

INTERVAL SHEET

Page 1 of 1

VDMR Well No: 1926

Date rec'd: 8-9-67

Sample Interval: from 0 to: 243

PROP: N and W RR. Well # 210

Number of samples: 24

COMP:

Total Depth: 243

COUNTY: Isle of Wight  
2.0 Mi. SE of Zuni

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
0 - 10	-	-	-
10 - 20	-	-	-
20 - 30	-	-	-
30 - 40	-	-	-
40 - 50	-	-	-
50 - 60	-	-	-
60 - 70	-	-	-
70 - 80	-	-	-
80 - 90	-	-	-
90 - 100	-	-	-
100 - 110	-	-	-
110 - 120	-	-	-
120 - 130	-	-	-
-	-	-	-
150 - 160	-	-	-
160 - 170	-	-	-
181 -	-	-	-
185 -	-	-	-
190 -	-	-	-
200 -	-	-	-
-	-	-	-
210 -	-	-	-
220 -	-	-	-
230 -	-	-	-
240 -	-	-	-
243 -	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

All intervals have both washed and unwashed samples

G  
ELEV.: 60'  
Geologic Log ✓  
Strip Log ✓



INTERVAL SHEET

Page 1 of 1

VDMR Well No: WELL NO. 1926

Date rec'd: 7/18/67

Sample Interval: from 0 to 243

PROP:  2.0 miles S.E. of Zuni on NWRR.  
COMP:  (ZUNI SHEET)

Number of samples: 24 33

Total Depth: 243

COUNTY: Isle of Wight

Oil or Gas: Water: Exploratory: ✓

	LINW From-To	From-To	From-To	From-To
	0 - 10	-	0 - 10	230 -
	10 - 20	-	10 - 20	240 -
	20 - 30	-	20 - 30	243 -
	30 - 40	-	30 - 40	-
	40 - 50	-	40 - 50	-
	50 - 60	-	50 - 60	-
	60 - 70	-	60 - 70	-
	70 - 80	-	70 - 80	-
	80 - 90	-	80 - 90	-
	90 - 100	-	90 - 100	-
	100 - 110	139 -	100 - 110	-
	110 - 120	141 -	110 - 120	-
	120 - 130	145 -	120 - 130	-
		147 -	139 -	-
		150 -	141 -	-
	150 - 160	151 -	145 -	-
	160 - 170	174 -	147 -	-
tops	160		150 -	-
	170		150 - 160	-
	181		160 - 170	-
Tbe	181			-
	185 -	178 -		-
	190 -	180 -		-
	200 -	-	174 -	-
	210 -	-	176 -	-
	220 -	-	178 -	-
	230 -	-	180 -	-
Ktu	230	-	181 -	-
	240 -	-		-
	243 -	-	185 -	-
	-	-	190 -	-
	-	-	200 -	-
	-	-	210 -	-
	-	-	220 -	-
	-	-	230 -	-
	-	-	240 -	-

additional samples  
↓

CONFIDENTIAL

Taps 185 - Tbe (Beauford)  
240 - KTU

WILL NO. 1986

CONFIDENTIAL

1986

1986

1986

1986

1986

1986

1986

1986

1986

1986

VDMR Well No. 1926  
County: Isle of Wight

Well: N & W. R. R. Well # 210  
Property: Norfolk and Western Railway  
Driller:  
Location: 2.0 miles SE of Zuni on Norfolk and Western right-of-way;  
76° 48' 15" W, 36° 51' 15" N  
Elevation: 60 feet  
Total Depth: 243 feet  
Started drilling: October, 1966 Completed drilling: October, 1966  
Sample description by: Robert H. Teifke, Virginia Division of Mineral  
Resources, April, 1968

GEOLOGIC LOG \*

Depth in  
feet

✓ COLUMBIA GROUP ( 0-10')

0-10 Clay — orange-brown, subordinately light-gray, very sandy; sand is fine-grained, very well-sorted, angular; clear and iron-stained quartz, with accessory muscovite, magnetite, glauconite and feldspar

✓ YORKTOWN FORMATION ( 10-160')

10-20 Shell and sand — moderately abundant matrix of silty gray clay; 50% coarse pelecypod shell fragments; 40% fine-grained, well-sorted, clear, angular quartz sand; subordinately bioclastic; traces of glauconite, muscovite, magnetite, hornblende; echinoid spines common, foraminifers abundant

