

County: James City

VDMR Well # 6033

Well: "Chic"
Property Owner:
Driller: Va Dept. of Highways (DVMR)
Location: 399,030m East 4,135,480m North

Altitude Top of Hole: 124.3'
Total Depth: 127'
Started Drilling: 19 Mar 79
Completed Drilling: " "
Sample Description by: Kelvin Ramsey

GEOLOGIC SUMMARY

Depth	Thickness	Formation	Age
0-63'	63'	Columbia Group	Pleistocene
63'-127'	64'	Yorktown	Pliocene

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

INTERVAL SHEET

Page 1 of 1

Date rec'd: 19 Mar 79 Date Processed: 28,29 May 79

PROPERTY: Chicahominy Church

COMPANY:

COUNTY: James City

Well Repository No.: W- 6033

Sample Interval: from 2.0' to: 85.5'

Number of samples: 134

Total Depth: 127.0'

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To	From-To
2.0 - 2.5	20.5 - 21.0	48.0 - 48.5	61.0 - 61.5	85.5 - 86.0
2.5 - 3.0	21.0 - 21.5	48.5 - 49.0	61.5 - 62.0	86.0 - 86.5
3.0 - 3.5	21.5 - 22.0	49.0 - 49.5	62.0 - 62.5	86.5 - 87.0
3.5 - 4.0	25.0 - 25.5	49.5 - 50.0	62.5 - 63.0	90.0 - 90.5
4.0 - 4.5	25.5 - 26.0	50.0 - 50.5	63.0 - 63.5	90.5 - 91.0
4.5 - 5.0	26.0 - 26.5	50.5 - 51.0	63.5 - 64.0	91.0 - 91.5
5.0 - 5.5	26.5 - 27.0	51.0 - 52.0	64.0 - 64.5	91.5 - 95.0
5.5 - 6.0	30.0 - 30.5	52.0 - 52.5	64.5 - 65.0	95.0 - 95.5
6.0 - 6.3	30.5 - 31.0	52.5 - 53.0	65.0 - 65.5	95.5 - 96.0
6.5 - 7.0	31.0 - 31.5	53.0 - 53.5	65.5 - 66.0	96.0 - 96.5
7.0 - 7.5	31.5 - 32.0	53.5 - 54.0	66.0 - 66.5	96.5 - 97
7.5 - 8.0	35.0 - 35.5	54.0 - 54.5	66.5 - 67.0	100.0 - 100.5
8.0 - 8.5	35.5 - 36.0	54.5 - 55.0	70.0 - 70.5	100.5 - 101.0
8.5 - 9.0	36.0 - 36.5	55.0 - 55.5	70.5 - 71.0	101.0 - 101.5
9.0 - 9.5	36.5 - 37.0	55.5 - 56.0	71.0 - 71.5	101.5 - 102.0
10.0 - 10.5	40.0 - 40.5	56.0 - 56.5	71.5 - 72.0	105.0 - 105.5
10.0 - 11.0	40.5 - 41.0	56.5 - 57.0	75.0 - 75.5	105.5 - 106.0
11.0 - 11.5	41.0 - 41.5	57.0 - 57.5	75.5 - 76.0	106.0 - 106.5
11.5 - 12.0	41.5 - 42.0	57.5 - 58.0	76.0 - 76.5	106.5 - 107
12.0 - 12.5	45.0 - 45.5	58.0 - 58.5	76.5 - 77.0	110.0 - 110.5
15.0 - 15.5	45.5 - 46.0	58.5 - 59.0	80.0 - 80.5	110.5 - 111.0
15.5 - 16.0	46.0 - 46.5	59.0 - 59.5	80.5 - 81.0	111.0 - 111.5
16.0 - 16.5	46.5 - 47.0	59.5 - 60.0	81.0 - 81.5	115.0 - 115.5
16.5 - 17.0	47.0 - 47.5	60.0 - 60.5	81.5 - 82.0	115.5 - 116.0
20.0 - 20.5	47.5 - 48.0	60.5 - 61.0	85.0 - 85.5	116.0 - 116.5
116.5 - 117	125.0 - 125.5	-	-	-
120.0 - 120.5	125.5 - 126.0	-	-	-
120.5 - 121.0	126.0 - 126.5	-	-	-
121.0 - 121.5	126.5 - 127	-	-	-
121.5 - 122.0	-	-	-	-

