

County: James City

VDMR Well # 6034

Well: E
Property Owner:
Driller: VA Dept. Highways (VDMR)
Location: Entrance to Crofton on SR 615; (344,100 m. E; 4,125,930 m N)

Altitude Top of Hole: 94.9'
Total Depth: 47'
Drilled: 21 March 1979
Sample Description by: Becky Darnton

GEOLOGIC SUMMARY

Depth	Thickness	Formation	Age
0-31'	31'	Columbia Group?	Pleistocene?
31'-47'	16'	Yorktown	Pliocene

Depth
(feet)

GEOLOGIC LOG

W-6034

- 5.0-5.3 Sand - yellowish brown 10YR-5/6; moderate clay; fine grained, moderately well sorted, subangular to subrounded, 2% heavy minerals.
- 5.3-5.6 Sand - yellowish brown 10YR-5/6; mod. clay; very fine grained; moderately sorted; subrounded, 3% heavy minerals; very few qtz. pebbles, few splinters of wood.
- 5.6-6.0 Sand - yellowish brown 10YR-5/6; abundant clay; very fine grained, moderate poor sorting; subangular, 1% heavy minerals, few qtz. pebbles.
- 6.0-6.3 Sand - yellowish brown 10YR-5/6; abundant clay; fine grained; mod. & poor sorting; subangular; 1% heavy minerals, few pebbles.
- 6.3-6.6 Clay - yellowish brown 10YR-5/6; abundant sand fine grained, moderate - poor sorting, subrounded; some heavy minerals.
- 6.6-7.0 Clay - yellowish brown 10YR 5/8; abundant sand; fine grained; moderate - poor sorting; subangular; some heavy minerlas.
- 10.0-10.3 Clay - light yellowish brown 2.5YR-6/4 & red 2.5YR 5/6; mottled; abundant sand; very fine grained; moderate sorting; subangular; 1% heavy minerals.
- 10.3-10.6 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6; mottled; abundant sand; very fine grained; moderate sorting; subangular; 1% heavies.
- 10.6-11.0 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6; mottled; abundant sand; very fine grained; moderate sorting; subangular; 1% havies.
- 11.0-11.3 Clay - light brown gray 10YR-6/2 & some red 2.5YR-5/6 abundant sand, very fine grained, moderate sorting; subrounded; some heavies.
- 11.3-11.6 Same as above.
- 11.6-12.0 Clay - light brownish gray 10YR-6/2, red 2.5YR-5/6, & some brownish yellow 10YR-6/6, abundant sand, very fine grained, moderate sorting; subrounded; some heavies.
- 15.0-15.3 Clay - light brownish gray 10YR-6/2, red 2.5YR-5/6 & brownish yellow 10YR-6/6, sand moderately abundant, very fine grained; moderate sorting; subrounded; some heavies.
- 15.3-15.6 Same as above.

Depth
(feet)

