

WELL NUMBER 101

Location: 351647N0771111.1
 Depth: 127 feet
 Elevation of land surface: 19 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand, brown
	Late Miocene--Yorktown Formation (Fossils well-preserved)
10-25	Sand, brown
25-85	Sand, gray
	Eocene--Castle Hayne Limestone (Fossils well-preserved)
85-127	Clayey sand, greenish gray

WELL NUMBER 106

Location: 351743N0771327.1
 Depth: 112 feet
 Elevation of land surface: 28 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-15	Sand, dark brown
	Oligocene(?)--undifferentiated (Recrystallized limestone contains fossil fauna that are not well preserved, and identification is difficult.)
15-20	Sand, dark brown
20-25	Sand, gray
25-45	Sand, brown
45-50	Sand, gray
50-55	Sand, brownish gray
	Eocene--Castle Hayne Limestone (This unit contains excellent fossil fauna.)
55-60	Sand, brownish gray
60-112	Sand, greenish gray

WELL NUMBER 108

Location: 351905N0771417.1
 Depth: 112 feet
 Elevation of land surface: 32 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand, brown
	Eocene--Castle Hayne Limestone--middle part (Upper boundary determined from microlithology, as the first fossil fauna were found at 30 feet.)
10-25	Sand, brown
25-30	Sand, gray brown
30-45	Sand, gray
45-90	Sand, greenish gray
	Paleocene--Beaufort Formation (This unit contains several Paleocene fossils at 90-95 feet, including <u>Brachycythere</u> <u>interrasilis</u> Alexander.)
90-112	Clayey sand, green

WELL NUMBER 116

Location: 352156N0771738.1
 Depth: 102 feet
 Elevation of land surface: 28 feet

Date drilled: 1962
 Driler: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-15	Sand, brown
	Eocene--Castle Hayne Limestone
15-27	Sand, brown
27-50	Sand, gray
50-80	Sand, greenish gray
	Cretaceous--Peedee Formation (Cretaceous-Eocene contact well-defined. Fossil fauna in both abundant.)
80-102	Clayey sand, greenish gray

WELL NUMBER 118

Location: 352012N0771748.1
 Depth: 107 feet
 Elevation of land surface: 30 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand, brown
	Eocene--Castle Hayne Limestone
10-30	Sand, brown
30-45	Clayey sand, green
	Upper Cretaceous--Peedee Formation (Fossil fauna easily identifiable)
45-107	Clayey sand, green

WELL NUMBER 121

Location: 351944N0772020.1
 Depth: 80 feet
 Elevation of land surface: 15 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand, brown
	Late Miocene--Yorktown Formation
10-15	Sand and shell
15-20	Sand, hard and shell
	Paleocene--Beaufort Formation
20-30	Sand, gray
30-75	Sand, greenish gray
	Cretaceous--Peedee Formation
75-80	Sand, greenish gray, some shell

WELL NUMBER 124

Location: 351825N0771830.1
 Depth: 112 feet
 Elevation of land surface: 15 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Late Miocene--Yorktown Formation (Fossil fauna not well preserved)
0-15	Sand, brown
	Eocene--Upper part of Castle Hayne Limestone (Fossil fauna below 15 feet diagnostic and abundant)
15-60	Sand, brown
	Eocene--middle part of Castle Hayne Limestone
60-75	Sand, grayish brown
	Paleocene--Beaufort Formation
75-100	Clayey sand, gray and green, some limestone fragments
100-105	Clayey sand, gray, some limestone fragments
	Upper Cretaceous--Peedee Formation
105-112	Clayey sand, gray, some limestone fragments

WELL NUMBER 127

Location: 351606N0771726.1
 Depth: 164 feet
 Elevation of land surface: 32 feet

Date drilled: 1955
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-12	Yellow sand
12-32	Blue clay, trace of sand
32-58	Hard gray clay
58-69	Shellrock, some sand
69-84	Sandstone
84-96	Medium-coarse sand
96-129	Fine sand and shell
129-164	Black clay and sand

WELL NUMBER 131

Location: 351429N0771419.1
 Depth: 112 feet
 Elevation of land surface: 47 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Sandy clay, brown
5-10	Clayey sand, brown
10-15	Sand, brown
Oligocene(?)--undifferentiated (This unit contains only recrystallized shell fragments and is determined on the basis of lithology only.)	
15-25	Sand, gray
25-35	Silty sand, gray
35-45	Sand, gray
Eocene--Castle Hayne Limestone (Abundantly fossiliferous)	
45-75	Sand, gray
75-85	Sand and clay, gray
85-105	Sand and clay, gray, some gravel
105-112	Sandy clay, gray

WELL NUMBER 140

Location: 350956N0770743.1
 Depth: 112 feet
 Elevation of land surface: 21 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-10	Clayey sand, brown
Oligocene(?)--undifferentiated (This is a distinct faunal unit, but the age carries the (?) because the stratigraphic studies have not been completed.)	
10-25	Clayey sand, brown
Eocene--Castle Hayne Limestone (Fossil fauna well preserved)	
25-50	Sand, gray, alternating hard zones
50-112	Sand, gray

WELL NUMBER 158

Location: 350651N0770431.1
 Depth: 50 feet
 Elevation of land surface: 20 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
0-5	Silty sand, brown
5-46	Silty sand, gray
46-50	Sand, gray. Hard zone at 50 feet

WELL NUMBER 171

Location: 350717N0770603.1
 Depth: 75 feet
 Elevation of land surface: 30 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Clayey sand, brown
5-25	Sand, gray
	Late Miocene--Yorktown Formation (Samples badly mixed with materials from higher in the well. Very scarce and poorly preserved microfauna.)
25-52	Sand, gray
52-75	Sand, shell, and limestone

WELL NUMBER 175

Location: 350818N0770630.1
 Depth: 964 feet
 Elevation of land surface: 27 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--surficial sands
0-5	Sand and clay, yellow-gray mottled; 50 percent fine angular to subangular clear quartz sand, 25 percent gray clay; 15 percent yellow clay, 10 percent black clay. Medium to coarse rounded quartz sand prominent. No microfossils.

- 5-10 Sand and clay, yellow-gray mottled, 85 percent medium subangular to subrounded clear quartz sand, 10 percent gray clay, 5 percent yellow clay. Fine rounded quartz gravel prominent. Trace of glauconite, black clay. No microfossils.
- 10-25 Sand, dark-gray; fine subangular to subrounded clear quartz sand. Trace of rose quartz, fine-grained dark-green glauconite, fine rounded quartz gravel. No microfossils.
- Upper Eocene--Upper part of Castle Hayne Limestone
- 25-30 Sand, medium-gray; same as 10-25 foot interval with white limestone fragments prominent. Trace of brown clay. Foraminifera and Ostracoda rare.
- 30-35 Limestone, light-gray; fine to medium sand-size particles of white limestone. Medium rounded quartz sand and broken shell fragments prominent. Trace of brown clay. Ostracoda and Foraminifera rare.
- 35-41 Limestone and sand, light-gray; 95 percent coarse fragments of white and light-gray limestone, 5 percent coarse rounded quartz sand. Fine-grained glauconite prominent. Foraminifera rare, no Ostracoda.
- 41-46 Sand, light-gray; 95 percent angular to subangular quartz sand, 5 percent coarse limestone fragments. Trace of fine-grained glauconite, phosphate, pyrite aggregates, black clay. Foraminifera rare, no Ostracoda.
- 46-61 Limestone and sand, light-gray; coarse particles of fine-grained quartz and glauconite in white limestone matrix. Trace of coarse quartz sand, brown clay, phosphate. No microfossils.
- 61-66 Sand, medium-gray; fine subangular to subrounded quartz sand. Trace of fine-grained glauconite, brown clay. Foraminifera rare, no Ostracoda.
- 66-71 Limestone and sand, light-gray; 90 percent medium sand-size fragments of white limestone, 10 percent medium subrounded to rounded quartz sand. Fine-grained glauconite prominent. Foraminifera rare, no Ostracoda.
- 71-76 Limestone and sand, light-gray; same as 66-71 foot interval with trace of phosphate and light-gray clay. Foraminifera and Ostracoda rare.
- 76-82 Limestone and sand, light-gray; same as 71-76 foot interval with Foraminifera common, Ostracoda rare.

Middle Eocene--Middle part of Castle Hayne Limestone

- 82-123 Sand and limestone, light-gray; 90 percent fine subangular to subrounded clear quartz sand, 10 percent medium sand-size fragments of white limestone. Trace of fine-grained glauconite and brown clay. Foraminifera and Ostracoda common.
- 123-127 Limestone and sand, light-gray; coarse particles of fine subrounded quartz sand in light-gray limestone matrix. Light-gray clay and fine-grained glauconite prominent. Foraminifera common, Ostracoda rare.
- 127-132 Sand and limestone, light-gray; 85 percent fine subangular to subrounded clear quartz sand, 10 percent fine sand-size particles of light-gray limestone, 5 percent fine to medium gravel-size particles of fine sand with limestone cement. Trace of fine-grained glauconite, coarse shell fragments, pyrite aggregates. Foraminifera common, diatoms and Ostracoda rare.
- 132-137 Sand and limestone, light-gray; same as 127-132 foot interval with Foraminifera and Ostracoda common, no diatoms.
- 137-152 Sand and limestone, light-gray; same as 132-137 foot interval with Foraminifera abundant, Ostracoda common.
- 152-157 Sand and limestone, light-gray; same as 137-152 foot interval with 5 percent increase in sand-limestone aggregates and corresponding decrease in quartz sand. Foraminifera abundant, Ostracoda common.
- 157-162 Sand and limestone, light-gray; same as 152-157 foot interval with 5 percent increase in quartz sand and corresponding decrease in sand-limestone aggregates. Foraminifera abundant, Ostracoda common.
- 162-203 Sand and limestone, light-gray; same as 157-162 foot interval with 5 percent decrease in fine sand-size particles of limestone. Trace of fine rounded quartz gravel. Foraminifera abundant, Ostracoda common.
- 203-209 Sand and limestone, light-gray; same as 162-203 foot interval with Foraminifera very abundant, Ostracoda common.

- 209-214 Sand and gravel, light-gray; 80 percent medium subangular to subrounded clear quartz sand, 10 percent fine rounded quartz gravel, 10 percent gray clay. Trace of limonite-stained quartz, fine-grained glauconite, sand and limestone aggregates, rose quartz, black clay, fine sand-size particles of limestone. Foraminifera abundant, Ostracoda common.
- 214-219 Sand and gravel, light-gray; same as 209-214 foot interval with Foraminifera common, no Ostracoda.
- 219-229 Sand and gravel, light-gray; same as 214-219 foot interval with Foraminifera abundant, Ostracoda rare.
- 229-236 Sand, light-gray; 90 percent fine subangular to subrounded clear quartz sand, 5 percent light-gray clay, 5 percent fine sand-size particles of limestone. Fine rounded quartz gravel prominent. Trace of sand and limestone aggregates, rose quartz, limonite-stained quartz, fine-grained glauconite. Foraminifera abundant, Ostracoda rare.
- 236-246 Sand, light-gray; same as 229-236 foot interval with Foraminifera common, no Ostracoda.
- 246-251 Sand, light-gray; same as 236-246 foot interval with Foraminifera very abundant, Ostracoda rare.
- 251-256 Sand, light-gray; same as 246-251 foot interval with slight increase in fine quartz gravel. Foraminifera common, no Ostracoda.
- 256-261 Sand and limestone, light-gray; 70 percent fine angular to subangular clear quartz sand, 20 percent fine sand-size particles of limestone, 10 percent light-gray clay. Sand and limestone aggregates prominent. Trace of fine rounded quartz gravel, limonite-stained quartz, fine-grained glauconite, pyrite aggregates, phosphate. Foraminifera abundant, Ostracoda rare.
- 261-266 Limestone and sand, light-gray; 80 percent fine to medium sand-size particles of light-gray limestone, 10 percent light-gray clay, 10 percent fine-grained angular to subangular quartz sand. Fine gravel-size quartz and limestone fragments prominent. Trace of glauconite, limonite-stained quartz, phosphate. Foraminifera very abundant, Ostracoda rare.
- 266-276 Limestone and sand, light-gray; same as 261-266 foot interval with increase in size of limestone particles to coarse sand-size. Foraminifera abundant, Ostracoda rare.

276-307 Limestone, light-gray; 90 percent coarse sand-size fragments of limestone, 5 percent light-gray clay, 5 percent coarse subangular to subrounded quartz sand. Trace of fine-grained glauconite and limonite-stained quartz. Foraminifera abundant, Ostracoda rare.

Lower Eocene--Lower part of Castle Hayne Limestone

307-317 Limestone, light-gray; same as 276-307 foot interval.

317-322 Limestone, light-gray; same as 307-317 foot interval with 5 percent increase in coarse quartz sand and corresponding decrease in coarse limestone fragments. Coarse-grained glauconite prominent. Trace of phosphate, pyrite aggregates. Foraminifera abundant, Ostracoda rare.

322-337 Limestone, light-gray; 80 percent coarse sand-size particles of light-gray limestone, 10 percent coarse-grained glauconite, 10 percent coarse angular to subangular quartz sand. Trace of siderite, pyrite aggregates. Foraminifera abundant, Ostracoda rare.

337-348 Limestone and sand, light-gray; 70 percent fine sand-size fragments of limestone, 15 percent fine subangular to subrounded quartz sand, 10 percent fine-grained glauconite, 5 percent light-gray clay. Trace of siderite, phosphate. Foraminifera abundant, Ostracoda common.

