

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

W-3316
C- 183

MAILING ADDRESS:

DIVISION OF MINERAL RESOURCES

OFFICE ADDRESS:

Box 3667

JAMES L. CALVER, COMMISSIONER

McCormick Road

Charlottesville, VA 22903

WATER WELL COMPLETION REPORT

Charlottesville, Virginia

OWNER: Va. Div. of Water Resources Mailing Address: Richmond Va.

TENANT: ob well #42 (GW-OWC-1) Mailing Address:

DRILLER: Layne-Atlantic Co. Mailing Address: Norfolk Va.

WELL LOCATION: County Nansemond Approx. 400 feet west (direction) of
of St. Rt. 32 and 50 feet south (direction) of St. Rd. 678

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

DATE STARTED: DATE COMPLETED: July 15, 1971

TYPE OF DRILL RIG USED: rotary TOTAL DEPTH 2017 feet

WATER LEVEL: Stands feet below surface OR

has NATURAL flow of gallons per minute.

YIELD TEST: Method

Drawdown feet

Rate gal. per min.

Duration hrs., min.

HOLE SIZE: 13 inches from 0 to 2017 feet

inches from to feet

inches from to feet

SCREEN SIZE: inches from to feet

see remarks inches from to feet

inches from to feet

CASE SIZE: 4 inches from 0 to 1879 feet

inches from to feet

inches from to feet

WATER: Color Taste

Odor Temp. °F

WELL TO SUPPLY: (check one) Home

Farm Town School

Industry Other observation well

GROUTING: Method

Material Depth feet

PUMP: Type

Capacity gal. per min

Depth of intake feet

WATER ANALYSIS AVAILABLE: Yes No

DRILL CUTTINGS SAVED: Yes 199 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: * Well plugged at 1879' below ground level and 4" screens set at

481-486, 729-734, 947-952, 1115-1120, 1222-1227, 1427-1432,

1537-1542, and 1874-1879' (.030 gauge screens)

Annular space gravel-packed

(LOG OF WELL) OVER

LOG

FURNISHED BY: _____

DATE: _____

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
		No <u>drillers</u> log available: attached to Layne-Atlantic form in "saye" file is a drillers log "transposed by DWR" (furnished by J. M. Alexander w/his letter of 12/8/71	

(Use additional forms if necessary)

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

INTERVAL SHEET

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C-183

Well Repository No: 3316

Date rec'd: Aug. '71 ; processed 12-29-71

Sample Interval; from 20 to:2017'

PROPERTY: Va. Div. of Water Resources
(obs. well #G.W-OWC-1)

Number of samples: 199

COMPANY: Layne-Atlantic Co.

Total Depth: 2017'

COUNTY: Nansemond (Cypress Chapel)

Oil or Gas: Water: ~~Exploratory~~ Observation

From-To	From-To	From-To	From-To
-	250 - 60	500 - 10	750 - 60
-	260 - 70	510 - 20	760 - 70
20 - 30	270 - 80	520 - 30	770 - 80
30 - 40	280 - 90	530 - 40	780 - 90
40 - 50	290 - 300	540 - 50	790 - 800
50 - 60	300 - 10	550 - 60	800 - 10
60 - 70	310 - 20	560 - 70	810 - 20
70 - 80	320 - 30	570 - 80	820 - 30
80 - 90	330 - 40	580 - 90	830 - 40
90 - 100	340 - 50	590 - 600	840 - 50
100 - 10	350 - 60	600 - 10	850 - 60
110 - 20	360 - 70	610 - 20	860 - 70
120 - 30	370 - 80	620 - 30	870 - 80
130 - 40	380 - 90	630 - 40	880 - 90
140 - 50	390 - 400	640 - 50	890 - 900
150 - 60	400 - 10	650 - 60	-
160 - 70	410 - 20	660 - 70	910 - 20
170 - 80	420 - 30	670 - 80	920 - 30
180 - 90	430 - 40	680 - 90	930 - 40
190 - 200	440 - 50	690 - 700	940 - 50
200 - 10	450 - 60	700 - 10	950 - 60
210 - 20	460 - 70	710 - 20	960 - 70
220 - 30	470 - 80	720 - 30	970 - 80
230 - 40	480 - 90	730 - 40	980 - 90
240 - 50	490 - 500	740 - 50	990 - 1000

