

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:
Box 3667, University Sta.
Charlottesville, Virginia

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:
McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Williamsburg-James City Co. Public Mailing Address: P.O. Box 179-Williamsburg, Va.

TENANT: Schools Norge Elementary School Mailing Address: Norge, Virginia 23185

DRILLER: Sydnor Hydrodynamics Incorporated Mailing Address: 1305 Brook Road, Richmond, Va.

WELL LOCATION: County James City Approx. 1/2 ^{feet}/_{miles} South (direction) of Norge, Virginia and 1000 ft. ^{feet}/_{miles} West (direction) of Route 60

(GIVE DIRECTION AND DISTANCE IN FEET OR MILES FROM TWO REFERENCE POINTS - ROADS, TOWNS, RIVERS, ETC. - ON COUNTY HIGHWAY OR OTHER MAP.)

DATE STARTED: September 27, 1966 DATE COMPLETED: October 14, 1966

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 301 feet

WATER LEVEL: Stands 121 feet below surface OR
has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method Submersible
Drawdown 4 feet
Rate 50 gal. per min.
Duration 8 hrs., _____ min.

HOLE SIZE: 12 inches from 0 to 301 feet
_____ inches from _____ to _____ feet
_____ inches from _____ to _____ feet

WATER ZONES: from 221 to 261 feet
from _____ to _____ feet
from _____ to _____ feet

SCREEN SIZE: 6 inches from 221 to 261 feet
_____ inches from _____ to _____ feet
_____ inches from _____ to _____ feet
CASE SIZE: 6 inches from 0 to 221 feet
6 inches from 261 to 273 feet
_____ inches from _____ to _____ feet

WATER: Color Clear Taste OK
Odor None Temp. _____ °F

GROUTING: Method Gravity
Material Cement/water Depth 50 feet

WELL TO SUPPLY: (check one) Home _____
Farm _____ Town _____ School X
Industry _____ Other _____

PUMP: Type _____
Capacity _____ gal. per min
Depth of intake _____ feet

WATER ANALYSIS AVAILABLE: Yes X No _____

DRILL CUTTINGS SAVED: Yes X No _____

(DRILL CUTTINGS SHOULD BE COLLECTED AT 10 FOOT INTERVALS. THESE SAMPLES MAY BE SHIPPED TO THIS OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHED FREE OF CHARGE UPON REQUEST.)

REMARKS: Electric Log Ran 10-4-66 (Sydnor)

LOG

FURNISHED BY: Sydnor Hydrodynamics Inc. DATE: 10-18-66

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	1	Top soil	
1	9	Brown and white sand	
9	19	Yellow and brown sand clay	
19	24	Brown and gray sand	
24	42	Yellow clay	
42	62	Yellow clay and shells with some sand	
62	72	Brown sand clay and shells	
72	96	Blue clay and shells with some black sand	
96	101	Hard shell like rock with green and black sand	
101	114	Silty gray clay and shells	
114	137	Gray silty clay	
137	154	Gray clay	
154	214	Sticky gray clay	
214	252	Shells, green clay and fine sand streaks	
252	263	Coarse shell bed	
263	267	Shell rock	
267	290	Black sand, gray clay and shells	
290	301	Sticky dark gray clay	

INTERVAL SHEET

WWCR - 156

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VDMR Well No: 1754

Date rec'd: November 21, 1966

Sample Interval: from 0 to 300

PROP: Norge Elementary School

Number of samples: 30

COMP: Sydnor Hydrodynamics Incorporated

Total Depth: 301'

COUNTY: James City (Norge)

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
0 - 10	-	-	-
10 - 20	-	-	-
20 - 30	-	-	-
30 - 40	-	-	-
40 - 50	-	-	-
50 - 60	-	-	-
60 - 70	-	-	-
70 - 80	-	-	-
80 - 90	-	-	-
90 - 100	-	-	-
100 - 110	-	-	-
110 - 120	-	-	-
120 - 130	-	-	-
130 - 140	-	-	-
140 - 150	-	-	-
150 - 160*	-	-	-
160 - 170*	-	-	-
170 - 180*	-	-	-
180 - 190*	-	-	-
190 - 200*	-	-	-
200 - 210*	-	-	-
210 - 220*	-	-	-
220 - 230*	-	-	-
230 - 240*	-	-	-
240 - 250*	-	-	-
250 - 260*	-	-	-
260 - 270*	-	-	-
270 - 280*	-	-	-
280 - 290*	-	-	-
290 - 300*	-	-	-

