limestone, hard, gray, fossiliferous, slightly sandy	3	76
Limestone, gray, fossiliferous, very sandy	4	80
Sand, medium gray, and much shell	10	90
Limestone, light gray, fossiliferous, very sandy	14	104
Marl, light gray, very sandy; shell	8	112
Rock, hard, firm	4	116
Marl, gray, glauconitic and phosphatic, sandy; with much shell	1.5	117.5
Limestone, gray, fossiliferous, sandy	7.5	125
Marl, gray, glauconitic and phosphatic, very sandy	29	154
Limestone, gray, phosphatic, fossiliferous, very sandy	18	172
Marl, dark gray, glauconitic, sandy	20	192
Sand, medium, gray; with shell	5	197
Marl, tough, dark gray, sandy and slightly clayey	23	220
Sandstone, gray, fossiliferous	15	235

39. Town of Mount Olive, Wayne County, 1938
altitude about 160 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Soil and clay	20	20
Peat	1	21
Clay, white	4	25
Cretaceous, Black Creek formation		
Sand, fine; and clay	15	40
Sand, little water	3	43
Clay, black; and sand	72	115
Shale, black	47	162
Sand	12	174
Clay, black		174

40. Town of Clinton, Sampson County, 1940
altitude about 156 feet
Driller's log (Carolina Drilling & Equipment Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Soil	5	5
Clay, yellow	21	26
Cretaceous, Black Creek formation		
Clay, blue; and sand	11	37
Clay, brown; and sand	8	45
Clay, blue	37	82
Sand, fine	11	93
Sand, fine; and wood	10	103
Clay, blue	24	127
Sand, medium	20	147
Sand, coarse	4	151
Sand and clay	30	181
Clay	10	191
Sand, coarse	2	193
Cretaceous, Tuscaloosa (?) formation		
Clay, tough ("pipe clay")	64	257
Sand and clay	8	265

41. Pender Lea Farms, Test well at school house, Watha, Pender County, 1937.
altitude about 60 feet
Driller's log (Heater Well Co.) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Soil and yellow clay	8	8
Clay, yellow	4	12
Cretaceous, Peedee formation		
Clay, light blue, with a little sand	18	30
Clay, dark blue, increasing amount of sand	55	85
Sand (water-bearing)	2	87
Clay, blue, and sand	8	95
Clay, blue, sand and shell	5	100
Clay, blue, with shell	14	114
Clay, blue, and sand	9	123
Sandstone	1	124
Sand (water-bearing)	2	126
Sandstone, very hard	2	128
Clay, blue, sand and a little shell	22	150
Sand, and shell; with a very little clay	5	155
Clay, blue, with some sand and shell	5	160
Cretaceous, Black Creek (?) formation		
Clay, blue, and a little sand	25	185
Sand and blue clay	20	205
(no record)	10	215
Clay, blue, and sand	20	235
Rock, soft	1	236
Clay, blue, and sand	13	249
Sand (water-bearing)		249+

(Logs of four other wells from 184 to 211 feet deep, drilled on nearby farms, indicate that the Peedee-Black Creek contact is probably at about 165 to 170 feet.)

42. Town of Burgaw, Pender County, 1935
altitude about 50 feet
Driller's log (Layne Atlantic Company) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Dirt	10	10
Clay	6	16
Cretaceous, Peedee formation		
Clay, hard	6	22
Clay, black	8	30
Clay, sandy	30	60
Clay, sandy brown	20	80
Shale, hard	6	86
Sand, fine	10	96

(cont'd)

42. Town of Burgaw, Pender County, 1935 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Peedee formation		
Shale, hard	2	98
Clay, hard	18	116
Sand, fine	5	121
Sand and gravel	3	124
Clay, hard	22	146
Clay, soft sandy	6	152
Clay, hard	13	165
Clay, soft, and rock	22	187
Sand	3	190
Clay	13	203
Cretaceous, Black Creek (?) formation (Snow Hill (?) marl member)		
Rock, hard	7	210
Sand, shells, gravel	8	218
Rock, clay, boulders	10	228
Rock, hard	1	229
Sand and sandstone	6	235
Cretaceous, Black Creek formation		
Clay	26	261
Sand	3	264
Clay	11	275