20-30 " 30% coarse pelecypod shell fragments, 60% sand; a very few foraminifers

VDMR Well No. 1926

30-40	"	50% coarse pelecypod shell fragments, 40% sand; foraminifers moderately abundant
40-50	"	20% pelecypod shell fragments, 70% sand; very slightly glauconitic; a few foraminifers
50-60		Shell and sand - moderately abundant matrix of greenish-gray clay; 60-70% very coarse pelecypod (-gastropod-scapopod) shell debris; 20-30% fine--to medium-grained, fairly well-sorted sand; angular to subangular clear quartz, with 5% dark-green glauconite; foraminifers common, but not abundant
60-70		Shell and sand - gray; moderately clayey; very coarse pelecypod shell fragments; sand (20%) is medium-grained, subangular to subrounded, fairly well-sorted; clear and greenish quartz, with 3-5% dark-green glauconite; slightly gypsiferous; a very few foraminifers
70-80	"	trace of glauconite in sand fraction
80-90	"	"
90-100		Clay - gray to brownish-gray, compact, moderately sandy, 15-20% pelecypod shell debris; sand is fine--to medium-grained, fairly well-sorted, angular; clear and greenish quartz, with 3-5% dark-green glauconite and minor muscovite and gypsum; foraminifers rare
110-120		Clay and shell - greenish-gray, very silty, moderately sandy, 20% coarse shell debris; sand is fine--to very fine-grained, very well-sorted, angular; clear quartz, with minor amounts of glauconite, muscovite, and gypsum; a few foraminifers, mostly <u>Nonion</u>
120-130	"	30% coarse shell debris; anhydrite pseudomorphs after gypsum very abundant

VDMR Well No. 1926

130-150 No samples

150-160 Clay and shell - gray, silty, slightly sandy, 30% coarse pelecypod shell fragments; sand is fine- to medium-grained, fairly well-sorted; clear quartz, with a trace of glauconite; gypsum and anhydrite pseudomorphs after gypsum very abundant

CALVERT FORMATION ( 160-<sup>181'</sup>~~170'~~ )

160-170 Sand - abundant matrix of silty brown clay; 5% pelecypod shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subangular; clear quartz with 5% bone and peletal phosphorite; foraminifers common, but not abundant

170-181 No sample

MATTAPONI FORMATION ( 181-<sup>243'</sup>~~230'~~ )

181 Sand and sandstone - 50% clayey, silty, dolomitic, greenish-brown sand; 45% fine- to medium-grained, well-sorted, calcitic, very glauconitic sandstone; 5% small quartz pebbles; sand is fine- to coarse-grained, moderately sorted (skewed fine); sand fraction is 55% quartz, 35% dark- to light-green glauconite, and 10% bone and nodular phosphorite; foraminifers common

185 Sand - abundant matrix of drab, greenish-brown clay, 5% pelecypod shell fragments; fine- to coarse-grained, fairly well-sorted; sand fraction is 70% medium- to light-green glauconite, 20% quartz, and 10% brown nodular and bone phosphorite; a few limestone fragments and very small quartz pebbles; foraminifers common

190 " abundant matrix of light-green clay; moderately pyritic

200 " abundant matrix of bluish-green clay; very pyritic

VDMR Well No. 1926

- 210 " abundant matrix of yellowish-green clay
- 220 " abundant matrix of yellowish-green clay; glauconite is dominantly blackish-green
- 230 Sand - moderately abundant matrix of dark-gray clay, locally light-green; sand fraction is 95% fresh glauconite, 5% quartz; minor phosphorite
- 230-240 No sample

~~TUSCALOOSA FORMATION (240-243')~~

- 240 Sand and gravel - sparse matrix of gray clay; 60% generally coarse, variably decomposed, very glauconitic sand; 35% very fine-grained quartz gravel; abundant phosphate nodules and fish teeth
- 243 " 75% gravel, 20% sand; gravel is coarser (up to 20 mm)

\* The use of the lithologic term, "clay" includes all size ranges of particles less than 1/32 mm.

