

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

B-3667
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:

McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Comm. of Va. - Water Control Board Mailing Address: 2111 N. Hamilton, Richmond, Va.

TENANT: York River State Park Mailing Address: _____

DRILLER: State Water Control Board Mailing Address: 2111 N. Hamilton, Richmond, Va.

WELL LOCATION: County James City Approx. 1 ~~xxxx~~ ^{mile} East (direction) of
St. Road 604 and 300 ~~xxxx~~ ^{feet} North (direction) of St. Road 606

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

DATE STARTED: 8/9/78 DATE COMPLETED: 9/21/78

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 720 feet

WATER LEVEL: Stands 45 feet below surface OR
has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method _____ HOLE SIZE: 8 inches from 0 to 97 feet
Drawdown _____ feet 6 3/4 inches from 97 to 720 feet
Rate 1/2 gal. per min. _____ inches from _____ to _____ feet
Duration _____ hrs., _____ min. SCREEN SIZE: 3 inches from 118 to 123 feet

WATER ZONES: from 118 to 123 feet
from _____ to _____ feet
from _____ to _____ feet
CASE SIZE: 4 inches from 0 to 118 feet

WATER: Color _____ Taste _____ inches from _____ to _____ feet
Odor _____ Temp. _____ °F _____ inches from _____ to _____ feet

WELL TO SUPPLY: (check one) Home _____ GROUTING: Method _____
Farm _____ Town _____ School _____ Material _____ Depth _____ feet
Industry _____ Other SWCB Ob. Well 79-1 PUMP: Type None

WATER ANALYSIS AVAILABLE: Yes _____ No X Capacity _____ gal per min
DRILL CUTTINGS SAVED: 58 Yes X No _____ Depth of intake _____ feet

(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: Va. Plane Coord. 385,000 N, 2,525,000E

Electric Log by SWCB

LOG

FURNISHED BY: State Water Control BoardDATE: Sept. 1978

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	10	Reddish brown sandy clay	
10	20	Brown clayey coarse sand	
20	30	Brown clayey coarse & med. sand	
30	40	Light brown med. sand trace clay	
40	130	Lost circulation (No Sample)	
130	140	Broken shell - gray clay	
140	150	No Sample	
150	160	Gray clay - broken shell, med. sand	
160	170	Gray clay - broken shell, fine sand, med. sand	
170	240	Same	
240	280	Lost circulation (No sample)	
280	290	Clayey med. to coarse sand, shells, pebbles	
290	300	Coarse to med. sand; limey cemented glauconite	
300	310	Same	
310	320	Glauconite - Sandstone fragments	
320	330	Clayey med. sand abundant glauconite, shell	
330	340	Same	
340	350	Med. sand, clay, shells, abundant glauconite	
350	400	Same	
400	410	Hard drilling sand, shells, clay, glauconite	
410	450	Same	
450	460	Abundant glauconite - med.- VCS, clay	
460	470	Same	
470	480	Same - hard drilling	
480	520	Same	
520	530	Clayey med. to coarse sand, glauconite, shell	
530	540	Same	
540	550	Coarse sandy clay, pebbles, glauconite	
550	560	Coarse sandy clay, pebbles, glauconite	
560	570	Med. to coarse sand, some clay, shell, glauconite	
570	580	Hard drilling limey cemented glauconite - sand	
580	590	Gray green sandy clay, glauconite, shell, pebbles	
590	620	Same	
620	630	Sticky gray clay, glauconite, med-coarse sand, shells, pebbles	
630	640	Same	
640	650	Sticky gray to brown clay, med.-coarse sand pebbles-shell, glauconite	Color change gray green to brown
650	660	Light brown to red clay (silt) w/glauconite trace shells - med. sand	
660	690	Same	
690	700	Coarse sand & VCS, clay-glauconite, trace shell	
700	710	Gray coarse, med., fine sand, red silt, trace clay & shells	
710	720	Same	

(Use additional forms if necessary)

VIRGINIA DIVISION OF MINERAL RESOURCES
 Box 3667, Charlottesville, VA 22903

INTERVAL SHEET

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Well Repository No: W#: 5287
 C#: 177

