



OWNER: Shell Oil Co., Well #1  
DRILLER: Mitchell's Well & Pump Co.  
COUNTY: Hanover (Ashland)

VDMR: 2248  
WWCR: 113  
TOTAL DEPTH: 218'

GEOLOGIC LOG

Depth in  
feet

COLUMBIA GROUP (0-30')

- 0-10 Clay — light-gray and tan, sandy; sand is very-fine to very-coarse, poorly-sorted, angular; trace of feldspar
- 10-20 Sand and Gravel — orange-brown, slightly clayey; 20% fine (2-20 mm), poorly-sorted, subangular-to subrounded quartz gravel; 80% fine-to coarse, poorly-sorted, slightly-feldspathic sand
- 20-30 " with trace of gravel

CALVERT FORMATION (30-100')

- 30-40 Sand — bluish-gray, clayey, trace of shell; fine-to very-fine, well-sorted; very-slightly micaceous
- 40-50 "
- 50-60 Sand — brownish-gray, clayey; 90% fine-to medium, well-sorted, angular; 10% coarse-to very-coarse, subangular; traces of muscovite and kyanite
- 60-70 Shell and Sand — gray; 90% coarse molluscan shell fragments and a few echinoid spines; 10% fine-to very-fine, very well-sorted sand; magnetite a common accessory
- 70-80 " 50% sand, 50% shell fragments; foraminifers rare
- 80-90 Sand — gray, slightly clayey, 5% shell fragments, including one otolith; fine, well-sorted; magnetite a common accessory
- 90-100 Sand and Shell — brownish-gray, very clayey; a few well-rounded, 10 mm pebbles; 50% molluscan shell material, half of which consists of black shell fragments; 50% fine, very well-sorted sand

OWNER: Shell Oil Company, Well #1

#2248

PETERSBURG GRANITE (100-218')

100-110	Granite -- gray; quartz, microcline, abundant black and brown biotite; subordinate plagioclase; accessory pyrite and garnet
110-120	" biotite very abundant
120-130	" biotite moderately abundant
130-140	" biotite abundant; abundant clear calcite
140-150	Granite -- pinkish-white; quartz, microcline, brown and black biotite; accessory pyrite
150-160	"
160-170	"
170-180	"
180-190	" brown biotite very abundant
190-200	" biotite abundant, pyrite common
200-218	" "

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-30'	Columbia Group	Pleistocene
30-100'	Calvert Formation	Middle Miocene
100-218'	Petersburg Granite	Paleozoic (?)

Virginia Division of Mineral Resources  
Robert H. Teifke, Geologist  
October 4, 1968

owner : Shell Oil Co., Well #1      WUCR # 2248

owner : Mitchell's Well & Pump Co.      WUCR # 113

county : Hannover (Arland)      TOTAL DEPTH : 218'

1/4 M from #95      4 M S of Arland  
GEOLOGIC LOG

Depth  
(feet)

COLUMBIA GROUP (0-30')

0-10 Clay - light-gray and tan, sandy; sand is very-fine to very-coarse, poorly-sorted, angular; trace of feldspar

10-20 Sand and Gravel - orange-brown, slightly clayey; 20% fine (2-20 mm), poorly-sorted, subangular to subrounded quartz gravel; 80% fine-to coarse, poorly-sorted, slightly-feldspathic sand

20-30 " with trace of gravel

CALVERT FORMATION (30-100')

30-40 Sand - bluish-gray, clayey, trace of shell; fine-to very-fine, well-sorted; very-slightly micaceous

40-50 " " "

50-60 Sand brownish-gray, clayey; <sup>90%</sup> fine-to medium, well-sorted, angular; 10% coarse-to very-coarse, subangular; traces of muscovite and kyanite

- 60-70 Shell and sand — <sup>gray;</sup> 90% coarse well-sorted  
or shell fragments and a few subround  
spines; 10% fine to very fine, very  
well-sorted sand; magnetite, common  
accessory.
- 70-80 " 50% sand, 50% shell fragments; foraminifera rare,
- 80-90 Sand — gray, slightly clayey, 5% shell  
fragments, including one otolith; fine,  
well-sorted; magnetite, common  
accessory.
- 90-100 Sand and shell — brownish-gray, very  
clayey; a few well-rounded, 10mm  
pebbles; 50% molluscan shell material,  
half of which consists of black shell  
fragments; 50% fine, very well-sorted  
sand.

PETERSBURG GRANITE (100-218')

- 100-110 Granite — gray; quartz, microcline, abundant  
black and brown biotite; subordi-  
nate plagioclase; accessory pyrite and  
quartz.
- 110-120 " biotite very abundant,
- 120-130 " biotite moderately abundant,
- 130-140 " biotite abundant; abundant clear  
calcite.

140-150

Granite - pinkish white; quartz,  
microcline, brown and black biotite;  
occasional pyrite /

150-160

"

"

160-170

"

"

170-180

"

"

180-190

" brown biotite very abundant /

190-200

" biotite abundant, pyrite common /

200-218

"

"

0-30'

Columbia Group

Pleistocene

30-100'

Glaciated Formation

Miocene

100-218'

Petersburg Granite

Paleozoic (?)

October 4, 1968

GEOLOGIC SUMMARY