348-358 Limestone and sand, light-gray; same as 337-348 foot interval with 10 percent increase in quartz sand and corresponding decrease in limestone. Foraminifera abundant, Ostracoda rare.

Upper Cretaceous--Peedee Formation

358-389 Sand and limestone, light-gray; 50 percent fine subangular to subrounded quartz sand, 40 percent fine sand-size limestone particles, 5 percent fine-grained glauconite, 5 percent light-gray clay. Trace of rose quartz, limonite-stained quartz, phosphate, pyrite aggregates. Foraminifera abundant, Ostracoda common.

389-399 Sand, light-gray; 90 percent medium subangular to subrounded clear quartz sand, 10 percent medium sand-size particles of light-gray limestone. Trace of light-gray clay, medium-grained glauconite, pyrite aggregates, rose quartz. Foraminifera abundant, Ostracoda common.

399-409 Sand, light-gray; fine subangular to subrounded clear quartz sand. Fine-grained dark-green glauconite and coarse sand-size particles of limestone prominent. Trace of rose quartz, pyrite aggregates. Foraminifera abundant, Ostracoda common.

- 409-419 Sand, light-gray; 75 percent fine angular to subangular clear quartz sand, 15 percent coarse subangular to subrounded quartz sand, 10 percent coarse sand-size fragments of light-gray limestone. Trace of fine-grained glauconite, brown clay, siderite, gray clay, pyrite aggregates. Foraminifera abundant, Ostracoda rare.
- 419-430 Sand, light-gray; fine subangular to rounded clear quartz sand. Fine-grained glauconite and coarse rounded quartz sand prominent. Trace of fine sand-size limestone particles, rose quartz, phosphate, limonite-stained quartz, light-gray clay. Foraminifera abundant, Ostracoda common.

Upper Cretaceous--Black Creek Formation

- 430-471 Sand, light-gray; 80 percent fine subangular to subrounded quartz sand, 10 percent coarse rounded quartz sand, 10 percent coarse sand-size particles of limestone. Trace of phosphate, fine-grained glauconite, pyrite aggregates, limonite-stained quartz, rose quartz, light-gray clay. Foraminifera common, Ostracoda rare.
- 471-481 Sand, light-gray; 90 percent fine subangular to subrounded clear quartz sand, 10 percent light-gray clay. Fine-grained glauconite prominent. Trace of coarse sand-size fragments of limestone, rose quartz, brown clay, coarse rounded quartz sand. Foraminifera common, Ostracoda rare.
- 481-491 Sand and clay, medium-gray; 75 percent fine angular to subangular clear quartz sand, 20 percent light-gray clay, 5 percent fine rounded quartz gravel. Coarse sand-size particles of light-gray limestone prominent. Trace of fine-grained glauconite, siderite, pyrite aggregates, brown clay. Foraminifera common, Ostracoda rare.
- 491-522 Sand and clay, medium-gray; same as 481-491 foot interval with 5 percent increase in rounded quartz gravel and corresponding decrease in fine quartz sand. Trace of rose quartz and limonite-stained quartz. Foraminifera common, Ostracoda rare.
- 522-532 Sand, medium-gray; same as 491-522 foot interval with 10 percent increase in fine quartz sand and corresponding decrease in clay. Fine-grained glauconite prominent. Foraminifera abundant, Ostracoda rare.
- 532-635 Sand, medium-gray; 85 percent fine angular to subangular clear quartz sand, 10 percent light-gray clay, 5 percent fine-grained glauconite. Trace of fine rounded quartz gravel, pyrite aggregates, phosphate, rose quartz. Foraminifera common, Ostracoda rare.

- 635-645 Sand and clay, dark-gray; 65 percent fine angular to subangular clear quartz sand, 20 percent dark-gray clay, 15 percent coarse subangular to subrounded quartz sand. Fine-grained glauconite prominent. Trace of fine rounded quartz gravel, pyrite aggregates, phosphate, rose quartz, limestone fragments. Foraminifera common, Ostracoda rare.
- 645-665 Sand and clay, dark-gray; same as 635-645 foot interval with slight increase in coarse sand.
- 665-676 Sand and clay, dark-gray; same as 645-665 foot interval with Foraminifera and Ostracoda common.
- 676-717 Sand and clay, dark-gray; same as 665-676 foot interval with 5 percent increase in dark-gray clay and corresponding decrease in fine quartz sand. Foraminifera common, Ostracoda rare.
- 717-758 Sand and clay, dark-gray; 45 percent fine angular to subangular clear quartz sand, 40 percent dark-gray clay, 15 percent coarse subangular to subrounded quartz sand. Fine-grained glauconite prominent. Trace of pyrite aggregates, rose quartz, limonite-stained quartz, siderite, shell fragments, black clay. Foraminifera common, Ostracoda rare.
- 758-788 Sand and clay, dark-gray; same as 717-758 foot interval with Foraminifera and Ostracoda rare.
- 788-799 Sand and clay, dark-gray; same as 758-788 foot interval with Foraminifera common, Ostracoda rare.
- 799-809 Sand, medium-gray; 90 percent medium subangular to subrounded clear quartz sand; 10 percent coarse subrounded to rounded quartz sand. Fine-grained glauconite prominent. Trace of phosphate, limonite-stained quartz, pyrite aggregates. Foraminifera and Ostracoda rare.
- 809-819 Sand and clay, dark-gray; 70 percent fine subangular to subrounded quartz sand, 20 percent medium-gray clay, 10 percent coarse subrounded to rounded quartz sand. Fine-grained glauconite prominent. Trace of pyrite aggregates, reddish-brown clay, phosphate, fragments of limestone. Foraminifera and Ostracoda rare.
- 819-829 Sand and clay, dark-gray; same as 809-819 foot interval with trace of black clay. Foraminifera and Ostracoda common.
- 829-860 Sand and clay, dark-gray; same as 819-829 foot interval with Foraminifera and Ostracoda rare.

- 860-881 Sand and clay, dark-gray; same as 829-860 foot interval with 10 percent decrease in coarse quartz sand and corresponding increase in fine quartz sand. Black and brown clay prominent. Foraminifera and Ostracoda rare.
- 881-912 Sand, medium-gray; 80 percent fine subangular to subrounded clear quartz sand, 20 percent coarse subangular to subrounded clear quartz sand. Fine-grained glauconite prominent. Trace of rose quartz, phosphate, black clay, pyrite aggregates, shell fragments, Foraminifera common, no Ostracoda.
- 912-964 Sand, medium-gray; 95 percent fine subangular to subrounded clear quartz sand, 5 percent fine-grained dark- to light-green glauconite. Trace of coarse rounded quartz sand, shell fragments, phosphate, hematite, limonite-stained quartz, fine-grained muscovite. Foraminifera common, Ostracoda rare.

WELL NUMBER 181

Location: 351102N0771019.1
 Depth: 112 feet
 Elevation of land surface: 20 feet

Date drilled: 1962
 Driller: USGS

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Clayey sand, brown
5-10	Clay, brown
10-25	Clayey sand, brown
25-35	Sand, gray-brown
35-40	Sand, gray
Late Miocene--Yorktown Formation	
40-60	Sand, gray
Eocene--Castle Hayne Limestone (Abundant Claiborne fossil fauna)	
60-112	Sand, gray

WELL NUMBER 195

Location: 351640N0771840.1
 Depth: 112 feet
 Elevation of land surface: 47 feet

Date drilled: 1962
 Driller: USGS

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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Post-Miocene--undifferentiated

0-5	Clayey sand, brown
5-15	Sand, brown
15-30	Sand, gray

Eocene--Castle Hayne Limestone

(An abrupt fossil faunal change at a depth of 90 feet marks an environmental or lithologic change and indicates glauconitic sand below 90 feet.)

30-70	Sand, gray
70-80	Sand, gray, clay, gray, and some gravel
80-90	Sand, greenish gray, and angular fragments
90-112	Clayey sand, green, and some gravel

WELL NUMBER 197

Location: 351802N0772018.1
 Depth: 104 feet
 Elevation of land surface: 40 feet

Date drilled: 1955
 Driller: Heater Well Company

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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0-8	Topsoil
8-20	Gray clay
20-36	Soft gray marl
36-42	Shells and brown clay
42-101	Shellrock and sand
101-104	Fine sand

WELL NUMBER 203

Location: 351928N0772506.1
 Depth: 33 feet
 Elevation of land surface: 35 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Clayey sand, brown
5-10	Sand, brown
	Late Miocene--Yorktown Formation (Fossil fauna very scarce and poorly preserved)
10-25	Sand, yellow
25-30	Sand, gray
30-33	Sand, gray and clay, gray, some rock fragments. Bottom layer hard.

WELL NUMBER 206

Location: 351736N0772248.1
 Depth: 56 feet
 Elevation of land surface: 43 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sandy clay, brown
5-20	Sand, brown
	Eocene--Castle Hayne Limestone
20-30	Sand, brown
30-35	Sand, gray
35-56	Sand, gray, some cemented fragments. Hard zone at bottom.

WELL NUMBER 212

Location: 351459N0772045.1
 Depth: 109 feet
 Elevation of land surface: 51 feet

Date drilled: 1962
 Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
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Post-Miocene--undifferentiated

0-5	Clayey sand, brown
5-10	Sand, gray
10-15	Sand, brown
15-25	Sand, gray

Eocene--Castle Hayne Limestone

(First fossil fauna occur at depth of 25-30 feet and are of middle Eocene age, Claiborne equivalent.)

25-40	Sand, gray
40-45	Sand, greenish gray, some cemented sand and shell
45-60	Sand, greenish gray
60-80	Sand, gray and green
80-100	Clayey sand, green, and some gray and yellow sand
100-109	Clayey sand, green

WELL NUMBER 214

Location: 351331N0771827.1

Depth: 58 feet

Elevation of land surface: 45 feet

Date drilled: 1962

Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
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0-15	Sand, brown
15-55	Sand, gray, and silt; becoming siltier with depth
55-58	Sand, gray. Hard zone at 58 feet, could not penetrate.

WELL NUMBER 218

Location: 351234N0771518.1

Depth: 112 feet

Elevation of land surface: 45 feet

Date drilled: 1962

Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
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Post-Miocene--undifferentiated

0-10	Sand, dark brown
10-15	Sandy clay, gray
15-25	Sand, gray

Late Miocene--Yorktown Formation

25-55 Sand, gray

Eocene--Castle Hayne Limestone
(Upper part of Castle Hayne Limestone)

55-80 Sand, gray
80-112 Sand, greenish gray

WELL NUMBER 225

Location: 350628N0770605.1
Depth: 62 feet
Elevation of land surface: 21 feet

Date drilled: 1962
Driller: USGS

Depth
(feet)

Description

Post-Miocene(?)--undifferentiated
(No fossil fauna or other distinguishing features in this unit)

0-5 Clayey sand, brown
5-10 Sand, brown
10-40 Sand, gray

Middle Miocene
(Well preserved and abundant fossil fauna in this unit)

40-50 Sand, gray
50-62 Sand, and shell, angular fragments, cemented

WELL NUMBER 228

Location: 350513N0770412.1
Depth: 67 feet
Elevation of land surface: 10 feet

Date drilled: 1962
Driller: USGS

Depth
(feet)

Description

Post-Miocene--undifferentiated

0-10 Sand, brown

Oligocene

(This unit contains specimen of nonion pizzarensis, middle Miocene age, mixed with fossils of Oligocene age. The fossil Leguminocythereis scarabaeus established the age of the unit.)

10-25	Sand, brown
25-30	Sand, gray and brown, hard
30-60	Sand, brown
60-67	Sand, and shell, and angular fragments, cemented

WELL NUMBER 232

Location: 350432N0770448.1
Depth: 72 feet
Elevation of land surface: 12 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-15	Sand, brown
	Late Miocene--Yorktown Formation
15-25	Sand, brown
	Oligocene--undifferentiated (Fossil fauna of Oligocene age fairly abundant. This unit contains secondary phosphate.)
25-45	Sand, gray-brown
45-54	Sand, brown
54-72	Sand, and shell, and angular fragments cemented, hard zone

WELL NUMBER 248

Location: 350522N0770554.1
Depth: 57 feet
Elevation of land surface: 18 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, brown
5-15	Sand, white

Oligocene(?)--undifferentiated

(This unit is very phosphatic, the phosphate being a secondary replacement of shell material. The fossil fauna are composed of forms of Miocene age and older forms that may be of Oligocene(?) age.)

15-45	Sand, brown
45-48	Sand, gray-brown
48-57	Sand, and shell, angular fragments cemented

WELL NUMBER 261

Location: 350813N0771021.1
Depth: 112 feet
Elevation of land surface: 25 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Clay, brown
5-10	Sand, brown
10-20	Sand, gray
Late Miocene--Yorktown Formation	
20-30	Sand, gray
30-35	Sand, gray, hard
Eocene--Castle Hayne Limestone	
35-40	Sand, gray, hard
40-65	Sand, brown
65-112	Limestone, gray, angular fragments

WELL NUMBER 263

Location: 350838N0771133.1
Depth: 50 feet
Elevation of land surface: 31 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-10	Sand, brown

Late Miocene--Yorktown Formation

10-15 Sand, gray
15-30 Sand, greenish gray
30-35 Sand, brown, hard

Oligocene(?)

35-50 Limestone, gray

WELL NUMBER 273

Location: 351124N0771858.1
Depth: 112 feet
Elevation of land surface: 44 feet

Date drilled: 1962
Driller: USGS

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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Post-Miocene--undifferentiated

0-5 Clayey sand, brown
5-15 Clayey sand, dark gray

Castle Hayne Limestone(?)
(Established on lithology only)

15-35 Sand, gray

Eocene--Castle Hayne Limestone

(This unit contains the uppermost identifiable fossil fauna, and is from the upper part of the Castle Hayne Limestone of middle Eocene age. The fossils are present in all sediment to the bottom of the hole.)