Interval

GEOLOGIC LOG

W-6033

- 2'-2.5' Medium sand - yellowish brown 10YR-5/8; moderate-clay; medium grained, subrounded; poorly sorted; some heavies.
- 2.5'-3.0' Medium sand - yellowish red 5YR-5/6; moderate clay; medium grained subrounded; poorly sorted; some heavies.
- 3.0'-3.5' Medium sand - dark red 2.5YR-3/6; moderate clay; medium grained subrounded; poorly sorted; some heavies; mottled.
- 3.5'-4.0' Sand - dark red 2.5YR-3/6 to 10YR-7.8 yellow mottled; moderate clay; subrounded medium-fine grained; poorly sorted; some heavies.
- 4.0'-4.5' Sand - dark red 2.5YR-3/6 to 10YR-7/8 yellow - mottled; moderate clay; subrounded medium grained; poorly sorted; sand-silt few heavies.
- 4.5'-5.0' Sand - mottled dark red 2.5YR-3/6 to 10YR-7/8 yellow; moderate clay; subangular-subrounded; medium-grained; poorly sorted-sand-silt some heavies.
- 5.0'-5.5' Same as above but more silt.
- 5.5'-6.0' Top three inches same as above; Bottom three inches same but contain clasts of ferricrete.
- 6.0'-6.5' Sand - dark red 2.5YR-3/6; abundant clay; medium-fine grained, -subangular to subrounded; poorly sorted; few heavies.
- 6.5'-7.0' Sand - dark red 2.5YR-3/6; abundant clay medium-fine grained-subangular to subrounded poorly sorted, few heavies; ferricrete class, shell frags. (contamination?).
- 7.0'-7.5' Same as above - top four inches; bottom two inches solid ferricrete.
- 7.5'-8.0' Sand - dark red 2.5YR-3/8; abundant clay, some pockets of pure gray clay; fine grained - subrounded; moderately sorted (fine sand & silt); few heavies, ferricrete clasts.
- 8.0'-8.5' Top three inches - Sand - yellowish red 5YR-4/8; moderate clay; subrounded; fine grained; moder. sorted (fn sand-silt)
Bottom three inches - Sand - yellowish red 5YR-4/8; sparse clay; subrounded; fine grained, some ferricrete; moderately sorted few feldspar?
- 8.5'-9.0' Same as bottom three inches of above, few feldspar.
- 9.0'-9.5' Same as above but w/ yellow clay laminae in bottom.
- 9.5'-10.0' Same as above but clay laminae becoming thicker.

Interval

-2-

- 10.0'-10.5' Same as above - few heavies; clay filled burrow.
- 10.5'-11.0' Top two inches same as above
Bottom four inches; sand - yellowish red 5YR-4/8; moderate clay-dark red, 2cm layer gray clay; subangular-subrounded; fine grained; mod. sorted. (fine sand-silt).
- 11.0'-11.5' Same as bottom of above; clay filled burrow; few feldspar.
- 11.5'-12.0' Sand - yellowish red 5YR-4/8; subangular; fine grained; moderately sorted (fine sand-silt); abundant clay-red & gray-white; clay all mixed up.
- 12.0'-15.0' Missing.
- 15.0'-15.5' Sand - red 2.5YR-4/8; medium gray; subrounded; poorly sorted (medium sand-silt); some clay; few heavies.
- 15.5'-16.0' Same as above with laminations of fine sand; subrounded moderately sorted - (fine sand-silt); some clay.
- 16.0'-16.5' Sand - yellowish red 5YR-5/8; medium-fine grained; subrounded moderately sorted (medium-fine); white chips - clay? shell? or feldspar?
Bottom inch-fine sand; subrounded; well sorted; some clay.
- 15.5'-17.0' Sand - red 2.5YR-5/8; fine grained; subangular-subrounded; moderately sorted (fine sand-silt); some clay; few heavies; pocket of gray-yellow silt with some sand grains - poorly sorted.
- 17.0'-20.0' Missing
- 20.0'-20.5' Sand - reddish yellow 7.5YR-6/8; fine grained; subrounded; moderately sorted (fine sand-silt); some clay; few heavies.
- 20.5'-21.0' Same as above.
- 21.0'-21.5' Same as above - slightly darker color.
- 21.5'-22.0' Same as above - few red clay clasts.
- 22.0'-25.0' Missing.
- 25.0'-25.5' Sand - yellow 10YR-7/6; sand & silt, very poorly sorted (coarse sand-silt) subrounded; some clay; few heavies (muscle); blue qtz; few feldspars.
- 25.5'-26.0' Sand - weak red 7.5R-5/4; coarse sand; moderately sorted (coarse-fine sand); subrounded; some clay (yellow) with fine sand; few heavies; few feldspars.

Interval

-3-

- 27.0'-30.0' Missing.
- 30.0'-30.5' Sand - reddish yellow 5YR-6/6; fine sand; moderately sorted (fine sand-silt) subrounded; 2% heavies; moderate clay-some pure clay blebs.
- 30.5'-31.0' Sand - yellow 10YR-7/6; fine sand; subangular-subrounded; moderate - well sorted; 2% heavies; some clay - some clay clasts.
- 31.0'-31.5' Sand - yellow 10YR-7/6; fine sand; subangular-subrounded; moderately sorted (fine sand-silt); clay laminae-; 1% heavies, muscovite.
- 31.5'-32.0' Clay - gray N6/; pure clay layers; interbedded with above material.
- 32.0'-35.0' Missing.
- 35.0'-35.5' Clay - light gray 2.5Y-7/2; clay w/ fine sand interbedded w/ coarse sand; pale yellow 2.5Y-7/4; coarse grained; moderately sorted; (coarse-fine) subangular; some heavies; some clay.
- 35.5'-36.0' Top-Sand - pale yellow 2.5Y-7/4; coarse grained; moderately sorted; (coarse-medium); subangular some heavies some clay. Bottom-Clay - light gray N7/ to pink 5YR-7/4.
- 36.0'-36.5' Clay - light gray N7/ with fine sand; pale yellow 2.5Y-7/4; subangular; moderately sorted (medium-fine); 2% heavies; crossbedding.
- 36.5'-37.0' Sand - yellow 2.5Y-7/6; very fine grained to silt; well sorted; some heavies; clay layers light gray N7/ at angle.
- 37.0'-40.0' Missing.
- 40.0'-40.5' Sand - yellow 10YR-7/6; fine grained-moderately sorted (fine sand-silt); subangular; 3% heavies (muscovite, magnetite); clay layers light gray N7/ top half angular as above.
- 40.5'-41.0' Sand - pink 5YR-7/4; fine grained; subangular; moderately sorted - (fine sand-silt); 5-7% heavies - magnetite-muscovite glauconite? few grains - Top-some clay clasts.
- 41.0'-41.5' Same as above but moderate clay and layers of heavies >10% & medium sands.
- 41.5'-42.0' Sand - pink 5YR-7/4; medium grained; subangular; moderately sorted - (medium-fine); abundant clay; layers of heavies >10%.