43. St. Helena, 2½ miles south of Burgaw, Pender County
altitude feet
Log from "The Coastal Plain of North Carolina": N. C. Geol. and Econ. Survey, vol. 3, pt. 2, pp. 161-162, 1912

	Thickness (feet)	Depth (feet)
Pleistocene		
Clay, gray	10	10
Miocene		
Shell marl and gray or greenish-gray, fossiliferous sand	50	60
Cretaceous (Peedee formation)		
Sand, dark gray, finely micaceous, glauconitic; and sandy clay, apparently laminated	10	70
Sand, fine, loose, light gray, micaceous, glauconitic	10	80
Same as preceding, but darker gray	10	90
Sand, dark gray, slightly argillaceous, finely micaceous, glauconitic	10	100
Sand, light gray, fine, loose	10	110
Sand, light gray, very coarse, loose; with small pieces of gray sand rock, and many small water-worn fragments of sharks' teeth, plates, etc.	20	130
Sand, fine, loose, light gray, micaceous	50	180
Sand, very coarse, gray, slightly argillaceous, calcareous	10	190
Marl, consisting of coarse, gray, slightly argillaceous sand; fossiliferous	10	200
Marl, sandy, argillaceous, with one large chunk of gray, calcareous, clay; fossiliferous	10	210
Marl, similar to preceding, fossiliferous	10	220

44. Town of Red Springs, Robeson County, 1941
altitude about 200 feet
Driller's log (Carolina Drilling & Equipment Company) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, yellow	16	16
Clay, red	3	19
Cretaceous, Black Creek formation		
Sand, medium	51	70
Clay, gray	5	75
Sand, coarse	20	95
Clay, black	11	106
Cretaceous, Tuscaloosa formation		
Sand, fine	40	146
Clay, white	28	174
Sand	10	184
Clay	16	200
Sand and black clay	6	206

45. Maxton Glider School, 3 miles northwest of Maxton, Scotland County, 1942
altitude 210 feet
Log furnished by U. S. Engineer's Office, Charleston, S. C., with modifications.

	Thickness (feet)	Depth (feet)
Pleistocene		
Soil, black; sandy	1	1
Clay, tan; sandy	11	12
Cretaceous, Tuscaloosa formation		
Clay, light gray to pink; plastic	2½	14½
Sand, tan; clayey	20½	35
Clay, tan, pink, and gray, very little sand	17	52
Sand, fine to medium, tan, with a little clay	13	65
Sand, medium to coarse, dark gray; angular, with clay	5	70
Clay, cream colored, plastic	4	74
Sand, fine to medium and clay	3	77
Clay, tough, tan, and sandy	20	97
Sand, fine to coarse, micaceous; and clay	30	127
Sand, medium to coarse, light gray; clean; subangular	29	156
Clay, tough gray; sandy	3	159
Sand, fine to coarse, gray, arkosic, clayey	5	164
Clay, tough, gray; sandy	16	180
Sand, fine to coarse, arkosic, gray to brown, clayey	15	195
Clay, gray, tan, and chocolate brown, plastic, slightly sandy	35	230
Sand, coarse and gravel and tough gray clay	7	237
Clay, tough red	18	255
Sand, coarse, brown and gray; clayey	5	260
Clay, chocolate brown and fine sand	5	265
Sand, fine to medium; tan to chocolate brown; and clay	11	276
Clay, brown, gray, and green; sandy	22	298

(cont'd)

45. Maxton Glider School, 3 miles northwest of Maxton, Scotland County, 1942 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Tuscaloosa formation (cont'd)		
Clay, green, pink, gray, tan, with varying amounts of fine to coarse quartz sand	43	341
Sand, medium to coarse, some gravel, and clay	9	350
Clay, tan and medium sand	3	353
Basement rock, pre-cambrian (?)		
Clay, chocolate brown with green decomposed volcanic material (fragments of brown and green mica schist found in samples from depths 363 - 445 feet)	95	448

46. Town of Fairmont, Robeson County, 1944
altitude about 140 feet

	Thickness (feet)	Depth (feet)
Pleistocene (Sunderland formation)		
Soil and red clay	12	12
Sand	3	15
Cretaceous, Black Creek formation		
Clay, black, hard with thin sand strata	150	165
Sand, fine, micaceous; contains lignitized wood	15	180
Clay, black	4	184
Sand, medium to coarse, gray, with interbedded layers of black clay	70	254
Clay, black	54	308
Sand, coarse	11	319
Clay, black	37	356
Cretaceous, Tuscaloosa formation		
Sand, gray; containing pyrite concretions	3	359
Clay, red, brown, pink, and white; tough, compact	21	380

Log based on examined samples except 0 - 165 feet and 251 - 356 feet which is based on Driller's log (Carolina Drilling & Equipment Company) with modifications).