All intervals have both washed and unwashed samples

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

INTERVAL SHEET
Continued

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Well Repository No.:

From-To	From-To	From-To	From-To
1000 - 10	1300 - 10	1600 - 10	1900 - 10
1010 - 20	1310 - 20	1610 - 20	1910 - 20
1020 - 30	1320 - 30	1620 - 30	1920 - 30
1030 - 40	1330 - 40	1630 - 40	1930 - 40
1040 - 50	1340 - 50	1640 - 50	1940 - 50
1050 - 60	1350 - 60	1650 - 60	1950 - 60
1060 - 70	1360 - 70	1660 - 70	1960 - 70
1070 - 80	1370 - 80	1670 - 80	1970 - 80
1080 - 90	1380 - 90	1680 - 90	1980 - 90
1090 - 1100	1390 - 1400	1690 - 1700	1990 - 2000
1100 - 10	1400 - 10	1700 - 10	2000 - 10
1110 - 20	1410 - 20	1710 - 20	2010 - 17
1120 - 30	1420 - 30	1720 - 30	-
1130 - 40	1430 - 40	1730 - 40	-
1140 - 50	1440 - 50	1740 - 50	-
1150 - 60	1450 - 60	1750 - 60	-
1160 - 70	1460 - 70	1760 - 70	-
1170 - 80	1470 - 80	1770 - 80	-
1180 - 90	1480 - 90	1780 - 90	-
1190 - 1200	1490 - 1500	1790 - 1800	-
1200 - 10	1500 - 10	1800 - 10	-
1210 - 20	1510 - 20	1810 - 20	-
1220 - 30	1520 - 30	1820 - 30	-
1230 - 40	1530 - 40	1830 - 40	-
1240 - 50	1540 - 50	1840 - 50	-
1250 - 60	1550 - 60	1850 - 60	-
1260 - 70	1560 - 70	1860 - 70	-
1270 - 80	1570 - 80	1870 - 80	-
1280 - 90	1580 - 90	1880 - 90	-
1290 - 1300	1590 - 1600	1890 - 1900	-

Owner: GWOWC #1
Driller: Singer-Layne-Atlantic
County: Nansemond Co.

W# 3316
C# 183
Total Depth: 2017
Quad:
Elev:

Depth
(feet) WELL LOG

0-20 No sample.

20-30 Sand - grayish orange (10YR 6/3); no clay, no silt; fine, subangular; very well sorted; quartz; wood fragments.

30-40 Sand - pale orange (10YR 7/3); no clay, silt; fine to coarse, sub-angular; moderately well sorted; quartz.

40-50 Sand - grayish orange (10YR 6/3); sand in clasts; fine to coarse, subangular; some granules; moderate sorting; quartz; feldspar.

50-60 Sand - as above, except: fine; very well sorted; very minute black glauconite.

60-70 Sand - light olive gray (5Y 6/1); abundant clay, in clasts; some silt; sand in clasts; fine, subangular, some very coarse and granules; moderate sorting; quartz; ochre; wood fragments; glauconite.

70-80 Sand - dusky yellow (5Y 6/4); slight clay in clasts, slight silt; sand clasts; fine; subangular, some coarse; moderate sorting; quartz; muscovite; wood fragments.

80-90 Clay - light olive gray (5Y 5/2); clasts, slight silt; moderate sand; fine, subangular; poorly sorted; quartz; 30% pelecypod fragments (Nuculana; Tellina; Cardia); coral; gastropod (Turritella); bone and wood fragments.

90-100 Clay - as above, except: larger, heavier shell fragments.

100-110 Clay - as above, except: 50% shell fragments - mostly various "clams;" worm tubes.

110-120 Clay - as above, except: sparse shell fragments; sparse sand.

120-130 Clay - as above.

130-140 Clay - as above, except: some yellow clay clasts; 3% shell fragments.

140-150 Clay - as above.