Interval

-4-

42.0'-45.0'	Missing.
45.0'-45.5'	Clay - light reddish brown 5YR-6/4; with abundant medium-fine sand subangular; moderately sorted (medium-fine); 1% heavies laminated - red clay; few glauconite.
45.5'-46.0'	Same as above.
46.0'-46.5'	Same as above - well laminated.
46.5'-47.0'	Same as above with pockets of fine sand & silt burrowed.
47.0'-47.5'	Same as above.
47.5'-48.0	Same as above.
48.0'-48.5'	Sand - yellow 10YR-7/8; fine grained; subrounded; moderately sorted (medium-very fine); some heavies; interbedded w/ above clay.
48.5'-49.0'	Same as above.
49.0'-49.5'	Same as above.
49.5'-50.0'	Same as above - burrowed.
50.5'-51.0'	Sand - light reddish brown 5YR-6/4; very fine grained; well sorted; some heavies; abundant clay.
51-51.5	Missing.
51.5'-52.0'	Same as above color - pale yellow 2.5Y-8/4.
52.0'-52.5'	Same as above.
Two bottles labeled	
52.0'-52.5'	Same as above.
52.5'-53.0'	Same as above.
53.0'-53.5'	Sand - light reddish brown 5YR-6/4; medium-fine grained moderately sorted; some silt; layers of gray-red clay; some heavies.
53.5'-54.0'	Same as above w/ concentrations of heavies >10%.
54.0'-54.5'	Top 1" same as above. Bottom-Clay - yellowish red 5YR-5/6 & gray; some fine sand; few heavies.

Interval

-5-

- 55.0'-55.5' Same as above but moderate clay.
- 55.5'-56.0' Sand - some tan pink 5YR-7/4; fine grained; medium grained; subangular moderately sorted (medium-fine); some clay; few heavies.
- 56.0'-56.5' Same as above - w/ clay filled burrow
- 56.5'-57.0' Sand - pink 5YR-7/4; medium-fine grained; subangular; moderately sorted (medium-fine); some clay - 2% heavies clay concentrated in layer; few feldspar.
- 57.0'-57.5' Clay - light red 10R-6/6 & gray 2.5Y N6/ - some heavies - some sand grains - medium grained - laminated pur clay to clay & sand.
- 57.5'-58.0' Missing.
- 58.0'-58.5' Sand - reddish yellow 5YR-6/6; coarse-medium grained; moderately sorted (coarse-fine); subrounded; interbedded w/ above clay few feldspar?
- 58.5'-59.0' Sand - yellowish red 5YR-5/6; coarse grained; moderately sorted (coarse-fine); subangular; few heavies; some clay (gray) few feldspar.
- 59.0'-59.5' Sand - yellowish brown 10YR-5/6; coarse grained; well sorted subrounded; few heavies; some clay; some feldspar.
- 59.5'-60.0' Sand - brown 7.5YR-4/4; coarse grained; well sorted; subrounded; few heavies; some clay; some feldspar.
- 60.0'-60.5' Same - some heavies.
- 60.5'-61.0' Same as moderate clay.
- 61.0'-61.5' Sand - brown 7.5YR-4/4; coarse grained; well sorted; subrounded abundant clay (gray), some heavies.
- 61.5'-62.0' Same - few heavies, moderate clay; few feldspar.
- 62.0'-62.5' Same - organic material?
- 62.5'-63.0' Sand - brown 7.5YR-4/4; coarse grained; well sorted, subrounded moderate clay; few heavies; dark brown clay-organics? feldspar.
- 63.0'-63.5' Top 1" - same as above
Bottom Clay - dark brown 7.5YR-4/2 to gray; some medium-coarse sand; laminated black & red streaks.
- 63.5'-64.0' Same as above.
- 64.0'-64.5' Same - lighter color; manganese?

