

OWNER: Virginia Chemical Company
DRILLER: R. L. Magette Well Drilling Company
COUNTY: Norfolk (West Norfolk)

W-2168
C-167
TOTAL DEPTH: 1015'

GEOLOGIC LOG

Depth in
feet

0-40 No samples

YORKTOWN FORMATION (40-330')

40 Shell and Sand - coarse shell fragments and medium- to very coarse-grained sand; grades into granule gravel; a few echinoid spines; cinders and slag (50 percent)

60 Sand - slightly clayey, brownish-gray; medium- to very coarse-grained; abraded bioclasts (70 percent), subrounded quartz (30 percent)

80 Sand - slightly to moderately clayey, gray; medium-grained, moderately sorted; bioclasts (50 percent), subangular to subrounded quartz (50 percent; foraminifers and ostracods moderately abundant

100 "

120 Sand - moderately clayey, gray; fine- to coarse-grained, moderately sorted; clear, subangular quartz (65 percent); bioclasts (35 percent); very slightly glauconitic; foraminifers and ostracods common; coarse shell fragments (5-10 percent)

140 ", except: fine- to medium-grained, fairly well-sorted; slightly glauconitic

160 Sand - moderately clayey, gray; fine- to medium-grained, well-sorted, angular to subangular; clear to greenish quartz, with bioclasts (5 percent), glauconite (5 percent), trace of muscovite; coarse shell fragments (5 percent); a few foraminifers; echinoid spines common

180 Clay - locally sandy, brownish-gray; sand is fine- to medium-grained, moderately sorted, angular to subangular; very slightly glauconitic; shell fragments (pelecypods, scaphopods, Turritella, bryozoans) (10-15 percent); a few foraminifers and ostracods; a few plant fragments

200 "

220 "

OWNER: Virginia Chemical Company
DRILLER: R. L. Magette Well Drilling Company
COUNTY: Norfolk (West Norfolk)

W-2168
C-167
TOTAL DEPTH: 1015'

GEOLOGIC LOG

Terry Wagner
36° 51' 45"
76° 20' 44"

Depth in
feet

0-40 No samples

YORKTOWN FORMATION (40-330')

- 40 Shell and Sand - coarse shell fragments and medium- to very coarse-grained sand; grades into granule gravel; a few echinoid spines; cinders and slag (50 percent)
- 60 Sand - slightly clayey, brownish-gray; medium- to very coarse-grained; abraded bioclasts (70 percent), subrounded quartz (30 percent)
- 80 Sand - slightly to moderately clayey, gray; medium-grained, moderately sorted; bioclasts (50 percent), subangular to subrounded quartz (50 percent; foraminifers and ostracods moderately abundant
- 100 "
- 120 Sand - moderately clayey, gray; fine- to coarse-grained, moderately sorted; clear, subangular quartz (65 percent); bioclasts (35 percent); very slightly glauconitic; foraminifers and ostracods common; coarse shell fragments (5-10 percent)
- 140 ", except: fine- to medium-grained, fairly well-sorted; slightly glauconitic
- 160 Sand - moderately clayey, gray; fine- to medium-grained, well-sorted, angular to subangular; clear to greenish quartz, with bioclasts (5 percent), glauconite (5 percent), trace of muscovite; coarse shell fragments (5 percent); a few foraminifers; echinoid spines common
- 180 Clay - locally sandy, brownish-gray; sand is fine- to medium-grained, moderately sorted, angular to subangular; very slightly glauconitic; shell fragments (pelecypods, scaphopods, *Turritella*, bryozoans) (10-15 percent); a few foraminifers and ostracods; a few plant fragments
- 200 "
- 220 "

OWNER: Virginia Chemical Company

#2168

- 240 Clay - very compact, slightly sandy, gray; sand is fine-grained, fairly well-sorted, angular; slightly glauconitic; a few shell fragments; a very few foraminifers
- 260 Sand - clayey, brown; fine-grained, very well-sorted, angular; very slightly glauconitic; shell fragments (15 percent); a few foraminifers, mostly Textularia; Turritella common; a few fragments of bone phosphorite
- 280 Clay - silty, slightly sandy, brownish-gray; sand is fine- to medium-grained, moderately sorted, angular to subangular; traces of glauconite, muscovite; coarse shell (10 percent), including Turritella; foraminifers common, but not abundant

300

"

320

"

CALVERT FORMATION (330-450') Top of formation defined on basis of other information.

- 340 Clay - very slightly sandy, greenish-gray; sand is fine-grained, well-sorted, angular; trace of glauconite; a few foraminifers and shell fragments
- 360 "
- 380 "
- 400 "
- 420 ", except: foraminifers fairly abundant, mostly Siphogenerina
- 440 Sand - abundant matrix of greenish-brown clay, medium- to very coarse-grained, moderately-sorted, subangular to rounded; clear quartz, with bone phosphorite (5 percent) and fine-grained glauconite (5 percent); foraminifers abundant, a few shell fragments

MATTAPONI FORMATION (450-520') Top of formation defined on basis of other information.