-2-

- 15.6-16.0 Clay - light brownish gray 10YR-6/2, red 2.5YR-5/6 & brownish yellow 10YR-6/6, abundant sand, very fine grained; moderate sorting; subangular, some heavies.
- 16.0-16.3 Same as above.
- 16.3-16.6 Same as above.
- 16.6-17.0 Clay & Sand - light brownish gray 10YR-6/2, red 2.5YR 5/6 & brownish yellow 10YR-6/6, very fine grained; moderate sorting; subangular; 1% heavier - Red gray & brown in .5 cm thick layers.
- 20.0-20.3 Top 1/3 Clay - light brownish gray 10YR-6/2, & red 2.5YR-5/6; abundant sand, very fine grained; moderate sorting; subrounded, some heavies
Bottom 2/3 Sand - brownish yellow 10YR-6/8; abundant clay, fine grained, poorly sorted, subangular some heavies.
- 20.3-20.6 Sand - yellowish brown 10YR-5/8, some clay, fine grained; moderate to poor sorting; subangular; 3% heavies; few large qtz grains.
- 20.6-21.0 Sand - brownish yellow 10YR-6/6, & light red 2.5YR-6/6; moderate amount clay, moderate to poor sorting, subangular; 1% heavy minerals.
- 21.0-21.3 Sand - light brownish gray 10YR-6/2 & red 7.5YR 5/6; some clay; very fine (silt?) grained; laminated; subangular; 1% heavy minerals.
- 21.3-21.6 Sand - strong brown 7.5YR-5/8, some pale red, 7.5R-6/4; fine grained; subangular; 1% heavy minerals.
- 21.6-22.0 Top-Sand - strong brown 7.5YR-5/8, fine grained; subangular; 2% heavy minerals
Middle-Clay - light brownish gray 10YR-6/2 & pale red 7.5R-6/4, some sand, very fine grained, moderate sorting, subangular.
Bottom-Sand - strong brown 7.5YR-5/8, moderate, amount clay, fine grained; moderate to poor sorting, subrounded; 1% heavier.
- 25.0-25.3 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6; laminated; some sand; very fine grained; moderate sorting, subangular; some heavy minerals.
- 25.3-25.6 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6 & some brownish yellow 10YR-6/6, laminated, moderate to abundant sand; very fine grained; moderate sorting; subangular; few heavy minerals.

Depth
(feet)

- 25.6-26.0 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6; abundant sand; sand strong brown 7.5YR-5/6; moderate amount clay; laminated; fine grained; moderate sorting; subangular; some heavies.
- 26.0-26.3 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6, laminated; some sand; fine grained; moderate sorting; subangular; few heavy minerals.
- 26.3-26.6 Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6 & some strong brown 7.5YR-5/6; laminated; some sand; fine grained; moderate sorting; subangular; some heavy minerals.
- 26.6-27.0 Top-Sand - strong brown 7.5YR-5/6; some clay; fine grained; moderately well sorted; subangular; 1% heavies.
Bottom-Clay - light brown gray 10YR-6/2 & red 2.5YR5/6 laminated; some - moderate sand; medium to fine grained; moderated to poor sorting; subangular; few heavies.
- 30.0-30.3 Top-Clay - light brownish gray 10YR-6/2; some sand; fine grained; subangular; moderately well sorted; few heavies
Bottom-Clay - light brownish gray 10YR-6/2 & red 2.5YR-5/6; laminated; abundant sand; fine grained; moderately - poor sorted; subangular; some heavies.
- 30.3-30.6 Sand - light brownish gray 10YR-6/2 & strong brown 7.5YR-5/6; some clay; fine grained; moderate sorting; subangular; some heavier.
- 30.6-31.0 Sand - strong brown 7.5YR-5/6; moderate amount clay; fine grained; moderated sorting; subangular; some ferricrete; 1% heavy minerals.
- 31.0-31.3 Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2; abundant sand; fine grained; moderate to good sorting; subrounded; glauconite?; few heavies.
- 31.3-31.6 Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2; moderate to abundant sand; fine grained; moderate sorting; subrounded; some heavy minerals; some glauconite.
- 31.6-32.0 Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2; abundant sand to moderate; fine grained; moderate sorting; subrounded; 3% glauconite.
- 35.0-35.3 Clay - yellowish brown 10YR-5/6; some sand; coarse grained, poor sorting (very fine coarse grained); subangular 5% glauconite.
- 35.3-35.6 Clay - yellowish brown 10YR-5/6; moderate amount sand; coarse grained; poor sorting; subangular, 2% glauconite.

