

County: James City

VDMR Well # 6038

Well: "W"  
Property Owner: Wright  
Driller: Va Dept. Highways (VDMR)  
Location: Function 613 & 614 (340,020m East; 4,127,440m North)

Altitude Top of Hole: 80.1'  
Total Depth: 47.3  
Started Drilling: 20 March 79  
Completed Drilling: " "  
Sample Description by: Kelvin Ramsey

GEOLOGIC SUMMARY

Depth	Thickness	Formation	Age
0-36'	36'	Columbia Group	Pleistocene
36'-47.3	11.3'	Yorktown Fm.	Pliocene

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

INTERVAL SHEET

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Well Repository No.: W- 6038

Date rec'd: 20 March 79 Date Processed: May 31 & June 1 1979

Sample Interval: from 5.3' to: 47.3

PROPERTY: Wright property (Junction SR 613 & 614)

Number of samples: 51

COMPANY:

Total Depth: 47.3'

COUNTY: James City

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To	From-To
5.3 - 5.6	30.3 - 30.6	-	-	-
5.6 - 6.0	30.6 - 31.0	-	-	-
6.0 - 6.3	31.0 - 31.3	-	-	-
6.3 - 6.6	31.3 - 31.6	-	-	-
6.6 - 7.0	31.6 - 32.0	-	-	-
10.0 - 10.3	35.0 - 35.3	-	-	-
10.3 - 10.6	35.3 - 35.6	-	-	-
10.6 - 11.0	35.6 - 36.0	-	-	-
11.0 - 11.3	36.0 - 36.3	-	-	-
11.3 - 11.6	36.3 - 36.6	-	-	-
11.6 - 12.0	36.6 - 37.0	-	-	-
15.0 - 15.3	40.0 - 40.3	-	-	-
15.3 - 15.6	40.3 - 40.6	-	-	-
15.6 - 16.0	40.6 - 41.0	-	-	-
16.0 - 16.3	41.0 - 41.3	-	-	-
16.3 - 16.6	41.3 - 41.6	-	-	-
16.6 - 17.0	41.6 - 42.0	-	-	-
20.0 - 20.3	45.0 - 45.3	-	-	-
20.3 - 20.6	45.3 - 45.6	-	-	-
20.6 - 21.0	45.6 - 47.0	-	-	-
21.0 - 21.3	47.0 - 47.3	-	-	-
21.3 - 21.6	-	-	-	-
21.6 - 22.0	-	-	-	-
25.0 - 25.3	-	-	-	-
25.3 - 25.6	-	-	-	-
25.6 - 26.0	-	-	-	-
26.0 - 26.3	-	-	-	-
26.3 - 26.6	-	-	-	-
26.6 - 27.0	-	-	-	-
30.0 - 30.3	-	-	-	-

Interval

## GEOLOGIC LOG

W 6038

5.0-5.3	Missing.
5.3-5.6	Sand - yellowish red 5YR-4/8; medium-fine grained; subangular; poorly sorted (medium-clay); abundant clay; some heavies; slightly mottled yellow & red.
5.6-6.0	Same as above; distinctly mottled.
6.0-6.3	Same as above;
6.3-6.6	Same as above, distinctly mottled red & yellow.
6.6-7.0	Same as above; distinct yellow mottling; less clay.
7.0-10.0	Missing.
10.0-10.3	Clay - gray 10YR-6/1 to pale red 10R-6/4; abundant silt; some sand; clay laminated w/ gray and red; poorly sorted.
10.3-10.6	Same as above; moderate sand - subrounded; medium grained.
10.6-11.0	Same as above, mostly gray clay.
11.0-11.3	Same as above.
11.3-11.6	Same as above - silty clay.
11.6-12.0	Same as above - vertical mottling - red & gray - red & gray.
12.0-15.0	Missing
15.3-15.6	Clay - gray 7.5YR N6/1 to red 10R-4/8; abundant silt; some heavies; some sand; distinctly mottled gray & red; less sand & more clay than above.
15.0-15.3	Same as above.
15.6-16.0	Same as above.
16.0-16.3	Clay - gray 7.5YR N6/1 to red 10R-4/8; abundant silt; some heavies; some sand; distinctly mottled gray & red; zones of silty clay & sandy clay.
16.3-16.6	Same as above - more gray than red.
16.6-17.0	Same as above.
17.0-20.0	Missing.
20.0-20.3	Sand - reddish yellow 5YR-6/6; medium-fine grained; subangular; moderately sorted (medium-fine); little clay; 5% heavies; some glauconite.