47. Town of Elizabethtown, Bladen County, 1940
altitude about 120 feet
Driller's log (Carolina Drilling & Equipment Company) with modifications

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand and clay	18	18
Sand and water	2	20
Cretaceous, Black Creek formation		
Clay, black	51	71
Sand, clay, and peat	24	95
Clay, black	34	129
Sand	3	132
Clay, black	12	144
Sand	4	148
Clay, black	21	169
Sand	10	179
Sand, coarse	20	199

48. Town of Whiteville, Columbus County, 1938
altitude about 80 feet
Driller's log (Virginia Machine & Well Company) with modifications

	Thickness (feet)	Depth (feet)
(no record)	155	155
Cretaceous, Black Creek formation		
Clay, and sand (yields a little water)	15	170
Sand, with a little clay (some water)	15	185
Clay, dark blue	5	190
Sand (a little water)	5	195
Clay, dark blue, with sand mixed	45	240
Rock, light gray	2	242
Clay, dark blue	10	252
Sand, coarse, and shell	11	263
Clay, dark blue	187	450

49. Town of Tabor City, Columbus County, 1926
altitude about feet
Driller's log (Virginia Machine & Well Company) with modifications

	Thickness (feet)	Depth (feet)
Cretaceous, Peedee formation		
Marl, blue	50	50
Sand, white	10	60
Marl, blue	69	129
Rock, solid	1	130
Marl, blue and sand mixed	65	195
Mud, blue, hard, and sand mixed	26	221

(cont'd)

49. Town of Tabor City, Columbus County 1926 (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Black Creek formation		
Rock, blue	4	225
(no record)	5	230
Rock, blue, hard	25	255
Sand, fine	5	260
Clay and sand	16	276
Clay	2	278
Sand	2	280
Clay, hard	20	300
Clay and sand	10	310
Clay	10	320
Sand and clay	6	326
Clay and marl	2	328
Sand and clay	12	340
Clay, blue	18	358
Clay	13	370
Clay	10	380
Rock	1½	381½
Clay	2½	384
Rock	2	386
Clay	2	388
Rock	2	390
Clay and marl	2	392
Clay, hard	6	398
Mud	2	400
Clay, tough blue	40	440
Marl, blue	5	445
Marl, tough blue	85	530
Clay, blue	13	543
Marl	2	545
Sand, blue	6	551
Cretaceous, Tuscaloosa formation		
Clay, white	4	555
Clay, white or pipe clay	25	580
Clay, white and some sand with rolling clay with it	20	600
Clay, blue	10	610
Mud, blue and fine sand	15	625
Clay, blue	10	635
Mud, and fine sand	5	640
Clay, blue	2	642
Sand, fine and coarse, with some water	5	647
Sand and sticky blue clay	3	650
Sand and blue mixed	10	660
Clay, blue	15	675

50. Clarendon Waterworks Company, Wilmington, New Hanover County, altitude 9 feet

Log from "The Coastal Plain of North Carolina": N. C. Geol. and Econ. Survey, vol. 3, pt. 1, pp. 163-166, 1912

