OWNER: Stafford County School Board
(Grafton Village School)
DRILLER: Sydnor Hydrodynamics, Inc.
COUNTY: Stafford

VDMR: 1699
WWCR: 60
TOTAL DEPTH: 250'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-30')

0- 10	Sand — orange-brown, very clayey, a few small pebbles; poorly sorted, poorly rounded; feldspathic, some ferricrete, trace of mica.
10- 20	Clay — pale orange-brown with some light-gray waffles; silty, slightly sandy.
20- 30	Sand — pale-brown, clayey, with lenses or laminae of relatively sand-free, light-gray and red clays, and subordinate amount of dull-brown sandy clay; sand (70-90% of sample) is fine-grained, well sorted, angular, with subordinate amount of coarse-grained, subangular to subrounded grains; somewhat feldspathic.

CALVERT FORMATION (30-60')

30- 40	Sand — very pale-brown, moderately clayey (ton clay); very fine-grained, very well sorted, angular; slightly micaceous.
40- 50	" (light gray clay).
50- 60	Sand — brownish-gray, moderately clayey (gray and some yellowish-brown clay); fine- to very fine-grained, very well sorted, angular; noticeable muscovite, traces of glauconite, plant material, and gypsum (?).

PAMUNKEY GROUP (60-130')

60- 70	Sand — dark greenish-gray, moderately clayey (dull-gray clay); very fine- to fine-medium-grained, well sorted (skewed fine); 70% clear angular quartz, and average of 30% fresh glauconite (glauconite % increases with grain size; moderately micaceous and pyritic.
70- 80	"

80- 90 Sand — medium-gray, slightly clayey; very fine- to fine-medium-grained, well sorted (skewed fine); about 5% fresh glauconite, moderately micaceous, slightly pyritic.

90-100 No sample.

100-110 Sand — medium-gray, slightly clayey; fine- to very fine-grained, well sorted, angular, with subordinate (15-20%) increment of medium- to coarse-grained, well sorted, subangular to rounded grains; very slightly glauconitic, slightly micaceous; abundant pyrite and fragments of carbonaceous and pyrite-carbonaceous material with woody texture (concentrated in coarse increment); 2-5% pelecypod shell fragments, and traces of foraminifers (Nonion) and ostracods.

110-120 Sand — greenish-brown, moderately clayey; fine- to medium-grained, well sorted; 50-60% fresh- to slightly-decomposed glauconite, and 40-50% angular to sub-rounded quartz; trace of muscovite; scattered chalky shell fragments.

120-130 Sand — gray, slightly silty and clayey; very fine- to very coarse-grained, poorly sorted, variably rounded; clear- to green-tinted quartz (about 65%) and glauconite (about 35%); slightly micaceous; traces of pyrite and epidote; small amount of phosphatic and carbonaceous fragments; a few shell fragments, fish teeth, and vertebrate.

PATUXENT FORMATION (130-250')

130-140 Sand — light greenish-brown, very clayey (25-35% clay); poorly sorted; arkosic (fresh white feldspar), very slightly glauconitic (about 2%), trace of muscovite; about 20% sandstone, grayish-brown to greenish-brown, fairly coherent, locally slightly calcareous, slightly glauconitic.

140-150 Sand — gray, slightly clayey; medium- to coarse-grained, well sorted, subangular to subrounded; arkosic (fresh, white, potassic feldspar).

150-160 Sand — gray, clean; coarse- to very coarse-grained, well sorted, subangular to subrounded; arkosic (fresh, white, potassic feldspar), abundant blue and smokey quartz.

160-170 " slightly clayey.

170-180	Gravel — gray, 20% matrix of sand and clay; 2-4 mm (granules), well sorted, subrounded to rounded; moderately arkosic, abundant blue quartz.
180-190	Sand — light-gray, slightly clayey; coarse-grained, well sorted, subangular to subrounded; arkosic.
190-200	" with about 10% very coarse-grained sand.
200-220	Sand — light-gray, slightly clayey, medium- to coarse-grained, well sorted, subangular to subrounded, arkosic.
220-240	"
240-250	Sand — light-gray, trace of clay; coarse-medium- to very coarse-grained, well sorted (skewed fine), subangular to subrounded; arkosic.

GEOLOGIC SUMMARY

	Rock Unit	Age
0- 30	Columbia Group	Pleistocene
30- 60	Calvert Formation	Miocene
60-130	Pamunkey Group	Eocene
130-250	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
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