OWNER: First Baptist Church Benevolent Assoc.
DRILLER: Sydnor Pump and Well Co., Inc.
COUNTY: Hanover (Old Cold Harbor)

VDMR: 1662
WWCR: 91
TOTAL DEPTH: 298'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-40')

0-10	Sand - light-brown, moderately clayey; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; moderately feldspathic; traces of garnet and magnetite
10-20	Sand - orange, slightly clayey; medium-grained, moderately sorted, subangular to subrounded; slightly- to moderately-feldspathic; some blue quartz; iron-stained quartz and feldspar common; traces of epidote and magnetite
20-30	Sand and Gravel - slightly- to moderately-clayey (orange clay); very coarse-grained sand and granule gravel, subrounded; feldspathic; some blue quartz
30-40	" "

CALVERT FORMATION (40-97')

40-50	Sand - binder of bluish-gray clay, mottled orange; fine-grained, well-sorted, angular to subangular; small amounts of muscovite and magnetite; traces of green epidote and light-green glauconite
50-60	Sand - gray clay binder; fine- to very fine-grained, well-sorted, angular; trace amounts of muscovite, green epidote, and carbonaceous material
60-70	" "
70-80	Clay - gray, slightly sandy; trace of glauconite
80-90	" "
90-97	" "

NANJEMOY FORMATION (97-173')

97-103	Sand and Limestone - gray, clayey; medium- to very fine-grained, well-sorted (skewed fine); 25% fine- to medium-grained, dark- to light-green glauconite; 60% angular to subrounded quartz; 5% phosphorite in form of nodules and bone and shell fragments;

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small amounts of muscovite, feldspar and pyrite; 10% arenaceous, glauconitic limestone

103-113 Sand - dark-gray, slightly to moderately clayey; fine-grained, well-sorted; 50% angular, clear to greenish quartz, 50% dark- to light-green glauconite; moderately micaceous; a few shell fragments; small amounts of pyrite, phosphorite, and garnet; a few limestone fragments

113-123 " clayey (brownish-gray, slightly calcareous)

123-133 " "

133-143 " "

143-153 Clay - medium-gray, very sandy, moderately micaceous; sand is fine-grained, fairly well-sorted; 65% angular, clear to greenish quartz, 35% dark-green glauconite; shell fragments common, but not abundant; a few foraminifers (including Robulus) ostracods, bone fragments, and phosphate nodules; small amount of white, sand-free clay

153-163 " "

163-173 Clay - medium-gray and sandy, and white and orange slightly-glauconitic, but generally sand-free clays; sand in medium-gray clay is fine, fairly well-sorted, glauconitic, and moderately micaceous; a few phosphate nodules

MATTAPONI FORMATION (173-203')

173-183 Sand - abundant matrix of dark-gray clay; fine- to very fine-grained, well-sorted; 70% angular quartz, 20% dark-green glauconite, 10% pelecypod and gastropod shell fragments (including Turritella); moderately micaceous; foraminifers common (large forms - Robulus, Planularia, Nodosaria)

183-193 " with about 10% 1-2 mm dark-green glauconite

193-203 Gravel - matrix of gray, sandy, glauconitic clay; 5-15 mm. pebbles and angular fragments of larger pebbles; quartz, sandstone, and several types of crystalline rocks

PATUXENT FORMATION (203-298')

203-218 Sand and Gravel - slightly clayey; coarse- to very coarse-grained, moderately-sorted sand and very fine-grained (2-6 mm) gravel; very feldspathic; slightly glauconitic

218-233 " "

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233-248	Sand - brown, slightly clayey (yellowish-brown clay), trace of granule gravel; medium- to very coarse-grained, moderately sorted, subangular to subrounded; feldspathic; trace of shell material
248-263	" with 10% granule gravel
263-270	Sand and Gravel - moderately-abundant matrix of yellowish-brown to yellowish-gray clay; sand (60%) is medium- to very coarse-grained, moderately sorted, subangular to subrounded; gravel (40%) is fine-grained (2-6 mm), well-sorted, subrounded to rounded; moderately feldspathic
270-280	Sand - abundant matrix of brown and gray-mottled clay; medium- to very coarse-grained, rather poorly-sorted, subangular to rounded; feldspathic; minor glauconite
280-290	Clay - variegated, very sandy, trace of fine gravel; sand is coarse, rather poorly-sorted, feldspathic, slightly glauconitic
290-298	Gravel - fairly clean; fine-grained (5-15 mm); poorly-rounded fragments of quartz, quartzite, chert, and a few crystalline rocks

GEOLOGIC SUMMARY

	Rock Unit	Age
0-40	Columbia Group	Pleistocene
40-97	Calvert Formation	Middle Miocene
97-173	Nanjemoy Formation	Middle Eocene
173-203	Mattaponi Formation	Paleocene
203-298	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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