Depth
(feet)

- 35.6-36.0 Clay - yellowish brown 10YR-5/6; moderate - abundant sand; coarse grained; poor sorting; subangular; layer of heavy mineral concentration; 1% glauconite.
- 36.0-36.3 Clay - yellowish brown 10YR-5/6; abundant sand; coarse grained; poor sorting; subangular; 3% glauconite.
- 36.3-36.6 Clay - yellowish brown 10YR-5/6; moderate amount sand; coarse grained; poor sorting; subrounded; 3% glauconite.
- 36.6-37.0 Clay - yellowish brown 10YR-5/6; moderate amount sand; medium coarse grained; poor sorting; subrounded; thin layer of heavy mineral concentration; remaining 1% glauconite.
- 40.0-40.3 Sand - light olive brown 2.5Y-5/4; some - moderate clay; coarse grained; poor sorting; subrounded; some heavy minerals; some glauconite.
- 40.3-40.6 Sand - light olive brown 2.5Y-5/4; abundant clay; coarse grained; moderate poor sorting; subrounded; some heavy minerals; some glauconite.
- 40.6-41.0 Sand - light olive brown 2.5YR-5/4; some - moderate amount clay; coarse grained; poor sorting; subrounded; some heavy minerals.
- 41.0-41.3 Top-Sand - light olive brown 2.5YR-5/4; moderate clay; coarse grained; poor sorting; subrounded; few qtz. pebbles; - some glauconite.
Bottom-Clay - olive gray 5Y-5/2; Sand - light olive brown (intermixed); mod. clay; coarse grained; moderate sorting.
- 41.3-41.6 Clay - olive gray 5Y-5/2 & light olive gray - laminated; speaks of yellowish red iron.
- 41.6-42.0 Top-Clay - olive gray 5Y-5/2; abundant sand; coarse grained; moderately poor sorting; subrounded; some heavies.
Bottom-Sand - light olive brown 2.5-5/4; some clay; coarse grained; moderately poor sorting; subangular; few heavy minerals.
- 45.0-45.5 Cemented shell & rock; massive calcite? & barracles?; Sand - olive yellow 2.5Y-6/6; abundant clay; medium - coarse grained; moderately sorted; 5% glauconite.
- 45.5-46.0 Cemented shell & rock fragments; calcite & pectins; Sand & Clay - olive yellow 2.5-6/6; medium grained; moderately sorted; 5% glauconite.
- 46.0-46.5 Slightly cemented shell & rock fragments; calcite & pectins; Clay - olive yellow 2.5-6/6; moderate amount sand; medium grained; moderately sorted; subrounded; 5% glauconite.
- 46.5-47.0 Clay (runny) - olive yellow 2.5-6/6; abundant shell & rock fragments; coarse grained; moderate - poor sorting; subrounded; 7% glauconite.

Well: E

Property owner:

Driller: Va Dept. Highway (~~UDMR~~ UDMR)

Location: Entrance to Crofton on SR 615; (344,100 m. E; 4,125,930 m.)

County: James City

UDMR well # 6034

Altitude Top of Hole 94.9'

Total Depth 47'

Drilled 21 March 1979

Sample Description by Becky Darnton

Geologic Summary

<u>Depth</u>	<u>Thickness</u>	<u>Formation</u>	<u>Age</u>
0 - 31'	31'	Columbia Group?	Pleistocene
31' - 47'	16'	Yorktown	Pliocene

CR Burgess

"E"

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

INTERVAL SHEET

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Well Repository No: 6034

Date rec'd: 21 March '79 Date Processed: 28, 29 May 1979

Sample Interval: from: 5.0' to: 47.0'

PROPERTY: Entrance to Crofton on SR 615

Number of samples: 51

COMPANY:

Total Depth: 47.0'