35-90 Sand, gray
90-100 Sand, light gray, angular
100-112 Sand, greenish gray

WELL NUMBER 275

Location: 351414N0772343.1
Depth: 60 feet
Elevation of land surface: 50 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, brown
	Late Miocene--Yorktown Formation (Fossil fauna very scarce)
5-10	Sand, greenish gray
10-25	Sand, gray
	Eocene--Castle Hayne Limestone (Fossil fauna abundant)
25-30	Sand, gray
30-50	Sand, greenish gray
50-60	Clayey sand, greenish gray

WELL NUMBER 281

Location: 351624N0772505.1
 Depth: 23 feet
 Elevation of land surface: 41 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
0-7	Clay, brown
7-13	Sand, brown
13-20	Sand, gray
20-23	Sand, greenish-gray. Some cementing. Sample scraped off auger. Hard zone at 23 feet, could not penetrate.

WELL NUMBER 289

Location: 351236N0772359.1
 Depth: 90 feet
 Elevation of land surface: 61 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, dark brown
5-20	Sand, brown

Late Miocene--Yorktown Formation

(Fossil fauna scarce and poorly preserved but identifiable as late Miocene in age.)

20-25	Sand, gray
25-50	Sand, greenish gray
50-65	Sand, brownish gray
65-70	Clayey sand, greenish gray

Eocene--Castle Hayne Limestone

(Eocene fossil fauna abundant and diagnostic)

70-85	Clayey sand, greenish gray
85-90	Clayey sand, greenish gray, and fragments of cemented sand.

WELL NUMBER 294

Location: 350944N0772035.1
Depth: 86 feet
Elevation of land surface: 41 feet

Date drilled: 1962
Driller: USGS

Depth
(feet)

Description

Post-Miocene--undifferentiated

0-5 Sand, brown

Eocene--Castle Hayne Limestone

5-86 Sand, gray, hard at bottom of hole

WELL NUMBER 302

Location: 351009N0771503.1
Depth: 112 feet
Elevation of land surface: 52 feet

Date drilled: 1962
Driller: USGS

Depth
(feet)

Description

Post-Miocene--undifferentiated

0-5	Clay, brown
5-15	Clayey sand, brown

- 5-15 Sand and clay, tan; 85 percent fine subangular to subrounded clear quartz sand, 15 percent tan clay. Trace of very fine-grained phosphate, fine-grained smoky quartz, black clay, lignitized wood. No microfossils.
- 15-20 Sand, light-gray; fine subangular to subrounded clear quartz sand. Trace of fine-grained phosphate, limonite-stained quartz, black clay, lignitized wood. No microfossils.

Middle Eocene--Castle Hayne Limestone

- 20-25 Sand, light-gray; same as 15-20 foot interval with Foraminifera very rare, no Ostracoda.
- 25-30 Sand, light-gray; same as 20-25 foot interval with trace of white limestone fragments. Foraminifera and Ostracoda rare.
- 30-35 Sand and limestone, light-gray; 70 percent fine subangular to subrounded clear quartz sand, 30 percent fine sand-size particles of white limestone. Trace of shell fragments, limonite-stained quartz, rose quartz, black clay. Foraminifera and Ostracoda common.
- 35-41 Limestone and sand, light-gray; 75 percent coarse to medium sand-size particles of light-gray to white limestone, 25 percent fine subangular to subrounded clear quartz sand. Coarse rounded quartz sand prominent. Trace of fine-grained glauconite and phosphate, rose quartz. Foraminifera and Ostracoda rare.
- 41-46 Limestone, light-gray; same as 35-41 foot interval with 20 percent increase in limestone fragments and corresponding decrease in fine quartz sand. No microfossils.
- 46-56 Limestone, light-gray; same as 41-46 foot interval with Foraminifera abundant, Ostracoda rare.
- 56-61 Limestone, light-gray; same as 46-56 foot interval with Foraminifera common, Ostracoda rare.
- 61-82 Limestone, light-gray; coarse-sand to fine-gravel size particles of light-gray to white limestone. Trace of medium subangular to subrounded quartz sand, coarse broken shell fragments, fine-grained glauconite. Foraminifera common, Ostracoda rare.

- 82-92 Limestone and clay, light-gray; 75 percent coarse sand-size particles of medium-gray to white limestone, 15 percent light-gray clay, 10 percent fine subangular to subrounded clear quartz sand. Trace of fine-grained glauconite, coarse broken shell fragments. Foraminifera abundant, Ostracoda rare.
- 92-108 Sand and clay, light-gray; 80 percent fine subangular to subrounded clear quartz sand, 15 percent light-gray clay, 5 percent fine sand-size particles of light-gray limestone. Fine gravel-size particles of medium-gray limestone prominent. Trace of rose quartz, fine-grained glauconite and phosphate, coarse shell fragments. Foraminifera common, Ostracoda rare.
- 108-123 Limestone and clay, light-gray; 60 percent coarse gravel-size particles of limestone, sand, and glauconite, 15 percent fine gravel-size particles of medium-gray limestone and sand, 15 percent light-gray clay, 10 percent fine subangular to subrounded clear quartz sand. Trace of rose quartz, fine-grained glauconite, fine-grained phosphate, coarse rounded quartz gravel, lignite. Foraminifera abundant, Ostracoda rare.
- 123-133 Limestone and clay, light-gray; same as 108-123 foot interval with 20 percent increase in clear quartz sand and corresponding decrease in coarse gravel-size limestone-and-sand aggregates. Foraminifera abundant, Ostracoda rare.
- 133-138 Sand and clay, light-gray; 50 percent fine subangular to subrounded clear quartz sand, 20 percent coarse sand-size particles of light-gray to white limestone, 20 percent light-gray clay, 10 percent fine-to-coarse gravel-size limestone-and-sand aggregates. Trace of phosphate, fine-grained glauconite. Foraminifera abundant, Ostracoda rare.
- 138-154 Sand and limestone, light-gray; 45 percent fine subangular to subrounded clear quartz sand, 40 percent fine-to-coarse gravel-size aggregates of limestone and sand and coarse broken shell fragments, 15 percent light-gray clay. Trace of fine-grained glauconite and phosphate, rose quartz, limonite-stained quartz. Foraminifera very abundant, Ostracoda rare.
- 154-159 Sand and limestone, light-gray; 75 percent fine to very fine subangular to subrounded clear quartz sand, 15 percent coarse gravel-size particles of limestone and sand and coarse broken shell fragments, 10 percent light-gray clay. Coarse sand-size fragments of white limestone prominent. Trace of coarse rounded quartz gravel, fine-grained glauconite, black clay. Foraminifera very abundant, Ostracoda common.

- 159-169 Limestone and sand, light-gray; 60 percent fine-to-coarse gravel-size particles of medium-gray limestone and sand aggregates and coarse shell fragments, 20 percent fine subangular to subrounded clear quartz sand, 10 percent coarse sand-size particles of white limestone, 10 percent light-gray clay. Trace of phosphate, fine-grained glauconite, limonite-stained quartz, black clay. Foraminifera very abundant, Ostracoda common.
- 169-174 Sand and limestone, light-gray; 65 percent fine subangular to subrounded clear quartz sand, 15 percent light-gray clay, 10 percent coarse sand-size particles of white limestone, 10 percent fine gravel-size particles of limestone and sand. Trace of fine-grained glauconite, phosphate, brown clay. Foraminifera abundant, Ostracoda common.
- 174-179 Limestone and sand, light-gray; 35 percent coarse sand-size particles of dark-gray limestone and sand aggregates, 25 percent fine subangular to subrounded clear quartz sand, 25 percent coarse sand-size particles of white limestone, 15 percent light-gray clay. Fine-grained light-green glauconite prominent. Trace of phosphate, coarse shell fragments. Foraminifera abundant, no Ostracoda.
- 179-190 Limestone and sand, light-gray; same as 174-179 foot interval with Foraminifera abundant, Ostracoda rare.

Paleocene--Beaufort Formation

- 190-200 Limestone and sand, light-gray; 50 percent fine subangular to subrounded clear quartz sand, 25 percent coarse sand-size particles of white limestone, 15 percent fine-to-medium gravel-size particles of dark-gray limestone and limestone & sand aggregates, 10 percent light-gray clay. Fine-grained dark-green glauconite prominent. Trace of rose quartz, phosphate. Foraminifera abundant, Ostracoda common.
- 200-205 Limestone and sand, light-gray; 40 percent fine-to-medium subrounded clear quartz sand, 35 percent medium sand-size particles of white to light-gray limestone, 15 percent light-gray clay, 10 percent fine-to-medium gravel-size particles of medium-gray limestone and coarse broken shell fragments. Trace of fine- to medium-grained glauconite, fine-grained phosphate, rose quartz. Foraminifera abundant, Ostracoda rare.
- 205-215 Limestone and sand, greenish-gray; same as 200-205 foot interval with glauconite prominent. Foraminifera and Ostracoda common.

215-246 Glauconitic sand and limestone, greenish-gray; 55 percent fine-to-medium subangular to subrounded clear quartz sand, 35 percent fine to medium sand-size particles of light-gray to white limestone, 10 percent fine-grained dark-green glauconite. Coarse sand-size particles of medium-gray limestone and coarse shell fragments prominent. Trace of rose quartz, smoky quartz, light-gray clay. Foraminifera abundant, Ostracoda common.

Upper Cretaceous--Peedee Formation

246-256 No sample.

256-277 Sand, light-gray; 80 percent fine subangular to subrounded clear quartz sand, 10 percent medium subangular to subrounded clear quartz sand, 10 percent fine to medium sand-size particles of white limestone. Coarse sand to fine gravel-size particles of medium-gray limestone fragments prominent. Trace of dark to light-green glauconite, phosphate, smoky quartz, limonite-stained quartz. Foraminifera abundant, Ostracoda common.

277-297 Sand, light-gray; fine subangular to subrounded clear quartz sand. Trace of medium sand-size particles of dark-gray limestone. Trace of fine-grained dark to light-green glauconite, smoky quartz, brown clay. Foraminifera and Ostracoda common.

297-328 Sand, light-gray; 60 percent fine to medium subangular to subrounded clear quartz sand, 40 percent coarse subrounded clear quartz sand. Coarse sand-size aggregates of limestone and sand prominent. Trace of fine-grained glauconite, phosphate, rose quartz, smoky quartz, limonite-stained quartz. Foraminifera common, Ostracoda rare.

328-349 Sand and clay, medium-gray; 75 percent very fine angular to subangular clear quartz sand, 15 percent medium-gray clay, 10 percent coarse subrounded clear quartz sand. Coarse sand-size particles of white limestone and medium-gray limestone and sand aggregates prominent. Trace of fine-grained dark-green glauconite, smoky quartz, brown clay. Foraminifera and Ostracoda common.

349-359 Sand and clay, medium-gray; 80 percent very fine subangular to subrounded clear quartz sand, 20 percent medium-gray clay. Trace of coarse rounded quartz sand, fine-grained dark-green glauconite, rose quartz, phosphate, limestone and sand aggregates, pyrite aggregates. Foraminifera and Ostracoda common.

359-369 Sand and clay, dark-gray; 75 percent fine angular to subangular clear quartz sand, 15 percent medium-gray clay, 10 percent coarse subrounded to rounded quartz sand. Fine-grained dark-green glauconite prominent. Trace of limestone and sand aggregates, pyrite aggregates, phosphate, rose quartz, smoky quartz. Foraminifera common, no Ostracoda.

369-410 Sand and clay, dark-gray; same as 359-369 foot interval with Foraminifera common, Ostracoda rare.

Upper Cretaceous--Black Creek Formation
Snow Hill member (Taylor equivalent)

410-420 Sand and clay, dark-gray; same as 369-410 foot interval with trace of lignitized wood, black clay. Foraminifera common, no Ostracoda.

420-472 Sand and clay, dark-gray; same as 410-420 foot interval with trace of fine-grained muscovite. Foraminifera common, Ostracoda rare.

472-523 Sand and clay, dark-gray; 85 percent very fine subangular to subrounded clear quartz sand, 15 percent dark-gray clay. Fine-grained glauconite and coarse subrounded quartz sand prominent. Trace of phosphate, pyrite aggregates, rose quartz, shell fragments, white limestone fragments, fine-grained muscovite, black clay. Foraminifera common, Ostracoda rare.

523-533 Sand and clay, dark-gray; same as 472-523 foot interval with pyrite aggregates prominent. Foraminifera common, Ostracoda rare.

533-543 Sand, light-gray; 60 percent medium subangular to subrounded clear quartz sand, 20 percent very fine angular to subangular clear quartz sand, 20 percent coarse rounded to subrounded quartz sand. Trace of pyrite aggregates, fine-grained glauconite, phosphate, rose quartz, shell fragments. Foraminifera and Ostracoda common.

Upper Cretaceous--Black Creek Formation
Lower unnamed member (Austin equivalent)

543-554 Sand, light-gray; same as 533-543 foot interval.

554-564 Sand, medium-gray; 90 percent very fine angular to subangular clear quartz sand, 10 percent medium subangular to subrounded clear quartz sand. Fine-grained glauconite prominent. Trace of pyrite aggregates, phosphate, rose quartz, reddish-brown clay. Foraminifera abundant, Ostracoda common.

