

VDMR Well No. 2088
County: Nansemond

Well: C-171

Property: Seaboard Air Line Railway

Driller: Norfolk and Western Railway

Location: 2.5 miles W of Buckhorn on railroad right-of-way;
76° 45' 30" W, 36° 43' 30" N

Elevation: 80 feet

Total Depth: 375 feet

Started drilling: June, 1966

Completed drilling: June, 1966

Sample description by: R. H. Teifke, Virginia Division of Mineral
Resources, April, 1968

GEOLOGIC LOG*

Depth in
feet

✓
COLUMBIA GROUP (0-30')

- | | |
|-------|--|
| 0-10 | Sand -- tan, slightly to moderately clayey; fine- to medium-grained, fairly well-sorted, angular to subrounded; slightly to moderately feldspathic; small amount of decomposed glauconite; trace of muscovite |
| 10-20 | Sand -- abundant matrix of light-gray and orange-brown clays; fine- to coarse-grained, moderately sorted, poorly rounded, slightly feldspathic; iron-stained grains common; small amounts of light-green glauconite; minor muscovite and magnetite |
| 20-30 | Sand -- abundant matrix of gray clay, locally orange-brown; fine- to very coarse-grained, poorly sorted, angular to subangular; slightly feldspathic; accessory magnetite |

✓ YORKTOWN FORMATION (30-¹⁹⁸200⁺)

- 30-40 Clay — variegated, with reddish-brown aspect, sandy, 10-15% coarse, decomposed pelecypod shell fragments; sand is medium- to coarse-grained, fairly well-sorted, subrounded; abundant gypsum and anhydrite after gypsum
- 40-50 Sand — abundant matrix of grayish-brown clay, 25% coarse pelecypod shell debris; fine- to coarse-grained, rather poorly sorted, angular to rounded; slightly gypsiferous; a few echinoid spines and foraminifers
- 50-60 Clay and sand — greenish-gray, 15% coarse pelecypod shell debris; sand (50%) is fine-grained, well-sorted, angular; abundant gypsum and anhydrite after gypsum; traces of muscovite and glauconite; foraminifers common; a few ostracods
- 60-70 Sand — greenish-gray, very clayey (30%); 15% coarse pelecypod shell debris; fine-grained, very well-sorted, angular; gypsiferous, slightly micaceous, trace of glauconite; abundant small foraminifers
- 70-80 Clay — greenish-gray, very silty, slightly sandy, a few shell fragments; sand is fine-grained, well-sorted, angular; slightly bioclastic and micaceous; a few anhydrite pseudomorphs after gypsum; foraminifers and echinoid spines common
- 80-90 Sand — greenish-gray, silty, clayey, 5-10% coarse pelecypod shell debris; fine-grained, very well-sorted, angular; gypsum and anhydrite after gypsum common; small foraminifers abundant; a few ostracods and diatoms
- 90-100 " a very few shell fragments; abundant anhydrite pseudomorphs after gypsum
- 100-110 Clay — gray, slightly sandy, a few shell fragments; sand is fine- to very fine-grained, well-sorted, angular; abundant anhydrite after gypsum; slightly micaceous; trace of glauconite; small foraminifers moderately abundant; a few echinoid spines and ostracods

- 110-120 Clay — greenish-gray, sandy, 10% pelecypod and gastropod (*Turritella*) shell debris; a few fragments of fine-grained calcitic sandstone; sand fraction is very fine- to medium-grained, fairly well-sorted, angular; moderately gypsiferous; very slightly glauconitic; small foraminifers moderately abundant
- 120-130 Clay — brownish-gray, sandy, trace of shell fragments; sand is very fine- to medium-grained, fairly well-sorted, angular to subangular; gypsiferous; very slightly glauconitic; a very few foraminifers
- 130-140 Clay — greenish-gray to brownish-gray, slightly sandy; sand is fine- to very fine-grained, well-sorted; abundant anhydrite after gypsum; very slightly glauconitic
- 140-150 " slightly to moderately sandy
- 150-160 " very slightly sandy; gypsiferous
- 160-170 " slightly sandy; abundant anhydrite after gypsum
- 170-180 " slightly to moderately sandy; trace of shell
- 180-190 " "
- 190-~~200~~¹⁹⁸ " "

✓ CALVERT FORMATION (¹⁹⁸200-220')

- ¹⁹⁸~~200~~-210 Sand — abundant matrix of brown clay, a very few shell fragments; fine- to coarse-grained, moderately sorted, angular to rounded; clear quartz, with 5-10% nodular and bone phosphorite
- 210-220 "

✓ MATTAPONI FORMATION (220-270')

- 220-230 Sand — abundant matrix of light-brown, dolomitic silt; 60% coarse, dark-green, blue-green, and light-green glauconite; 20% generally fine, angular quartz; abundant decomposed pyrite; phosphorite nodules and bone fragments common

