



OWNER: Charles City School  
DRILLER: O. C. Brenneman  
COUNTY: Charles City

W#: 186  
C#: 6  
TOTAL DEPTH: 205'

GEOLOGIC LOG

Depth  
(feet)

NORFOLK FORMATION (0-20')

0-20 Granules and gravel - dark yellowish orange; washed; moderate iron stains; subangular to subrounded; quartz; feldspar.

YORKTOWN FORMATION ? (20-65')

20-40 Sand - white; washed; medium grained; subangular to subrounded; well sorted; quartz; few opaques.

40-65 Sand - white; washed; fine to coarse grained; subangular to subrounded; moderately well sorted; quartz; some black phosphatic material; few opaques.

CALVERT FORMATION (65-95')

65-70 Sand - salt and pepper; slightly clayey; fine to coarse grained; subangular to rounded; moderately sorted; quartz; 15% glauconite; 10% shell and limestone fragments; spines; forams abundant (inc. Bolivina, Textularia, Amphistegina, Discorbis, Nonion, and Guttulina); ostracodes.

70-80 Sand - salt and pepper; slightly clayey; medium to coarse grained with some fine grains; subangular to rounded; moderately sorted; quartz; 25% shell fragments; 15% glauconite; 2% spines; pyrite; ostracodes; forams common (inc. Buccella, Discorbis, Bolivina and Textularia).

80-95 Coquina - white; slightly clayey; moderate sand; medium grained; rounded; well sorted; 45% shell fragments; 25% quartz; 22% forams (inc. Buccella, Globulina, Guttulina ? Discorbis, Bolivina, and Quinqueloculina); 8% glauconite; ostracodes abundant; spines.

NANJEMOY FORMATION (95-136')

95-115 Sand - salt and pepper; moderate clay; medium to coarse grained; subrounded to rounded; moderately well sorted; 55% glauconite; 30% quartz; 10% shell fragments; few spines; pyrite; fish tooth; shark's tooth; ostracode.

115-136 Clay - light brown; moderate sand; medium to coarse grained; subrounded to rounded; moderately well sorted; 30% glauconite; 25% quartz; 10% shell fragments; muscovite; magnetite; pyrite; forams (inc. Robulus); ostracodes.

Depth  
(feet)

## MATTAPONI FORMATION (136-175'+)

136-156 Sand - olive light gray; abundant clay - gray, orange; fine to medium grained; rounded; well sorted; 70% glauconite; quartz; 5% coquina fragments; forams (inc. Nodosaria); pyrite.

156-175 Sand - olive light gray; moderate clay; fine to medium grained; rounded; well sorted; 80% glauconite; quartz; some shell fragments; ostracodes; forams rare (inc. Sigmomorphina).

175-195 NO SAMPLE.

## PATUXENT FORMATION (195-205')

195-205 Sand - white; moderate clay (clasts); coarse grained; subangular to subrounded; well sorted; quartz; feldspar; 5% glauconite; few shell fragments.

Logged by: Michael T. Currie

GEOLOGIC SUMMARY

<u>Thickness</u> <u>(feet)</u>	<u>Rock Unit</u>	<u>Time Rock Unit</u>
20	Norfolk Formation	Pleistocene
45	Yorktown Formation	Pliocene-Miocene
30	Calvert Formation	Miocene-Eocene
41	Nanjemoy Formation	Eocene
39+	Mattaponi Formation	Eocene-Cretaceous
20	NO SAMPLE	
10+	Patuxent Formation	Cretaceous

Virginia Division of Mineral Resources  
David A. Hubbard, Jr., Geologist  
July 25, 1978

OWNER: Charles City School VDMR # 0186  
 DRILLER: O. C. Brenneman WWCR # 6  
 COUNTY: Charles City Co. (Town of Charles City) Depth: 220'

SAMPLE EXAMINATION  
 (washed)

	PLEISTOCENE	COLUMBIA GROUP
0-20	Gravel	
20-60	Sand, quartz, white, very fine to fine grained, angular (residue)	
	EOCENE	PAMUNKEY GROUP
60-80	Sand, quartz, fine to medium grained, subangular, slightly glauconitic, with pyrite, foraminifera and abundant shell fragments	
80-95	Shell bed with foraminifera	
95-115	Clay, gray, marly, soft, glauconitic, sandy with shell fragments	
115-136	Clay, pink to brown, calcareous, soft, glauconitic, sandy. With shell fragments and minor limestone, dense, pyritic	
	PALEOCENE-UPPER CRETACEOUS	MATTAPONI FM.
136-175	Clay, gray, marly, soft, glauconitic to very glauconitic with shell fragments	
175-195	No sample	
195-205	Sand, quartz, medium grained, angular to subangular, dirty, slightly glauconitic with shell fragments	
205-220	<i>No Sample (wsp 1361, p 131 = white sand)</i>	

GEOLOGIC SUMMARY

Pleistocene	Columbia Gp.	Surface-60'
<del>Miocene</del>	<del>missing?</del>	→ 60-136'
Eocene	Pamunkey Gp.	→ 136-T.D.
Paleo-Cret	Matteponi	

(Tops from WSP 1361, however, state map shows Miocene present in this area.)

VDMR Well N .0186

Loc: Town of Charles City

Charles City Co.

Prop: Charles City School

Contractor: O. C. Brenneman

<u>Interval-</u>	<u>Description</u>
	PLEISTOCENE COLUMBIA GROUP
0-20	gravel
20-60	sand, quartz, white, very fine to fine grained, angular (residue)
	EOCENE PAMUNKEY GROUP
60-80	sand, quartz, fine to medium grained, subangular, slightly glauconitic, with pyrite, foraminifera and abundant shell fragments
80-95	shell bed with foraminifera
95-115	clay, gray, marly, soft, glauconitic, sandy with shell fragments
115-136	clay, pink to brown, calcareous, soft, glauconitic, sandy. With shell fragments and minor limestone dense, pyritic
	PALEOCENE-UPPER CRETACEOUS MATTAPONI FM.
136-175	clay, gray, marly, soft, glauconitic to very glauconitic with shell fragments
175-195	no sample
195-205	sand, quartz, medium grained, angular to subangular, dirty, slightly glauconitic with shell fragments

SUMMARY

Pleistocene	Columbia Group	Surface -60'
Miocene	missing?	
Eocene	Pamunkey Gp.	60 -136'
Paleo-Cret	Mattaponi	136 - T.D.

(Tops from WSP 1361, however, state map shows Miocene present in this area.)