- 564-636 Sand, medium-gray; same as 554-564 foot interval with 5 percent increase in glauconite and corresponding decrease in medium quartz sand. Trace of white limestone fragments, black clay. Foraminifera abundant, Ostracoda common.
- 636-656 Sand and clay, medium-gray; 55 percent medium subangular to subrounded clear quartz sand, 20 percent coarse sand to fine gravel-size particles of light-gray limestone and limestone and sand aggregates, 15 percent fine angular to subangular clear quartz sand, 10 percent light-gray clay. Fine-grained glauconite prominent. Trace of pyrite aggregates, phosphate, siderite, brown clay, black clay. Foraminifera and Ostracoda common.
- 656-687 Sand and clay, dark-gray; 65 percent medium subangular to subrounded clear quartz sand, 30 percent light-gray clay, 5 percent coarse rounded to subrounded quartz sand, fine-grained dark- to light-green glauconite. Trace of pyrite aggregates, phosphate, siderite, limestone and sand aggregates, black clay. Foraminifera and Ostracoda common.
- 687-697 Sand and clay, dark-gray; same as 656-687 foot interval with trace of amber. Foraminifera and Ostracoda common.
- 697-707 Sand and clay, dark-gray; same as 687-697 foot interval with trace of fine-grained muscovite. Foraminifera and Ostracoda rare.
- 707-789 Sand and clay, dark-gray; same as 697-707 foot interval with no amber. Foraminifera and Ostracoda common.
- 789-830 Sand and clay, dark-gray; 45 percent fine subangular to subrounded clear quartz sand, 5 percent medium subrounded quartz sand, 50 percent medium-gray clay. Fine-grained light-green glauconite and fine-grained phosphate prominent. Trace of pyrite aggregates, black clay, siderite, rose quartz, lignitized wood. Foraminifera and Ostracoda rare.
- 830-851 Sand and clay, dark-gray; 65 percent fine subangular to subrounded clear quartz sand, 25 percent medium-gray clay, 10 percent coarse subrounded quartz sand. Fine-grained dark- to light-green glauconite and coarse particles of white limestone prominent. Trace of phosphate, pyrite aggregates, black clay, rose quartz, lignitized wood. Foraminifera and Ostracoda rare.
- 851-861 No sample.
- 861-887 Sand and clay, dark-gray; same as 830-851 foot interval.

WELL NUMBER 307

Location: 350646N0771110.1
 Depth: 112 feet
 Elevation of land surface: 32 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Sandy clay, brown
5-10	Clayey sand, brown
10-20	Silty sand, brown
20-30	Sandy silt, brown
30-35	Silty sand, brown
Oligocene(?)--undifferentiated (Oligocene(?) may extend to 55 feet as fossil fauna scarce and poorly preserved in the 55-60 foot sample.)	
35-40	Silty sand, brown
40-50	Sand, greenish gray
Eocene--Castle Hayne Limestone (Uppermost zone containing definite Eocene age fossils was the 60-65 foot interval.)	
50-112	Sand, greenish gray

WELL NUMBER 309

Location: 350600N0771251.1
 Depth: 112 feet
 Elevation of land surface: 25 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Silty sand, brown
5-10	Sandy silt, gray
10-25	Silty sand, gray
Eocene--Castle Hayne Limestone (Abundant Eocene age fossil fauna)	
25-40	Silty sand, gray
40-55	Sand, gray and cemented fragments
55-65	Sand, greenish gray, and cemented fragments
65-112	Sand, greenish gray

WELL NUMBER 312

Location: 350431N0771045.1
 Depth: 112 feet
 Elevation of land surface: 31 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Silty sand, brown
5-20	Sand, brown
20-25	Sand, grayish brown
	Oligocene(?)--undifferentiated (This unit contains mixture of fossils of middle Miocene and Oligocene age, much of it replaced by phosphate.)
25-70	Sand, dark gray
	Eocene--Castle Hayne Limestone
70-85	Sand, dark gray
85-112	Sand, gray, and angular limestone fragments

WELL NUMBER 316

Location: 350323N0770634.1
 Depth: 112 feet
 Elevation of land surface: 20 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, brown
	Oligocene(?)--undifferentiated (fossils well preserved)
5-10	Sand, brown, and gravel
10-15	Shell
15-20	Sand, gray, and shell
20-30	Sand, gray
30-55	Sand, brown, and some shell
55-60	Sand, gray, and some shell
60-112	Sand, gray, some shell, and angular fragments of cemented sand and shell.

WELL NUMBER 339

Location: 350157N0770626.1
 Depth: 122 feet
 Elevation of land surface: 32 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-25	Sand, brown
25-40	Sand, gray
	Oligocene(?)--undifferentiated (This unit contains mixed fossil fauna of Oligocene and middle Miocene ages.)
40-55	Sand, gray
55-122	Sand, gray, and some shell

WELL NUMBER 340

Location: 350101N0770349.1
 Depth: 72 feet
 Elevation of land surface: 27 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, brown
	Late Miocene--Yorktown Formation (Uppermost interval containing identifiable fossils was 15-20 ft)
5-10	Sand, brown
10-40	Sand, gray
40-72	Sand and shell, some cementing

WELL NUMBER 341

Location: 350200N0770123.1
 Depth: 102 feet
 Elevation of land surface: 22 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene(?) (No fossil fauna)
0-5	Clay, tan
5-10	Clay, gray, sticky
	Late Miocene--Yorktown Formation (Late Miocene fossil fauna found in this well not characteristic of Yorktown in this area. The chief Foraminifera is <u>Elphidium</u> that is found chiefly in sediments of post-Miocene age. Correlation with Miocene is based on the Ostracoda in the interval 10-65 ft.)
10-15	Clay, blue, sticky
15-40	Sand, light brown, fine to medium, and some clay
40-65	Sand, gray, fine to medium
65-75	Clay
75-81	No sample
81-102	Clay

WELL NUMBER 344

Location: 350238N0770147.1
 Depth: 122 feet
 Elevation of land surface: 10 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Clayey sand, brown
	Late Miocene--Yorktown Formation
5-30	Sand, brown
30-35	Sand, gray, hard
35-45	Sand, gray, and shell
	Eocene(?)--Castle Hayne Limestone (Age of this unit based on two specimen of the Eocene fossil, <u>Loxoconcha claibornensis</u> .)
45-50	Sand, gray, and shell
50-110	Sand, gray to greenish gray
110-122	Sand, greenish gray, and shells

WELL NUMBER 355

Location: 350007N0770143.1
 Depth: 45 feet
 Elevation of land surface: 23 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Clay, brown
5-20	Sand, gray
Late Miocene--Yorktown Formation	
20-35	Sand, gray
35-40	Clay, gray
40-45	Sand, gray, hard zone

WELL NUMBER 361

Location: 345721N0770138.1
 Depth: 122 feet
 Elevation of land surface: 38 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Sandy silt, brown
5-15	Sandy silt, gray
Late Miocene--Yorktown Formation	
15-20	Sandy silt, gray
20-35	Silty sand, gray
35-65	Sand, gray
Middle Miocene--undifferentiated (Fossil <u>Bulimina elongata</u> abundant, and <u>Cibicides americana</u> rare.)	
65-122	Sand, gray

WELL NUMBER 362

Location: 345617N0770355.1
 Depth: 112 feet
 Elevation of land surface: 38 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Silt, brown, organic
10-25	Sand, gray-brown
	Late Miocene--Yorktown Formation
25-40	Sand, gray, and shells
40-95	Sand, clay, green, and shells
95-112	Sandy marl

WELL NUMBER 363

Location: 345434N0770606.1
 Depth: 137 feet
 Elevation of land surface: 38 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand and mud, organic
	Late Miocene--Yorktown Formation
10-15	Sand and mud, organic
15-35	Sand and some shells
35-40	Shell
40-45	Sand, gray, and shell
	Oligocene(?)--undifferentiated (Fossils partially replaced by phosphate)
45-137	Sand, gray, and shell

WELL NUMBER 368

Location: 345034N0765656.1
 Depth: 117 feet
 Elevation of land surface: 29 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Silty sand, brown
10-15	Sand, gray
	Late Miocene--Yorktown Formation
15-50	Sand, gray
	Oligocene(?)--undifferentiated (This unit contains fossil fauna indicative of sediments of other than Oligocene age.)
50-65	Sand, gray
65-70	Sand, gray
70-117	Clayey sand, greenish gray, and some shell

WELL NUMBER 370

Location: 3451. N0765337.1
 Depth: 60 feet
 Elevation of land surface: 27 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-15	Sand, brown
15-30	Sand, gray
	Late Miocene--Yorktown Formation (Abundant Miocene fossil fauna)
30-55	Sand, gray
55-60	Sand, gray, and shell, hard layer at bottom of hole

WELL NUMBER 377

Location: 345301N0765422.1
 Depth: 116 feet
 Elevation of land surface: 19 feet

Date drilled: 1941
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-25	Sand, yellow
25-30	Sand, gray, and clay
30-40	Sand, dark gray
40-55	Sand, gray, and shells
55-105	Sand, clay, and a small amount of shells
105-116	Sand, hard, and shells

WELL NUMBER 378

Location: 345300N0765410.1
 Depth: 105 feet
 Elevation of land surface: 11 feet

Date drilled: 1941
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-28	Fine to medium yellow-orange sand with a little clay.
28-36	Soft clay and fine sand.
36-55	Medium sand to fine gravel, calcareous cement, fossils.
55-85	Medium to coarse sand with some white and black pebbles to 1/2-in. Very fossiliferous.
85-88	Hard, brown calcareous cemented sandstone, fossils.
88-94	Shale, with fine sand in bedding plane.
94-97	Similar to 85-88 but finer.
97-105	Medium grained quartz sand; many fossils.

WELL NUMBER 380

Location: 345412N0765432.1
 Depth: 215 feet
 Elevation of land surface: 26 feet

Date drilled: 1941
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-15	Sand, fine-grained buff and yellow, with a little clay and a little fossil material.
15-40	Sand, fine-grained gray quartz, with a few grains of black pyrobole, a very little mica, and a little clay.

40-58	Clay, dark gray, with fine to medium sand and many tiny clam shells. Compact and sticky.
58-70	Mud, dark gray, with much very fine quartz sand. Very sticky.
70-90	Sand, medium fine to medium, gray, fossiliferous. Black grains, phosphatic(?).
90-100	Sand, fine-grained, gray, with enough clay to make it sticky.
100-114	Mud, gray, exceedingly sticky, some fine sand.
114-123	Sand, medium-grained, gray, with some coarse grains. Large pieces black material.
123-133	Sand, medium-grained quartz (buff-gray) with few larger grains of milky quartz fossils.
133-144	Sand, mostly coarse black and white, with some pebbles of white quartz and black chert. Medium grained black and white sand; fossils.
144-153	Similar to above but slightly coarser with a few pebbles; phosphatic(?).
153-208	Sand, alternating fine and coarse, and shell.
208-215	Sand, coarse, water bearing.

WELL NUMBER 382

Location: 345513N0765419.1

Date drilled: 1941

Depth: 275 feet

Driller: Heater Well Company

Elevation of land surface: 13 feet

<u>Depth (feet)</u>	<u>Description</u>
0-25	Clay, yellow sandy.
25-48	Clay, blue sandy, with shells.
48-63	Clay, dark gray, with shells and gravel.
63-75	Sand, gray, and water.
75-100	Clay, dark gray sandy.
100-130	Clay, dark gray, and sand with shells.
130-155	Sand, coarse. Water-bearing strata, water level 2 ft below surface. Coarse shell.
155-180	Fossiliferous gray sandstone molds and casts, hard and soft layers.
180-190	Limestone, sandy, with shells and pebbles.
190-200	Sandstone, calcareous, fossiliferous, similar to 155 ft to 180 ft.
200-210	Sandy, fossiliferous limestone, light gray.
210-215	As above; but consists almost entirely of casts and molds of fossils.
215-245	Sandstone, fossiliferous, calcareous, medium-grained, gray, hard and soft layers.
245-255	Sand and clay.
255-263	Sand, medium-fine, clean, uniform with some pieces of sandstone.
263-275	Sand, medium-grained, clean, with some shell and some lumps of sandstone or concretions.

WELL NUMBER 388

Location: 345404N0765406.1
 Depth: 220 feet
 Elevation of land surface: 18 feet

Date drilled: 1942
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-5	Fine yellow sand and clay
5-10	Fine yellow sand
10-15	Medium sand and stiff yellow clay
15-20	Stiff yellow clay
20-40	Coarse yellow sand
40-45	Fine gray sand and small shell
45-50	Green clay and small shell
50-54	Fine gravel
54-60	Fine sand
60-75	Fine sand and green clay
75-100	Large gravel
100-105	Fine gray sand
105-110	Medium gray sand
110-120	Coarse gray sand
120-135	Gray sand and small amount of shell
135-145	Coarse sand and shell
145-155	Consolidated shell
155-165	Shell rock
165-170	Fine gray sand
170-175	Small shell
175-185	Fine sand and large shell
185-190	Coarse sand and small shell
190-200	Coarse sand and fine shell
200-210	Coarse shell and sand
210-215	Fine shell and sand
215-220	Medium shell and sand

WELL NUMBER 394

Location: 345350N0765251.1
 Depth: 211 feet
 Elevation of land surface: 24 feet

Date drilled: 1941
 Driller: Heater Well Company

<u>Depth (feet)</u>	<u>Description</u>
0-25	Sand, yellow
25-45	Sand, white, and a little clay
45-80	Sand, blue, clay and shells
80-85	Coarse sand and shells

85-90	Clay, blue, sand and shells
90-95	Sand, fine, and shells with some clay
95-100	Sand, coarse, shells; water bearing
100-126	Clay, blue and shells
126-165	Sand, coarse, and shells; gets progressively coarser with depth; water bearing
165-211	Sandstone

WELL NUMBER 398

Location: 345224N0765126.1
 Depth: 112 feet
 Elevation of land surface: 5 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, brown
5-20	Sand, black humic
20-25	Sand, brown, some shell
	Late Miocene--Yorktown Formation
25-45	Sand, brown
45-50	Sand, gray, some shell
50-75	Sand, green
	Middle Miocene--undifferentiated
75-112	Sand, green, and clay, green

WELL NUMBER 402

Location: 345200N0764802.1
 Depth: 125 feet
 Elevation of land surface: 23 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-5	Sand, dark brown, humic

Late Miocene--Yorktown Formation

.5-20 Sand, brown and gray, and shell
20-35 Sand, dark gray, and shell
35-90 Sand, gray, and shell

Oligocene(?)--undifferentiated

(This unit contains fossils of middle Miocene and Oligocene age.)