- 230-240 Sand — abundant matrix of light-brown, dolomitic silt; 60% coarse, blue-green, and light-green glauconite; 20% generally fine, angular quartz; abundant decomposed pyrite; phosphorite nodules and bone fragments common
- 240-250 Sand and sandstone — moderately abundant matrix of light-green clay; 20% shell fragments and fragments of calcitic, glauconite-bearing sandstone; 60% poorly sorted sand; sand consists of 70% moderately decomposed glauconite, 30% quartz; pyrite and nodular and bone phosphorite common
- 250-260 " a few foraminifers
- 260-270 " 10% sandstone fragments, 80% sand, a few foraminifers

TRANSITIONAL BEDS
TUSGALOOSA FORMATION (270-375')

- 270-280 Sand — moderately abundant matrix of dark-gray silty clay, a few shell fragments; fine- to medium-grained, moderately sorted, angular; clear quartz, with 10-15% glauconite; small amounts of bone, nodular and pelletal phosphorite; trace of feldspar; foraminifers common; but not abundant
- 280-290 " abundant matrix of dark-gray silty clay; a very few foraminifers
- 290-300 " "
- 300-310 Sand — moderately abundant matrix of dark-gray silty clay, a very few shell fragments; 70% very fine-grained, very well-sorted, angular quartz; 20% coarse, dark- to light-green glauconite; traces of muscovite and phosphorite; very few foraminifers
- 310-320 "
- 320-330 No Sample

330-340	Sand — moderately abundant matrix of dark-gray silty clay, a very few shell fragments, 50% fine- to very fine-grained, well-sorted, angular quartz, 35% coarse, dark- to light-green autochthonous glauconite; trace of anhydrite after gypsum; micaceous; very few poorly preserved foraminifers
340-350	"
350-360	"
360-370	"
375	"

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
✓ 0-30'	Columbia Group	Pleistocene
30-200' 198	Yorktown Formation	Late Miocene
198 200-220'	Calvert Formation	Middle Miocene
220-270'	Mattaponi Formation	Paleocene-Late Cretaceous
270-375'	Tuscaloosa Formation <i>Transitional beds</i>	Late Cretaceous

*The use of the lithologic term, "clay" includes all size ranges of particles less than 1/16 mm.

R. H. Pfeiffer
3/7/72

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INTERVAL SHEET

Page 1 of 1

VDMR Well No: 2088

Date rec'd: 12-10-68

Sample Interval: from 0 to: 375

PROP: C-171

Number of samples: 37

COMP:

Total Depth: 375

COUNTY: Nansemond

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
0_ 10	300 _ 310	-	-
10_ 20	310 _ 320	-	-
20_ 30	-	-	-
30_ 40	330 _ 340	-	-
40_ 50	340 _ 350	-	-
50_ 60	350 _ 360	-	-
60_ 70	360 _ 370	-	-
70_ 80	375 -	-	-
80_ 90	-	-	-
90_ 100	-	-	-
100_ 110	-	-	-
110_ 120	-	-	-
120_ 130	-	-	-
130_ 140	-	-	-
140_ 150	-	-	-
150_ 160	-	-	-
160_ 170	-	-	-
170_ 180	-	-	-
180_ 190	-	-	-
190_ 200	-	-	-
200_ 210	-	-	-
210_ 220	-	-	-
220_ 230	-	-	-
230_ 240	-	-	-
240_ 250	-	-	-
250_ 260	-	-	-
260_ 270	-	-	-
270_ 280	-	-	-
280_ 290	-	-	-
290_ 300	-	-	-

All intervals have both washed and unwashed samples

Drilled 6/66
Continental

CONFIDENTIAL

NAN-T-18
C-171

L
ELEV.: 80'
Geologic Log ✓
Strip Log ✓

INTERVAL SHEET

Page 1 of 1

VDMR Well No: **WELL NO. 2088**

Date rec'd: 7/19/67

Sample Interval: from 0 to 375

PROP:



2.5 Miles W.
of Buckhorn
on SAL RR.

Number of samples: 37

COMP:

Total Depth: 375

COUNTY: Nausemond

(HOLLAND (15") SHEET)

Oil or Gas: Water: Exploratory: ✓

UNW		From-To	From-To	From-To	From-To		
0	-	10	300	-	310	-	-
10	-	20	310	-	320	-	-
20	-	30	330	-	340	-	-
30	-	40	340	-	350	-	-
40	-	50					
50	-	60	350	-	360	-	-
60	-	70	360	-	370	-	-
70	-	80	375	-		-	-
80	-	90					
90	-	100					
100	-	110					
110	-	120					
120	-	130					
130	-	140					
140	-	150					
150	-	160					
160	-	170					
170	-	180					
180	-	190					
190	-	200					
200	-	210					
210	-	220					
220	-	230					
230	-	240					
240	-	250					
250	-	260					
260	-	270					
270	-	280					
280	-	290					
290	-	300					

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