Depth
(feet)

150-160 Clay - as above, except: wood fragments.

160-170 Clay - as above, except: 8% glauconite; 5% shell fragments; moderate sand; as above.

170-180 Clay - as above, except: 2% shell fragments.

180-190 Clay - as above, except: 5% shell fragments.

190-200 Clay - as above, except: sparse shell fragments.

200-210 Clay - as above.

210-220 Clay - as above.

220-230 Clay - as above.

230-240 Clay - as above.

240-250 Clay - pale yellowish brown (10YR 5/3); clasts of striated yellow, orange, red; sparse sand; fine to medium, subangular; poor sorting; quartz; lignite; sparse glauconite.

250-260 Clay - light olive gray (5Y 6/1); as above.

260-270 Clay - as above, except: no sand; shell fragments.

270-280 Clay - as above.

280-290 Clay - as above, except: sparse sand; glauconite.

290-300 Clay - pale yellowish brown (10YR 5/3); clasts of yellow and brown clay; sparse silt; abundant sand; medium to coarse, subangular; some granules; poor sorting; quartz; 5% glauconite; 3% shell fragments; pelecypod (Lucinia).

300-310 Sand - as above, except: bone fragments; echinoderm spines; abundant clay in clasts.

310-320 Sand, Clayey - as above, except: 20% glauconite.

320-330 Sand, Clayey - dark greenish gray (5GY 4/1); abundant clay, some in clasts; sand, 50% dark green glauconite, 50% quartz; medium to very coarse, subrounded to rounded, some granules; poor sorting; quartz; 1% shell fragments; bone fragments.

Depth
(feet)

- 330-340 Sand, Clayey - light olive gray and olive gray; as above, except: shark teeth; echinoderm spines.
- 340-350 Clay - light olive gray (5Y 6/1); as above, including abundant sand; also - wood fragments.
- 350-360 Clay - as above, except: foram (Nodosaria); pelecypod (Gryphaea).
- 360-370 Sand - as above, except: abundant clay, some in clasts; foram (Nodosaria).
- 370-380 Clay - pale red (5R 6/2); clasts of red, yellow, orange, rose, white and grays, green; abundant sand of quartz and 20% glauconite; medium to very coarse, subangular; some granules; poor sorting; quartz; shell fragments.
- 380-390 Clay - light brown (5YR 6/4); clasts of various shades as above; abundant sand; fine to very coarse; subangular to sub-rounded; granules; poor sorting; quartz; 15% glauconite; shell imprints; pyrite; wood fragments.
- 390-400 Clay - as above, except: foram (Nodosaria); seeds (?); bone fragments; no pyrite.
- 400-410 Clay - as above, except: no seeds.
- 410-420 Clay - grayish orange (10YR 7/4); as above.
- 420-430 Clay - light brown (5YR 6/4); as above.
- 430-440 Clay - as above, except: sparse sand; mica; 5% glauconite.
- 440-450 Clay - moderate yellowish brown (10YR 5/4); clay in some clasts, abundant sand; very fine to medium, some coarse to very coarse, subangular; some granules; poor sorting; quartz; 15% glauconite; wood fragments.
- 450-460 Clay - as above; sparse sand; occasional shell fragment.
- 460-470 Clay - pale yellowish brown (10YR 6/2); as above; lignite.
- 470-480 Clay - as above, except: some lignite, muscovite mica.
- 480-490 Sand - light olive gray (5Y 6/1); abundant clay in clasts, very fine to very coarse; subangular; some granules; poor sorting; quartz; 10% glauconite; pyrite; mica; wood fragments; foram (Nodosaria).

Depth
(feet)

490-500 Sand - as above, except: foram (Siphogenerina); fuchsite; muscovite; no wood.

500-510 Sand - as above, except: no pyrite; no forams; 1% muscovite; feldspar.

510-520 Sand - as above.

520-530 Sand - as above, except: moderate sorting.

530-540 Sand - as above, except: moderate clasts of clay; very fine to very coarse; subangular to subrounded; granules; poor sorting; quartz; 10% glauconite; muscovite; pelecypod; feldspar; garnet.

