INTERVAL SHEET

WWCR - 157

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VDMR Well No: 1836

Date rec'd: March 17, 1967

Sample Interval: from 0 to 500

PROP: Colonial Williamsburg (Motor House Expansion "I")

Number of samples: 49

COMP: Sydnor Hydrodynamics, Inc.

Total Depth: 500

COUNTY: James City (Williamsburg)

Oil or Gas: Water: X Exploratory:

| From-To | From-To | From-To | From-To |
|---|---|---|---|
| 0 - 20 | 310 - 320 | - | - |
| 20 - 30 | 320 - 330 | - | - |
| 30 - 40 | 330 - 340 | - | - |
| 40 - 50 | 340 - 350 | - | - |
| 50 - 60 | 350 - 360 | - | - |
| 60 - 70 | 360 - 370 | - | - |
| 70 - 80 | 370 - 380 | - | - |
| 80 - 90 | 380 - 390 | - | - |
| 90 - 100 | 390 - 400 | - | - |
| 100 - 110 | 400 - 410 | - | - |
| 110 - 120 | 410 - 420 | - | - |
| 120 - 130 | 420 - 430 | - | - |
| 130 - 140 | 430 - 440 | - | - |
| 140 - 150 | 440 - 450 | - | - |
| 150 - 160 | 450 - 460 | - | - |
| 160 - 170 | 460 - 470 | - | - |
| 170 - 180 | 470 - 480 | - | - |
| 180 - 190 | 480 - 490 | - | - |
| 190 - 200 | 490 - 500 | - | - |
| 200 - 210 | - | - | - |
| 210 - 220 | - | - | - |
| 220 - 230 | - | - | - |
| 230 - 240 | - | - | - |
| 240 - 250 | - | - | - |
| 250 - 260 | - | - | - |
| 260 - 270 | - | - | - |
| 270 - 280 | - | - | - |
| 280 - 290 | - | - | - |
| 290 - 300 | - | - | - |
| 300 - 310 | - | - | - |

All intervals have both washed and unwashed samples

OWNER: Colonial Williamsburg, Well "I" VDMR: 1836
DRILLER: Sydnor Hydrodynamics, Inc. WWCR: 157
COUNTY: James City (Williamsburg) TOTAL DEPTH: 500'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-20)

| | | |
|---|---|---|
| 0-20 | Clay -- | orange-brown, moderately sandy; sand is fine-grained, fairly well sorted. |

YORKTOWN AND CALVERT FORMATIONS (20-260)

| | | |
|---|---|---|
| 20-30 | Sand -- | brown, clayey; medium-grained, well sorted, subrounded; slightly feldspathic; trace of weathered glauconite; a very few shell fragments |
| 30-40 | Sand -- | brown, clean; medium-grained, well sorted, subrounded; very slightly glauconitic; 5-10% shell material (pelecypods, gastropods, and echinoid spines) |
| 40-50 | | " about 20% shell material |
| 50-60 | | " " |
| 60-70 | Shell and Sand -- | gray, very slightly clayey; sand (40-50%) is medium- to coarse-grained, fairly well sorted, sub-angular; very slightly glauconitic; 50-60% pelecypod shell fragments. |
| 70-80 | Sand and Shell -- | gray, very slightly clayey; sand (50-60%) is medium-grained, well sorted, subangular; very slightly glauconitic, locally limonitic; 40-50% pelecypod shell fragments |
| 80-90 | | " |
| 90-100 | Sand -- | gray, moderately clayey; fine-grained, very well sorted, angular; trace of glauconite; about 5% pelecypod shell fragments, and a very few foraminifers |
| 100-110 | Sand -- | brownish-gray, trace of clay; fine- to medium-grained, well sorted, subangular; trace of glauconite; about 20% pelecypod shell fragments and a few echinoid spines |
| 110-120 | | " about 5% pelecypod shell fragments |
| 120-130 | | " 10-15% pelecypod shell fragments |