Interval

-2-

- 20.3-20.6 Same; moderate clay - 1cm layer pink clay; poorly sorted (med-clay).
- 20.6-21.0 Same as above - layer of gray clay; glauconite?; grain size larger than above - mostly medium.
- 21.0-21.3 Sand - reddish yellow 5YR6-6/8; medium grained; poorly sorted (medium-clay); subangular; 3% heavies; some clay bottom 2" bands of gray clay & sand, pink clay & sand & yellow clay & sand; few feldspars.
- 21.3-21.6 Sand - strong brown 7.5YR-5/6; coarse-very coarse grained; very poorly sorted (pebbles-clay); subrounded; moderate-abundant clay; ferricrete; glauconite; some heavies.
- 21.6-22.0 Same as above - layer of medium sand & pink clay; ferricrete.
- 22.0-25.0 Missing.
- 25.0-25.3 Sand - yellowish brown 10YR-5/6; coarse grained; rounded-subrounded; poorly sorted (coarse-fine); little clay; some heavies; some feldspar.
- 25.3-25.6 Same as above; ball of sand w/ brown clay.
- 25.6-26.0 Sand - dark brown 7.5YR-3/2 to black 2.5YR N2/; coarse grained; rounded-subrounded; poorly sorted (coarse-fine); little clay top 2" are dark brown sand; some feldspar bottom 2" black sand slightly cemented - carbon? or manganese?
- 26.0-26.3 Sand - reddish yellow 7.5YR-6/8; coarse grained; rounded-subrounded v. poorly sorted; little-some clay; few heavies; feldspar.
- 26.3-26.6 Same as above; pebbles, ferricrete.
- 26.6-27.0 Top 1" same as above Bottom 3" Sand - reddish yellow 7.5YR-6/8; fine grained; subangular; moderately sorted (fine sand-clay); 1% heavies; moderate clay fine sand & silt in clay.
- 27.0-30.0 Missing.
- 30.0-30.3 Sand - reddish yellow 7.5YR-6/8; fine- v. fine grained; subangular; moderately sorted (fine sand silt - clay); 2% heavies; moderate clay; glauconite.
- 30.0-30.6 Same as above - slightly reddish in spots.
- 30.6-31.0 Sand - reddish yellow 7.5YR-6/8; fine grained; subangular; moderately sorted (fine sand-clay); 5% heavies; abundant clay; glauconite; laminations of brown clay & heavy minerals.

Interval

-3-

- 31.0-31.3 Sand - reddish yellow 7.5YR-6/8; fine grained; subangular; moderately sorted; moderate clay; 2% heavies - bed of pure brown clay near bottom; sand-pink in spots.
- 31.3-31.6 Same as above - two more pure brown clay layers.
- 31.6-32.0 Same as above - clay layers - much closer together & more abundant pocket of heavy minerals.
- 32.0-35.0 Missing.
- 35.0-35.3 Sand - strong brown 7.5YR-5/8; medium-fine grained; subrounded; poorly sorted (medium-clay); abundant-moderate clay; 5% heavies; mostly clayey sand near bottom.
- 35.3-35.6 Top 2" Clay - light yellowish brown 10YR-6/4; some silt; 1-2% heavies  
Bottom 1" Sand - strong brown 7.5YR-5/8; medium grained; subrounded; v. poorly sorted (coarse-clay); moderate clay 2% heavies.
- 35.6-36.0 Top 3" - same as bottom above w/ brown clay laminations  
bottom 1" same as top above; w/ pockets of black material-manganese?
- 36.0-36.3 Clay - light yellowish brown 10YR-6/4; some silt 1-2% glauconite pockets of black material; streaks of yellow & red.
- 36.3-36.6 Clay - yellowish brown 10YR-5/8; moderate sand; medium-fine grained; subrounded; laminations of whitish clay & heavies; 5% glauconite unusual circle of clay & sand
- 36.6-37.0 Clay - yellowish brown 10YR-5/8; little sand; some silt; 10% glauconite laminations of yellow clay; gray clay & heavies.
- 37.0-40.0 Missing.
- 40.0-40.3 Clay - yellowish brown 10YR-5/8; some silt; 10% glauconite laminations of yellow clay, gray clay, red clay & heavies; pockets of subrounded - rounded medium sand & abundant clay; manganese.
- 40.3-40.6 Same as above; up to 25% heavies in places; cross bedding? glauconite.
- 40.6-41.0 Same as above - 25% heavies; crossbedding; all finely laminated.
- 41.0-41.3 Same as above - two 1/2" clay layers black w/ manganese near bottom.

