

INTERVAL SHEET

WWCR-67

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VDMR Well No: 1852

Date rec'd: 4 / 11 / 67

Sample Interval: from 0 to 620

PROP: Arnold's Corner (clare)

Number of samples: 60

COMP: Douglas & Dickinson

Total Depth: 620

COUNTY: King George (Arnold's Corner)

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
0 - 10	305 - 315	-	-
10 - 21	315 - 326	-	-
21 - 31	326 - 336	-	-
31 - 42	336 - 347	-	-
42 - 52	347 - 357	-	-
52 - 63	357 - 368	-	-
63 - 73	368 - 378	-	-
73 - 84	378 - 389	-	-
84 - 94	389 - 399	-	-
94 - 105	399 - 410	-	-
105 - 115	410 - 420	-	-
115 - 126	420 - 431	-	-
126 - 136	431 - 441	-	-
136 - 147	441 - 452	-	-
147 - 157	452 - 462	-	-
157 - 168	462 - 473	-	-
168 - 178	473 - 483	-	-
178 - 189	483 - 495	-	-
189 - 199	495 - 505	-	-
199 - 210	505 - 516	-	-
210 - 220	516 - 527	-	-
220 - 231	527 - 538	-	-
231 - 241	538 - 548	-	-
241 - 242	548 - 558	-	-
242 - 252	558 - 570	-	-
252 - 263	570 - 580	-	-
263 - 273	580 - 590	-	-
273 - 284	590 - 600	-	-
284 - 294	600 - 610	-	-
294 - 305	610 - 620	-	-
No washed samples			

OWNER: Arnolds Corner (Clare)
DRILLER: Douglas & Dickinson, Inc.
COUNTY: King George (Arnolds Corner)

VDMR: 1852
WWCR: 67
TOTAL DEPTH: 620'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-31')

- 0-10 Sand -- orange-brown, slightly- to moderately-clayey, trace of granule gravel; fine- to medium-grained, fairly well-sorted, angular to subrounded; trace of yellowish weathered feldspar.
- 10-21 Sand - brown, very slightly clayey, about 5% granule gravel; fine- to very coarse-grained, poorly sorted, variably rounded; moderately feldspathic in coarsest fraction; abundant plant fragments.
- 21-31 Sand - yellowish-brown, slightly silty and clayey (variegated clay), a few granules; fine- to medium-grained, moderately sorted, subangular to subrounded; slightly feldspathic in coarsest fraction; traces of magnetite, muscovite and plant fragments.

CALVERT FORMATION (31-105')

- 31-42 Sand - medium-gray, very clayey; coarse-grained silt to very fine-grained sand, well-sorted, angular; locally limonitic; a few fragments of carbonaceous material.
- 42-52 " " " "
- 52-63 Sand - medium brownish-gray, moderately clayey to clayey; fine- to very fine-grained, well-sorted, angular; trace of phosphorite, muscovite, and feldspar.
- 63-73 Sand - grayish-brown, moderately clayey, a few small pebbles; very fine- to coarse-grained, poorly sorted, variably rounded; coarser fraction is limonitic, slightly feldspathic; a few plant fragments; slightly diatomaceous.
- 73-84 " " " "
- 84-94 " " very slightly glauconitic and diatomaceous.
- 94-105 Clay - grayish-brown, slightly sandy; 2-3% phosphorite nodules, bone fragments, phosphatic shell fragments; very slightly diatomaceous; trace of glauconite.

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NANJEMOY FORMATION (105-199')

- 105-115 Sand - dark gray, with greenish cast, moderately silty and clayey; medium- to very fine-grained, fairly well-sorted, angular to slightly subrounded; 10% glauconite, 2-3% phosphorite nodules and bone fragments; trace of muscovite; shell and plant fragments common but not abundant.
- 115-126 " "
- 126-136 " "
- 136-147 " "
- 147-157 " about 10% pelecypod shell fragments.
- 157-168 " "

MARLBORO CLAY MEMBER (168-199')

- 168-178 Clay - orange-pink and sand-free, subordinately light-gray and sand-free, and dark-gray, silty, micaceous.
- 178-189 Clay - dark-gray, silty, micaceous, subordinately orange-pink, sand-free, and light-gray, sand-free.
- 189-199 " with traces of glauconite, shell fragments, and bone fragments.

AQUIA FORMATION (199-273')

- 199-210 Silt-Sand - dark-gray, moderately clayey; coarse-grained silt to very fine-grained sand, well-sorted, angular; 10-15% glauconite; moderately micaceous (muscovite), trace of phosphorite, including some bone fragments; about 5% pelecypod shell fragments.
- 210-220 Sand - dark-gray, moderately silty and clayey; fine-grained, well-sorted; 65-70% angular quartz, and 20-25% glauconite; slightly micaceous, trace of phosphorite; 5% pelecypod shell fragments, a few gastropods, corals, and a very few foraminifers; some plant fragments.
- 220-231 " "
- 231-241 " "
- 241-242 " "
- 242-252 " about 10% pelecypod shell debris.