	Thickness (feet)	Depth (feet)
Cretaceous, Peedee formation		
Sand, coarse, gray	10	10
Sand, yellowish-brown, argillaceous	20	30
Hard, gray, calcareous sandstone rock containing shell impressions	10	40
Sand, pale yellow, calcareous, with small pieces of crushed sandstone; fossiliferous	10	50
Sand, loose, gray; fossiliferous	10	60
Sandstone, hard, gray, calcareous	10	70
Sand, gray, calcareous, micaceous, varying slightly in content of lime and mica and also in color and coarseness. Fossiliferous	208	350
Sand, light gray, loose, calcareous, micaceous; fossiliferous	40	390
Same as 350-390 feet; fossiliferous	10	400
Sand, fine, dark gray, calcareous, argillaceous, slightly glauconitic	50	450
Sand, light gray, loose, calcareous; fossiliferous	10	460
Sand, gray, calcareous, micaceous, glauconitic, with chunks of gray clay, fossiliferous	10	470
Sand, loose, gray, glauconitic, slightly micaceous, with chunks of gray clay, fossiliferous	30	500
Sand, fine gray, calcareous, glauconitic; fossiliferous	10	510
Sand, gray, calcareous, glauconitic	10	520
Sand, loose, light gray, calcareous, micaceous, with chunks of gray clay	10	530
Sand, gray, calcareous, glauconitic, argillaceous and fossiliferous	30	560
Sand, loose, light gray, glauconitic	10	570
Sand, loose, light gray, glauconitic	10	580
Sand, loose, light gray, glauconitic, micaceous	20	600
Sand, light gray, finely micaceous, glauconitic, argillaceous and fossiliferous	120	720
Cretaceous, Black Creek formation		
Sand, light gray, very calcareous, slightly glauconitic possibly a ground-up rock	10	730
Sand, fine, light greenish and yellowish glauconitic, calcareous, argillaceous, finely micaceous, containing fossils	90	820
Similar to samples from 730-820 feet	10	830
Clay, gray, calcareous, finely micaceous; fossiliferous	80	910
Mostly fragments of shells, with some lumps of gray, calcareous clay; fossiliferous	20	930
Sand, coarse, brownish, micaceous, very calcareous; fossiliferous	10	940
Sand, clean, loose, very micaceous	10	950
Sand, white to pale yellow and pinkish, coarse, slightly micaceous, with angular grains	40	990
Sand, coarse, yellow, with indurated chunks cemented with arkosic material	10	1000

(cont'd)

50. Clarendon Waterworks Company, Wilmington, New Hanover County (cont'd)

	Thickness (feet)	Depth (feet)
(The remainder of the section is taken from the driller's written description of the materials penetrated.)		
Sand, red	11	1011
Sand, yellow	2	1013
Sand, yellow, and gravel	2	1015
Oyster shells, shale rock, mud	16	1031
Clay, white, and sand mixed	3	1034
Clay, blue	19	1053
Gravel and green clay, soft rock	8	1061
Rock, soft, and shells	4	1065
Sand	10	1075
Sand, black	6	1081
Clay, red and white	2	1083
Sand and shells	4	1087
Clay, red, and sand mixed	1	1088
Clay, red	7	1095
Sand and small pebbles	14	1104
Clay, red and hard rock, which looks like granite	5	1109
Basement rock		
Granite	221	1330

51. Well 2, Wilmington Housing Authority, 4 miles south of Wilmington, New Hanover County, 1942
altitude about 60 feet

Log based on examined samples, except 0 - 3 feet, which is driller's log

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, white and topsoil	3	3
Sand, fine to medium, yellow, slightly clayey	15	18
Sand, fine, white, clean (water-bearing)	2	20
Sand, fine, reddish brown, clayey	5	25
Sand, fine, light gray, a little clay	10	35
Sand, fine to coarse, white, clean quartz (water-bearing)	15	50
Sand, medium to fine gravel, white	8	58
Eocene (?), Castle Hayne (?) marl		
Sand, medium, grayish white, calcareous, slightly glauconitic	6	64
Limestone, soft, white, earthy, fossiliferous (chalk ?)	23	87
Limestone, hard, gray, sandy; with shell	3	90
Limestone, soft gray, sandy	4	94
Sand, fine gray, calcareous, with shells	6	100
Sandstone, gray, calcareous, fossiliferous	2	102
Cretaceous (?), Peedee (?) formation		
Clay, black, and fine sand, calcareous, glauconitic, with cemented layers of glauconitic sandstone	30	132
Sand, fine, light gray, semi-consolidated, calcareous, with shell	25	157
Marl, yellowish gray to gray, sandy, with shells	29	186