VDMR Well No. 1926

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
	0.0-10.0 Columbia Group	Pleistocene
	10.0-160.0 Yorktown Formation	<u>Late</u> Miocene
160-181	<u>160.0-170.0</u> Calvert Formation	<u>Middle</u> Miocene
	<u>170.0-181.0</u> No sample	
181-243	<u>181.0-230.0</u> Mattaponi Formation	Paleocene - <i>Late Cretaceous</i>
	<u>230.0-240.0</u> No Sample	
	<u>240.0-243.0</u> Tuscaloosa Formation	<u>Late Cretaceous</u>

R. H. Trefler  
3/3/72



VDMR Well No. 1926  
County: Isle of Wight

Well: N & W. R. R. Well # 210  
Property: Norfolk and Western Railway  
Driller:  
Location: 2.0 miles SE of Zuni on Norfolk and Western right-of-way;  
76° 48' 15" W, 36° 51' 15" N  
Elevation: 60 feet  
Total Depth: 243 feet  
Started drilling: October, 1966 Completed drilling: October, 1966  
Sample description by: Robert H. Teifke, Virginia Division of Mineral  
Resources, April, 1968

GEOLOGIC LOG \*

Depth in  
feet

COLUMBIA GROUP ( 0-10')

0-10 Clay — orange-brown, subordinately light-gray, very sandy; sand is fine-grained, very well-sorted, angular; clear and iron-stained quartz, with accessory muscovite, magnetite, glauconite and feldspar

YORKTOWN FORMATION ( 10-160')

10-20 Shell and sand — moderately abundant matrix of silty gray clay; 50% coarse pelecypod shell fragments; 40% fine-grained, well-sorted, clear, angular quartz sand; subordinately bioclastic; traces of glauconite, muscovite, magnetite, hornblende; echinoid spines common, foraminifers abundant

20-30 " 30% coarse pelecypod shell fragments, 60% sand; a very few foraminifers

VDMR Well No. 1926

30-40	"	50% coarse pelecypod shell fragments, 40% sand; foraminifers moderately abundant
40-50	"	20% pelecypod shell fragments, 70% sand; very slightly glauconitic; a few foraminifers
50-60		Shell and sand - moderately abundant matrix of greenish-gray clay; 60-70% very coarse pelecypod (-gastropod-scaphopod) shell debris; 20-30% fine to medium-grained, fairly well-sorted sand; angular to subangular clear quartz, with 5% dark-green glauconite; foraminifers common, but not abundant
60-70		Shell and sand - gray; moderately clayey; very coarse pelecypod shell fragments; sand (20%) is medium-grained, subangular to subrounded, fairly well-sorted; clear and greenish quartz, with 3-5% dark-green glauconite; slightly gypsiferous; a very few foraminifers
70-80	"	trace of glauconite in sand fraction
80-90	"	"
90-100		Clay - gray to brownish-gray, compact, moderately sandy, 15-20% pelecypod shell debris; sand is fine to medium-grained, fairly well-sorted, angular; clear and greenish quartz, with 3-5% dark-green glauconite and minor muscovite and gypsum; foraminifers rare
110-120		Clay and shell - greenish-gray, very silty, moderately sandy, 20% coarse shell debris; sand is fine to very fine-grained, very well-sorted, angular; clear quartz, with minor amounts of glauconite, muscovite, and gypsum; a few foraminifers, mostly <u>Nonion</u>
120-130	"	30% coarse shell debris; anhydrite pseudomorphs after gypsum very abundant

VDMR Well No. 1926

- 130-150 No samples
- 150-160 Clay and shell - gray, silty, slightly sandy, 30% coarse pelecypod shell fragments; sand is fine--to medium-grained, fairly well-sorted; clear quartz, with a trace of glauconite; gypsum and anhydrite pseudomorphs after gypsum very abundant

CALVERT FORMATION ( 160-170')

- 160-170 Sand - abundant matrix of silty brown clay; 5% pelecypod shell fragments; medium--to coarse-grained, fairly well-sorted, angular to subangular; clear quartz with 5% bone and peletal phosphorite; foraminifers common, but not abundant
- 170-181 No sample

MATTAPONI FORMATION ( 181-230')

