

OWNER: Shell Oil Company (W. Haid)
DRILLER: Mitchell's Well & Pump Company
COUNTY: Henrico (Richmond)

W-1839
C-191
TOTAL DEPTH: 213'

Geologic Log

Depth in
feet

COLUMBIA GROUP (0-10')

0-10 Sand - orange-brown, clayey (limonitic), a few small rounded pebbles; fine-grained, fairly well-sorted, angular to subangular; small amount white to yellow, weathered potassic feldspar; traces of muscovite, magnetite, epidote.

CALVERT FORMATION (10-60')

10-20 Clay - medium-gray to greenish-gray, pulverulent.

20-30 As above

30-40 Sand - tan, slightly clayey; fine- to very fine-grained, very well-sorted, angular.

40-50 Sand - brownish-gray, moderately clayey; fine- to very fine-grained, very well-sorted; 5 percent medium-green unsorted glauconite; muscovite common.

50-60 Sand - brownish-gray, clayey; fine- to coarse-grained, moderately sorted, subangular to rounded; clear quartz and fragmental phosphorite; trace of glauconite.

NANJEMOY FORMATION (60-80')

60-70 Clay - gray, with brownish cast, and lenses of pinkish-orange clay; silty, slightly sandy; fairly micaceous (muscovite), trace glauconite.

70-80 Clay - gray, with pinkish cast; texturally uniform, trace of glauconite.

MATTAPONI FORMATION (80-100')

80-90 Sand - dark-gray, moderately clayey; fine- to very fine-grained, very well-sorted, angular; 65 to 75 percent clear and green-tinted quartz, 20-30 percent glauconite, 5 percent muscovite; a very few foraminifers.

90-100 As above, except: clayey, with abundant green-tinted gravel - reangulated quartz, feldspar, quartzite, phosphorite, diabase (?).

PATUXENT FORMATION (100-200')

- 100-110 Clay - light greenish-brown, subtly mottled, compact; studded with medium to coarse quartz grains.
- 110-120 Sand - medium-gray, moderately clayey; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic; traces of carbonaceous material, mica, garnet, brown epidote and pyrite.
- 120-130 As above, except: with 10 percent rounded quartz gravel up to 20 mm.
- 130-140 Sand and Gravel - light-gray, clean, 20 percent rounded gravel, 2 to 20 mm; coarse- to very coarse-grained, fairly well-sorted, subangular to subrounded; arkosic (potassic feldspar); a few grains of biotite, glauconite, garnet, brown epidote and muscovite.
- 140-150 As above.
- 150-160 As above.
- 160-170 As above.
- 170-180 As above, except: with 30 percent very fine-grained gravel.
- 180-190 Sand - brownish-gray, clayey; medium- to very coarse-grained, well-sorted, subangular to subrounded; feldspathic; trace of muscovite.
- 190-200 Sand - gray, with greenish cast, clayey; fine- to very coarse-grained, poorly sorted, poorly rounded; feldspathic; biotite and quartz-biotite aggregates common; a few fragments of decomposed granitic rock and pale-green biotite-bearing clay (saproelite?).

GEOLOGIC SUMMARY

<u>Depth</u> <u>(feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0-10	Columbia Group	post-Miocene
10-60	Calvert Formation	Miocene
60-80	Nanjemoy Formation	Eocene
80-100	Mattaponi Formation	Paleocene - Late Cretaceous
100-200	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
 Robert H. Teifke - Geologist
 April 7, 1967

Robert H. Teifke
 March 26, 1973