

INTERVAL SHEET

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VDMR Well No: **WELL NO. 2211.**

Date rec'd: 6-68

Sample Interval: from 0 to: 80

PROP: STATE ROAD RIGHT-OF-WAY  
 COMP: FROEHLING & ROBERTSON  
 COUNTY: SUSSEX (SUSSEX C.H.)

Number of samples: 17

COMP: VDMR WELL NO: W-2211

Total Depth: 80'

FROM: TO:

COUNTY:

Oil or Gas: Water: Exploratory ✓

From-To	From-To	From-To	From-To
3 - 5 CORE	-	-	-
8 - 10 CORE	-	-	-
13 - 15 CORE	-	-	-
18 - 20 CORE	-	-	-
18.5 - 20	-	-	-
23 - 25	-	-	-
28 - 30	-	-	-
33 - 35 CORE → 33-34	-	-	-
34 - 35	-	-	-
38 - 40 CORE	-	-	-
38 - 39 <del>38-40</del>	-	-	-
39 - 40	-	-	-
43 - 45	-	-	-
48 - 50	-	-	-
53 - 55	-	-	-
58 - 60 CORE	-	-	-
58 - 59	-	-	-
59 - 60	-	-	-
63 - 65 CORE	-	-	-
63 - 64	-	-	-
64 - 65	-	-	-
68 - 69	-	-	-
69 - 70	-	-	-
73 - 75 CORE	-	-	-
73 - 74.5	-	-	-
74.5 - 75	-	-	-
78 - 80	-	-	-
78 - 78.5	-	-	-
78.5 - 80	-	-	-
-	-	-	-
-	-	-	-

All intervals have both wash and mudwash samples.

County: Sussex  
VDMR Well # 2211

Well:

Property: State of Virginia, Highway right-a-way

Driller: Froehling and Robertson

Location: Sussex 7.5' Quadrangle; west side of State Road 735,  
1.6 miles south of Sussex.

Elevation: 85'

Total depth: 80'

Started drilling: June, 1968

Finished drilling: June, 1968

Sample description by: J. K. Polzin, Virginia Division of Mineral Resources

GEOLOGIC SUMMARY

OWNER: St. Road Rt-of-way  
DRILLER: Froehling & Robertson  
COUNTY: Sussex

W # 2211  
TOTAL DEPTH - 80'  
QUAD - Sussex

DEPTH  
(FEET)

WELL LOG

- 0-3 No sample.
- 3-5 Sand - very pale orange (10YR 8/2); fine to very coarse, angular and subangular, moderate sorting; ochre fragments; rock fragments; wood debris; feldspar; echinoderm spines, (core).
- 5-8 No sample.
- 8-10 Sand - light and dark orange; fine to coarse, angular and subangular, moderate sorting; 25% limonite/ochre fragments; core.
- 10-13 No sample.
- 13-15 Clay - dark yellowish orange (10YR 6/6); 90% clay in fine pellets; fine to coarse, subangular, poorly sorted quartz grains; iron oxide fragments; (core).
- 15-18 No sample.
- 18-20 Sand - light and dark orange; 50% fine clay/ochre; fine to medium, subangular, moderate sorting; 3% phosphate fragments; iron oxide fragments; (core).
- 20-23 No sample.
- 23-25 Sand, shelly - light olive gray (5Y 6/1); 50% large shell fragments - barnacles, Mulinia - reworked; fine to very coarse, subangular, moderate sorting; 5%± phosphate fragments; forams - Cibicides, Quinqueloculina, Nonion, Textularia; ostracod; bryozoa; (core)
- 25-28 No sample.
- 28-35 Sand - light olive gray (5Y 6/1); medium to coarse, subangular, moderately well sorted; 20% reworked shell fragments - Venicardia, Oyster, Dentalium; bryozoa; forams; (core).
- 35-38 No sample.
- 38-55 Sand - light olive gray (5Y 7/1); medium to very coarse, subangular, moderate sorting; 8% phosphate fragments; 3% fine shell fragments at 38-40', 1% at 43-45' and 53-55' and none at 48-50'; rose quartz; moderate clay at 53-55'.

DEPTH  
(FEET)

WELL LOG

55-58	No sample.
58-60	Sand - light olive gray (5Y 7/1); fine to very coarse, subangular, moderate sorting.
60-63	No sample.
63-65	Sand - light olive gray (5Y 7/1); fine to very coarse, subangular, moderate sorting; 5% rounded quartz pebbles; 10% phosphate fragments; 8% shell fragments; garnet; (core).
65-68	No sample.
68-70	Gravel - olive gray (5Y 4/1); fine to 10mm pebbles, subangular and rounded, poor sorting; 10% phosphate fragments; 5% shell fragments; garnet; (core).
70-73	No sample.
73-75	Sand - light olive gray (5Y 8/1); fine to very coarse with some pebbles, subangular, moderate sorting; rare phosphate fragments; feldspar; garnet; mica; no pebbles at bottom; (core).
75-78	No sample.
78-80	Sand - light olive gray (5Y 8/1); fine to granule, subangular, moderate sorting; very rare phosphate fragments; feldspar; garnet; mica; (core).