52. Fort Caswell near the mouth of Cape Fear River, Brunswick County, altitude feet

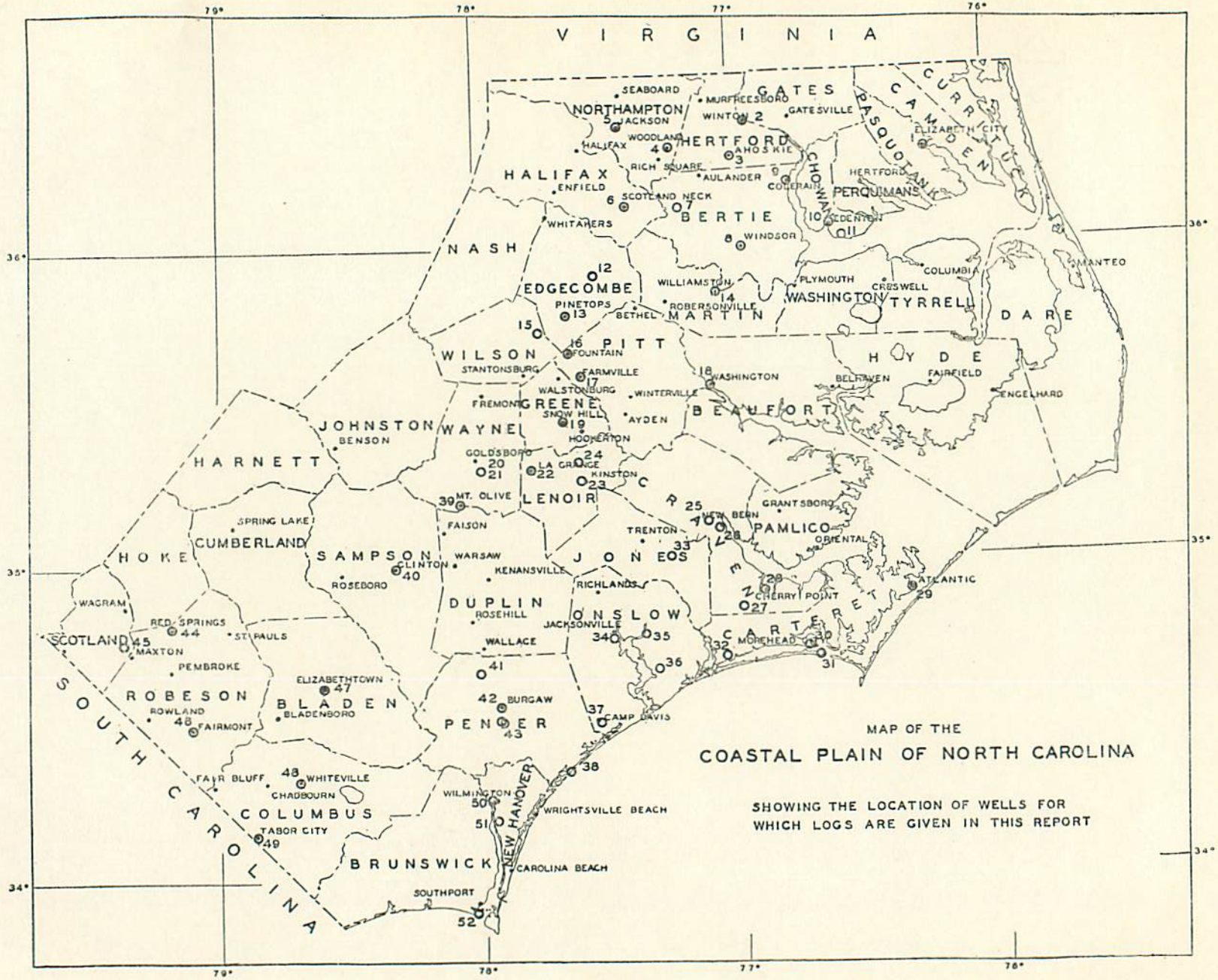
Log from "The Coastal Plain of North Carolina": N. C. Geol. and Econ. Survey, vol. 3, pt. 2, pp. 194, 195, and 170, 1912