Interval

-6-

- 64.5'-65.0' Sand - very pale brown 10YR-7/4; medium grained; well sorted; subrounded; 2% heavies; moderate clay.
- 65.0'-65.5' Same as above.
- 65.5'-66.0' Sand - very pale brown 10YR-7/4; medium-fine grained; moderately sorted; subangular; 2% heavies; moderate clay.
- 66.0'-66.5' Same as above - 3% heavies.
- 66.5'-67.0' Sand - pale brown 10YR-6/3; fine grained; well sorted subangular; 3-5% heavies moderate clay.
- 67.0'-70.0' Missing.
- 70.0'-70.5' Sand - pale yellow 2.5Y-7/4; fine-very fine grained; well sorted; 5% heavies subangular few shell frags. - echinoid spine.
- 70.5'-71.0' Same - high Ea shell frags. missing - only Mg frags. - barnacles.
- 71.0'-71.5' Same.
- 71.5'-72.0' Sand - pale yellow 2.5Y-7/4; fine grained; well sorted; subangular; 5% heavies; some shell frags. - Ostrea, Chesapecten.
- 72.0'-75.0' Missing.
- 75.0'-75.5' Same as above higher Ca shell frags begin to appear colors - wet sample.
- 75.5'-76.0' Sand - pale yellow 5Y-7/3; fine grained; well sorted; subrounded; some clay; 5% heavies; few shell fragments.
- 76.0'-76.5' Sand - pale yellow 5Y-7/3 with some iron oxidation (rust); fine grained; well sorted; subrounded; some clay; 5% heavies; few shell fragments, Chesapecten.
- 76.5'-77.0' Same as above - high Ca shells leached; barnacles.
- 77.0'-80.0' Missing.
- 80.0'-80.5' Same as 76.0'-76.5'; 5% shell - Chesapecten, Ostrea.
- 80.5'-81.0' Sand - pale yellow 5Y-7/3 with some iron oxidation; fine grained; well sorted; subrounded; some clay; 5% heavies, glauconite; 5% shell; Chesapecten, barnacles.
- 81.0'-81.5' Same as above; few shell fragments.
- 81.5'-82.0' Same as above - bottom 2" goes to 1% shell.

Interval

-7-

82.0'-85.0'	Missing.
85.0'-85.5'	Sand - pale yellow 5Y-7/3 w/ iron oxidation; fine grained; well sorted; subrounded; some clay; 5% heavies, glauconite; no shell.
85.5'-86.0'	Same as above.
86.0'-86.5'	Sand - pale yellow 5Y-7/3 w/ some Fe oxidation; fine grained; well sorted; subrounded; some clay; 5-7% heavies; no shell.
86.5'-87.0'	Same as above.
87.0'-90.0'	Missing.
90.0'-90.5'	Sand - light olive brown 2.5Y-5/6 w/ some Fe oxidation; fine grained; well sorted; subrounded; little clay; 7% glauconite no shell.
90.5'-91.0'	Same as above.
91.0'-91.5'	Same as above.
91.5'-92.0'	Same as above - few layers of brown clay near bottom.
92.0'-95.0'	Missing
95.0'-95.5'	Sand - light olive brown 2.5Y-5/6; very fine grained; well sorted; moderate clay; 10% glauconite no shell; few clay enriched zones.
95.5'-96.0'	Same as above.
96.0'-96.5'	Same as above.
96.5'-97.0'	Sand - dark gray 10YR-4/1; fine grained; well sorted; moderate clay; 1 10% glauconite <u>pyrite</u> ; sulfurous smell.
97.0'-100'	Missing.
100'-100.5'	Sand - very dark gray 2.5Y N3/; fine grained; well sorted; abundant clay; 10% glauconite; pyrite sulfurous smell.
100.5'-101'	Same as above.
101'-101.5'	Sand - very dark gray 2.5Y N3/; fine-very fine grained; well sorted; abundant clay; 10% glauconite pyrite; sulfurous smell.
101.5'-102'	Same as above - slightly lighter color.
102'-105'	Missing
105'-105.5'	Same as 101'-101.5'

Interval

-8-

105.5'-106'	Same as above.
106'-106.5'	Same as above.
106.5'-107'	Same as above.
107'-110'	Missing.
110'-110.5'	Same as 101'-101.5'
110.5'-111'	Same as above.
111'-111.5'	Same as above.
111.5'-115'	Missing.
115'-115.5'	Sand - dark gray 2.5Y N4/; fine-very fine grained; well sorted subrounded abundant clay; 7% glauconite pyrite; sulfurous smell; bone frag?
115.5'-116'	Same as above.
116'-116.5'	Same as above - grain size manily fine grained.
116.5'-117'	Same as above - only moderate clay.
117'-120'	Missing.
120'-120.5'	Sand - dark gray 2.5Y N4/; fine grained; well sorted; subrounded; moderate clay; 7% glauconite pyrite; sulfurous smell.
120.5'-121'	Same as above - grain size little larger.
121'-121.5'	Same as above - grains range toward medium.
121.5'-122	Same as above.
122'-125'	Missing.
125'-125.5'	Sand - dark gray 2.5Y N4/; fine grained; well sorted; subrounded; abundant clay; 7% glauconite; pyrite - sulfurous smell.
125.5'-126	Same as above.
126'-216.5'	Same as above.
126.5'-127'	Same as above - only moderate clay.

County: James City

VDMR Well # 6033

Well: "Chic"

Property Owner:

Driller: Va Dept. of Highways (VDMR)

Location: 399,030 m. East 4,135,480 m North.

