

HVL

2209

INTERVAL SHEET

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VDMR Well No: 2209

Date rec'd: 6/68

Sample Interval: from 0 to 140

PROP: State road right-of-way

Number of samples: 35

COMP: Froehling and Robertson

Total Depth: 140'

COUNTY: Sussex (Homeville)  
*Littleton Quad.*

Oil or Gas: Water: Exploratory: X

UNWASHED		WASHED	
From-To	From-To	From-To	From-To



3 - 5 core	-	3 - 5	-
8 - 10 core	-	8 - 10	-
-	-	-	-
13 - 14	-	13 - 14	-
14 - 15	-	14 - 15	-
18 - 20	-	18 - 20	-
23 - 24.5	-	23 - 24.5	-
24.5 - 25	-	24.5 - 25	-
28 - 30	-	28 - 30	-
-	-	-	-
33 - 35 core	-	33 - 33.5	-
38 - 38.5	-	33.5 - 35	-
38.5 - 40 core	-	38 - 38.5	-
43 - 44.5 core	-	38.5 - 40	-
44.5 - 45	-	43 - 44.5	-
48 - 50	-	44.5 - 45	-
53 - 55	-	48 - 50	-
58 - 60	-	53 - 55	-
63 - 65	-	58 - 60	-
67 - 70	-	63 - 65	-
-	-	68 - 70	-
73 - 75 core	-	-	-
78 - 80 core	-	73 - 75	-
83 - 85 core	-	78 - 80	-
88 - 90 core	-	83 - 85	-
93 - 95 core	-	88 - 90	-
98 - 100 core	-	93 - 95	-
103 - 105 core	-	98 - 100	-
108 - 110 core	-	103 - 105	-
113 - 115 core	-	108 - 110	-
118 - 120 core	-	113 - 115	-
123 - 125 core	-	118 - 120	-
128 - 130 core	-	123 - 124	-
133 - 135 core	-	124 - 125	-
138 - 139	-	128 - 130	-
139 - 140	-	133 - 135	-
-	-	-	-
-	-	138 - 139	-
-	-	139 - 140	-



County : Sussex  
VDNR Well No. 2209

Well : HVL (Homeville)  
Property : State road right-of-way  
Driller : Froehling and Robertson  
Location : 3.35 miles N of Homeville on abandoned bend in  
Rte 40  
Elevation : 95 feet  
Total Depth : 140 feet  
Started drilling : June 1968      completed drilling : June 1968  
Sample description by : R.H. Teiske, Virginia Division of  
Mineral Resources, November 25, 1968

### GEOLOGIC LOG

Depth in feet

#### COLUMBIA GROUP (3-38.5')

0-3 No sample

3-5 Clay - greenish-gray, red, and orange, moder-  
ately sandy; sand is fine to medium,  
well-sorted; trace of glauconite

5-8 No sample

8-10 Clay - interstratified light-gray, red, and brown  
slightly to moderately sandy; sand is fine,  
well-sorted, angular; clear and yellowish  
quartz, with small amount of muscovite,  
glauconite, and magnetite



10-13

No sample

13-14

Sand - yellow, orange, and white, clayey; fine, well-sorted, angular; decomposed feldspar common; small amounts of muscovite and glauconite

14-15

Sand - tan, slightly to moderately clayey; fine, well-sorted, angular; decomposed feldspar abundant; small amounts of glauconite, magnetite, and muscovite

15-18

No sample

18-20

Sand - tan, slightly clayey; fine, well-sorted, angular; fresh and decomposed feldspar moderately abundant; small amounts of muscovite, magnetite, glauconite, and garnet

20-23

No sample

23-24.5

Sand - tan, very slightly clayey; medium, very well-sorted, subangular to subrounded; feldspathic; accessory magnetite, garnet, tourmaline, muscovite, and green epidote

24.5-25

Sand - pale yellow, slightly clayey; medium, fairly well-sorted, angular to subangular; moderately feldspathic; accessory magnetite