90-125 Sand and clay, green, and shell

WELL NUMBER 407

Location: 345352N0764704.1
Depth: 112 feet
Elevation of land surface: 12 feet

Date drilled: 1962
Driller: USGS

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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Post-Miocene--undifferentiated

0-7	Fill
7-15	Sand, black, humic

Late Miocene--Yorktown Formation

(Late Miocene fossil fauna in 15-20 foot interval, continues to depth of 80 feet)

15-25	Sand, brown, and shell
25-30	Sand, yellow to brown, and shell
30-40	Sand, yellow to gray, and shell
40-80	Sand, gray, and shell

Middle Miocene

(Middle Miocene fossil fauna from depth of 80 feet to bottom of hole. Large number of diatoms from 105 to 112 feet. Phosphatic clay residue on microfossils.)

80-105	Sand and clay, green, shell at 90-95 ft
105-112	Sand, green to yellow, and shell

WELL NUMBER 413

Location: 345051N0764537.1
Depth: 117 feet
Elevation of land surface: 15 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-5	Sand, cream
5-20	Sand, dark brown
20-25	Sand, gray
Late Miocene--Yorktown Formation (The lowermost 20 feet is unfossiliferous, and is placed in Yorktown on basis of microlithology.)	
25-75	Sand, gray, and shell at 42 feet
75-80	Sand, light gray, and shell
Middle Miocene	
80-90	Sand, light gray, and shell
90-114	Sand and clay, green
114-117	Shell, hard

WELL NUMBER 415

Location: 345206N0764439.1

Date drilled: 1962

Depth: 127 feet

Driller: USGS

Elevation of land surface: 10 feet

<u>Depth (feet)</u>	<u>Description</u>
Post-Miocene--undifferentiated	
0-10	Sand, brown
10-15	Sand, gray-brown, smell of sulphur
15-30	Sand, dark gray
Late Miocene--Yorktown Formation	
30-45	Sand, dark gray
45-60	No sample
60-80	Coarse sand, dark gray, and shell
80-90	Sand and clay, green, and shell
Middle Miocene (Abundant middle Miocene fossils at 110-127 feet)	
90-127	Sand and clay, green, and shell

WELL NUMBER 420

Location: 345432N0764521.1
 Depth: 122 feet
 Elevation of land surface: 14 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-20	Sand, yellow
20-25	Sand, light gray
25-35	Sand, gray, 6-inch shell bed at 34 feet
	Late Miocene--Yorktown Formation
35-75	Sand, gray, and shell
75-80	Sand and clay, green, and shell
	Middle Miocene (Definite middle Miocene fossil fauna)
80-90	Sand and clay, green, and shell
90-110	Sand, green, gravel, and shell
110-122	Sand, green and white

WELL NUMBER 423

Location: 345506N0764353.1
 Depth: 132 feet
 Elevation of land surface: 5 feet

Date drilled: 1962
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
0-10	Roadfill
	Late Miocene--Yorktown Formation (Missing sample probably is of Yorktown interval)
10-20	Coarse sand, yellow
20-35	Sand, yellow to green, shell at 31 feet
35-40	Sand, gray-green, and shell
40-75	Sample missing

Middle Miocene
(Excellent middle Miocene fossil fauna)

75-90	Sand, gray-green, and shell
90-105	No sample
105-115	Sand and clay, green
115-125	Sand and clay, green, and gravel
125-132	Sand, green and white, and shell

WELL NUMBER 426

Location: 345623N0764155.1
Depth: 112 feet
Elevation of land surface: 6 feet

Date drilled: 1962
Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
Post-Miocene--undifferentiated	
0-10	Sand, yellow
10-20	Sand, dark gray
Late Miocene--Yorktown Formation (Fossils abundant)	
20-30	Sand, dark gray
30-35	No sample
35-70	Sand, gray, and shell, white
70-75	Sand, gray, clay, green, and shell
Middle Miocene (Fossils abundant)	
75-90	Sand, gray, clay, green, and shell
90-112	Sand, gray, clay, green, gravel, and shell

WELL NUMBER 429

Location: 345551N0764016.1
Depth: 132 feet
Elevation of land surface: 5 feet

Date drilled: 1962
Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Post-Miocene--undifferentiated
0-10	Sand, yellow
	Late Miocene--Yorktown Formation (Fossils sparse)
10-25	Sand, cream
25-50	Sand, tan to brown
50-70	Sand, brown
70-95	Sand, brown, shells, white
95-100	No sample
	Middle Miocene (Very fossiliferous)
100-132	Sand, brown to green, and clay, green, at 115 feet.

WELL NUMBER 431

Location: 351038N0771752.1
 Depth: 915 feet
 Elevation of land surface: 34 feet

Date drilled: 1964
 Driller: Layne Atlantic Company

<u>Depth (feet)</u>	<u>Description</u>
0-3	Overburden--black peaty soil
3-8	Gray clay
8-49	Fine gray sand
49-55	Soft limestone or calcareous sand
55-81	Fine to medium gray sand
81-89	Hard gray limestone
89-95	Medium to very coarse gray sand and pea gravel with black glaucanite and fine shell fragments
95-115	Sample appears to be mixed. Driller reports bottom of gravel at 98 feet.
115-166	Fine- to medium-grained gray sand with streaks of rock and specks of glaucanite
166-177	Very fine to medium gray sand with glaucanite specks. Little shell and considerable gray sticky clay.
177-197	Very fine to medium gray sand with glaucanite specks. Some clay.
197-218	Fine to medium gray sand with some coarse sand and glaucanite. Some clay. Clay stratum 216-218 ft.

218-279	Fine to medium gray sand with glauconite specks. Considerable amount of sticky gray clay from bottom half of section.
279-318	Fine to coarse gray sand to 316 ft; 316-318 limestone.
318-320	Fine to coarse gray sand with gray clay
320-341	Fine to medium gray sand with clay
341-361	Gray clay with some fine to medium sand
361-382	No sample
382-394	Gray clay with little fine sand
394-402	Sand
402-423	Fine to medium gray sand with some glauconite and gray clay
423-443	Fine to medium gray sand and clay (in streaks)
443-464	Fine to medium with some coarse gray sand with shell and glauconite
464-484	Fine to coarse gray sand and clay with glauconite
484-505	Gray sticky clay with some fine to medium sand
505-546	Medium gray sand with some clay and glauconite. Thin stratum of rock.
546-587	Dark gray clay--some fine sand
587-607	Clay with fine to medium sand (about 9 ft of clay)
607-669	Clay with little fine sand
669-689	Gray clay with fine to medium sand
689-730	Medium to coarse gray sand and clay
730-751	Medium to very coarse sand. Small amount of clay.
751-771	Gray clay with some fine to coarse sand
771-812	Gray clay with very little sand
812-853	Fine to medium sand and clay
853-874	Medium to coarse sand and clay
874-888	Gray-green clay and sand
888-894	Reddish brown clay (very tight) with coarse reddish sand
894-915	Clay with some medium to coarse sand. Driller reports 45 minute time lag in recovering samples from 890-915 ft depth.

WELL NUMBER 432

Location: 345050N0765735.1

Date drilled: 1925

Depth: 2351 feet

Driller: Great Lake Drilling
Company

Elevation of land surface: about 30 feet

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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Post-Miocene

0-7	Sand and soil
7-15	Sand, blue-gray (water-bearing)
15-25	Clay, blue, with sand
25-40	Clay, blue, plastic

40-41 Sand, compact, contains corals
 41-46 Sand, gray (water-bearing)
 46-50 Sand and shells
 50-55 Sand, compact with shells, chiefly pelecypods
 55-70 Sand, medium to coarse, quartz pebbles, phosphatic pebbles, shells.

Miocene

70-105 Clay, gray, calcareous, plastic
 105-157 Clay, gray, calcareous, sandy; with layers of fossiliferous sand; quartz and phosphatic pebbles.
 157-230 Sand, medium to coarse, gray, compact, with shells, quartz pebbles and phosphatic nodules. Layers of less compact sand.
 230-278 Sand, medium to coarse, gray, argillaceous, with layers of indurated marl and calcareous sandstone; shells.
 278-455 Sandstone, gray, calcareous fossiliferous
 455-514 Sand, medium to coarse, gray; with shells
 514-527 Sand, fine to medium, with shell; layers of sandstone
 527-563 Sandstone, medium-grained, calcareous slightly phosphatic

Eocene(?)--Castle Hayne Limestone(?)

563-672 Clay, soft, light brown, calcareous, sandy
 672-684 Sand, medium to coarse, and gravel, glauconitic, contains phosphatic nodules

Cretaceous--Peedee Formation

684-698 Sandstone, hard gray, calcareous, slightly glauconitic
 698-708 Sand, gray, calcareous, slightly cemented
 708-722 Sandstone, hard, dark gray, calcareous and slightly glauconitic
 722-740 Clay, dark gray, sandy, contains quartz pebbles and large pelecypods
 740-780 Clay, light brown, sandy, calcareous
 780-805 Sand, dark gray, argillaceous, calcareous
 805-848 Sand, medium to coarse, gray
 848-930 Clay, dark gray, sandy, slightly glauconitic
 930-1027 Clay, gray, sandy, micaceous and slightly glauconitic
 1027-1278 Clay, green, gray and bluish, sandy, finely micaceous, highly glauconitic, plastic to compact, contains pelecypods, pyrite.
 1278-1286 Sandstone, glauconitic, calcareous, contains pyrite; alternates with softer strata.
 1286-1316 Sand, coarse, dark gray, glauconitic, argillaceous; quartz and phosphatic pebbles, and carbonaceous material.
 1316-1335 Sandstone, fossiliferous, glauconitic, calcareous, conglomerate in lower part.

Cretaceous--Black Creek Formation (marine facies)

1335-1365	Clay, soft, gray, glauconitic, very sandy
1365-1463	Clay, semi-plastic, light green, micaceous, very sandy
1463-1465	Clay, compact, light brown; a little sand and pebbles
1465-1542	Clay, plastic, very dark gray, micaceous, slightly sandy
1542-1595	Sandstone, dark gray, calcareous; with alternating strata of dark gray sandy clay and pyrite
1595-1630	Sand, coarse green, glauconitic, micaceous

Cretaceous--Black Creek Formation (continental facies)

1630-1693	Sand, coarse, white to pink angular; with pebbles, carbonaceous fragments
1693-1718	Clay, very tough, micaceous, mottled-vermilion to gray, sandy
1718-1722	Sand, compact, white to light gray quartz
1722-1772	Clay, very tough, micaceous, mottled-vermilion to gray-sandy; a few pebbles.
1772-1773	No sample. Hard drilling as indurated sand.
1773-1785	Clay, moderately soft, red to gray, sandy; with small angular pebbles

Cretaceous--Black Creek Formation (marine facies)

1785-1838	Sand, compact to indurated, greenish, micaceous, clayey; chunks of dirty white calcareous sand and carbonaceous material with shell impressions
1838-1884	Limestone, fossiliferous, impure
1884-1946	Clay, compact, bluish green, finely micaceous; a little sand and pyrite. Pelecypods.
1946-1965	Clay, moderately soft, bluish, finely micaceous; with a little sand.
1965-2054	Sandstone, gray, pyritic; with alternating strata of bluish to greenish, finely micaceous sandy clay; pelecypods.
2054-2125	Shale, dark gray to black, carbonaceous, pyritic shale; with alternating strata of dark gray sandy clay; Bryozoa, vertebrate remains and shells

Cretaceous (Tuscaloosa(?) Formation)

2125-2176	Clay, reddish brown, plastic, micaceous, sandy with thin strata of deeper red arenaceous clay, a few pink to red, angular pebbles.
2176-2312	Clay, stiff to plastic, brick red to gray, sandy.
2312-2318	Sand, and gravel, semi-indurated, angular

Basement rock

2318-2351	Granite
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WELL NUMBER 436

Location: 351111N0770254.1
 Depth: 58 feet
 Elevation of land surface: 18 feet

Date drilled: 1963
 Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
(No fossil fauna above 40 feet depth)	

0-5	Sand, beige
5-10	Sand
10-15	Sand, cream
15-20	Medium sand, light brown
20-30	Medium sand, gray, and clay
30-35	Clay and sand, dark gray
35-40	No sample

Oligocene(?)

(Probably Oligocene, but fossils are recrystallized and poorly preserved.)