Logged by:  
J. K. Polzin  
Apr., 1981



11 MOUNTAIN FORMATION (2.5-28')

County : Sussex

VDNR Well No. 2211

Well : SCH (Sussex Court House)  
 Property : State road right-of-way  
 Driller : Froehling and Robertson  
 Location : 1.5 miles S of Sussex C.H. on Rte. 735, and  
 20 yards W of Rte. 735  
 Elevation : 80 feet  
 Total Depth : 80 feet  
 Started drilling : June 1968 Completed drilling : June 1968  
 Sample description by : R.H. Teifke, Virginia Division of  
 Mineral Resources, November 20, 1968

GEOLOGIC LOG

Depth in feet

(0 - 8.5')

COLUMBIA GROUP (~~0 - 18.5~~)



0-3 No sample

3-5 Clay - orange-yellow, mottled red, plant fragments common, slightly to moderately sandy; sand is fine to coarse, moderately sorted (skewed fine), angular; clear quartz, with minor feldspar and garnet.

5-8 No sample

8-8.5 Clay - orange-yellow, mottled red, sandy, ferric-crete common; sand is fine to very coarse, poorly sorted, angular.



## YORKTOWN FORMATION (8.5-28')

8.5-10 Clay — light-gray, mottled orange, slightly silty, essentially sand-free

10-13 No sample

13-15 Clay — light-gray, mottled orange, slightly silty, essentially sand-free

15-18 No sample

18-18.5 Clay — light-gray, mottled orange, slightly silty, essentially sand-free

## ~~YORKTOWN FORMATION (18.5-28')~~<sup>19</sup>

18.5-20 Clay — dark-gray, slightly to moderately sandy; sand is fine to medium, moderately sorted, angular; clear quartz, with a trace of glauconite

20-23 No sample

23-25 Sand and shell — gray, slightly clayey; sand (<sup>52</sup>~~55%~~) is fine to coarse, fairly well-sorted, angular to rounded, and consists of clear quartz, with a trace of glauconite; ~~42~~<sup>48</sup>% pelecypod shells and shell fragments, and numerous bryozoans, corals, echinodoid spines and plates

25-28 No sample

## MATTAPONI FORMATION (28-73')

28-30 Sand — medium-gray with greenish cast, very slightly clayey, 20% pelecypod shells and shell fragments; medium, well-sorted,



subangular to subrounded; clear and green-tinted quartz, with traces of glauconite and garnet; foraminifer common, ostracods rare

30-33

No sample; According to field notes, one or more beds of coarse shell <sup>occur within</sup> this interval

33-34

Sand - greenish-gray, slightly clayey, 10-15% pelecypod shells and shell fragments; medium, fairly well-sorted, subangular to subrounded; clear and green-tinted quartz; a few bryozoans and echinoid species

34-35

" foraminifer common

35-38

No sample

38-39

Sand - greenish-gray, slightly clayey, a few large shell fragments; medium, fairly well-sorted, angular to rounded; clear and green-tinted quartz; small fragments of black shell are common; trace of garnet

greenish  
as trace  
black shell

39-40

"

40-43

No sample

43-45

Sand - olive-green, very slightly clayey; medium, well-sorted, subangular to rounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a trace of garnet

TM

45-48

No sample



48-50

Sand - brownish-green, very slightly clayey; medium, fairly well-sorted, subangular to rounded; clear and green-tinted quartz with numerous small fragments of black shell; trace of garnet

50-53

No sample

53-55

Sand - greenish-gray, very slightly clayey, trace of shell; medium, fairly well-sorted, subangular to subrounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a few foraminifers and echinoid spines; traces of garnet and coarse-grained feldspar

55-58

No sample

58-59

Sand - greenish-gray, very slightly clayey, a trace of shell; medium, fairly well-sorted, subangular to rounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a few foraminifers and echinoid spines; traces of garnet and feldspar

59-60

" slightly clayey; a few <sup>small</sup> phosphate nodules and ~~small~~ quartz pebbles

60-63

No sample

63-64

Sand - dark greenish-gray, with evenly distributed rounded quartz pebbles up to 10 mm, and a few large pelicypod shells; <sup>fairly well-sorted,</sup> medium, <sup>angular</sup> to subrounded; clear and green-tinted quartz



with numerous small fragments of black and brown shell, and traces of fine-grained glauconite and magnetite; a few grains of garnet and feldspars

64-65 "

65-68 No sample

68-69 Sand and gravel — gray, slightly to moderately clayey, 10% coarse pelecypod shell fragments; <sup>25%</sup> 30% fine (2-20 mm) rounded gravel, consisting of quartz, rock fragments, phosphate nodules, and feldspar cleavage fragments; <sup>55%</sup> 60% fine to very coarse, rather poorly sorted (shewed fine), angular to subrounded quartz sand

69-70 "

More specific, cuttings of drilling characteristics

70-73 No sample ~~contact at 73' according to field notes~~

PATUXENT FORMATION (73-80')

73-74 Sand — greenish-gray, slightly clayey; medium to coarse, fairly well-sorted, subangular to subrounded; feldspathic; minor garnet and muscovite.