Date rec'd: 9/20/78 Date Processed: 9/25/78

Sample Interval: from:0to:720

PROPERTY: Comm. of Virginia (SWCB)
 (York River St. Park OBS. Well)

Number of samples: 58

COMPANY: Water Control Board

Total Depth: 720'

COUNTY: James City (Christensons)

Oil or Gas: Water:Exploratory:

From-To	From-To	From-To	From-To
0 - 10	300 - 310	550 - 560	-
10 - 20	310 - 320	560 - 570	-
-	320 - 330	570 - 580	-
30 - 40	330 - 340	580 - 590	-
-	340 - 350	590 - 600	-
-	350 - 360	600 - 610	-
-	360 - 370	610 - 620	-
130 - 140	370 - 380	620 - 630	-
-	380 - 390	630 - 640	-
-	390 - 400	640 - 650	-
150 - 160	400 - 410	650 - 660	-
160 - 170	410 - 420	660 - 670	-
170 - 180	420 - 430	670 - 680	-
180 - 190	430 - 440	680 - 690	-
190 - 200	440 - 450	690 - 700	-
200 - 210	450 - 460	700 - 710	-
210 - 220	460 - 470	710 - 720	-
220 - 230	470 - 480	-	-
230 - 240	480 - 490	-	-
-	490 - 500	-	-
-	500 - 510	-	-
-	510 - 520	-	-
270 - 280	520 - 530	-	-
280 - 290	530 - 540	-	-
290 - 300	540 - 550	-	-

Both washed & unwashed samples.

OWNER: Comm. of Va. (SWCB)
(York River St. Park OBS Well)
DRILLER: Water Control Board
COUNTY: James City (Christensons)

W#: 5287
C#: 177
TOTAL DEPTH: 720'
QUAD: Gressitt

GEOLOGIC LOG

Depth
(feet)

0-10 Sand — very dark yellowish orange; abundant clay-dark yellowish orange, light brown; fine to coarse grained, some granules, few pebbles; subangular to subrounded; poorly sorted; quartz; feldspar; few opaques; few grains of glauconite.

10-20 As above except grayish orange; 5% granules; 3% glauconite (black, green).

20-30 No sample.

30-40 Sand — dark yellowish orange; heavily stained; slightly clayey; medium grained, some fine grains, some coarse grains; subangular to subrounded; moderately well sorted; quartz; feldspar; few grains of glauconite; few opaques.

40-130 No sample.

130-140 Sand — light olive gray; very fine to coarse grained; subangular to subrounded; poorly sorted; quartz; 7% shell fragments; 5% glauconite; some muscovite.

140-150 No sample.

150-160 As (130-140) except moderate clay; 15% shell fragments; 7% glauconite.

160-170 Sand — light olive gray; slightly clayey; very fine grained; subangular to subrounded; well sorted; quartz; 7% glauconite; some black phosphatic material; some shell fragments; bone fragment ; foram.

170-180 Sand — olive light gray; moderate clay; very fine grained, some coarse grains; subangular to subrounded; moderately well sorted; quartz; 10% shell fragments; 5% glauconite; some black phosphatic material; few spines.

180-190 As above except 20% shell fragments; some bone fragments.

190-200 As (170-180) plus some silt.

200-210 As above except 3% shell fragments; shark's tooth.

OWNER: Comm. of Va. (SWCB)
(York River St. Park
OBS Well)

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W#: 5287

Depth
(feet)