Altitude Top of Hole: 124.3'

Total Depth: 127'

Started Drilling: 19 Mar 79

Completed Drilling: " " "

Sample Description by: Kelvin Ramsey

GEOLOGIC SUMMARY

Depth	Thickness	Formation	Age
0-63'	63'	Columbia Group	Pleistocene
63'-127'	64'	Yorktown	Pliocene

"Chic"

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

INTERVAL SHEET

Page 1 of 2

Well Repository No: 6033

Date rec'd: 19 Mar 79 Date Processed: 28, 29 May 79

Sample Interval: from: to: 2.0' - 85.5'

PROPERTY: Chickahominy Church

Number of samples: 134

COMPANY:

Total Depth: 127.0'

COUNTY: James City

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
2.0' - 2.5'	20.5 - 21.0	48.0 - 48.5	61.0 - 61.5
2.5' - 3.0'	21.0 - 21.5	48.5 - 49.0	61.5 - 62.0
3.0 - 3.5	21.5 - 22.0	49.0 - 49.5	62.0 - 62.5
3.5 - 4.0	22.5 - 23.0	49.5 - 50.0	62.5 - 63.0
4.0 - 4.5	23.5 - 24.0	50.0 - 50.5	63.0 - 63.5
4.5 - 5.0	26.0 - 26.5	50.5 - 51.0	63.5 - 64.0
5.0 - 5.5	26.5 - 27.0	51.5 - 52.0	64.0 - 64.5
5.5 - 6.0	30.0 - 30.5	52.0 - 52.5	64.5 - 65.0
6.0 - 6.5	30.5 - 31.0	52.5 - 53.0	65.0 - 65.5
6.5 - 7.0	31.0 - 31.5	53.0 - 53.5	65.5 - 66.0
7.0 - 7.5	31.5 - 32.0	53.5 - 54.0	66.0 - 66.5
7.5 - 8.0	32.5 - 33.0	54.0 - 54.5	66.5 - 67.0
8.0 - 8.5	33.5 - 34.0	54.5 - 55.0	70.0 - 70.5
8.5 - 9.0	36.0 - 36.5	55.0 - 55.5	70.5 - 71.0
9.0 - 9.5	36.5 - 37.0	55.5 - 56.0	71.0 - 71.5
10.0 - 10.5	40.0 - 40.5	56.0 - 56.5	71.5 - 72.0
10.5 - 11.0	40.5 - 41.0	56.5 - 57.0	75.0 - 75.5
11.0 - 11.5	41.0 - 41.5	57.0 - 57.5	75.5 - 76.0
11.5 - 12.0	41.5 - 42.0	57.5 - 58.0	76.0 - 76.5
12.0 - 12.5	45.0 - 45.5	58.0 - 58.5	76.5 - 77.0
15.0 - 15.5	45.5 - 46.0	58.5 - 59.0	80.0 - 80.5
15.5 - 16.0	46.0 - 46.5	59.0 - 59.5	80.5 - 81.0
16.0 - 16.5	46.5 - 47.0	59.5 - 60.0	81.0 - 81.5
16.5 - 17.0	47.0 - 47.5	60.0 - 60.5	81.5 - 82.0
20.0 - 20.5	47.5 - 48.0	60.5 - 61.0	85.0 - 85.5

"Chic"

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

INTERVAL SHEET

Page 2 of 2

Well Repository No:

Date rec'd: 19 Mar 79 Date Processed: 28-29 May 79

Sample Interval: from: to:

PROPERTY: Chickahominy Church

85.5' - 127'
Number of samples: 134

COMPANY:

Total Depth: 127'

COUNTY: James City

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
85.5 - 86.0	116.5 - 117	-	-
86.0 - 86.5	120.0 - 120.5	-	-
86.5 - 87.0	120.5 - 121.0	-	-
90.0 - 90.5	121.0 - 121.5	-	-
90.5 - 91.0	121.5 - 122.0	-	-
91.0 - 91.5	125.0 - 125.5	-	-
91.5 - 92.0	125.5 - 126.0	-	-
95.0 - 95.5	126.0 - 126.5	-	-
95.5 - 96.0	126.5 - 127	-	-
96.0 - 96.5	-	-	-
96.5 - 97	-	-	-
100.0 - 100.5	-	-	-
100.5 - 101.0	-	-	-
101.0 - 101.5	-	-	-
101.5 - 102.0	-	-	-
105.0 - 105.5	-	-	-
105.5 - 106.0	-	-	-
106.0 - 106.5	-	-	-
106.5 - 107	-	-	-
110.0 - 110.5	-	-	-
110.5 - 111.0	-	-	-
111.0 - 111.5	-	-	-
115.0 - 115.5	-	-	-
115.5 - 116.0	-	-	-
116.0 - 116.5	-	-	-

~~Chic - Chickahominy Church~~Colors - dry sample
GEOLOGIC LOGLogged by Kelvin
RamseyIntervalDescription

2'-2.5'

Medium sand - yellowish brown 10YR 5/6; moderate-clay; medium grained, subrounded; poorly sorted; some heavies.

2.5'-3.0'

Medium sand - yellowish red 5YR 5/6; moderate clay; medium grained subrounded; poorly sorted; some heavies.

3.0'-3.5'

Medium sand - dark red 2.5YR 3/6; moderate clay; medium grained subrounded; poorly sorted; some heavies; mottled

3.5'-4.0'

Sand - dark red 2.5YR 3/6 to 10YR 7/8 ^{yellow} mottled; moderate clay; subrounded medium-fine grained; poorly sorted; some heavies

4.0'-4.5'

Sand - dark red 2.5YR 3/6 to 10YR 7/8 yellow mottled; moderate clay; subrounded medium grained; poorly sorted; ^{sand-silt} few heavies

4.5'-5.0'

Sand ^{mottled} - dark red 2.5YR 3/6 to 10YR 7/8 yellow; moderate clay; subangular-subrounded; medium-grained; poorly sorted-sand-silt some heavies.