COUNTY: James City

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
5.0 - 5.3	25.3 - 25.6	46.5 - 47.0	-
5.3 - 5.6	25.6 - 26.0	-	-
5.6 - 6.0	26.0 - 26.3	-	-
6.0 - 6.3	26.3 - 26.6	-	-
6.3 - 6.6	26.6 - 27.0	-	-
6.6 - 7.0	30.0 - 30.3	-	-
10.0 - 10.3	30.3 - 30.6	-	-
10.3 - 10.6	30.6 - 31.0	-	-
10.6 - 11.0	31.0 - 31.3	-	-
11.0 - 11.3	31.6 - 32.0	-	-
11.3 - 11.6	35.0 - 35.3	-	-
11.6 - 12.0	35.3 - 35.6	-	-
15.0 - 15.3	35.6 - 36.0	-	-
15.3 - 15.6	36.0 - 36.3	-	-
15.6 - 16.0	36.3 - 36.6	-	-
16.0 - 16.3	36.6 - 37.0	-	-
16.3 - 16.6	40.0 - 40.3	-	-
16.6 - 17.0	40.3 - 40.6	-	-
20.0 - 20.3	40.6 - 41.0	-	-
20.3 - 20.6	41.0 - 41.3	-	-
20.6 - 21.0	41.3 - 41.6	-	-
21.0 - 21.3	41.6 - 42.0	-	-
21.3 - 21.6	45.0 - 45.5	-	-
21.6 - 22.0	45.5 - 46.0	-	-
25.0 - 25.3	46.0 - 46.5	-	-

GEOLOGIC LOG

Hole E

Depth in
(feet)
5.0-5.3

Sand - yellowish brown 10YR - 5/6 ; moderate clay ; fine grained, moderately well sorted, subangular to subrounded, 2% heavy minerals

5.3-5.6

Sand - yellowish brown 10YR - 5/6 ; mod. clay ; very fine grained ; moderately sorted ; subrounded ; 3% heavy minerals ; very few gtz pebbles, few splinters of wood

5.6-6.0

Sand - yellowish brown 10YR - 5/6 ; abundant clay ; very fine grained ; moderate ^{→ poor} sorting ; subangular, 1% heavy minerals, few gtz pebbles

6.0-6.3

Sand - yellowish brown 10YR - 5/6 ; abundant clay ; fine grained ; mod. ^{→ poor} sorting ; subangular ; 1% heavy minerals, few pebbles

6.3-6.6

* Clay - yellowish brown 10YR - 5/6 ; abundant sand ; fine grained ; moderate - poor sorting, subrounded ; some heavy minerals

6.6-7.0

Clay - yellowish brown 10YR - 5/6 ; abundant sand ; fine grained ; moderate - poor sorting, subangular ; some heavy minerals

10.0-10.3

Clay - light yellowish brown 7.5YR - 6/4 & red 2.5YR 5/6 ; mottled ; abundant sand ; very fine grained ; moderate sorting ; subangular ; 1% heavy minerals

10.3-10.6

Clay - light brownish gray 10YR - 6/2 & red 2.5YR 5/6 ; mottled ; abundant sand ; very fine grained ; moderate sorting ; subangular ; 1% heavies

10.6-11.0

Clay - light brownish gray 10YR - 6/2 & red 2.5YR 5/6 ; mottled ; abundant sand ; very fine grained ; moderate sorting ; subangular ; 1% heavies

Depth in feet

Hole E

11.0 - 11.3

Clay - light brownish gray 10YR - 6/2 & some red 2.5YR - 5/6 abundant sand, very fine grained, moderate sorting; subrounded; some heavies;

11.3 - 11.6

Same as above

11.6 - 12.0

Clay - light brownish gray 10YR - 6/2, red 2.5YR - 5/6, & some brownish yellow 10YR 6/6, abundant sand, very fine grained, moderate sorting; subrounded; some heavies

15.0 - 15.3

Clay - light brownish gray 10YR - 6/2, red 2.5YR - 5/6 & brownish yellow 10YR - 6/6, sand moderately abundant, very fine grained; moderate sorting; subrounded; some heavies

15.3 - 15.6

Same as above

15.6 - 16.0

Clay - light brownish gray 10YR - 6/2, red 2.5YR - 5/6 & brownish yellow 10YR - 6/6, abundant sand, very fine grained; moderate sorting; subangular; some heavies