- 210-220 Sand — olive light gray; moderate clay; very fine grained, some medium grains; subangular to subrounded; moderately well sorted; quartz; 7% shell fragments; some glauconite; some black phosphatic material; few spines.
- 220-230 Sand — olive light gray; moderate clay; very fine to fine grained; subangular to subrounded; well sorted; quartz; 10% glauconite; some black phosphatic material; some muscovite; few shell fragments.
- 230-240 As above.
- 240-270 No sample.
- 270-280 Sand — olive light gray; moderate clay; medium to coarse grained; subrounded; moderately well sorted; quartz; 20% limestone and shell fragments; some glauconite; some black phosphatic material.
- 280-290 Limestone fragments — very light gray; moderate clay; moderate sand; fine to coarse grained; subangular to subrounded; moderately sorted; 60% limestone fragments; quartz; some glauconite; some black phosphatic material; few spines; bone fragment .
- 290-300 As above except yellowish gray; 2% glauconite; shark's tooth; pyrite.
- 300-310 Sand and limestone fragments — yellowish gray; moderate clay; fine to coarse grained; subangular to subrounded; moderately sorted; quartz; 40% limestone fragments; 3% glauconite; 2% black phosphatic material; some spines.
- 310-320 As above except 50% sandy limestone; glauconite 30% of sand sized fraction (black, brown); few black phosphatic fragments.
- 320-330 Sand — light olive gray; moderate clay; medium to coarse grained; subrounded to rounded; moderately sorted; 40% glauconite (black, brown, green); quartz; 20% sandy limestone and shell fragments; forams (inc. Nodosaria and Robulus); ostracode.
- 330-340 Sand — light olive brown; moderate clay-olive light gray, very light gray; medium to coarse grained, some fine grains, subangular to rounded; moderately sorted; quartz; 35% glauconite (brown, black); some shell fragments; muscovite.

OWNER: Comm. of Va. (SWCB)
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Depth
(feet)

- 340-350 Sand — olive gray; moderate clay (some clasts); medium to coarse grained; subrounded; moderately well sorted; 65% glauconite (brown, black); quartz; 5% sandy limestone and shell fragments; few spines; forams scarce (inc. Robulus); pyrite.
- 350-360 As above except 2% sandy limestone and shell fragments.
- 360-370 As above plus some very light gray clay; ostracode; no pyrite.
- 370-380 Sand — olive light gray; abundant clay (some clasts) — olive light gray, very light gray; medium to coarse grained, some fine grains; subangular to rounded; moderately sorted; 60% glauconite; quartz; 5% sandy limestone and shell fragments; few spines; forams rare (inc. Nodosaria); pyrite.
- 380-390 As above plus some light grayish pink clay clasts; 7% sandy limestone and shell fragments.
- 390-400 Sand and clay — olive light gray; moderate clay-light grayish pink, olive light gray, very light gray (clasts); medium to coarse grained, some fine grains; subangular to rounded; moderately well sorted; glauconite (black, brown) 50% of sand fraction; quartz; 3% sandy limestone and shell fragments; muscovite.
- 400-410 Sand — olive light gray; abundant clay-olive light gray, very light gray, light grayish pink (clasts); medium to coarse grained; rounded; moderately well sorted; 70% glauconite (black, brown, green); quartz; 2% shell fragments; muscovite.
- 410-420 Sand — greenish gray; moderate clay-greenish gray, very light gray, light grayish pink; medium to coarse grained; subrounded; moderately well sorted; 50% glauconite (black, green, brown); quartz; 25% sandy limestone fragments; some shell fragments; pyrite.
- 420-430 As above except 15% sandy limestone fragments.
- 430-440 Sand and granules — light greenish gray; slightly clayey; medium to very coarse grained, 40% granules, some pebbles; subrounded to rounded; poorly sorted; quartz; feldspar; 25% glauconite (black, green, brown); some sandy limestone and shell fragments; some garnet; pyrite.

OWNER: Comm. of Va. (SWCB)
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W#: 5287

Depth
(feet)

- 440-450 Sand — light olive gray; slightly clayey (clasts); medium grained to granular, some fine grains, few pebbles; subangular to rounded; poorly sorted; quartz; 35% glauconite (black, green, brown); feldspar; some sandy limestone and shell fragments; few grains of garnet; muscovite.
- 450-460 Sand — light olive gray; slightly clayey-light olive gray, white; medium to coarse grained, some fine grains, 10% granules; subangular to rounded; moderately sorted; 50% glauconite (black, green, brown); quartz; 15% sandy limestone fragments; feldspar; some shell fragments; muscovite; forams rare (inc. Nodosaria).
- 460-470 Sand — light olive gray; slightly clayey; medium to coarse grained, some fine grains, few granules; subangular to rounded; moderately sorted; quartz; feldspar; 25% glauconite (black, green, brown); some sandy limestone and shell fragments; muscovite.
- 470-480 As above except moderate clay.
- 480-490 As above except 20% glauconite.
- 490-500 Sand — light olive gray; slightly clayey; medium to coarse grained, some granules; subangular to rounded; moderately well sorted; quartz; feldspar; 20% glauconite (black, green, brown); few shell fragments; few grains of garnet; muscovite.
- 500-510 Sand — light olive gray; slightly clayey; fine to coarse grained, few granules; subangular to subrounded; moderately sorted; quartz; feldspar; 15% glauconite (black, green, brown); some muscovite; some shell fragments.
- 510-520 As above except moderate clay; fine to coarse grained, 10% granules, few pebbles; poorly sorted.
- 520-530 As above plus pyrite.
- 530-540 As above except 20% glauconite; some granules.
- 540-550 Sand — olive light gray; moderate clay-olive light gray, very light gray (some clasts); fine to coarse grained, few granules; subangular to subrounded; moderately sorted; quartz; feldspar; 12% glauconite; some muscovite; few shell fragments.
- 550-560 As above plus some light grayish pink clay (clasts).