25-28 No sample

28-30 Sand — pale yellowish-brown, slightly clayey, 5% granule gravel, and a very few small pebbles up to 8 mm; fine to very coarse, poorly sorted, angular to subangular; abundant feldspar and blue quartz

30-33 No sample

33-33.5 Sand — orange-brown, yellow, and pink, slightly clayey; coarse to very coarse, fairly well-sorted, subangular to subrounded; moderately feldspathic, locally carbonaceous; Trace of green epidote

33.5-35 Clay — orange, compact, slightly sandy; sand is fine to very fine, well-sorted, angular; small amounts of muscovite and magnetite; traces of garnet and rutile

35-38 No sample

38-38.5 <sup>clay and</sup> Sand and gravel — abundant matrix of bright-orange clay; <sup>(~30%)</sup> 15% granule gravel and a few pebbles up to 10 mm; 55% medium to very coarse, fairly well-sorted (skewed coarse), angular to subangular sand; blue quartz and intensely decomposed feldspar are common



YORKTOWN FORMATION (38.5 - 67')

38.5 - 40 Clay - gray, silty, slightly to moderately sandy, sand is fine to very fine, well-sorted, angular; slightly glauconitic; muscovite, magnetite common; traces of garnet and green epidote

40 - 43 No sample

43 - 44.5 Sand and shell - gray, slightly clayey; <sup>(~55%)</sup> 35% ~~moderately~~ shells and shell fragments, mostly pelecypods; 60% fine to medium, moderately sorted sand composed of 78% subangular to subrounded clear quartz, and 22% glauconite; traces of garnet and green epidote; <sup>(total of 2%)</sup> a few foraminifera, including Textularia

44.5 - 45 " moderately clayey; <sup>(~10%)</sup> 50% shell and 40% sand

45 - 48 No sample

48 - 50 Sand and shell - light-gray, moderately clayey; <sup>(~10%)</sup> 40% coarse pelecypod (= bryozoa-schizoderm) shell debris; 50% fine to coarse, moderately sorted, subangular sand; sand comprises 90% quartz, 10% glauconite; foraminifera and ostracods common

50 - 53 No sample; drilling characteristics indicate that this interval is mainly limestone



- Limestone (210%)
- 53-55 Sand, shells, and <sup>and shells</sup> light gray, moderately clayey; 30% pelceypod (- bryozoa - schizothorium) shell debris; 30% fine to coarse, moderately sorted, subangular to subrounded sand; sand contains less than 5% glauconite; 30% sandy fossiliferous limestone, a few foraminifera and ostracods
- 56-58 No sample; circulated material was mainly shell
- 59-60 Limestone - light gray, sandy, very fossiliferous; foraminifera and ostracods present
- 60-63 No sample
- 63-65 Sand and limestone - light gray; 30% sandy, very fossiliferous limestone; 70% fine to medium, moderately sorted, angular to subangular quartz sand; a few foraminifera
- 66-67 No sample; change in drilling characteristics at 67'

MATTAPONI FORMATION (67-140')

- 67-68 No sample
- 68-70 Sand, <sup>and shells</sup> grayish-green, slightly clayey; 20% fragments of large pelceypods, and a few schizoid spines and plates, small gastropods, and bryozoa; 75% fine to medium, well-sorted, subangular, very slightly glauconitic (25%)



quartz, sand; traces of magnetite, horn-  
blende, garnet, and green epidote

70-73

No sample

73-75

Sand - greenish-gray, moderately clayey;  
fine, well-sorted, angular; clear and  
green-tinted quartz, with 15% glauconite;  
<sup>slightly micaceous</sup>, small shell fragments and foraminifera  
common

75-78

No sample

78-80

Sand - greenish-gray, moderately clayey,  
a few coarse shell fragments; fine,  
well-sorted, angular; clear and green-  
tinted quartz, with 15% glauconite and  
5% muscovite; foraminifera common

80-83

No sample

83-85

Clay - greenish-gray, silty, slightly to moder-  
ately sandy; sand is fine to very fine,  
well-sorted, angular; sand comprises  
90% quartz, <sup>and</sup> 8% glauconite; micaceous;  
foraminifera moderately abundant

