

INTERVAL SHEET

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WWCR: 70
VDMR Well No: 2246

Date rec'd: 9/26/68

Sample Interval: from 1 to: 447'

PROP: Douglas & Dickinson, Inc.
(Circle Water System)

Number of samples: 42

COMP: Douglas & Dickinson, Inc.

Total Depth: 447'

COUNTY: King George (Edge Hill)

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
1 - 10	317 - 328	-	-
10 - 21	328 - 338	-	-
21 - 31	338 - 349	-	-
31 - 42	349 - 360	-	-
42 - 52	360 - 370	-	-
52 - 63	370 - 381	-	-
63 - 73	381 - 391	-	-
73 - 84	391 - 401	-	-
84 - 94	401 - 406	-	-
94 - 105	406 - 417	-	-
105 - 115	417 - 427	-	-
115 - 126	427 - 437	-	-
126 - 136	437 - 447	-	-
136 - 147	-	-	-
147 - 157	-	-	-
157 - 168	-	-	-
168 - 178	-	-	-
178 - 189	-	-	-
189 - 199	-	-	-
199 - 210	-	-	-
210 - 220	-	-	-
220 - 231	-	-	-
231 - 242	-	-	-
242 - 253	-	-	-
253 - 264	-	-	-
264 - 274	-	-	-
274 - 285	-	-	-
285 - 296	-	-	-
296 - 307	-	-	-
-	-	-	-

Unwashed samples only: insufficient quantity to split.

OWNER: Douglas & Dickinson, Inc. (Circle Water System) VDMR: 2246
DRILLER: Douglas & Dickinson, Inc. WWCR: 70
COUNTY: King George (Edge Hill) TOTAL DEPTH: 447'

GEOLOGIC LOG

Depth in
feet

COLUMBIA GROUP (1-63')

- 1-10 Sand — orange-brown, trace of clay; medium to coarse, fairly well-sorted, subrounded; feldspar common; trace of weathered glauconite
- 10-21 Sand — orange-brown, trace of clay, 15% granule gravel with abundant blue quartz and some weathered feldspar; coarse, well-sorted, subrounded; iron-stained, moderately feldspathic; trace of weathered glauconite
- 21-31 Sand — orange-brown, clean, iron-stained, trace of granule gravel; coarse, very well-sorted, subangular to rounded; slightly feldspathic; blue quartz common
- 31-42 Sand — orange-brown, clean, iron-stained, 5% granule gravel; fine to coarse, moderately sorted, subangular to rounded; very-slightly feldspathic; blue quartz common
- 42-52 Sand — orange-brown, locally clayey (limonitic), 5% granule gravel; fine to very-coarse, rather poorly-sorted; slightly feldspathic, blue quartz common; traces of muscovite and decomposed glauconite
- 52-63 "

CALVERT FORMATION (63-136')

- 63-73 Clay — gray, silty, trace of sand; diatomaceous
- 73-84 Clay — gray, silty to very-fine sandy
- 84-94 Clay — gray, with greenish cast, silty; diatomaceous
- 94-105 Clay — gray, with greenish cast, silty; small amount of fine-to-medium sand
- 105-115 Clay — brownish-gray, silty, trace of sand

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- 115-126 Clay — gray, with greenish cast, locally orange-brown or black, silty; traces of shell and phosphorite; foraminifers rare
- 126-136 Sand — grayish-brown, slightly clayey; fine to coarse, rather poorly-sorted; 15% bone, shell, and pelletal phosphorite; a few small shell fragments and echinoid spines

NANJEMOY FORMATION (136-242')

- 136-147 Sand — brownish-gray, moderately clayey; very fine, well-sorted; minor amounts of phosphorite, muscovite, coarse quartz, and shell debris; trace of glauconite
- 147-157 Sand — brownish-gray, slightly-to-moderately clayey, a few plant fragments, decomposed shell fragments, and pellets, fragments, and nodules of phosphorite; fine-to very-fine, well-sorted; moderately glauconitic, slightly micaceous.
- 157-168 " moderately clayey, slightly glauconitic
- 168-178 Sand — gray, slightly clayey, 10% rounded, very-coarse sand and granule gravel, a few decomposed shell fragments; very-fine to medium, fairly well-sorted; moderately glauconitic, slightly micaceous
- 178-189 " slightly-to-moderately clayey; trace of very-coarse sand and granule gravel
- 189-199 " moderately clayey; trace of coarse sand
- 199-210 Sand — brownish-gray, slightly-to-moderately clayey, 5% shell fragments; very-fine to coarse, rather poorly-sorted; moderately glauconitic; minor amount of fragmental phosphorite; trace of muscovite
- 210-220 Clay — dark-gray, very sandy, a few shell fragments; sand is fine to medium, fairly well-sorted; slightly glauconitic and micaceous
- 220-231 "