540-550 Sand - medium olive gray (5Y 5/1); abundant clay clasts; rest as above.

550-560 Sand - Clay - as above, except: lignite.

560-570 Sand - as above, except: wood fragments.

570-580 Sand - as above, except: sand very fine to medium, some coarse; moderate sorting.

580-590 Clay - medium olive gray (5Y 5/1); clay clasts, moderate sand, fine to coarse, subangular; poor sorting; quartz; some glauconite; rare mica; ochre; garnet; Gryphaea.

590-600 Clay - as above, except: abundant sand; 7% glauconite; shell fragments; 1% mica.

600-610 Clay - as above, except: moderate sand.

610-620 Clay - as above, except: 5% glauconite; no shell fragments.

620-630 Clay - as above, except: abundant sand; 7% glauconite.

630-640 Clay - as above, except: moderate sand.

640-650 Clay - as above, except: sparse sand, very fine to very coarse, poorly sorted.

650-660 Clay - as above, except: abundant sand; Gryphaea; some granules; shell fragments.

660-670 Clay - as above, except: 5% muscovite.

Depth
(feet)

- 670-680 Sand - light olive gray sand with clay clasts of medium olive gray (5Y 6/1; 5Y 5/1); sparse clay in clasts; sparse silt; very fine to coarse, some very coarse, subangular; few granules; moderate sorting; quartz; 7% glauconite; 1% mica; shell fragments (Gryphaea); foram (Nodosaria); feldspar.
- 680-690 Sand - as above, except: fine to very coarse.
- 690-700 Clay - medium olive gray (5Y 5/1) clay in clasts, moderate sand; fine to coarse; subangular; some very coarse to granular; moderate sorting; quartz; 1% glauconite; 1% mica; shell fragments, Gryphaea.
- 700-710 Sand - light olive gray (5Y 6/1); very sparse clay in clasts; sand in some clasts; fine to very coarse, subangular, granules; moderate sorting; quartz; 3% glauconite; some mica; shell fragments; Gryphaea; Tellina; feldspar.
- 710-720 Sand - as above, except: moderate clay in clasts.
- 720-730 Sand - as above, except: medium to very coarse; garnet.
- 730-740 Sand - as above, except: no clay.
- 740-750 Sand - as above, except: no glauconite; 1% mica.
- 750-760 Sand - as above, except: sparse clay in clasts.
- 760-770 Sand - as above, except: Gryphaea; 1% mica; no glauconite; feldspar.
- 770-780 Sand - yellowish gray (5Y 7/2); very sparse clay in clasts; sand also in clasts; fine to very coarse, subangular; granules; moderate sorting; quartz; 1% glauconite; some mica; feldspar; sparse shell fragments.
- 780-790 Sand - as above.
- 790-800 Sand - light olive gray (5Y 6/1); moderate clay in clasts; fine to coarse, subangular; some very coarse to granular; moderately well sorted; quartz; 1% glauconite; some mica; feldspar; sparse shell fragments.
- 800-810 Sand - as above.
- 810-820 Sand - pale yellowish brown (10YR 6/2); as above, except: clay clasts of yellow and reddish color.

Depth
(feet)

820-830 Sand - as above; sand in clasts.

830-840 Sand - as above.

840-850 Clay - dark yellowish brown (10YR 4/2); clay clasts of dark gray, yellow, and orange; abundant sand; fine to coarse, some very coarse; subangular; poor sorting; quartz; rare glauconite; mica; feldspar; shell fragments.

850-860 Sand - pale yellowish brown; clasts of gray clay; as above.

860-870 Sand - light olive gray (5Y 6/1); as above, except: fine to very coarse; granules.

870-880 Sand - as above, except: very sparse clay; medium to very coarse; pebbles; moderate sorting.

880-890 Sand - as above.

890-900 Sand - as above, except: garnet.

900-910 Sand - as above.

910-920 Clay - grayish orange (10YR 7/4); as above, except: sparse sand; poor sorting.

920-930 Clay - as above, except: very sparse sand; large shell fragments.