	Thickness (feet)	Depth (feet)
Pleistocene		
Sand, loose beach, with small shell fragments	30	30
Clay, gray, calcareous, sandy, with well-preserved Pleistocene fossils	15	45
Sand, loose calcareous, with numerous shell fragments; pieces of calcareous sand-rock, fragments of peat, iron crusts, and one fragment of crystalline rock, probably granite	33	78
Eocene, Castle Hayne marl		
Sand, yellow, medium-grained, calcareous, with a few scattered grains of glauconite and many fragments of shells	24	102
Sand, pale yellow, fine-grained, calcareous, slightly glauconitic	7	109
Like sample from 78-102 feet, but contains numerous small pieces of chalk-like rock	1 3/4	110 3/4
Rock, pure, white, soft, chalk-like, without grit and composed almost entirely of $CaCO_3$	$\frac{1}{4}$	111
Sand, yellow, medium-grained calcareous, with a large percentage of shell gragments; scattered grains of glauconite in some	127	238
Clay, yellow calcareous, and yellow sand, like preceding	11	249
Sand, yellow, filled with Bryozoan remains	5	254
Cretaceous, Peedee formation, in part		
Clay, gray, very calcareous, with an admixture of soft sand	164	418
Sand, gray, calcareous, very glauconitic	1	419
Clay, gray calcareous, slightly sandy	259	678
Clay, mixture of gray calcareous, with sand and gragments of shells	2	680
Samples representing 680 to 690 missing	10	690
Same as 678-680, but contains impure lime concretions as much as 1 inch in diameter	3	693
Sand, gray, argillaceous, calcareous, with numerous small shell fragments; fragments of gray calcareous sand-rock	102	795
Sand, dark green, very glauconitic, calcareous	85	880
Mixture of chunks of dark-green glauconitic sand and gray calcareous sand	16	896
Sand, coarse gray, with small shell fragments and limestone, light gray argillaceous; fossiliferous	3	899
Clay, gray calcareous, finely micaceous, large pieces of shells	241	1140
Clay, light pinkish plastic	20	1160
Samples missing	40	1200
Clay, gray calcareous, with a mixture of quartz pebbles up to $\frac{1}{2}$ inch in diameter and shell fragments	37	1237
Sand, clean, loose, slightly calcareous	16	1253

(cont'd)

52. Fort Caswell near the mouth of Cape Fear River, Brunswick County (cont'd)

	Thickness (feet)	Depth (feet)
Cretaceous, Peedee formation, in part (cont'd)		
Sample missing	6	1259
Clay, light gray calcareous	at	1259
Clay, light to dark pinkish or reddish finely laminated	63	1322
No record	4	1326
Clay, light gray calcareous, with an admixture of small quartz pebbles as large as birdshot	8	1334
No record	8	1342
Sand, coarse, argillaceous, calcareous	23	1365
Sand, coarse, and gravel, with pebbles up to 1/3 inch in diameter. Also piece of gray calcareous sand-rock and pieces of shells	15	1380
Sand, very coarse, many of the grains as large as birdshot, with small particles of gray calcareous clay, and with numerous fragments of shells	25	1405
Sand, coarse, with a large percentage of small particles of gray calcareous clay, scattered grains of glauconite, and numerous shell fragments, among them encrusting Bryozoans	35	1440
Cretaceous, Black Creek formation		
Sand, coarse, loose, and fine fragments of crushed sandstone, filled with particles of iron oxide. Contains a few shell fragments	2	1442
Sand, loose, white, medium-grained, with a few shell fragments	13	1455
Sand, fine, dark gray, micaceous, slightly glauconitic	15	1470
Sand, loose, gray, medium-grained slightly micaceous	20	1490
Sand, fine, yellowish gray, glauconitic, micaceous	10	1500
Sand, fine, dark gray, micaceous, slightly glauconitic	10	1510
Clay, dark pinkish drab, arenaceous, micaceous	15	1525
Sand, coarse, argillaceous, and chunks of light gray and pink-mottled, coarsely arenaceous clay	7	1532
Sand, very fine, gray, micaceous, glauconitic	8	1540
Basement rock		
A metamorphosed rock (possible from an old eruptive ?) having a very fine granular texture. Consists principally of interlocking quartz grains with considerable greenish mica flakes and grains of red iron oxide. There are also numerous grains of epidote and some chlorite. A stretched apatite crystal observed in one slide. (Description credited to Dr. Albert Johannsen)	3	1543



MAP OF THE

COASTAL PLAIN OF NORTH CAROLINA

SHOWING THE LOCATION OF WELLS FOR WHICH LOGS ARE GIVEN IN THIS REPORT