40-49	Coarse sand, gray, and phosphate pebbles
49-58	Limestone, light gray

WELL NUMBER 437

Location: 351400N0770333.1
 Depth: 35 feet
 Elevation of land surface: 10 feet

Date drilled: 1963
 Driller: USGS

<u>Depth</u> (feet)	<u>Description</u>
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(No fossil fauna)

0-10	Medium-grained sand, light tan
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Late Miocene--Yorktown Formation

10-15	Medium- to coarse-grained sand, tan
15-25	Medium-grained sand, dark gray, clay, and phosphate pebbles
25-35	Limestone, gray

WELL NUMBER 438

Location: 352012N0771027.1
 Depth: 68 feet
 Elevation of land surface: 30 feet

Date drilled: 1963
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	(No fossils)
0-10	Highway fill
10-15	Sand and clay, dark gray
	Late Miocene(?)--Yorktown Formation (Fossils poorly preserved)
15-20	Sand and clay, dark gray
20-25	Sand and clay, gray-brown
25-30	Fine-grained sand, and clay, gray-brown
	Middle Eocene--Castle Hayne Limestone (Fossils abundant and well preserved from 30 to 65 feet)
30-68	Sand and clay, gray-brown, with white specks

WELL NUMBER 439

Location: 351635N0771351.1
 Depth: 98 feet
 Elevation of land surface: 19 feet

Date drilled: 1963
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
	Late Miocene--Yorktown Formation (Diagnostic fossils well preserved)
0-5	Medium-grained sand, tan to orange, and clay
5-15	Medium- to coarse-grained sand
	Middle Eocene--Castle Hayne Limestone (Abundant and diagnostic fossil fauna from 15-75 feet)
15-20	Medium- to coarse-grained sand, gray
20-25	Sand and clay, dark brown
25-30	No sample
30-45	Medium- to coarse-grained sand

45-50	No sample
50-70	Medium-grained sand, light gray, some clay
70-75	Clay, blue gray, sand, and shell fragments
75-95	No sample
95-98	Limestone, hard

WELL NUMBER 440

Location: 351307N0771145.1	Date drilled: 1963
Depth: 135 feet	Driller: USGS
Elevation of land surface: 30 feet	

<u>Depth</u> (feet)	<u>Description</u>
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(No fossil fauna)

0-5	Clay and sand, dark brown
5-10	Sand and clay, light gray

Middle Eocene--Castle Hayne Limestone

(Fossil fauna between 10 and 40 ft poorly preserved, but determined to be of Eocene age; fossils between 40 and 55 ft abundant.)

10-15	Sand and clay, light gray to dark color
15-35	Sand and clay, dark gray, sticky
35-55	Sand and clay, dark gray speckled with white
55-135	No sample recovered. Limestone at 135 ft.

WELL NUMBER 441

Location: 351523N0771751.1	Date drilled: 1963
Depth: 77 feet	Driller: USGS
Elevation of land surface: 42 feet	

<u>Depth</u> (feet)	<u>Description</u>
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Oligocene--undifferentiated

(This unit contains poorly preserved fossils that are largely nondiagnostic. Nonion advenum indicates Oligocene, however.)

0-5	Coarse sand, gray
5-10	Fine sand, orange, a little clay
10-15	Fine sand, tan, a little clay
15-30	Clay, gummy, dark gray, some sand

Middle Eocene--Castle Hayne Limestone
(Abundant and diagnostic fossils from 30-60 feet)

30-40	Sand and clay, gray
40-50	Medium-grained sand and clay, tan
50-60	Fine-grained sand, tan, and clay
60-77	No samples recovered. Probably limestone at 65 ft.

WELL NUMBER 442

Location: 351555N0772442.1	Date drilled: 1963
Depth: 57 feet	Driller: USGS
Elevation of land surface: 51 feet	

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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(No fossils)

0-5	Sand and clay, tan
5-10	Coarse sand, light tan, some clay

Middle Eocene--Castle Hayne Limestone
(Eocene fossil fauna abundant from 10-35 ft)

10-25	Fine to medium sand, light gray, and clay
25-35	Clay, sticky, dark gray-green, and some calcareous sand
35-57	No samples recovered, but drills like clay, limestone at 57 ft.

WELL NUMBER 443

Location: 345748N0765718.1	Date drilled: 1963
Depth: 64 feet	Driller: USGS
Elevation of land surface: 28 feet	

<u>Depth</u> <u>(feet)</u>	<u>Description</u>
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(No fossil fauna)

0-5	Clay, gray and tan
5-10	Clay, blue-gray, little sand
10-20	Clay, blue-gray
20-25	Clay, blue-gray, little sand

Late Miocene--Yorktown Formation
(Fossils indicative of Yorktown Formation poorly preserved,
but diagnostic.)

25-40 Clay, stiff, blue, little sand
40-55 Sand, dark gray, and clay
55-60 Sand, gray, and clay

WELL NUMBER 444

Location: 351245N0771030.1 Date drilled: 1959
Depth: 82 feet Driller: USGS
Elevation of land surface: --

<u>Depth (feet)</u>	<u>Description</u>
0-5	Sand, yellow, and silt
5-15	Sand, yellow. Yield of water 8 gpm.
15-50	Sandy clay, gray
50-65	Sandy clay, gray, and small shell fragments
65-70	Same as interval 50-65 feet, but color change to tan
70-82	Sand, tan, with silt and clay

WELL NUMBER 445

Location: 351102N0770305.1 Date drilled: 1959
Depth: 32 feet Driller: USGS
Elevation of land surface: --

<u>Depth (feet)</u>	<u>Description</u>
0-5	Sandy clay, gray, carbonaceous
5-9	Same as 0-5 ft interval but greenish-gray
9-15	Cemented shell
15-32	No samples recovered

WELL NUMBER 446

Location: 351240N0770830.1 Date drilled: 1959
Depth: 32 feet Driller: USGS
Elevation of land surface: --

<u>Depth (feet)</u>	<u>Description</u>
0-18	Sand, fine-grained
18-22	Cemented shell
22-25	Sand, fine-grained
25-32	No samples recovered

WELL NUMBER 447

Location: 350925N0770605.1
 Depth: 40 feet
 Elevation of land surface: --

Date drilled: 1959
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
0-5	Soil
5-7	Sand, argillaceous, brown
7-10	Clay, greenish-gray
10-12	Clay, pale-green, sticky
12-15	Sand, fine-grained
15-20	Sand, fine-grained
20-30	Sand, argillaceous, bluish-gray
30-35	Clay, black
35-40	Limestone

WELL NUMBER 448

Location: 350826N0770558.1
 Depth: 37 feet
 Elevation of land surface: --

Date drilled: 1959
 Driller: USGS

<u>Depth (feet)</u>	<u>Description</u>
0-7	Clay, bluish-gray to black
7-20	Same as first interval, but sandy and sticky
20-25	Same as above, but lighter colored
25-37	No samples recovered

SUMMARY OF AQUIFER CHARACTERISTICS

Aquifer No.	Geology and lithology	Hydrology	Quality
1	<p>Also referred to as the water-table aquifer. It is composed of beds of sand, silt, and shell with lenses of clay, all of which are generally of Miocene age and younger. It has a maximum thickness of about 60 feet in the southern part of the county. Its upper surface is the water table which fluctuates with changes in ground-water storage but generally ranges from land surface in the swamps to a depth of more than 15 feet along the sandy ridges bordering the Neuse River. The base, in most places, is a blue-clay layer. In the western part of the county where the layer is discontinuous, aquifer 1 is hydraulically connected with aquifer 2.</p>	<p>Supplies water to shallow wells in all parts of the county. Yields of these wells generally are less than 10 gpm, and specific capacities generally range from 0.1 to 0.5 gpm per foot of draw-down after one day of continuous pumping.</p>	<p>Contains water that generally has high concentrations of dissolved iron and is slightly corrosive. Also is subject to contamination from cesspools, septic tanks, chemical fertilizers, and brackish water flooding in low areas.</p>
2	<p>Includes most of the Castle Hayne Limestone and overlying hydraulically interconnected beds of limestone, shell and interlayered sand of Eocene and Oligocene ages that contain water under artesian conditions. Aquifer is separated from the water-table aquifer in the southern part of the county by an "aquiclude" composed of layers of silt and clay that are sufficiently impermeable to confine the water under pressure. In the northern part of the county the confining bed between aquifers 1 and 2 is discontinuous. Occurs throughout the county and thickens from a featheredge near the Lenoir and Pitt County lines to about 700 feet along the extreme southern border of the county. Generally can be divided into two zones of limestone that are separated by a zone of sand with thin streaks of limestone. The uppermost zone of limestone is tapped by most of the wells in the county. It is composed of highly permeable gray to cream-colored shell limestone having different degrees of hardness. The sandy zone is composed of fine to medium-grained, gray to white, calcareous sand and contains thin streaks of limestone. The lower zone of limestone occurs near the bottom of the Castle Hayne Limestone of Eocene age and ranges in thickness from a featheredge in the extreme western part of the county to about 20 feet near the Carteret County line. This zone is composed of very hard, massive gray-green sandy limestone with grains of glauconite and phosphate. It yields water locally where it has been channelled by solution, but throughout most of the county this zone acts as a confining layer for aquifer 3.</p>	<p>Driven wells, open-hole wells, and a few gravel-packed wells are used to recover water from this aquifer. Specific capacities of 36" gravel-packed wells penetrating the upper limestone zone are known to be as high as 78 gpm per ft. after one day's pumping.</p>	<p>Throughout the county, water in the upper part of this aquifer is low in chloride content, quite hard, and high in dissolved iron. In the southern quarter of the county, the water in the lower part of the aquifer contains more than 250 mg/l of chloride, and throughout the southern half of the county, dissolved iron concentrations are less than 0.3 mg/l.</p>
3	<p>Includes the Beaufort Formation of Paleocene age and, in most places, the extreme lower part of the Castle Hayne Limestone. Composed of medium to coarse-grained, green to black, glauconitic sand with thin streaks of limestone and gray clay. Varies in thickness from about 10 feet near Dover to about 180 feet in the extreme eastern part of the county. Throughout most of the county it is separated from aquifer 2 by a zone of clay and sand and by the hard limestone zone at the bottom of aquifer 2.</p>	<p>Few wells derive water exclusively from this aquifer. In some places it is hydraulically connected with aquifer 2. Specific capacities of 2" and 36" wells penetrating this aquifer are estimated to be about 0.7 and 1.0 gpm per ft. respectively after one day's pumping.</p>	<p>Chemical quality of water in aquifer 3 is similar to that in aquifer 2. Generally the concentrations of dissolved iron are less than in water from aquifer 2, and chloride concentrations are more than 250 mg/l throughout most of the southeastern part of the county.</p>
4	<p>Occurs within the Peedee Formation of late Cretaceous age. Composed of fine to coarse-grained gray sand with thin streaks of limestone and gray clay. It has a fairly uniform thickness ranging from about 65 feet near the Lenoir County line to about 35 feet near the Carteret County line. Average thickness is about 30 feet.</p>	<p>Very few wells tap aquifer 4 in Craven County. Specific capacities of 2" and 36" wells, after one day of pumping, are estimated to be about 1.7 and 2.4 gpm per ft. respectively.</p>	<p>Contains water that generally is hard and has dissolved iron concentrations in excess of 0.3 mg/l. In some places in the northwestern part of the county, concentrations of fluoride exceed 1.5 mg/l. Chloride content of water in aquifer 4 is more than 250 mg/l throughout the southeastern half of the county.</p>
5	<p>Occurs in the Snow Hill Member of the Black Creek Formation of Late Cretaceous age. Composed of fine to coarse-grained gray sand with thin streaks of limestone or cemented sand. Thickness ranges from about 20 feet to about 65 feet but averages about 30 feet throughout most of the county.</p>	<p>Only three wells are known to derive water from this aquifer in the county. Specific capacities of 2" and 36" wells, after one day's pumping, are estimated to be about 1.3 and 1.8 gpm per ft. respectively.</p>	<p>Contains water of very good chemical quality in most of the northern half of the county. Throughout the southern half of the county, water in aquifer 5 contains dissolved iron in excess of 0.3 mg/l and concentrations of chloride greater than 250 mg/l.</p>
6	<p>Occurs in the lower part of the Snow Hill Member of the Black Creek Formation. Composed of two sandy zones separated by a zone of gray clay and thin streaks of sand. Upper zone contains fine to medium-grained gray sand with some glauconite. Lower zone contains fine to medium-grained gray sand with thin streaks of clay. Thickness ranges from about 40 feet in the western and southern parts of the county to about 100 feet in the south-central part. Average thickness is about 60 feet.</p>	<p>Wells are not known to tap this aquifer in Craven County. Test drilling data indicate specific capacities for 2" and 36" wells should be about 1.9 and 2.6 gpm per ft. after one day of pumping.</p>	<p>Contains water of good chemical quality in the west-central part of the county. In other parts the chloride content is greater than 250 mg/l and concentrations of dissolved iron and fluoride exceed 0.3 and 1.5 mg/l respectively.</p>
7	<p>Occurs in the upper part of the lower member (unnamed) of the Black Creek Formation. Composed of beds of fine to coarse-grained gray sand interspersed with beds of gray clay. Thickness ranges from about 80 feet in the extreme northern and southern parts of the county to about 110 feet in the Cove City area. Average thickness is about 90 feet.</p>	<p>Supplies water to municipal and industrial wells in Lenoir and Pitt Counties and is one of two aquifers being tapped by the new wells of the City of New Bern near Cove City. Specific capacities of 2" and 36" wells penetrating this aquifer are estimated to be about 12 and 17 gpm per ft. after one day of pumping.</p>	<p>In the Cove City-Dover area, aquifer 7 contains water of excellent chemical quality. In other parts of the county, concentrations of chloride, iron and fluoride exceed the recommended limits for public supplies as set by U. S. Public Health Service.</p>
8	<p>The deepest aquifer penetrated by test drilling during the investigation. Includes the lower part of the Black Creek Formation and the upper part of the Tuscaloosa Formation of Late Cretaceous age and is composed of two zones of medium to coarse-grained gray sand separated by a zone consisting of beds of clay and fine to medium-grained sand. Thickness ranges from about 60 feet in the western and southern parts of the county to more than 160 feet in the northernmost part. Average thickness is about 125 feet.</p>	<p>Supplies water to municipal and industrial wells in Lenoir and Pitt Counties and is one of two aquifers being tapped by the new wells of the City of New Bern near Cove City. In the vicinity of Cove City and Dover, specific capacities of wells tapping aquifer 8 are estimated to be about 17 and 24.5 gpm per ft. after one day of pumping.</p>	<p>In the area west of Cove City and Fort Barnwell, aquifer 8 contains water of excellent chemical quality. Data are insufficient to determine the quality of water in this aquifer for other parts of the county, but the water is assumed to be salty in most of the central and southern parts.</p>