5.0'-5.5'

Same as above but more silt

5.5'-6.0'

Top three inches same as above; Bottom three inches same but contain clasts of Ferricrete.

6.0'-6.5'

Sand - dark red 2.5YR 3/6; abundant clay; medium-fine grained, subangular to subrounded; poorly sorted; few heavies.

6.5'-7.0'

Sand - dark red 2.5YR 3/6; abundant clay; medium-fine grained-subangular to subrounded poorly sorted; few heavies; Ferricrete clasts; shell frags. (contamination?)

7.0'-7.5'

Same as above - Top four inches; bottom two inches solid Ferricrete

7.5'-8.0'

Sand - dark red 2.5YR 3/6; abundant clay, some pockets of pure gray clay; fine grained-subrounded; moderately sorted (fine sand+silt); few heavies, Ferricrete clasts.

"Chic"

(2)

Interval	Description
8.0'-8.5'	Top three inches - Sand: yellowish red 5YR 4/8; moderate clay; subrounded; fine grained; mod. sorted (fn sand-silt) Bottom three inches Sand-yellowish red 5YR, 4/8; sparse clay; subrounded; fine grained, some ferricrete; moderately sorted (few feldspar?)
8.5'-9.0'	Same as bottom three inches of above, few feldspar
9.0'-9.5'	Same as above but w/ ^{yellow} clay laminae in bottom
9.5'-10.0'	* Same as above but clay laminae becoming thicker
10.0'-10.5'	Same as above - few heavies; clay filled burrow
10.5'-11.0'	Top two inches same as above Bottom four inches; sand - yellowish red 5YR 4/8; moderate clay- ^{dark} red, 2 cm layer grey clay; subangular-subrounded; fine grained; mod. sorted. (fine sand-silt);
11.0'-11.5'	Same as bottom of above; clay filled burrow; few feldspar
11.5'-12.0'	Sand; yellowish red 5YR 4/8; subangular; fine grained; moderately sorted (fine sand-silt); abundant clay - red & gray-white; clay all mixed up - disturbed?
12.0'-15.0'	missing
15.0'-15.5'	Sand; red 2.5 YR 4/8; medium grained; subrounded; poorly sorted (medium sand-silt); some clay; few heavies
15.5'-16.0'	Same as above with laminations of fine sand; subrounded moderately sorted - (fine sand-silt); some clay
16.0'-16.5'	Sand; yellowish red 5YR 5/8; medium-fine grained; subrounded moderately sorted (medium-fine); white chips - clay? shell? or feldspar? Bottom inch - fine sand; subrounded; well sorted; some clay

"Chic"

15.5'-17.0'	Sand; red 2.5 YR 5/8; fine grained; subangular-subrounded; moderately sorted (fine sand-silt); some clay; few heavies; pocket of gray-yellow silt with some sand grains - poorly sorted
17.0'-20.0'	missing
20.0'-20.5'	Sand; reddish yellow 7.5 YR 6/8; fine grained; subrounded; moderately sorted (fine sand-silt); some clay; few heavies
20.5'-21.0'	same as above
21.0'-21.5'	same as above - slightly darker color
21.5'-22.0'	same as above - few red clay clasts
22.0'-25.0'	missing
25.0'-25.5'	Sand; yellow 10 YR 7/6; sand & silt; very poorly sorted (coarse sand-silt) subrounded; some clay; few heavies (musc); blue qtz; few feldspars
25.5'-26.0'	Sand; weak red 7.5 R 5/4; coarse sand; moderately ^{sorted} (coarse-fine sand); subrounded; some clay (yellow) with fine sand; few heavies; few feldspars
26.0'-26.5'	Sand; red 2.5 YR 5/6; coarse-medium sand; poorly sorted (coarse sand-silt); some clay; few heavies subrounded layer of fine sand; pale yellow 2.5 Y 8/4; well sorted; abundant clay; 1% heavies
26.5'-27.0'	Sand; yellow 2.5 Y 7/8 to light red 2.5 YR 6/6; medium grained; very poorly sorted (coarse sand silt); subrounded; abundant clay (in layers) Bottom inch - reddish sand; few heavies
27.0'-30.0'	missing

"Chic"

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30.0'-30.5' Sand; reddish yellow 5YR 6/6; fine sand; moderately sorted (fine sand-silt) subrounded; 2% heavies; moderate clay - some pure clay blebs

30.5'-31.0' Sand; yellow 10YR 7/6; fine sand; subangular-subrounded; moderate-well sorted; 2% heavies; some clay - some clay clasts

31.0'-31.5' Sand; yellow 10YR 7/6; fine sand; subangular-subrounded; moderately sorted (fine sand-silt); clay laminae -; 1% heavies, muscovite

31.5'-32.0' * Clay; gray N 6/; pure clay layers; interbedded with above material

32.0'-35.0' missing

35.0'-35.5' Clay; light gray 2.5Y 7/2; clay w/ fine sand interbedded w/ coarse sand; pale yellow 2.5Y 7/4; coarse grained; moderately sorted; (coarse-fine) subangular; some heavies; some clay

35.5'-36.0' ^{bottom} Clay; light gray N 7/ to pink 5YR 7/4; ^{top} sand; pale yellow 2.5Y 7/4; coarse grained; moderately sorted; (coarse-medium); subangular some heavies some clay