16.0 - 16.3

Same as above

16.3 - 16.6

Same as above

16.6 - 17.0

Clay & sand - light brownish gray 10YR - 6/2; red 2.5YR - 5/6 & brownish yellow 10YR - 6/6, very fine grained; moderate sorting; subangular; 1% heavies - Red gray & brown in .5cm thick layers

20.0 - 20.3

Top 1/3 Clay - light brownish gray 10YR - 6/2, & red 2.5YR - 5/6; abundant sand, very fine grained; moderate sorting, subrounded, some heavies
Bottom 2/3 Sand - brownish yellow 10YR - 6/8; abundant clay, fine grained, poorly sorted, subangular

Depth in
feet

Hole E

20.0 - 20.3
continued

Some heavies

20.3 - 20.6

Sand - yellowish brown 10YR - 5/8, some clay, fine grained; moderate to poor sorting; subangular; 3% heavies; few large gtz grains

20.6 - 21.0

Sand - brownish yellow 10YR - 6/6, & light red 2.5YR - 6/6; moderate amount clay, moderate to poor sorting, subangular; 1% heavy minerals

21.0 - 21.3

Sand - light brownish gray 10YR - 6/2 & red 7.5YR - 5/6; some clay; very fine grained (silt?); laminated; subangular; 1% heavy minerals

21.3 - 21.6

Sand - strong brown 7.5YR - 5/8, some pale red, 7.5R - 6/4; fine grained; subangular; 1% heavy minerals

21.6 - 22.0

Top - Sand - strong brown 7.5YR - 5/8, fine grained, subangular; 2% heavy minerals

Middle - Clay - light brownish gray 10YR - 6/2 & pale red 7.5R - 6/4, some sand, very fine grained, moderate sorting, subangular

Bottom - Sand - strong brown 7.5YR - 5/8, moderate amount clay, fine grained; moderate to poor sorting, subrounded; 1% heavies

25.0 - 25.3

Clay - light brownish gray 10YR - 6/2 & red 7.5YR - 5/6; laminated; some sand; very fine grained; moderate sorting; subangular; some heavy minerals

Depth in feet

Hole E

25.3 - 25.6

Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6 + some brownish yellow 10YR - 6/6; laminated, moderate to abundant sand; very fine grained; moderate sorting; subangular; few heavy minerals

25.6 - 26.0

Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6 abundant sand; Sand - strong brown 7.5YR - 5/6; moderate amount clay; laminated; fine grained; moderate sorting; subangular; some heavies

26.0 - 26.3

Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6, laminated; some sand; fine grained; moderate sorting; subangular; few heavy minerals

26.3 - 26.6

Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6 + some strong brown 7.5YR - 5/6; laminated; some sand; fine grained; moderate sorting; subangular; some heavy minerals

26.6 - 27.0

Top - Sand - strong brown 7.5YR - 5/6; some clay; fine grained; moderately well sorted; subangular; 1% heavies

? feldspar

Bottom Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6 laminated; ^{some} moderate sand; medium to fine grained; moderate to poor sorting; subangular; few heavies

30.0 - 30.3

Top - Clay - light brownish gray 10YR - 6/2; some sand; fine grained; subangular; moderately well sorted; few heavies

Bottom - Clay - light brownish gray 10YR - 6/2 d red 2.5YR - 5/6; laminated; abundant sand; fine grained; moderately ^{- poor} sorted; subangular; some heavies

Depth in feet

Hole E

30.3 - 30.6

Sand - light brownish gray 10YR-6/2 & strong brown 7.5YR-5/6; some clay; fine grained; moderate sorting; subangular; some heavies

30.6 - 31.0

Sand - strong brown 7.5YR-5/6; moderate amount clay; fine grained; moderate sorting; subangular; some ferricrete; 1% heavy minerals