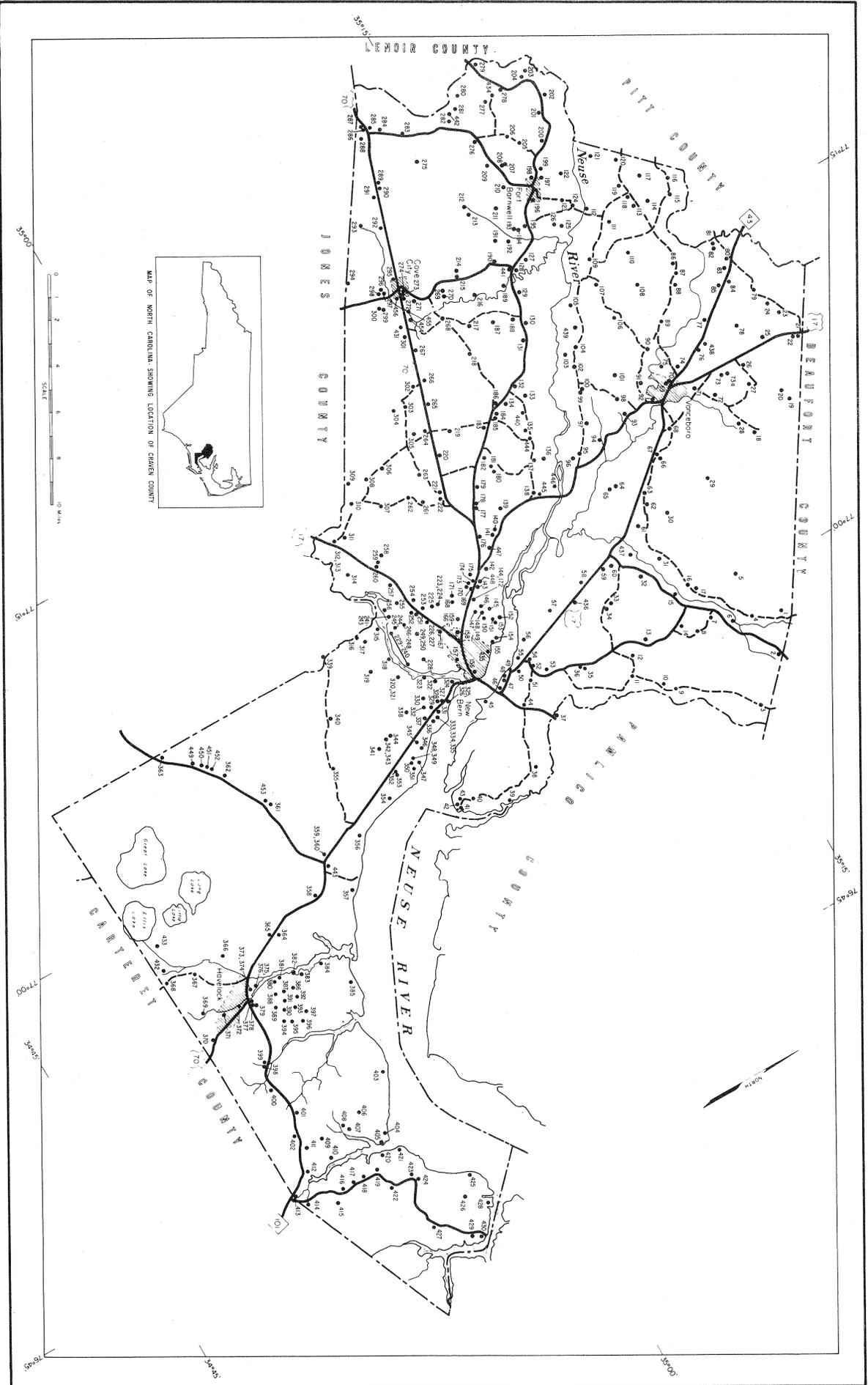


Figure 1. - Map of Craven County showing location of inventoried wells.

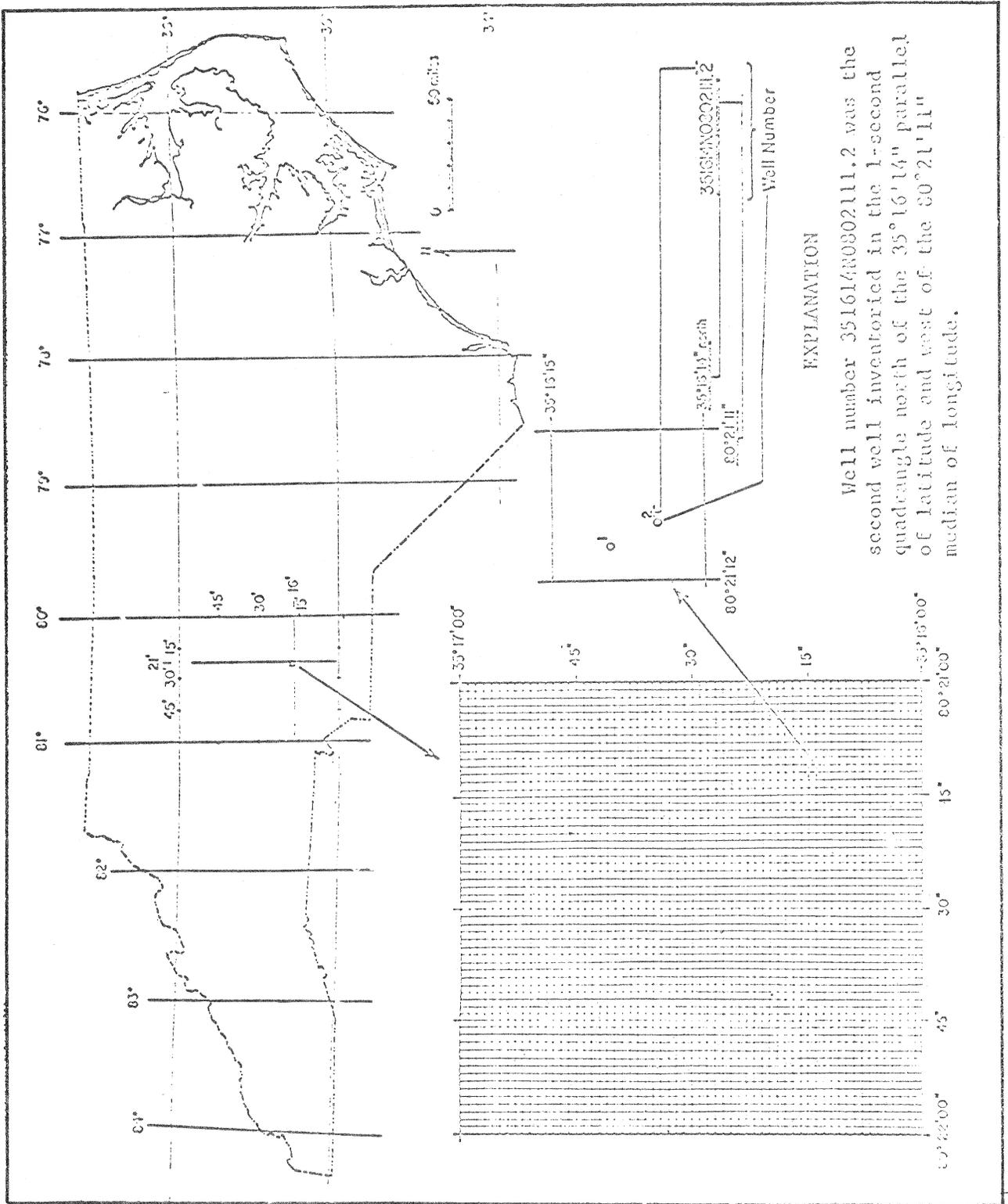
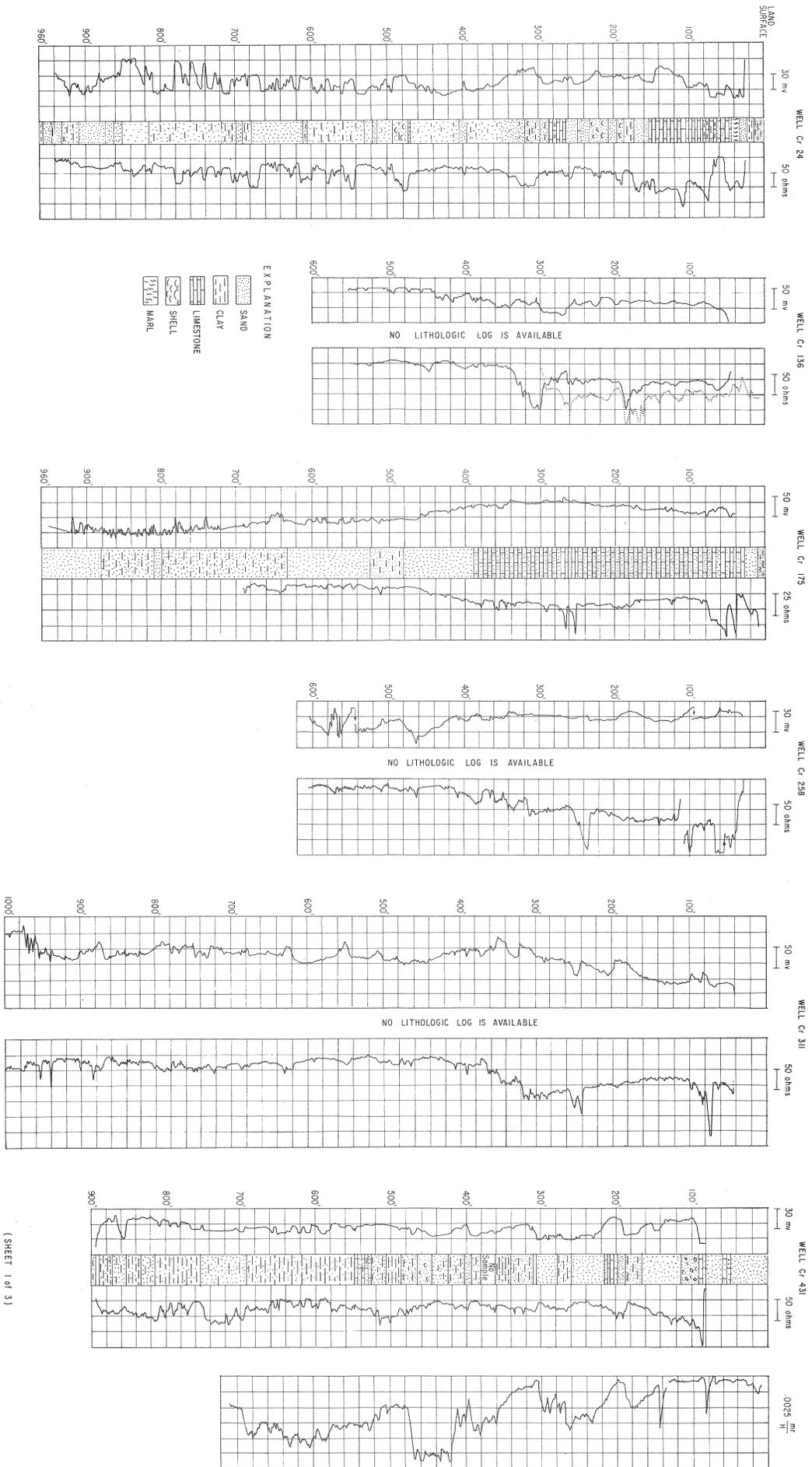
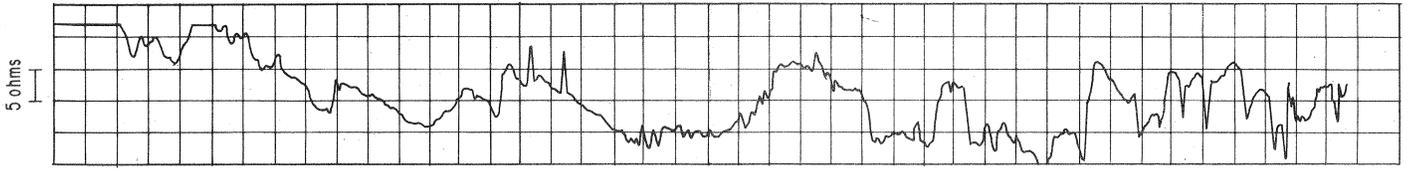


Figure 2.--Map of North Carolina showing the latitude-longitude well-location system.