74-75 " tan

75-78 No sample



78-78.5

Sand - tan, slightly clayey, medium to very coarse, moderately sorted, angular to sub-rounded; feldspathic; garnet relatively abundant; minor muscovite

78.5-80

Sand - tan, trace of clay; coarse to very coarse, fairly well-sorted; subangular to subrounded; very feldspathic

### GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
<del>0-2</del>	<del>No sample</del>	
<del>0-18.5</del>	<del>No sample</del>	
0-8.5	Columbia Group	Pleistocene
8.5-28	Yorktown Formation	Late Miocene
26	<del>No sample</del>	
28-73	Mataponi Formation	Paleocene
71	<del>No sample</del>	
73-80	Patuxent Formation	Early Cretaceous



INTERVAL SHEET

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VDMR Well No: 2211

Date rec'd: 6/68

Sample Interval: from 0 to 80

PROP: State road right-of-way

Number of samples: 17

COMP: Froehling and Robertson

Total Depth: 80'

COUNTY: Sussex (Sussex C. H.)  
Sussex Quad.

Oil or Gas: Water: Exploratory: X

	UNWASHED From-To	From-To	WASHED From-To	From-To
80'	3 - 5 core	-	3 - 5	-
	8 - 10 core	-	8 - 10	-
	13 - 15 core	-	13 - 15	-
	-	-	-	-
18.5	18 - 20 core	-	18.5 - 20	-
	23 - 25	-	23 - 25	-
25	28 - 30	-	28 - 30	-
28	-	-	33 - 34	-
	33 - 35 core	-	34 - 35	-
	-	-	-	-
	38 - 40 core	-	38 - 39	-
	-	-	39 - 40	-
	43 - 45	-	43 - 45	-
	48 - 50	-	48 - 50	-
	53 - 55	-	53 - 55	-
45'	58 - 60 core	-	58 - 59	-
	-	-	59 - 60	-
	-	-	-	-
	63 - 65 core	-	63 - 64	-
	-	-	64 - 65	-
	68 - 69	-	68 - 69	-
	69 - 70	-	69 - 70	-
	-	-	-	-
73	73 - 75 core	-	73 - 74.5	-
	-	-	74.5 - 75	-
	-	-	-	-
	78 - 80 core	-	78 - 78.5	-
	-	-	78.5 - 80	-
	-	-	-	-
	-	-	-	-
	-	-	-	-



County : Sussex

VDNR Well No. 2211

Well : SCH (Sussex Court House)  
Property : State road right-of-way  
Driller : Froehling and Robertson  
Location : 1.5 miles S of Sussex C. H. on Rte. 735, and  
20 yards W of Rte. 735  
Elevation : 80 feet  
Total Depth : 80 feet  
Started drilling : June 1968 Completed drilling : June 1968  
Sample description by : R.H. Teifke, Virginia Division of  
Mineral Resources, November 20, 1968

### GEOLOGIC LOG

Depth, feet

COLUMBIA GROUP (3' - 18.5')

0-3 No sample

3-5 Clay - orange-yellow, mottled red, plant fragments  
common, slightly to moderately sandy; sand  
is fine to coarse, moderately sorted (shard fine),  
angular; clay quartz, with minor feldspar  
and quartz

5-6 No sample

8-8.5 Clay - orange-yellow, mottled red, sandy, ferri-  
crite common; sand is fine to very coarse,  
poorly sorted, angular.



8.5-10

Clay - light-gray, mottled orange, slightly silty, essentially sand-free

10-13

No sample

13-15

Clay - light-gray, mottled orange, slightly silty, [essentially sand-free] very little sand

15-18

No sample

18-18.5

Clay - light-gray, mottled orange, slightly silty, [essentially sand-free] very little sand

YORKTOWN FORMATION (18.5 - 25')

18.5-20

Clay - dark-gray, slightly to moderately sandy; sand is fine to medium, moderately sorted, angular; clear quartz, with a trace of glauconite

20-23

No sample

23-25

Sand and shell - gray, slightly clayey; sand (55%) is fine to coarse, fairly well sorted, angular to rounded, and consists of clear quartz with a trace of glauconite; 4<sup>th</sup> polychaete shells and shell fragments, and numerous bryozoans, corals, sponges, and plates