- 181 Sand and sandstone - 50% clayey, silty, dolomitic, greenish-brown sand; 45% fine--to medium-grained, well-sorted, calcitic, very glauconitic sandstone; 5% small quartz pebbles; sand is fine--to coarse-grained, moderately sorted (skewed fine); sand fraction is 55% quartz, 35% dark--to light-green glauconite, and 10% bone and nodular phosphorite; foraminifers common
- 185 Sand - abundant matrix of drab, greenish-brown clay, 5% pelecypod shell fragments; fine--to coarse-grained, fairly well-sorted; sand fraction is 70% medium--to light-green glauconite, 20% quartz, and 10% brown nodular and bone phosphorite; a few limestone fragments and very small quartz pebbles; foraminifers common
- 190 " abundant matrix of light-green clay; moderately pyritic
- 200 " abundant matrix of bluish-green clay; very pyritic

VDMR Well No. 1926

- 210 " abundant matrix of yellowish-green clay
- 220 " abundant matrix of yellowish-green clay; glauconite is dominantly blackish-green
- 230 Sand - moderately abundant matrix of dark-gray clay, locally light-green; sand fraction is 95% fresh glauconite, 5% quartz; minor phosphorite
- 230-240 No sample
- TUSCALOOSA FORMATION ( 240-243')
- 240 Sand and gravel - sparse matrix of gray clay; 60% generally coarse, variably decomposed, very glauconitic sand; 35% very fine-grained quartz gravel; abundant phosphate nodules and fish teeth
- 243 " 75% gravel, 20% sand; gravel is coarser (up to 20 mm)

\* The use of the lithologic term, "clay" includes all size ranges of particles less than 1/32 mm.

VDMR Well No. 1926

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0.0-10.0	Columbia Group	Pleistocene
10.0-160.0	Yorktown Formation	Late Miocene
160.0-170.0	Calvert Formation	Middle Miocene
170.0-181.0	No sample	
181.0-230.0	Mattaponi Formation	Paleocene
230.0-240.0	No Sample	
240.0-243.0	Tuscaloosa Formation	Late Cretaceous

County : Isle of Wight

VDNR Well No. 1926

Well : 1W-C-11 (USGS)

Property : Norfolk and Western Railway

Driller : \_\_\_\_\_

Location : 2.0 miles SE of Zuni on Norfolk and Western  
right-of-way ;  $76^{\circ}48'15''$  W.,  $36^{\circ}51'15''$  N.

Elevation : 60'

Total Depth : 243'

Started drilling : \_\_\_\_\_ Completed drilling : \_\_\_\_\_

Sample description by : R. H. Teiske, Virginia Division of  
Mineral Resources

References : No specific reference

### GEOLOGIC SUMMARY

Depth (feet)	Thickness (feet)	Formation (and remarks)
0.0 - 10.0	10.0	Columbia Group
10.0 - 160.0	150.0	Yorktown Formation
160.0 - 170.0	10.0	Colvert Formation
170.0 - 181.0	11.0	No sample. Formation
181.0 - 230.0	49.0	Mattaponi Formation
230.0 - 240.0	10.0	No sample.
240.0 - 243.0	3.0	Tm Tuscarora formation.

243  
60  
243  
60

243  
60  
243  
60

243  
60  
243  
60

County: Isle of Wight

VAUE Well No. 1926

## GEOLOGIC LOG

Depth  
(feet)

Thickness  
(feet)

Description

### COLUMBIA GROUP (0.0 - 10.0')

0.0 - 10.0	10.0	Clay - orange-brown, subordinately light-gray, very sandy; sand is fine-grained, very well-sorted, angular; clear and non-stained quartz, with accessory muscovite, magnetite, glauconite and feldspar.
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### YORKTOWN FORMATION (10.0 - 160.0')

10.0 - 20.0	10.0	Shell and sand - moderately abundant matrix of silty gray clay; 60% <sup>coarse</sup> pelecypod shell fragments; 40% fine-grained, well-sorted, clear, angular quartz sand; <u>subordinately bioclastic</u> ; traces of glauconite, muscovite, magnetite, hornblende; echinoid spines common, foraminifers abundant.
20.0 - 30.0	10.0	" 35% coarse pelecypod shell fragments, 65% sand; a very few foraminifers.
30.0 - 40.0	10.0	" 60% coarse pelecypod shell fragments, 40% sand; foraminifers moderately abundant.
	10.0	" 25% pelecypod shell fragments; 75% sand; very slightly glauconitic; a few foraminifers.