* unwashed samples only

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(Norge Elementary School)
DRILLER: Sydnor Hydrodynamics, Inc.
COUNTY: James City (Norge)

VDMR: 1754
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TOTAL DEPTH: 301'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-40')

0-10 Sand - orange-brown, clayey; poorly sorted and poorly rounded; slightly feldspathic; trace of glauconite

10-20 " "

20-30 " "

30-40 Sand - tan, moderately clayey to clayey; fine- to medium-grained, well sorted, subangular to subrounded; feldspathic

YORKTOWN FORMATION (40-100')

40-50 Sand and Shell - yellowish-brown, clayey, medium-grained, moderately sorted; trace of glauconite; 25-30% of sample is pelecypod shell fragments

50-60 " "

60-70 " "

70-80 Sand - brownish-gray, slightly- to moderately-clayey, fine- to medium-grained, fairly well-sorted, subangular to subrounded; very slightly glauconitic; 15-20% of sample is molluscan shell fragments

80-90 " "

90-100 " "

CALVERT FORMATION (100-250')

100-110 Sand - gray, with greenish cast, moderately clayey, fine-grained, well sorted, angular to subangular; slightly glauconitic and micaceous (muscovite); a few foraminifers; about 5% of sample is molluscan shell fragments

110-120 " "

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#1754

120-130	Sand - gray, with greenish cast, moderately clayey, fine-grained, well sorted, angular to subangular; slightly galuconitic and micaceous (muscovite); a few foraminifers; about 5% of sample is molluscan shell fragments
130-140	" "
140-150	Sand and Silt - light-gray, with greenish cast, slightly- to moderately-clayey; coarse-grained silt and fine- to very fine-grained sand; well sorted, angular; slightly glauconitic and micaceous
150-160	Clay - greenish-gray, silty and sandy; sand is poorly sorted, poorly rounded; a few shell fragments and foraminifers (<u>Siphogenerina</u> , <u>Nonion</u>)
160-170	" "
170-180	Sand - greenish-gray, clayey; medium- to coarse-grained, rather poorly-sorted and rounded; a very few shell fragments and foraminifers
180-190	" "
190-200	" "
200-210	Sand - moderately clayey (gray-brown clay); medium - to coarse-grained, moderately sorted, subangular to subrounded; clear quartz, with minor shell and phosphatic shell and bone; locally cemented, calcitic; foraminifers common
210-220	" "
220-230	" "
230-240	" "
240-250	" "

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NANJEMOY FORMATION (250-280')

250-260 Limestone - light- to medium-gray, fossiliferous, cavernous, drusy; slightly sandy, pyritic or glauconitic; pelecypods and gastropods

260-270 " "

270-280 Limestone - moderately abundant matrix of drab clays; medium-grained, moderately sorted, rather poorly-rounded; glauconitic

MATTAPONI FORMATION (280-300')

280-290 Sand - moderately abundant matrix of drab, gray to brown clay; medium-grained, moderately sorted; very glauconitic (slightly decomposed, autochthonous); a few shell fragments; foraminifers common

290-300 " "

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0- 40'	Columbia Group	Pleistocene
40-100'	Yorktown Formation	Late Miocene
100-250'	Calvert Formation	Middle Miocene
250-280'	Nanjemoy Formation	Middle Eocene
280-300'	Mattaponi Formation	Paleocene

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
July 30, 1970 (Revision)

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YORKTOWN FORMATION (40-100')

40-50 Sand and Shell - yellowish-brown, clayey, ^{fine- to} medium-grained, moderately sorted; ^{locally greenish-gray} trace of glauconite; 25-30% of sample is pelecypod shell fragments
50-60 " " ; locally, blue-gray.
60-70 " " ; locally, blue-gray.
70-80 Sand - ~~brownish-gray~~, ^{oxidized to light brown} pale-yellow (reticulate pattern) slightly- to moderately-clayey, ^{VF} fine- to ^V medium-grained, ^V fairly well-sorted, subangular to subrounded; very slightly glauconitic; 15-20% of sample is molluscan shell fragments ; dense, dk.-gray, calcitic sandstone present.
80-90 " "
90-100 " "

CALVERT FORMATION (100-250')

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~~MATTAPONI FORMATION (280-300')~~

280-290 Sand - moderately abundant matrix of drab, ^{locally H.-green} gray to brown clay; medium-grained, moderately sorted; very glauconitic (slightly decomposed, autochthonous); a few shell fragments; foraminifers common; *white ss. to ls. common.*

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