930-940 Sand - pale grayish orange (8YR 6/3); as above, except: moderate clay clasts, grayish orange; very fine to pebble; poor sorting.

940-950 Sand - as above.

950-960 Sand - as above, except: medium-grained, with some coarse to very coarse; also some pebbles; moderately well sorted.

960-970 Sand - as above, except: moderate clay clasts of various colors; lignite.

970-980 Sand - light olive gray (5Y 6/1); sparse clast of grayish orange clay, medium to granule, subangular; some pebbles; poor sorting; quartz; some feldspar; few mica; glauconite; garnet; lignite.

Depth
(feet)

980-990 Sand - as above, except: no clay; medium to very coarse; moderate sorting.

990-1000 Sand - as above, except: very sparse clay; fine to granule; poor sorting.

1000-1010 Sand - yellowish gray (5Y 7/2) moderate clay clasts of various colors; clasts of sand; medium to very coarse, subangular; some pebbles; moderate sorting; quartz; garnet; rare glauconite; feldspar; mica.

1010-1020 Sand - as above.

1020-1030 Sand - as above, except: sparse clay in clasts; pebbles up to 15mm.

1030-1040 Sand - as above, except: moderate clay, yellow, in clasts; medium to granular; no pebbles.

1040-1050 Sand - as above, except: sparse clay, gray and yellow clasts; fine to very coarse (greater amount finer grains); moderately well sorted; some garnet.

1050-1060 Sand - as above.

1060-1070 Sand - as above, except: greater amount coarser grains.

1070-1080 Sand - as above, except: moderate sorting.

1080-1090 Sand - as above, except: no clay, moderately well sorted; greater amount finer grains.

1090-1100 Sand - as above, except: more coarse grains; moderate sorting.

1100-1110 Sand - as above, except: abundant sand clasts, moderate clay.

1110-1120 Sand - as above, except: large single quartzite clast; few pebbles.

1120-1130 Sand - as above, except: few clasts; 1% pebbles; biotite and quartz; magnetite.

1130-1140 Sand - as above, except: 3% pebbles; shell fragment; muscovite; feldspar; and garnet.

1140-1150 Sand - as above, except: 15% granules to pebbles.

Depth
(feet)

1150-1160 Sand - as above, except: sand clasts; fine to granule sized, no pebbles.

1160-1170 Sand - as above, except: fine to very coarse; moderately well sorted; 1% garnet.

1170-1180 Gravel - as above, except: 50% pebbles; 50% medium to coarse; feldspar.

1180-1190 Sand - pale yellowish brown (10YR 5/5); sparse clay; moderate sand in clasts; medium to coarse, subangular; few granules, moderate sorting; quartz; rare glauconite; mica; feldspar; garnet rare.

1190-1200 Sand - as above, except: moderate clay.

1200-1210 Sand - as above.

1210-1220 Sand - pale gray orange (10YR 7/3); moderate sand and clay in clasts; 1% black, very fine glauconite; silt to coarse; some very coarse and granules; poorly sorted.

1220-1230 Sand - moderate yellowish brown (10YR 5/4); as above, except: few very coarse and granules.

1230-1240 Sand - as above, except: abundant clay; very fine to coarse; moderate sorting.

1240-1250 Sand - pale gray orange (10YR 7/3); sparse clay; fine to very coarse; granules; poorly sorted; 1% garnet; lignite with white coating; pyrite.

1250-1260 Sand - light brown (5YR 6/4); moderate clay in clasts; moderately well sorted; garnet rare.

1260-1270 Sand - light brown (5YR 5/6); abundant clay in clasts.

1270-1280 Sand - as above.

1280-1290 Sand - yellowish gray (5Y 7/2); some glauconite and garnet; sparse clay clasts; 1% granules.

1290-1300 Sand - pale yellowish brown; slight clay; moderate sand clasts; poorly sorted; rare glauconite and garnet; 1% granules.

1300-1310 Sand - yellowish gray (5Y 7/2); 3% lignite; no glauconite.

Depth
(feet)

1310-1320 Sand - as above, except: no lignite.

1320-1330 Sand - as above, except: 3% pebbles; feldspar.