50.0-60.0

10.0

Shell and Sand - moderately abundant matrix of greenish-gray clay; 60-70% very coarse pelecypod (=gastropod - scaphopod) shell debris; 30-40% fine- to medium-grained, fairly well-sorted sand; angular to subangular clear quartz, with 5% dark-green glauconite; foraminifers common, but not abundant.

60.0-70.0

10.0

Shell - matrix of moderately clayey gray sand; very coarse pelecypod shell fragments, with about 20% clayey sand; sand is medium-grained, subangular to subrounded, fairly well-sorted; clear and greenish quartz, with 3-5% dark-green glauconite; slightly gypsiferous; a very few foraminifers.

70.0-80.0

10.0

" trace of glauconite in sand fraction.

80.0-90.0

10.0

"

"

90.0-100.0

10.0

Clay - gray to brownish-gray, compact, moderately sandy, 15-20% pelecypod shell debris; sand is fine- to medium-grained, fairly well-sorted, angular; clear and greenish quartz, with 3-5% dark-green glauconite and minor muscovite and magnetite; moderately gypsiferous; foraminifers common.

100.0-110.0

10.0

Clay - gray, very silty and sandy, a few shell fragments; abundant coarse-grained silt to very fine-grained sand, very well-sorted, angular; clear quartz, with 3-5% glauconite and minor muscovite and gypsum; foraminifers rare.



110.0 - 120.0 10.0 Clay - greenish-gray, very silty, moderately sandy, 20% coarse shell debris; sand is fine- to very fine-grained, <sup>very</sup> well-sorted, angular; <sup>clear quartz,</sup> with minor amounts of glauconite, muscovite, and gypsum; a few foraminifers, mostly Nonion.

120.0 - 130.0 10.0 " 30% coarse shell debris; white clay pseudomorphs after gypsum very abundant.

130.0 - 150.0 20.0 No samples.

150.0 - 160.0 10.0 Clay - gray, silty, slightly sandy, 30% coarse pelecypod shell fragments; sand is fine- to medium-grained, fairly well-sorted; clear quartz, with a trace of glauconite; gypsum and white clay pseudomorphs after gypsum very abundant.

CALVERT FORMATION (160.0 - 170.0')

Lower

160.0 - 170.0 10.0 Sand - abundant matrix of silty brown clay, 5% pelecypod shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subangular; clear quartz with 5% bone and pelletal phosphite; foraminifers common, but not abundant.

11.0 No sample.

MATTAPONI FORMATION (181.0 - 230.0')

181.0

Sand and sandstone — 50% clayey, silty, dolomitic, greenish-brown sand; 50% fine- to medium-grained, well-sorted, calcitic, very glauconitic sandstone; a few small quartz pebbles; sand is fine- to coarse-grained, moderately sorted (skewed fine); 55% quartz, 35% dark to light-green glauconite, 10% bone and nodular phosphite; foraminifera common.

185.0

Sand — abundant matrix of drab, greenish-brown clay, 5% pelecypod shell fragments; fine- to coarse-grained, fairly well-sorted; 70% medium- to light-green glauconite, 20% quartz, 10% brown nodular and bone phosphite; a few laminar fragments and very small quartz pebbles; foraminifera common.

190.0

" abundant matrix of light-green clay; moderately pyritic.

200.0

" abundant matrix of bluish-green clay; very pyritic.

210.0

" abundant matrix of yellowish-green clay.

220.0

" abundant matrix of yellowish-green clay; glauconite is dominantly blackish-green.

230.0

Sand — moderately abundant matrix of dark-gray clay, locally light-green; 95% fresh glauconite, 5% quartz, minor phosphite.

No sample.

TUSCALOOSA FORMATION (240.  $\phi$  - 243.  $\phi$ ')

270.0  
Tm  
Sand and Gravel - sparse matrix of gray clay; 60% generally coarse, very glauconitic, variably decomposed, very glauconitic sand; 40% very fine-grained quartz gravel; abundant phosphate nodules and fish teeth.

243.0  
" 80% gravel, 20% sand; gravel is coarser (up to 20 mm.)

28

~~62' 59"~~  
~~62'~~

63' / 34"

~~62'~~  
~~62'~~  
~~62'~~

63' / 56"

62' 59"  
35"  
63' 34"

64' / 01"

63' 59"