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Depth
(feet)

- 560-570 As above except no light grayish pink clay; 3% granules; few grains of garnet.
- 570-580 As above except 10% glauconite.
- 580-590 Sand — olive light gray; moderate clay; fine to coarse grained, 5% granules, few pebbles; subangular to subrounded; poorly sorted; quartz; feldspar; 15% glauconite (black, green, brown); 2% shell and sandy limestone fragments; muscovite.
- 590-600 As above except 20% large sandy limestone fragments (5-20 mm); 10% glauconite.
- 600-610 Sand — olive light gray; moderate clay; fine to coarse grained, few granules; subangular to subrounded; moderately sorted; quartz; feldspar; 10% glauconite (black, green, brown); 3% shell fragments; some muscovite.
- 610-620 As above plus few pebbles; few grains of garnet.
- 620-630 Sand — olive light gray; moderate clay; medium to very coarse grained, some fine grains, 10% granules; subangular to subrounded; poorly sorted; quartz; feldspar; 7% glauconite; 2% shell fragments; muscovite; few grains of garnet.
- 630-640 Clay and sand — olive light gray; abundant clay-olive light gray, dark yellowish orange, light reddish brown (mostly clasts); medium to very coarse grained, some granules, some pebbles; subangular to subrounded; moderately sorted; quartz; feldspar; glauconite 15% of sand sized fraction; few shell fragments; muscovite; ostracode.
- 640-650 As above.
- 650-660 Clay — reddish brown, light olive gray, grayish orange (very hard, sandy clasts); slightly sandy; medium to coarse grained; subangular to subrounded; moderately well sorted; quartz; feldspar; glauconite; muscovite.
- 660-670 As above.
- 670-680 As above.
- 680-690 As above except clay-light olive gray, very light gray, reddish brown (very hard, sandy clasts).

OWNER: Comm. of Va. (SWCB)
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Depth
(feet)

690-700 Clay and sand — olive light gray, reddish brown; abundant clay; moderate sand; medium to coarse grained, some granules, few pebbles; subangular to subrounded; moderately sorted; quartz; feldspar; 3% glauconite; some shell fragments; muscovite.

700-710 Sand — light olive gray; slightly clayey-light olive gray, reddish brown, dark yellowish orange (mostly clasts); fine to coarse grained; subangular to subrounded; moderately sorted; quartz; feldspar; 5% glauconite; muscovite; few shell fragments.

710-720 As above except 10% glauconite; some shell fragments; shark's tooth.

Logged by: Michael T. Currie

GEOLOGIC SUMMARY

<u>Depth</u> <u>(feet)</u>	<u>Thickness</u> <u>(feet)</u>	<u>Rock Unit</u>	<u>Time Rock Unit</u>
0-40	40	Bacons Castle Formation	Pleistocene
40-130	90	No Sample	
130-240	110	Calvert Formation	Miocene-Eocene
240-270	30	No Sample	
270-400	130	Nanjemoy Formation	Eocene
400-440	40	Mattaponi Formation	Eocene-Cretaceous
440-720	280+	Patuxent Formation	Cretaceous

VIRGINIA DIVISION OF MINERAL RESOURCES
David A. Hubbard, Jr., Geologist
October 30, 1978