36.0'-36.5' Clay; light gray N 7/; with fine sand; pale yellow 2.5Y 7/4; subangular; moderately sorted (medium-fine); 2% heavies; cross bedding

36.5'-37.0' Sand; yellow 2.5Y 7/6; very fine grained ^{to} silt; well sorted; some heavies; clay layers light gray N 7/ at angle ^{sand} ^{clay} _{sand}

37.0'-40.0' missing

40.0'-40.5' Sand; yellow 10YR 7/6; fine grained - moderately sorted (fine sand-silt) subangular; 3% heavies; clay layers light gray N 7/ top half angular as above (muscovite, ~~mostly~~ magnetite)

"Chic"

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- 40.5'-41.0' Sand; pink 5 YR 7/4; fine grained; subangular; moderately sorted - (fine sand-silt); 5-7% heavies - magnetite - muscovite glauconite? - few grains - Top - some clay clasts
- 41.0'-41.5' same as above but moderate clay and layers of heavies > 10% + medium sands
- 41.5'-42.0' Sand; pink 5 YR 7/4; medium grained; subangular; moderately sorted - (medium-fine); abundant clay; layers of heavies > 10%
- 42.0'-45.0' - Missing
- 45.0'-45.5' * Clay; light reddish brown 5YR 6/4; with ^{abundant} medium-fine sand subangular; moderately sorted (medium-fine); 1% heavies laminated - red clay; few glauconite
- 45.5'-46.0' Same as above
- 46.0'-46.5' Same as above - well laminated
- 46.5'-47.0' Same as above with pockets of fine sand + silt burrowed
- 47.0'-47.5' Same as above
- 47.5'-48.0' Same as above
- 48.0'-48.5' Sand; yellow 10YR 7/8; fine grained; subrounded; moderately sorted (medium-very fine); some heavies; interbedded w/ above clay
- 48.5'-49.0' Same as above
- 49.0'-49.5' Same as above
- 49.5'-50.0' Same as above - burrowed

Chic

50.0'-50.5'	Same as above
50.5'-51.0'	Sand; light reddish brown 5 YR 6/4; very fine grained; well sorted; some heavies; abundant clay
51-51.5	missing
51.5'-52.0	Same as above color - pale yellow 2.5 Y 8/4
52.0'-52.5'	Same as above
Two bottles labeled	
52.0'-52.5'	Same as above
52.5'-53.0	Same as above
53.0'-53.5'	Sand; light reddish brown 5 YR 6/4; medium-fine grained moderately sorted; some silt; layers of gray-red clay; some heavies
53.5'-54.0	Same as above w/ concentrations of heavies 710%
54.0'-54.5'	Top 1" same as above Bottom - Clay; yellowish red 5 YR 5/6 + gray; some fine sand; few heavies
54.5'-55.0'	Top - same as above clay Bottom - Sand; yellowish red 5 YR 5/6; fine grained, subangular - moderately sorted (medium-fine); some clay; few heavies
55.0'-55.5'	Same as above but moderate clay
55.5'-56.0'	Sand, ^{some tan} pink 5 YR 7/4; fine grained; medium grained; subangular moderately sorted (medium-fine); some clay; few heavies
56.0'-56.5'	Same as above - w/ clay filled burrow

Chic

- 56.5'-57.0' Sand; ^{pink} 5YR 7/4; medium-fine grained; subangular; moderately sorted (medium-fine); some clay - 2% heavies
clay concentrated in layer; few feldspar
- 57.0'-57.5' * Clay; light red 10R 6/6 + gray 2.5Y N6/ - some heavies -
some sand grains - medium grained - laminated pure clay to
clay & sand
- 57.5'-58.0' missing
- 58.0'-58.5' Sand; reddish yellow 5YR 6/6; ^{coarse-} medium grained; moderately
sorted (coarse-fine); subrounded; interbedded w/ above clay
few feldspar?
- 58.5'-59.0' Sand; yellowish red 5YR 5/6; coarse grained; moderately sorted
(coarse-fine) ^{med}; subangular; few heavies; some clay (gray)
few feldspar
- 59.0'-59.5' Sand; yellowish brown 10YR 5/6; coarse grained; well sorted
subrounded; few heavies; some clay; some feldspar
- 59.5'-60.0' Sand; brown 7.5YR 4/4; coarse grained; well sorted;
subrounded; few heavies; some clay; some feldspar
- 60.0'-60.5' Same - some heavies
- 60.5'-61.0' Same - moderate clay
- 61.0'-61.5' Sand; brown 7.5YR 4/4; coarse grained; well sorted; subrounded
abundant clay ^(gray); some heavies
- 61.5'-62.0' Same - few heavies, moderate clay; few feldspar
- 62.0'-62.5' same - organic material?