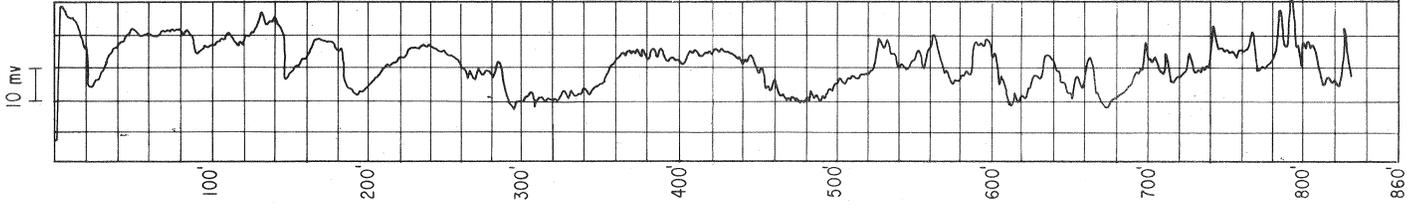
Figure 3. - Geophysical and lithologic logs of wells in Craven County, N. C.



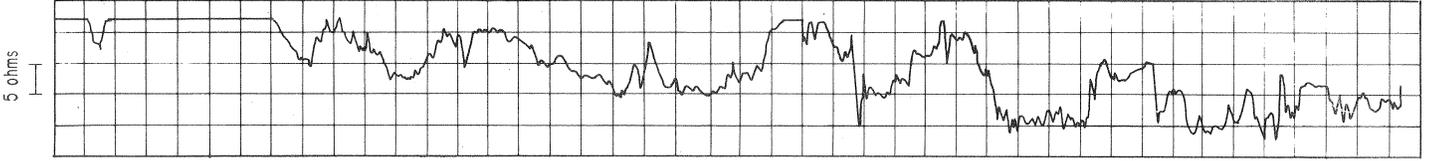
WELL Cr 456



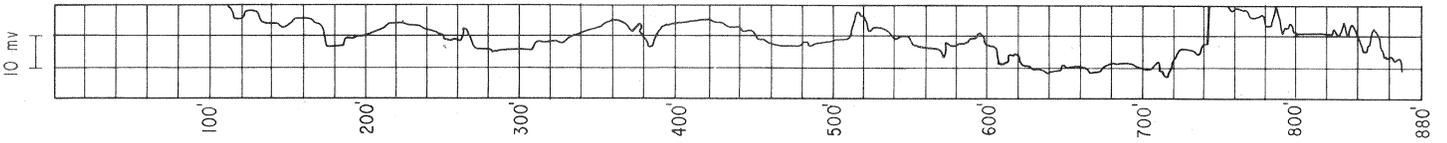
NO LITHOLOGIC LOG IS AVAILABLE



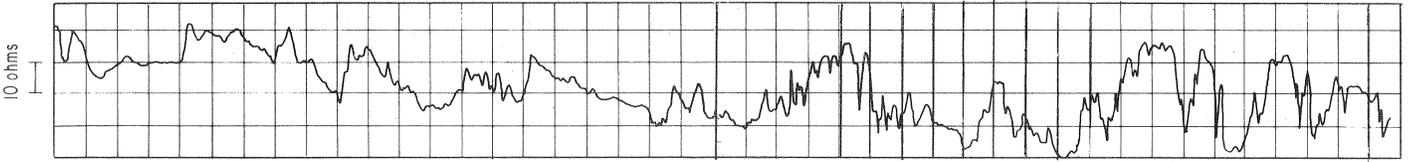
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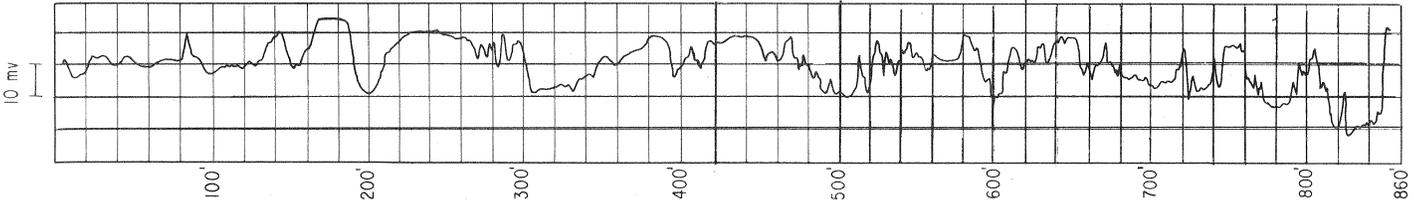
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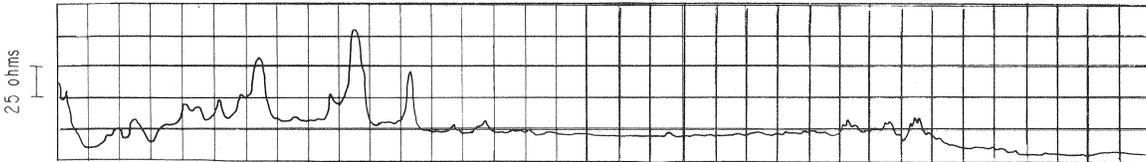
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WELL Cr 453



NO LITHOLOGIC LOG IS AVAILABLE

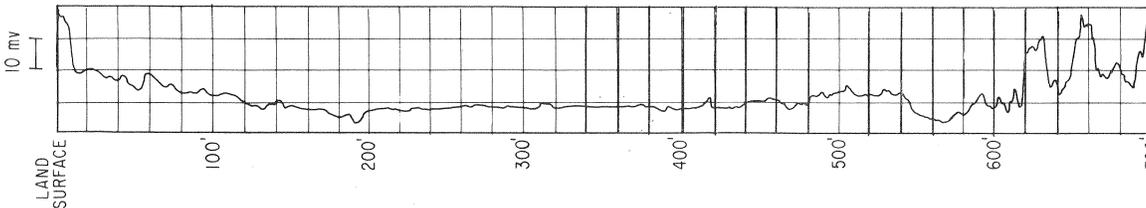
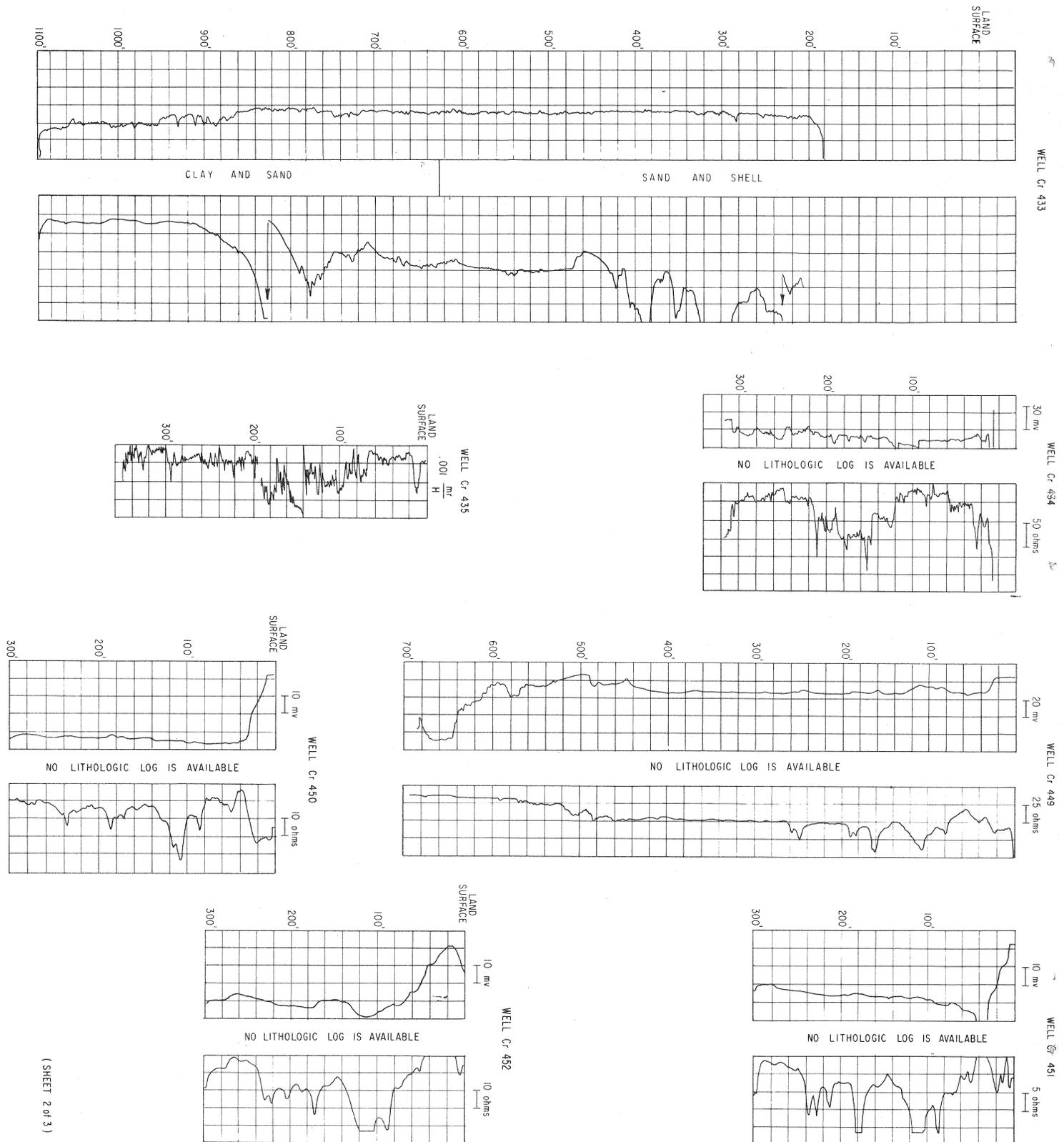


Figure 7a. - Geophysical and lithologic logs of wells in Craven County, N. C.



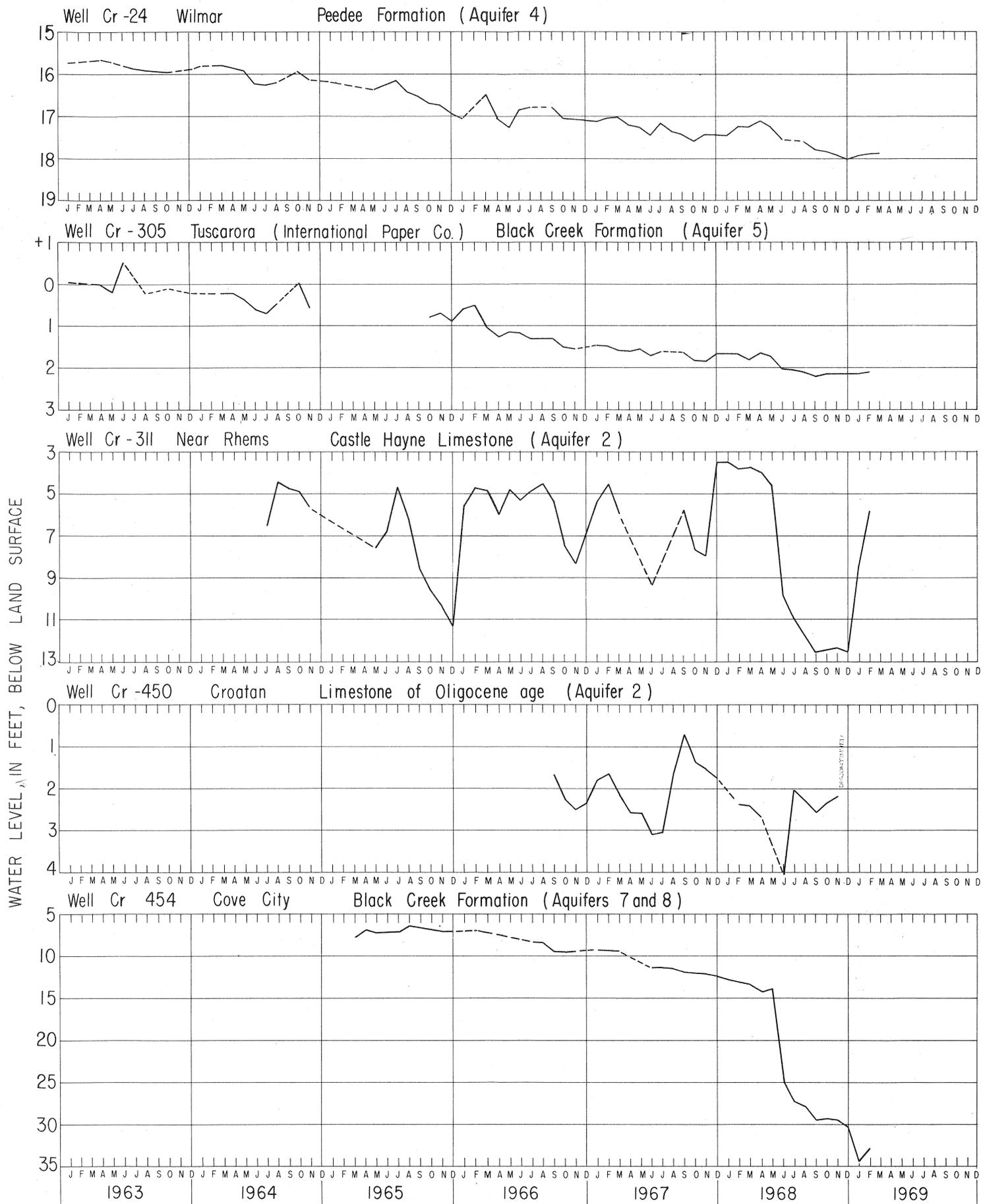


Figure 4. - Hydrographs of monthly-average water levels in selected wells in Craven County, N. C.