1330-1340 Sand - as above, except: 1% granules to pebbles.

1340-1350 Sand - pale yellowish brown; moderate clay; sand clasts.

1350-1360 Sand - as above, except: sparse clay clasts; abundant granules.

1360-1370 Sand - moderate pale yellowish brown (10YR 6/2, 10YR 5/4) - moderate clay; abundant sand - clay clasts; slight silt.

1370-1380 Sand - orange brown (10YR 6/4); moderate clay, in clasts; slight silt, abundant sand clasts; medium to granule; sub-angular; few pebbles; poorly sorted; quartz; feldspar.

1380-1390 Sand - as above, except: moderate sand clasts.

1390-1400 Sand - as above, except: as in 1370-1380.

1400-1410 Sand - as above; with clasts of light brown clay, gray, red also; moderate clay in clasts; abundant sand clasts; rare glauconite.

1410-1420 Sand - as above.

1420-1430 Sand - yellow gray (5Y 7/2); fine to medium, moderately well sorted; feldspar; iron oxide; garnet; mica.

1430-1440 Sand - orange brown (10YR 6/4); moderate clay clasts of various colors; silt; abundant sand clasts; fine to very coarse; subangular; some granules; poor sorting; quartz; some mica.

1440-1450 Sand - as above.

1450-1460 Sand - light olive gray (5Y 6/1); no clay; some granules and pebbles; feldspar; garnet.

1460-1470 Sand - as above, except: sparse clay; moderate sand clasts.

1470-1480 Sand - as above, except: medium to pebble; 25% pebbles.

1480-1490 Sand - as above.

1490-1500 Sand - as above, except: fine to very coarse; some granules.

Owner:

GWOWC #1

-10-

W# 3316

Depth
(feet)

1500-1510	Sand - as above, except: sparse clay, moderate sand clasts; 30% granules.
1510-1520	Sand - as above, except: no sand clasts; medium to very coarse; some pebbles; 10% granules.
1520-1530	Sand - as above, except: no clay; 20% granules.
1530-1540	Sand - as above at 1460-1470; rare glauconite.
1540-1550	Sand - as above, except: no clay; fine to very coarse; some granules; 30% pebbles.
1550-1560	Sand - pale yellowish brown (10YR 6/3); sparse clay; moderate sand clasts; very fine to very coarse; subangular to subrounded; 15% granules; poor sorting; quartz; feldspar; mica rare.
1560-1570	Sand - as above, except: moderate clay in clasts with sand; sparse silt.
1570-1580	Sand - grayish orange (10YR 7/4); sparse clay in sand clasts; sparse silt; fine to very coarse; subangular to subrounded; some granules; poor sorting; quartz; feldspar; very rare glauconite.
1580-1590	Sand - as above, except: very fine to coarse; moderate sorting.
1590-1600	No sample.
1600-1610	Sand - as above, except: moderate clay.
1610-1620	Sand - as above, except: abundant clay; very fine to very coarse; poor sorting.
1620-1630	Sand - moderate yellowish brown (10YR 5/4) with clasts of moderate brown; moderate clay in various colored clasts; some granules.
1630-1640	Sand - as above, except: abundant clay in large clasts.
1640-1650	Sand - as above, except: moderate clay; rare glauconite; garnet; mica.
1650-1660	Sand - as above, except: abundant clay in clasts of gray, yellow, red and browns; sand clasts.

Depth
(feet)