| | | |
|---|---|---|
| 130-140 | Sand and Shell -- | very slightly clayey; sand (60%) is fine- to medium-grained, fairly well sorted, angular to slightly subrounded; very slightly glauconitic and phosphatic; 40% pelecypod shell fragments |
| 140-150 | Sand -- | gray, very slightly clayey; fine-grained, well sorted, angular; traces of glauconite, phosphorite, green epidote; about 5% shell fragments, echinoid spines; a very few foraminifers |
| 150-160 | | " |
| 160-170 | | " fine- to medium-grained, fairly well sorted |
| 170-180 | Sand -- | gray, slightly- to moderately-clayey; fine grained, fairly well sorted, angular; about 10% pelecypod shell fragments, and a few foraminifers |
| 180-190 | Sand and Shell -- | gray, slightly clay; sand (75%) is fine- to medium-grained, fairly well sorted; angular to well rounded; traces of glauconite and phosphorite; about 25% pelecypod shell fragments |
| 190-200 | | " about 35% shell fragments |
| 200-210 | | " " |
| 210-220 | Sand -- | gray, slightly to moderately clayey; fine- to medium-grained, well sorted, subangular to subrounded; trace of glauconite; 2-5% shell fragments, and a very few echinoid spines and foraminifers |
| 220-230 | | " limonitic in part; about 15% shell fragments |
| 230-240 | | " " |
| 240-250 | Sand -- | gray, slightly clayey; medium- to coarse-grained, fairly well sorted; subangular to subrounded; very slightly glauconitic and phosphatic; about 5% shell fragments |
| 250-260 | Sand -- | gray, slightly clayey; coarse-grained, fairly well sorted, subrounded; 5-10% shell fragments and a few foraminifers |

NANJEMOY FORMATION (260-350)

| | | |
|---|---|---|
| 260-270 | Limestone -- | light gray, sandy; sand consists of quartz, glauconite and goethite (?) after glauconite; pelecypod shell fragments abundant |

270-280 Sand -- dark-gray, slightly clayey, a few granules; medium-grained, well sorted; 65% glauconite and goethite (?) after glauconite, 25% rounded to well-rounded quartz, and 10% shell fragments plus fragments of glauconite-bearing limestone

280-290 " medium- to coarse-grained, fairly well sorted; coarsest grains of quartz are highly rounded and stained

290-300 Sand -- dark-brownish gray, slightly clayey; medium- to coarse-grained, well sorted; about 50% glauconite and goethite(?) after glauconite, and about 50% stained and rounded quartz; a few shell fragments

300-310 "

310-320 " medium- to very coarse-grained, fairly well sorted

320-330 Sand and Shell -- very slightly clayey; sand (about 50%) is medium-grained, well sorted, 50% fresh to slightly decomposed glauconite, and 50% quartz; about 10% rock fragments, mostly glauconitic limestone; shell material (about 40%) consists mostly of pelecypod fragments, with some gastropods, corals, fish teeth, and a few foraminifers

330-340 " moderately clayey (subordinate amount of pink, sand-free clay)

340-350 " "

MATTAPONI FORMATION (350-385)

350-360 Sand -- dark-gray, moderately clayey; medium-grained, moderately sorted, 60% fresh glauconite, 40% quartz; about 10% pelecypod shell fragments and a very few foraminifers

360-370 Sand and Limestone -- sand (about 65%) is medium- to coarse-grained, rather poorly sorted, 50% glauconite, 50% quartz; limestone (about 25%) is white to yellowish, very sandy (glauconitic); 10% pelecypod shell fragments and a very few foraminifers

370-380 " sand is medium- to coarse-grained, well sorted

380-385 " "

VDMR #1836

PATUXENT FORMATION (385-500)

| | | |
|---|---|---|
| 385-400 | Sand -- | gray, fairly clean, about 20% granule gravel; coarse- to very coarse-grained, well sorted, rounded; glauconitic and slightly- to moderately-feldspathic |
| 400-410 | " | slightly glauconitic, moderately feldspathic |
| 410-420 | Sand -- | gray, moderately clayey; fine- to medium-grained, rather poorly sorted, subangular to subrounded; about 10% glauconite; slightly feldspathic; about 5% shell fragments and a few plant fragments |
| 420-430 | " | very few shell fragments |
| 430-440 | " | " |
| 440-450 | Sand -- | brownish-gray, moderately clayey; about 10% granule gravel; medium- to very coarse-grained, poorly sorted, poorly rounded; about 10% glauconite; slightly feldspathic; a very few pelecypod shell fragments |
| 450-460 | " | clayey |
| 460-470 | " | " |
| 470-480 | " | " |
| 480-490 | " | clayey; traces of muscovite and garnet |
| 490-500 | " | " |

## GEOLOGIC SUMMARY

| Thickness | Rock Unit | Age |
|---|---|---|
| 0-20' | Columbia Group | Pleistocene |
| 20-260' | Yorktown and Calvert Formations | Miocene |
| 260-350' | Nanjemoy Formation | Eocene |
| 350-385' | Mattaponi Formation | Paleocene - Late Cretaceous |
| 385-500' | Patuxent Formation | Early Cretaceous |

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
March 30, 1967
Revised March 2, 1972

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DRILLER: Sydnor Hydrodynamics, Inc. WWCR: 157
COUNTY: James City (Williamsburg) TOTAL DEPTH: 500'

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