25-27

No sample

MATAPONI FORMATION (28-30')

28-30

Sand - medium-gray with greenish salt, very slightly clayey, 20% polychaete shells and shell fragments; medium, well-sorted,



subangular to subrounded; clear and green tinted quartz, with traces of glauconite and garnet; foraminifer common, reticulate rare

30-33 No sample; according to field notes, one or more beds of coarse shell <sup>clear within</sup> occupy this interval

33-34 Sand - greenish-gray, slightly clayey, 10-15% picked shells and shell fragments; medium, fairly well-sorted, subangular to sub-rounded; clear and green-tinted quartz; a few bryozoans and echinoid spines

34-35 " foraminifer common

35-38 No sample

38-39 Sand - greenish-gray, slightly clayey, a few large shell fragments; medium, fairly well-sorted, angular to rounded; clear and green-tinted quartz; small fragments of black shell are common; trace of garnet

"

39-40

40-43 No sample

43-45 Sand - olive-green, very slightly clayey; medium, well-sorted, subangular to rounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a trace of garnet

45-48 No sample

greenish  
with  
black shell

TW



48-50

Sand — brownish-green, very slightly clayey; medium, fairly well-sorted, subangular to rounded; clear and green-tinted quartz with numerous small fragments of black shell; trace of garnet

50-53

No sample

53-55

Sand — greenish-gray, very slightly clayey, trace of shell; medium, fairly well-sorted, <sup>subangular</sup> subangular to subrounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a few foraminifers and echinoid spines; traces of garnet and coarse-grained feldspar

55-58

No sample

58-59

Sand — greenish-gray, very slightly clayey, a trace of shell; medium, fairly well-sorted, subangular to rounded; clear and green-tinted quartz, with numerous small fragments of black shell, and a few foraminifers and echinoid spines; traces of garnet and feldspar

59-60

" slightly clayey; a few <sup>small</sup> phosphate nodules and ~~small~~ quartz pebbles

60-63

No sample

63-64

Sand — dark greenish-gray, with evenly distributed rounded quartz pebbles up to 10 mm, and a few large pelecypod shells; medium, <sup>fairly well-sorted,</sup> angular to subrounded; clear and green-tinted quartz



with numerous small fragments of black very  
brown shell, and traces of fine-grained  
glauconite and magnetite; a few grains  
of garnet and feldspar

11

64-65

66-68

No sample

68-69

Sand and gravel — gray, slightly to moderately  
clayey, 10% coarse pelecypod shell fragments;  
<sup>25</sup>~~30~~% fine (2-12 mm) rounded gravel,  
consisting of quartz, rock fragments, phosphate  
nodules, and feldspar cleavage fragments;  
<sup>55</sup>~~60~~% fine-to-very coarse, rather poorly  
sorted (skewed fine), angular to subrounded  
quartz sand

11

69-70

70-73

No sample by contact at 73' according to field notes.

#### PATUXENT FORMATION (73-80')

73-74

Sand — greenish-gray, slightly clayey; medium  
to coarse, fairly well-sorted, subangular to  
subrounded; feldspathic; minor garnet  
and muscovite.

74-75

11

tan

75-78

No sample



with numerous small fragments of black and brown shell, and traces of fine-grained glauconite and magnetite; a few grains of garnet and feldspar

64-65

||

65-68

No sample

68-69

Sand and gravel — gray, slightly to moderately clayey, 10% coarse pelecypod shell fragments; 25% fine (2-12 mm) rounded gravel, consisting of quartz, rock fragments, phosphate nodules, and feldspar cleavage fragments; 65% fine-to-very coarse, rather poorly sorted (skewed fine), angular to subrounded quartz sand

69-70

||

70-73

No sample by contact at 73' ~~and~~ ~~to~~ field notes.

### PATUXENT FORMATION (73-80')

73-74

Sand — greenish-gray, slightly clayey; medium to coarse, fairly well-sorted, subangular to subrounded; feldspathic; minor garnet and muscovite.

74-75

||

tan

75-78

No sample



78-78.5

Sand - tan, slightly clayey, medium to very coarse, moderately sorted, angular to sub-rounded; feldspathic; garnet relatively abundant; minor muscovite

78.5 - 80

Sand - tan, trace of clay; coarse to very coarse, fairly well-sorted; subangular to subrounded; very feldspathic

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-3	No sample	
<del>0-18.5</del> <sup>3</sup> <del>φ-18.5</del>	Columbia Group	Pleistocene
18.5-25	Yorktown Formation	Late Miocene
26-25-28	No sample	
28-73	Mataponi Formation	Paleocene
<del>73</del> 70-73	No sample	
73-80	Patuxent Formation	Early Cretaceous