85-88

No sample

88-90

Clay - light greenish-gray, silty, slightly sandy;  
sand is fine to very fine, well-sorted, angu-  
lar; and consists of 78% quartz, <sup>and</sup> 23% glau-  
conite; micaceous, abundant nodular pyrite;  
foraminifera abundant, ostracods common



90-93 No sample

95-95 Clay — light greenish-gray, compact, <sup>silty</sup> slightly sandy; sand is fine, well-sorted, angular; moderately glauconitic and pyritic, and slightly micaceous; small shell fragments and ostracods common, foraminifera moderately abundant.

95-98 No sample

98-100 Clay — light greenish-gray, compact, <sup>silty</sup> slightly sandy; sand is fine, well-sorted, and consists of 70% angular quartz, and 30% glauconite; small amounts of shell fragments, bone fragments, and concretions of pyrite; pyritized diatoms present; foraminifera common.

100-103 No sample

103-105 Clay — light greenish-gray, compact, silty, slightly sandy; sand is fine, well-sorted, and consists of 75% clear and green-tinted quartz, and <sup>23</sup>25% glauconite; slightly micaceous and pyritic; foraminifera common.

105-108 No sample

108-110 Clay — light greenish-gray, compact, silty, slightly to moderately sandy; sand is fine, well-sorted, and consists of 80% clear and green-tinted quartz, and <sup>19</sup>20% glauconite;



very slightly micaceous; a few foraminifera

110-115 No samples

113-115 Sand - light greenish-gray, moderately clayey; fine, well-sorted, angular; clear and green-tinted quartz, with 10% glauconite and a very few small phosphate nodules; slightly micaceous

115-118 No sample

118-120 Sand - greenish-gray, moderately clayey, fine, well-sorted, angular; clear and green-tinted quartz, with 25-30% glauconite, and traces of micrite and bone phosphate

120-123 No sample

123-124 Sand - black, locally clayey; <sup>(~20%)</sup> fine to medium, well-sorted; <sup>30%</sup> 50% angular quartz, <sup>40%</sup> 50% glauconite; large bone fragments abundant, phosphate nodules common

124-125 Sand - black, locally clayey; <sup>(~20%)</sup> fine to medium, well-sorted; <sup>40%</sup> 50% clear to greenish, angular to subangular quartz, and <sup>40%</sup> 50% glauconite; fragmental and nodular phosphite common

125-128 No sample



128-130

Hand <sup>(n5%)</sup> - greenish black, slightly clayey, and sandstone calcitic  
50% finely crystalline sandstone, from to  
55% glauconite, moderately sorted;  
40% clear and greenish angular quartz;  
small amount of nodular phosphate

130-133

No sample

133-135

Hand <sup>(n5%)</sup> - dark greenish gray; slightly to medium  
slightly clayey; 20% fine (2-10mm) quartz; 85% fine  
to very coarse, rather poorly sorted sand  
comprising 50% glauconite and 50% angular to rounded  
clear and green-faint quartz; glauconite  
is concentrated in finer grades, and  
quartz and green feldspathic  
concentrated in all slightly feldspathic;  
a few phosphate nodules and bone and  
shell fragments

135-135

No sample

138

Hand and gravel - greenish gray, slightly  
clayey; 40% fine (2-20 mm), moderately  
sorted, subrounded gravel; 60% fine  
to very coarse, poorly sorted sand;  
glauconite in finer grades, and coarse  
sand grains and gravel fraction are slight-  
ly feldspathic

138-139

Hand and gravel - feldspar of quartz  
black ally clay; 50% glauconite gravel  
and a few pebbles up to 10 mm; 80% fine  
to very coarse, poorly sorted sand; and  
90% quartz quartz, and to fine  
nodular  
glauconite; green and phosphate common



139-140

11 60% gravel, 40% sand

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-3	No sample	
3-38.5	Columbia Group	Pleistocene
38.5-67	Yocktown Formation	Late Miocene
67-140	Matheson Formation	Paleocene