Interval

-4-

- 41.3-41.6 Clay - dark brown; 10YR-3/3; some silt; 25% manganese; some heavies; laminations of heavies, manganese, dark brown clay & light brown clay
- 41.6-42.0 Top 2" same as above - laminations light brown clay bottom 2" Clay - pale yellow 2.5Y-7/4; abundant sand; medium grained; subangular; very friable - shell frags. some heavies very sharp contact
- 42.0-45.0 Missing.
- 45.0-45.3 Sand - pale yellow 2.5Y-7/4; fine grained; subangular-sub-rounded; moderately sorted (fine-clay); 10% heavies; some clay shell frags. & coquina; Chesapecten, Balanus.
- 45.3-45.6 Same as above; 15% shell frags.
- 45.6-47.0 Same as above; moderate clay 15% shell frags., Balanus.
- 47.0-47.3 Same as above; moderate clay; 15% shell; Balanus.

Hole

W

Interval

GEOLOGIC LOG

Logged by <sup>W-6038</sup>  
Kelvin Ramsey

(+)

5.0'-5.3'	missing
5.3'-5.6'	Sand; yellowish red 5 YR 4/8; medium-fine grained; subangular; poorly sorted (medium-clay); abundant clay; some heavies; slightly mottled yellow + red.
5.6'-6.0'	same as above; distinctly mottled
6.0'-6.3'	same as above;
6.3'-6.6'	same as above, distinctly mottled red + yellow
6.6'-7.0'	same as above; distinct yellow mottling; less clay
7.0'-10.0'	missing
10.0'-10.3'	Clay; gray 10 YR 6/1 to pale red 10 R 6/4; abundant silt; some sand; clay laminated w/ gray and red; poorly sorted
10.3'-10.6'	Same as above; moderate sand-subrounded, medium grained
10.6'-11.0'	same as above, mostly gray clay
11.0'-11.3'	same as above
11.3'-11.6'	same as above - silty clay
11.6'-12.0'	same as above - vertical mottling - red + gray - <sup>red</sup> # gray
12.0'-15.0'	same
15.3'-15.6'	Clay; gray 7.5 YR N6/1 to red 10R 4/8; abundant silt; some heavies; some sand, <sup>distinctly</sup> mottled gray + red; less sand + more clay than above
15.0'-15.3'	same as above
15.6'-16.0'	same as above.

Hole  
W

(2)

- 16.0'-16.3' Clay; gray 7.5 YR N6-f to red 10R 4/8; abundant silt; some heavies; some sand; distinctly mottled gray & red; zones of silty clay & sandy clay.
- 16.3'-16.6' same as above - more gray than red
- 16.6'-17.0' same as above.
- 17.0'-20.0' missing
- 20.0'-20.3' Sand; reddish yellow 5 YR 6/6; medium-fine grained; subangular; moderately sorted (medium-fine); little clay; 5% heavies; some glauconite
- 20.3'-20.6' same; moderate clay - 1 cm layer pink clay; poorly sorted (med-clay)
- 20.6'-21.0' same as above - layer of gray clay; glauconite?; grain size larger than above - mostly medium
- 21.0'-21.3' Sand; reddish yellow 5 YR 6/8; medium grained; poorly sorted (medium-clay); subangular; 3% heavies; some clay bottom 2" bands of gray clay & sand, pink clay & sand & yellow clay & sand; few feldspars
- 21.3'-21.6' Sand; strong brown 7.5 YR 5/6; coarse-very coarse grained; very poorly sorted (pebbles-clay); subrounded; moderate-abundant clay; ferricrete; glauconite; some heavies
- 21.6'-22.0' same as above - layer of medium sand & pink clay; ferricrete
- 22.0'-25.0' missing



Hole  
W

(3)

25.0'-25.3' Sand; yellowish brown 10YR 5/6; coarse grained; rounded-subrounded; poorly sorted (coarse-fine); little clay; some heavies; some feldspar

25.3'-25.6' same as above; ball of sand w/ brown clay

25.6'-26.0' Sand; dark brown 7.5YR 3/2 to black 2.5YR N 2/1; coarse grained; rounded-subrounded; poorly sorted (coarse-fine); little clay  
top 2" are dark brown sand w/ some feldspar  
bottom 2" black sand slightly cemented - carbon? or manganese?