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252-263 Sand - dark gray, with greenish cast, clayey; fine- to medium-grained, well-sorted, 75% angular to subangular, clear to green-tinted quartz, and 25% glauconite; traces of muscovite and phosphorite; a few shell and plant fragments.

263-273 " locally limonitic and non-glauconitic; carbonaceous fragments common.

MATTAPONI FORMATION (273-620')

273-284 Clay - gray, mottled orange- and reddish-brown, variably silty and sandy; sand is fine- to coarse-grained, poorly sorted; slightly glauconitic and feldspathic (white, weathered potassic feldspar); a few shell and plant fragments.

284-294 " "

294-305 " "

305-315 Sand - clayey (matrix of reddish-brown, yellowish-brown, and greenish-gray clay); fine- to coarse-grained, rather poorly-sorted, subangular to subrounded; slightly feldspathic and glauconitic (both minerals weathered); a few plant and shell fragments.

315-326 " "

326-336 " moderately feldspathic; highly ferrigenous (goethitic); abundant plant fragments.

336-347 " "

347-357 Sand - brown, abundant matrix of mottled clay; fine- to coarse-grained, poorly sorted, variably rounded; 5% glauconite, 10% weathered feldspar; traces muscovite and hematite; about 5% shell debris and a few plant fragments.

357-368 " "

368-378 " "

378-389 " "

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- 389-399 Clay - greenish-gray, mottled browns, yellows, reds, sandy; sand is fine- to coarse-grained, poorly sorted; slightly feldspathic, very slightly glauconitic; traces of shell and plant debris.
- 399-410 " "
- 410-420 Sand - grayish-brown, clayey, a few granules; very fine- to medium-grained, moderately sorted, angular to subrounded; moderately feldspathic; blue quartz common; traces of glauconite and muscovite; a few plant fragments.
- 420-431 " very clayey, locally brick-red, white.
- 431-441 " "
- 441-452 " "
- 452-462 Sand - brownish-gray, clayey; medium-grained, fairly well-sorted, subangular to subrounded; feldspathic (white, weathered potassic feldspar); traces of glauconite and goethite after glauconite.
- 462-473 " medium- to coarse-grained.
- 473-483 " "
- 483-495 Clay - mottled greenish-gray and brick-red, sandy; sand is medium- to coarse-grained, feldspathic (dull-white, weathered potassic feldspar); blue quartz common; trace of glauconite.
- 495-505 " "
- 505-516 Clay - greenish-brown, very sandy; sand is fine- to coarse-grained, rather poorly-sorted, angular to subrounded; slightly feldspathic, trace of glauconite.
- 516-527 " "
- 527-538 " greenish-brown, yellowish-brown, and red.
- 538-548 Sand - gray, traces of silt and clay; fine- to very coarse-grained, fairly well-sorted (skewed coarse), angular to subrounded; feldspathic, slightly glauconitic (concentrated in fine fraction), abundant blue quartz, trace of muscovite.
- 548-558 " slightly- to moderately-clayey.

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- 558-570 Clay - mottled grayish-green and brick-red, variably sandy; sand is poorly sorted, moderately feldspathic, slightly glauconitic; small amounts plant debris and carbonaceous material.
- 570-580 " very sandy, trace of glauconite.
- 580-590 Sand - light-gray, moderately clayey, a few very small pebbles; poorly sorted, feldspathic; a few plant fragments.
- 590-600 Clay - olive-brown, subtly mottled; moderately silty and sandy; sand is feldspathic, with a trace of glauconite; a few plant fragments.
- 600-610 Sand and Gravel - gray, slightly clayey: sand (70%) is coarse- to very coarse-grained, fairly well-sorted, subrounded: gravel (30%) is fine-grained (2-10 mm), rounded; feldspathic; abundant blue quartz in sand fraction.
- 610-620 Sand - dull-brown, slightly clayey; fine- to coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic, slightly glauconitic.

GEOLOGIC SUMMARY

	<u>Rock Name</u>	<u>Age</u>
0-31 ¹	Columbia Group	Pleistocene
31-105 ¹	Calvert Formation	Miocene
105-199 ¹	Nanjemoy Formation	Eocene
199-273 ¹	168-199 ¹ Marlboro Clay Member	
273-620 ¹	Aquia Formation	Eocene
	Mattaponi Formation	Late Cretaceous

Virginia Division of Mineral Resources
 Robert H. Teifke, Geologist
 May 10, 1967