

OWNER: Richmond Food Stores, Well #1
DRILLER: Sydnor Hydrodynamics, Inc.
COUNTY: Hanover (Ellerson)

VDMR: 1799
WWCR: 100
TOTAL DEPTH: 275'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-10')

0- 10 Sand — orange, clean; medium-grained, well sorted, subrounded; coloration due to limonite; slightly feldspathic; accessory magnetite.

CALVERT FORMATION (10-130')

10- 20 Sand — gray, moderately clayey; very fine-grained, very well sorted, angular.

20- 30 Sand — gray, with greenish cast, clayey, a few very small pebbles; fine-grained, fairly well sorted, angular; about 10% medium- to coarse-grained sand; locally limonitic.

30- 40 "

40- 50 Clay — gray, with greenish cast, silty; 5% shell fragments.

50- 60 "

60- 70 Sand — buff, slightly- to moderately-clayey, a few very small pebbles; fine- to coarse-grained, poorly sorted; fragments of ferricrete.

70- 80 Sand — dark-gray, with greenish cast, clayey, a few small pebbles; fine- to medium-grained, fairly well sorted, poorly rounded; small amount of platy and nodular carbono-phosphatic material; trace of glauconite.

80- 90 Clay — greenish-gray, sandy, a few pebbles; sand is fine- to medium-grained; traces of glauconite, pyrite, phosphorite; a few shell fragments.

90-100 Clay — light-gray, silty, slightly sandy; a very few shell fragments.

100-110 Clay — medium-gray, indurated, locally sandy, a few small pebbles and plant fragments.

110-120 "

120-130 "

NANJEMOY FORMATION (130-140')

130-140 Sand — dark-gray, moderately clayey; very fine-grained, well sorted, angular; traces of glauconite, phosphorite, muscovite, and orange, sand-free clay; a few small foraminifers.

AQUIA FORMATION (140-170')

140-150 Sand — dark-gray, clayey, 2-5% granule gravel; 60% fine-grained, very well sorted, angular sand, 20-25% glauconite; 40% very coarse-grained, well sorted, rounded- to well-rounded sand, 90% greenish and milky quartz, 10% (total) glauconite and phosphorite; a few Robulus, Nodosaria, and shark teeth; a bimodal sand.

150-160 " 80% fine-grained sand, 20% very coarse-grained sand.

160-170 " "

PATUXENT FORMATION (170-270')

170-180 Gravel — gray, slightly clayey; slightly glauconitic and arkosic; quartz-sand matrix (30-40% of sediment); pebbles (up to 12 mm) and pebble fragments of quartz, dark-gray sandstone, quartzite, and basic aphanitic igneous rock; traces pyrite and garnet.

180-190 " "

190-200 " some well-rounded pebbles up to 30 mm.

200-210 " "

210-220 Sand — gray, slightly clayey, a few very small pebbles; coarse- to very coarse-grained, fairly well sorted, subangular to subrounded; clear quartz, with traces of glauconite and feldspar.

220-230 Gravel — gray, slightly clayey; slightly glauconitic and arkosic sand matrix; gravel is fine-grained (4-7 mm), lithic, and arkosic.

230-240 Sand — gray, slightly clayey, slightly pebbly; medium- to very coarse-grained, fairly well sorted, subrounded; arkosic; traces of glauconite, pyrite, and plant fragments.

240-250 Granite residuum — slightly reworked; green to gray.
 250-260 " "
 260-270 " "
 270-275 No sample.

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0- 10	Columbia Group	Pleistocene
10-130	Calvert Formation	Miocene
130-140	Nanjemoy Formation	Eocene
140-170	Aquia Formation	Eocene
170-270	Patuxent Formation	Early Cretaceous
270-275	No sample	

Virginia Division of Mineral Resources
 Robert H. Teifke - Geologist
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