1660-1670	Sand - as above.
1670-1680	Sand - as above.
1680-1690	Sand - as above, except: clay in pellet form as well as clast.
1690-1700	Clay - color and sand, as above; moderate sand.
1700-1710	Clay - as above.
1710-1720	Sand - pale yellowish brown (10YR 6/2); abundant clay.
1720-1730	Sand - pale orange brown (10YR 6/4); moderate clay in small clasts.
1730-1740	Sand - as above.
1740-1750	Sand - as above.
1750-1760	Sand - as above, except: abundant clay clasts of white, gray, yellow and orange brown; fine to very coarse; some granules; rare glauconite.
1760-1770	Sand - as above; moderate clay.
1770-1780	Sand - as above.
1780-1790	Sand - red and white, salt and pepper; sparse clay in small red-brown clasts; fine to very coarse, subangular to sub-rounded; some granules; poor sorting; quartz; feldspar; garnet chips; 1% glauconite.
1790-1800	Sand - as above, except: very sparse clay; medium to coarse grained; mica.
1800-1810	Sand - pale gray orange (10YR 8/4); clasts of sand; fine to very coarse; subangular; some granules; poor sorting; quartz; 1% very fine glauconite; feldspar.
1810-1820	Sand - as above, except: very sparse clay in sand clasts; sparse sand clasts.
1820-1830	Sand - pale orange brown (10YR 6/2); sparse clay; abundant sand clasts; few pebbles.
1830-1840	Sand - as above, except: iron oxide; moderate sorting.

Depth
(feet)

1840-1850 Sand - moderate yellowish brown (10YR 5/4); sparse clay; abundant sand clasts; fine to very coarse, subangular; some granules; moderate sorting; quartz; 1% very fine glauconite; iron oxide; feldspar; mica.

1850-1860 Sand - as above.

1860-1870 Gravel - salt and pepper; 50% pebbles > 5mm; 50% sand as above; some glauconite.

1870-1910 No samples.

1910-1920 Sand - moderate yellowish brown (10YR 5/4); sparse clay; moderate sand clasts; sand as above; poor sorting; some glauconite; mica.

1920-1930 Sand - as above.

1930-1940 Sand - moderate yellowish brown (10YR 5/2); 30% granules and pebbles.

1940-1950 Sand - moderate brown (5YR 4/4); firmly compacted; large sand clasts with sparse clay.

1950-1960 Sand - as above, except: moderate clay - gray and red-brown; rare glauconite; mica.

1960-1970 Sand - as above, except: pyrite; rare shell fragments.

1970-1980 Sand - as above, except: moderate clay, abundant sand clasts, firmly compacted, some white, gray, yellow.

1980-1990 Sand - salt and pepper; 50%+ clay clasts, firmly compacted, gray, red-brown, yellow; 30%+ pebbles; rest - sand as above; no glauconite; garnet.

1990-2000 Sand - light brown (5YR 4/6); sparse clay clasts; fine to coarse; subangular; some granules; moderately sorted; quartz; rare glauconite and mica.

2000-2010 Sand - as in 1970-1980.

2010-2017 Sand - as above.

Logged by: J. K. Polzin

OWNER: Va. Division of Water Resources
(Exp. Hole GW-OWC-1, ob. well 42)
DRILLER: Layne-Atlantic Company
COUNTY: Nansemond (Cypress Chapel)

W#3316
C#183
TD: 2017'

GEOLOGIC SUMMARY

<u>Depth (feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0- 80	Columbia Group	Pleistocene
80- 200	Yorktown and St. Marys formations	Late Miocene
200- 315	Calvert Formation	Middle Miocene
315- 380	Mattaponi Formation	Paleocene
380- 710	"transitional beds"	Late Cretaceous
710-1920	Patuxent Formation	Early Cretaceous
1920-2017	"redbeds"	Triassic

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
July 19, 1971

OWNER: Va. Div. of Water Resources
DRILLER: Layne-Atlantic ?
COUNTY: Nansemond

W-3316
~~GW-3~~
VDMR #Unknown
WWCR #Unknown
TOTAL DEPTH: 2020'
ELEV: ~50'

GEOLOGIC SUMMARY

<u>Depth</u> <u>(feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0- 80	Columbia Group	Pleistocene <i>post-Miocene</i>
80- 200	Yorktown-St. Marys Formations	Late Miocene
200- 315	Calvert Formation	Middle Miocene
315- 380	Mattaponi Formation	Paleocene
380- 710	"transitional beds"	Late Cretaceous
710-1920	Patuxent Formation	Early Cretaceous
1920-2020	Redbeds	Triassic (?)

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Note : 1890-1920' may be reworked redbeds.

100-200' may be Calvert Fm. (top of Calvert difficult to define.)

Corapeake Quad.

515-1920'