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231-242 Clay — pinkish-orange and slightly glauconitic, with lenses of light-gray and sand-free clay, and lenses of dark-gray, clayey, glauconitic silt to fine sand

MATTAPONI FORMATION (242-296')

242-253 Sand — dark-gray, slightly clayey; fine-to very-fine, well-sorted; slightly micaceous and glauconitic

253-264 " with a few shell and plant fragments

264-274 " "

274-285 Sand — dark-gray with greenish-cast, slightly-to-moderately clayey, 5% pelecypod shell fragments; very-fine to-medium, well-sorted; moderately glauconitic, slightly micaceous

285-296 Sand — dark-gray, slightly clayey; fine to coarse, moderately sorted; moderately glauconitic; a few shell fragments

PATAPSCO FORMATION (296-338')

296-307 Sand — speckled, trace of clay; fine to coarse, moderately sorted, subrounded; 20% glauconite; slightly feldspathic in coarse fraction; a few shell fragments

307-317 No sample

317-328 Sand — tan, slightly clayey; fine to coarse, rather poorly-sorted; angular to subangular; slightly feldspathic

328-338 " silty, trace of very coarse sand

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NANJEMOY AND MATTAPONI FORMATIONS (338-406')

338-349 Sand — dark greenish-gray, moderately clayey, a few shell fragments; fine-to very-fine, well-sorted; slightly glauconitic and micaceous

349-360 "

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360-370 Sand — light-brown, slightly-to-moderately clayey, 10% pelecypod shell fragments, trace of granule gravel; fine to medium, fairly well-sorted; traces of glauconite, phosphorite, and muscovite

370-381 Sand — gray, slightly clayey, with lenses of compact gray clay; fine to coarse, moderately sorted; slightly glauconitic; 5% shell fragments and a few plant fragments

381-391 "

391-401 " moderately glauconitic

401-406 " "

UPPER PATAPSCO FORMATION (406-417')

406-417 Sand — speckled, locally clayey (limonitic); fine to coarse, moderately sorted, subrounded; 15% glauconite; slightly feldspathic in coarse fraction

PATUXENT FORMATION (417-437')

417-427 Sand — gray, trace of clay; medium to coarse, well-sorted, subrounded; moderately feldspathic; abundant blue quartz; small amount of fine glauconite

427-437 "

PATAPSCO FORMATION ? (437-447')

437-447 Clay — variegated (gray and orange-brown dominant), silty

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#2246

GEOLOGIC SUMMARY *

	<u>Rock Unit</u>	<u>Age</u>
1-63'	Columbia Group	Pleistocene
63-136'	Calvert Formation	Middle Miocene
136-242'	Nanjemoy Formation	Middle Eocene
242-296'	Mattaponi Formation	Paleocene
296-338'	Patapsco Formation	Early Cretaceous

338-406'	Nanjemoy & Mattaponi formations	Eocene and Paleocene
406-417'	Upper Patapsco Formation	Early Cretaceous
417-437'	Patuxent Formation	Early Cretaceous
437-447'	Patapsco Formation (?)	Early Cretaceous

* Drilling of this well (VDMR #2246) began the day after the Circle Water System well (VDMR #2245) was completed, and sample drill cuttings from these two wells were submitted together seven months later. In the process of collecting, splitting, labeling, transporting, and storing it is possible to mix samples from different wells. This appears to be the case for samples from this well for the following reasons. (1) Well No's. 2245 and 2246 are located approximately six miles apart in a direction that formation lithologies and thicknesses generally vary; in this case samples from the two wells at all intervals between 0 and 338 feet are almost exact duplicates. (2) Whereas the samples from VDMR #2245 are fairly consistent with those from other nearby wells, samples from this well are not closely similar to those from adjacent wells or to those described in the drillers' log, particularly for the 317 to 447-foot interval. (3) Samples from this well at intervals between 338 and 447 feet are not only inconsistent with samples from other wells, but are not conformable with the known stratigraphic sequence. It seems, therefore, that samples for the first 338 feet of this well are splits of samples from VDMR #2245, and are mislabeled according to depths within the 338 to 447-foot interval. As these inconsistencies cannot be resolved, the samples from this well are not of value for purposes of stratigraphic correlation.

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