26.0'-26.3' Sand; reddish yellow 7.5YR 6/8; coarse grained; rounded-subrounded  
v. poorly sorted; little-some clay; few heavies; feldspar


26.3'-26.6' same as above; pebbles, ferricrete

26.6'-27.0' top 1" same as above  
bottom 3" Sand; reddish yellow 7.5YR 6/8; fine grained; subangular; moderately sorted (fine sand-clay); 1% heavies; moderate clay  
fine sand + silt in clay

27.0'-30.0' missing

30.0'-30.3' Sand; reddish yellow 7.5YR 6/8; fine-v. fine grained; subangular; moderately sorted (fine sand-clay); 2% heavies; moderate clay; glauconite;

30.3'-30.6' same as above - slightly reddish in spots

30.6'-31.0' Sand; reddish yellow 7.5YR 6/8; fine grained; subangular; moderately sorted (fine sand-clay); 5% heavies; abundant clay; glauconite; laminations of brown clay + heavy minerals 

Hole  
W

(4)

31.0'-31.3'

Sand; reddish yellow 7.5 YR 6/8. Fine grained; subangular; moderately sorted; moderate clay; 2% heavies - bed of <sup>pure</sup> brown clay near bottom; sand-pink in spots

31.3'-31.6'

same as above - two more pure brown clay layers

31.6'-32.0'

same as above - clay layers - much closer together & more abundant pocket of heavy minerals

32.0'-35.0'

missing

35.0'-35.3'

Sand; strong brown 7.5 YR 5/8; medium-fine grained; subrounded; poorly sorted (medium-clay); abundant-moderate clay; 5% heavies; mostly clayey sand near bottom

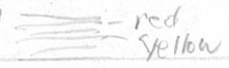
35.3'-35.6'

top 2" Clay; light yellowish brown 10 YR 6/4; some silt; 1-2% heavies  
bottom 1" Sand; strong brown 7.5 YR 5/8; medium grained; subrounded; v. poorly sorted (coarse-clay); moderate clay  
2% heavies


35.6'-36.0'

top 3" - same as bottom above w/ brown clay laminations  
bottom 1" same as top above w/ pockets of black material-manganese?

36.0'-36.3'

\* Clay; light yellowish brown 10 YR 6/4; some silt; 1-2% <sup>glaucanite</sup> heavies; pockets of black material - <sup>glaucanite</sup> manganese?; streaks of yellow & red 

36.3'-36.6'

Clay; yellowish brown 10 YR 5/8; moderate sand; medium-fine grained; subrounded; laminations of whitish clay & heavies; 5% <sup>glaucanite</sup> unusual circle of clay & sand  ~ 2 mm diameter

36.6'-37.0'

Clay; yellowish brown 10 YR 5/8; little sand; some silt; 10% <sup>glaucanite</sup> laminations of yellow clay, gray clay & heavies

Hole  
W

(5)

- 37.0'-40.0' missing
- 40.0'-40.3' Clay; yellowish brown 10 YR 5/8; some silt; 10% heavies; laminations of yellow clay, gray clay, red clay + heavies; pockets of subrounded-rounded medium sand + abundant clay; manganese
- 40.3'-40.6' same as above; up to 25% heavies in places; cross bedding? glauconite?
- 40.6'-41.0' same as above - 25% heavies; cross bedding; all finely laminated
- 41.0'-41.3' same as above - two 1/2" clay layers black w/ manganese near bottom
- 41.3'-41.6' Clay; dark brown; 10 YR 3/3; some silt; 25% manganese; some heavies; laminations of heavies, manganese, dark brown clay + light brown clay
- 41.6'-42.0' top 2" same as above - laminations light brown clay  
bottom 2" Clay; pale yellow 2.5 Y 7/4; abundant sand; medium grained; subangular; very friable - shell frags. some heavies  
very sharp contact
- 42.0'-45.0' missing
- 45.0'-45.3' Sand; pale yellow 2.5 Y 7/4; fine grained; subangular-subrounded; moderately sorted (fine-clay); 10% heavies; some clay shell frags. + coquina; Chesapecten, Balanus
- 45.3'-45.6' same as above; 15% shell frags.
- 45.6'-47.0' same as above; moderate clay 15% shell frags.; Balanus
- 47.0'-47.3' same as above; moderate clay; 15% shell; Balanus