

OWNER: Virginia Electric and Power Co., Well "C"  
DRILLER: R. L. Magette Company  
COUNTY: Surry (Bacons Castle)

VDMR: 1922  
WWCR: 112  
TOTAL DEPTH: 400'

GEOLOGIC LOG

Depth in  
feet

COLUMBIA GROUP (0-100')

- 20 Sand - tan, slightly clayey; fine- to medium-grained, fairly well-sorted, angular to subangular; clear to iron-stained quartz and subordinate white, weathered feldspar; abundant accessory minerals, including muscovite, magnetite, fresh hornblende, yellow-green epidote and garnet.
- 40 Sand - slightly to moderately clayey; medium- to very coarse-grained, rather poorly sorted, poorly rounded; clear and iron-stained quartz; moderately feldspathic; slightly lithic; clay contains abundant earthy to finely crystalline vivianite; common accessory minerals are hornblende, kyanite, zircon, green epidote, hematite, and goethite; small amount of ferricrete
- 60 " "
- 80- " "
- 100 " "

YORKTOWN FORMATION (100-120')

- 120 Clay - medium greenish-gray, locally limonitic; pelecypod and gastropod shell fragments common; foraminifers common, but not abundant; very slightly glauconitic and vivianitic

CALVERT FORMATION (120-200')

- 140 Clay - medium greenish-gray, small amount of silt (very fine-grained sand); very slightly glauconitic; abundant shell fragments; a few foraminifers, bone fragments, and plant fragments
- 160 Sand - very clayey (medium-gray clay); fine- to very fine-grained, fairly well-sorted, angular; very slightly micaceous and glauconitic; abundant plant fragments and carbonaceous material; shell fragments and foraminifers common
- 180 Clay - greenish-gray, locally orange-brown (limonitic); locally sandy; a few shell fragments, plant fragments, and foraminifers
- 200 Sand - gray clay matrix; medium- to coarse-grained, moderately sorted, subangular to subrounded; clear quartz, with 10 percent shell fragments, and 10 percent brown phosphatic bone fragments; a few foraminifers (broken forms)

## NANJEMOY FORMATION (200-280')

- 220 Limestone - gray to white, very fossiliferous, moderately arenaceous (glauconitic), sulfide-bearing; framework consists mainly of pelecypods and bryozoans with some corals, worm borings, gastropods, echinoid spines and plates, ostracods and foraminifers; glauconite is fine- to medium-grained, dark- to light-green; replacement of glauconite by sulfides is common; limited oxidation of sulfides to sulphates
- 240 " " stained yellow-brown (iron)
- 260 Limestone and Sand - fossiliferous, glauconitic, sulfide-bearing limestone (50 percent); sand is coarse- to very coarse-grained, and consists of bioclasts, quartz, and allochthonous goethite after glauconite; abundant poorly preserved foraminifers

280 " "

## MATTAPONI FORMATION (280-360')

- 300 Sand - black, very slightly clayey; medium- to coarse-grained, well-sorted; blackish- to light-green autochthonous glauconite, with minor quartz, shell, and phosphorite; foraminifers common, but not abundant
- 320 " "
- 340 " "
- 360 " "

## PATUXENT FORMATION (360-420')

- 380 Sand - grains coated with tan clay; coarse- to very coarse-grained, fairly well-sorted, poorly rounded; moderately feldspathic; slightly glauconitic; minor garnet
- 400 " "
- 420 No sample

GEOLOGIC SUMMARY

<u>*Approximate Thickness</u>	<u>Rock Name</u>	<u>Age</u>
0-100'	Columbia Group	post- Miocene
100-120'	Yorktown Formation	Miocene
120-200'	Calvert Formation	Miocene
200-280'	Nanjemoy Formation	Eocene
280-360'	Mattaponi Formation	Paleocene - Late Cretaceous
360-400'	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources  
Robert H. Teifke, Geologist  
November 1, 1967

Robert H. Teifke  
March 3, 1972