Chic

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- 62.5'-63.0' Sand. brown 7.5 YR 4/4; coarse grained; well sorted, subrounded moderate clay; few heavies; dark brown clay-organics?
* feldspar
- 63.0'-63.5' Top 1" - same as above
Bottom Clay - dark brown - 7.5 YR 4/2 to gray; some medium-coarse sand; laminated black + red streaks
- 63.5'-64.0' same as above
- 64.0'-64.5' Same - lighter color; manganese?
- 64.5'-65.0' Sand; very pale brown 10 YR 7/4; medium grained; well sorted; subrounded; 2% heavies; moderate clay
- 65.0'-65.5' Same as above
- 65.5'-66.0' Sand; very pale brown 10 YR 7/4; medium-fine grained; moderately sorted; subangular; 2% heavies; moderate clay
- 66.0'-66.5' Same as above - 3% heavies
- 66.5'-67.0' Sand; pale brown 10 YR 6/3; fine grained; well sorted. subangular; 3-5% heavies moderate clay
- 67.0'-70.0' Missing
- 70.0'-70.5' Sand; pale yellow 2.5 Y 7/4; fine-very fine grained; well sorted; 5% heavies subangular 5% heavies - few shell frags. - echinoid spine
- 70.5'-71.0' same - high Ca shell frags missing - only Mg frags - barnacles
- 71.0'-71.5' same

Chic

71.5'-72.0'	Sand; pale yellow 2.5Y 7/4; fine grained, well sorted; subangular; 5% heavies; ^{some} shell frags. - <u>Ostrea</u> , <u>Chesapecten</u>
72.0'-75.0'	missing
75.0'-75.5'	same as above higher Ca shell frags begin to appear Colors-wet sample
75.5'-76.0'	Sand; pale yellow 5Y 7/3 ; fine grained; well sorted; subrounded; some clay; 5% heavies; few shell fragments
76.0'-76.5'	Sand; pale yellow 5Y 7/3 with some iron oxidation (rust); fine grained; well sorted; subrounded; some clay; 5% heavies; few shell fragments, <u>Chesapecten</u>
76.5'-77.0'	same as above - high Ca shells leached; barnacles
77.0'-80.0'	missing
80.0'-80.5'	same as 76.0'-76.5'; 5% shell - <u>Chesapecten</u> , <u>Ostrea</u>
80.5'-81.0'	Sand; pale yellow 5Y 7/3 with some iron oxidation; fine grained; well sorted; subrounded; some clay; 5% heavies, glauconite; 5% shell; <u>Chesapecten</u> , barnacles
81.0'-81.5'	same as above; few shell fragments
81.5'-82.0'	same as above - bottom 2" goes to 1% shell
82.0'-85.0'	missing
85.0'-85.5'	Sand; pale yellow 5Y 7/3 w/ iron oxidation; fine grained; well sorted; subrounded; some clay; 5% heavies, glauconite; no shell
85.5'-86.0'	same as above

Chic	
86.0'-86.5'	Sand; pale yellow 5Y 7/3 w/ some Fe oxidation; fine grained; well sorted; subrounded; some clay; 5-7% heavies; no shell
86.5'-87.0'	same as above
87.0'-90.0'	missing
90.0'-90.5'	Sand; light olive brown 2.5Y 5/6 w/ some Fe oxidation; fine grained; well sorted; subrounded; little clay; 7% ^{glaucosite} heavies; no shell - few heavies
90.5'-91.0'	same as above
91.0'-91.5'	same as above
91.5'-92.0'	* same as above - few layers of brown clay near bottom
92.0'-95.0'	missing
95.0'-95.5'	Sand; light olive brown 2.5Y 5/6; very fine grained; well sorted; moderate clay; 10% ^{glaucosite} ; no shell; few clay-enriched zones
95.5'-96.0'	same as above
96.0'-96.5'	same as above
96.5'-97.0'	Sand; dark gray 10YR 4/1; fine grained; well sorted; moderate clay; 10% ^{glaucosite} ; pyrite; sulfurous smell
97.0'-100'	missing
100'-100.5'	Sand; very dark gray 2.5Y N 3/1; fine grained; well sorted; abundant clay; 10% ^{glaucosite} ; pyrite sulfurous smell
100.5'-101'	same as above

Chic

101'-101.5'

Sand; very dark gray 2.5Y N 3/; ^{very fine} fine grained; well sorted; abundant clay; 10% glauconite, pyrite; sulfurous smell

101.5'-102'

same as above - slightly lighter color

102'-105'

missing

105'-105.5'

same as 101'-101.5'

In box 4
105.5'-106'

same as above

106'-106.5'

same as above

106.5'-107'

same as above

107'-110'

missing

110'-110.5'

same as 101'-101.5'

110.5'-111'

same as above

111'-111.5'

same as above

111.5'-115'

missing

115'-115.5'

Sand; dark gray 2.5Y N 4/; Fine-very fine grained; well sorted; subrounded; abundant clay; 7% glauconite, pyrite; sulfurous smell; bone frag?

115.5'-116'

same as above

116'-116.5'

same as above - grain size mainly fine grained

116.5'-117'

same as above - only moderate clay

Chic

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- 117'-120' missing
- 120'-120.5' Sand; dark gray 2.5 Y N 4/; fine grained; well sorted; subrounded; moderate clay; 7% glauconite; pyrite; sulfurous smell
- 120.5'-121' same as above - grain size little larger
- 121'-121.5' same as above - grains range toward medium
- 121.5'-122' same as above
- 122'-125.5' missing above
- 125'-125.5' * Sand; dark gray 2.5 Y N 4/; fine grained; well sorted; subrounded; abundant clay; 7% glauconite; pyrite - sulfurous smell
- 125.5'-126' same as above
- 126'-126.5' same as above
- 126.5'-127' same as above - only moderate clay