

OWNER: Eastern State Hospital
DRILLER: Layne-Atlantic Company
COUNTY: James City (Williamsburg)

VDMR: 1847
WWCR: 141
TOTAL DEPTH: 555'
(pilot hole to 605')

GEOLOGIC LOG

Depth in feet

COLUMBIA AND CHESAPEAKE GROUPS (0-25)

0- 25 Sand — orange, trace of clay; fine- to medium-grained, well sorted, subangular to subrounded; slightly- to moderately-feldspathic; trace of glauconite.

CHESAPEAKE GROUP (25-277)

25- 50 Sand and Shell — yellowish-brown; 60-70% medium- to coarse-grained sand, 30-40% shell fragments; slightly glauconitic.

50-100 Shell — gray; abraded shell fragments, 1-5 mm, well sorted; 20% very fine-grained gravel.

100-193 Clay — greenish-gray, silty and sandy (coarse-grained silt to fine-grained sand); 5-10% coarse shell fragments.

193-235 "

235-260 Sand — brownish-gray, moderately clayey; fine- to coarse-grained, rather poorly sorted; poorly rounded; slightly glauconitic; shell fragments abundant.

260-277 "

CHICKAHOMINY AND NANJEMOY FORMATIONS (277-319)

277-319 Limestone and Sand — limestone (50-60%) is white, orenaceous, glauconitic; sand (40-50%) is black, highly glauconitic; a few small pebbles, fragments of pink, glauconitic clay, phosphate nodules and foraminifers.

MATTAPONI FORMATION (319-591)

319-383 Gravel and Sand — gravel (50%) consists of granules and very small pebbles of quartz, and a few rock fragments; sand (50%) is medium- to coarse-grained, glauconitic; traces of feldspar, garnet, pyrite.

- 383-467 Sand — speckled, trace of clay, 10-15% small pebbles; medium- to very coarse-grained, moderately sorted; 50% quartz, 20% feldspar, 30% glauconite; garnet common; a few shell fragments, phosphate nodules.
- 467-504 Sand — speckled, clean; coarse- to very coarse-grained, well sorted; 60% quartz, 30% glauconite, 10% feldspar; a few shell fragments and phosphate nodules; garnet common.
- 504-530 Sand — brown, slightly clayey; coarse- to very coarse-grained, fairly well sorted, subrounded; slightly feldspathic and glauconitic; traces of garnet, shell.
- 530-591 Sand and Clay — sand is coarse, feldspathic; clay is dark gray, fine-grained, silty, sand-free.

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0- 25	Columbia and Chesapeake groups	Pleistocene and Miocene
25-277	Chesapeake Group	Miocene
277-319	Chickahominy and Nanjemoy formations	Eocene
319-591	Mattaponi Formation	Late Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
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