- 460 Sand - sparse matrix of gray clay, medium- to very coarse-grained, rather poorly sorted, variably rounded; clear quartz, with minor glauconite; small amounts feldspar and bone phosphorite; foraminifers common; a few shell fragments

OWNER: Virginia Chemical Company

#2168

480 Clay - variably sandy, greenish-gray; sand is fine- to very coarse-grained, poorly sorted; glauconite (10 percent), slightly feldspathic; pyrite common; limestone fragments common; foraminifers moderately abundant

500 Sand - abundant matrix of drab greenish-gray and brownish-gray clays; fine- to coarse-grained, rather poorly sorted; clear quartz (70 percent), dark-green glauconite (25 percent), fresh feldspar (5 percent); minor amount of bone and nodular phosphorite; traces of muscovite and pyrite; foraminifers common

TRANSITIONAL BEDS (520-640')

520 Clay - silty, very slightly sandy, gray, with purple cast; very fine-grained muscovite is prominent; foraminifers common

540 ", except: foraminifers very abundant, ostracods common

560 Sand - very abundant matrix of purplish-gray clays, fine- to medium-grained, well-sorted, angular to sub-angular; slightly feldspathic and glauconitic; a few foraminifers

580 Clay - silty, slightly to moderately sandy, bright yellow-orange, white, and gray; sand is fine-grained, fairly well-sorted, angular; slightly glauconitic; foraminifers common

600 ", except: with some red, and lavender clays

620 Clay - very sandy, bright, variegated; sand is fine- to medium-grained, moderately sorted, angular to sub-angular; moderately micaceous and feldspathic; slightly glauconitic; foraminifers common

PATUXENT FORMATION (640-1000')

640- Sand - very slightly clayey, gray; coarse- to very coarse-grained, fairly well-sorted, subangular to sub-rounded; moderately feldspathic; accessory garnet

660 "

680 Sand - slightly clayey, brown; medium- to very coarse-grained, fairly well-sorted, subangular to sub-rounded; feldspathic; very slightly glauconitic

700 "

OWNER: Virginia Chemical Company

#2168

- 720 Sand - slightly to moderately clayey, grayish-brown; coarse- to very coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic; very slightly glauconitic; accessory garnet; trace of kyanite
- 740 ", except: very slightly clayey
- 760 ", except: very slightly clayey; granule gravel (5 percent)
- 780 ", except: very slightly clayey
- 800 Sand - slightly to moderately clayey, greenish-gray; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic; very slightly glauconitic; accessory garnet and epidote
- 820 ", except: slightly clayey; medium- to very coarse-grained
- 840 Clay - compact; locally sandy, greenish-gray, locally red, yellow; sand is fine- to coarse-grained, moderately sorted, skewed fine, poorly rounded; slightly feldspathic and glauconitic; muscovite common; minor amounts of pyrite and chloritized biotite
- 860 Clay - sandy, light grayish-green; sand is fine- to very coarse-grained, poorly sorted, variably rounded; moderately feldspathic; slightly glauconitic; traces of mica and pyrite
- 880 Sand - moderately abundant matrix of drab, greenish clay, medium- to very coarse-grained, moderately sorted, subangular to subrounded; feldspathic; very slightly glauconitic
- 900 Sand - very slightly clayey, brownish-gray; coarse- to very coarse-grained (grades into granule gravel), fairly well sorted, subangular to subrounded; very feldspathic; minor glauconite; accessory garnet
- 920 ", except: coarse-grained, well sorted
- 940 Sand - very slightly clayey, grayish-green; medium- to coarse-grained, moderately sorted, subangular; feldspathic; very slightly glauconitic; accessory garnet

OWNER: Virginia Chemical Company

#2168

- 960 Sand - very slightly clayey; grayish-green, coarse- to very coarse-grained (grades into granule gravel), moderately sorted, subangular; feldspathic; very slightly glauconitic; accessory garnet
- 980 ", except: medium- to coarse-grained, well sorted
- 1000 Clay - variably sandy, trace of granule gravel, gray and grayish-green; sand is fine- to coarse-grained, poorly sorted, poorly rounded; moderately feldspathic; very slightly glauconitic; muscovite common; minor garnet
- 1015 No sample

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-40'	No samples	
40-330'	Yorktown formation	Miocene
330-450'	Calvert Formation	Miocene
450-520'	Mattaponi Formation	Paleocene - Late Cretaceous
520-640'	Transitional beds	Late Cretaceous
640-1000'	Patuxent Formation	Early Cretaceous
1000-1015	No sample	

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
May 6, 1968

Robert H. Teifke
March 7, 1972