31.0 - 31.3

Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2; abundant sand; fine grained; moderate to good sorting; subrounded; glauconite?; few heavies

31.3 - 31.6

Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2 moderate to abundant sand; fine grained; moderate sorting; subrounded; some heavy minerals; some glauconite

31.6 - 32.0

Clay - strong brown 7.5YR-5/6 & light brownish gray 10YR-6/2; moderate to abundant sand; fine grained; moderate sorting; subrounded; 3% glauconite

35.0 - 35.3

Clay - yellowish brown 10YR-5/6; some sand; coarse grained; poor sorting (fine to coarse grained); subangular; 5% glauconite

35.3 - 35.6

Clay - yellowish brown 10YR-5/6; moderate amount sand; coarse grained; poor sorting; subangular; 2% glauconite

35.6 - 36.0

Clay - yellowish brown 10YR-5/6; moderate to abundant sand; coarse grained; poor sorting; subangular; layer of heavy mineral concentration; 1% glauconite

Depth in feet

Hole E

- 36.0 - 36.3 Clay - yellowish brown 10YR - 5/6 ; abundant sand ; coarse grained ; poor sorting ; subangular ; 3% glauconite
- 36.3 - 36.6 Clay - yellowish brown 10YR - 5/6 ; moderate amount sand ; coarse grained ; poor sorting ; subrounded ; 3% glauconite
- 36.6 - 37.0 Clay - yellowish brown 10YR - 5/6 ; moderate amount sand ; medium to coarse grained ; poor sorting ; subrounded ; thin layer of heavy mineral concentration ; remaining 1% glauconite
- 40.0 - 40.3 Sand - light olive brown 2.5Y - 5/4 ; ^{some} moderate clay ; coarse grained ; poor sorting ; subrounded ; some heavy minerals ; some glauconite
- 40.3 - 40.6 Sand - light olive brown 2.5Y - 5/4 ; abundant clay ; coarse grained ; moderate to poor sorting ; subrounded ; some heavy minerals ; some glauconite
- 40.6 - 41.0 Sand - light olive brown 2.5YR - 5/4 ; some - moderate amount clay ; coarse grained ; poor sorting ; subrounded ; some heavy minerals
- 41.0 - 41.3 Top - Sand - light olive brown 2.5YR - 5/4 ; moderate clay ; coarse grained ; poor sorting ; subrounded ; few gtz. pebbles ; \pm some glauconite
Bottom Clay - olive gray 5Y - 5/2 ; Sand - light olive brown (intermixed) ; mod. clay ; coarse grained ; moderate sorting
- 41.3 - 41.6 Clay - olive gray 5Y - 5/2 & light olive gray - laminated ; specks of yellowish red iron

Depth in feet

Hole E

41.6 - 42.0

Top - Clay - olive gray 5Y-5/2 ; abundant sand ; coarse grained ; moderately poor sorting ; subrounded ; some heavies

Bottom - Sand - light olive brown - 2.5Y-5/4 ; some clay ; coarse grained ; moderately poor sorting ; subangular ; few heavy minerals

45.0 - 45.5

Cemented shell & rock ; massive calcite & barnacles ; Sand - olive yellow - 2.5Y-6/6 ; abundant clay ; medium - coarse grained ; moderately sorted ; 5% glauconite

45.5 - 46.0

Cemented shell & rock fragments ; calcite & pectins ; Sand & Clay - olive yellow 2.5-6/6 ; medium grained ; moderately sorted ; 5% glauconite

46.0 - 46.5

^{Slightly} Cemented shell & rock fragments ; calcite & pectins ; Clay - olive yellow 2.5-6/6 ; moderate amount sand ; medium grained ; moderately sorted ; subrounded ; 5% glauconite

46.5 - 47.0

Clay (runny) - olive yellow 2.5-6/6 ; abundant shell & rock fragments ; coarse grained ; moderate ^{poor} sorting ; subrounded ; 7% glauconite