

INTERVAL SHEET

WWCR - 66

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VDMR Well No: 1855

Date rec'd: 4/14/67

Sample Interval: from 0 to 790

PROP: Luttrellsville

Number of samples: 77

COMP: Douglas & Dickinson

Total Depth: 790

COUNTY: Richmond (Luttrellsville)

Oil or Gas: Water: ^X Exploratory:

From-To	From-To	From-To	From-To
0 - 10	315 - 326	631 - 643	-
10 - 21	326 - 336	643 - 653	-
21 - 31	336 - 347	653 - 664	-
31 - 41	347 - 357	664 - 674	-
41 - 52	357 - 368	674 - 683	-
52 - 63	368 - 378	683 - 693	-
63 - 73	378 - 389	693 - 700	-
73 - 84	389 - 399	700 - 709	-
84 - 94	399 - 410	709 - 720	-
94 - 105	410 - 420	720 - 730	-
105 - 115	420 - 431	730 - 741	-
115 - 126	431 - 441	741 - 751	-
126 - 136	441 - 452	751 - 762	-
136 - 147	452 - 462	762 - 772	-
147 - 157	462 - 473	772 - 777	-
157 - 168	473 - 483	777 - 787	-
168 - 178	483 - 494	787 - 790	-
178 - 189	494 - 504	-	-
189 - 199	504 - 515	-	-
199 - 210	515 - 525	-	-
210 - 221	525 - 536	-	-
221 - 231	536 - 546	-	-
231 - 242	546 - 557	-	-
242 - 252	557 - 567	-	-
252 - 263	567 - 578	-	-
263 - 273	578 - 588	-	-
273 - 284	588 - 600	-	-
284 - 294	600 - 610	-	-
294 - 305	610 - 621	-	-
305 - 315	621 - 631	-	-

No washed samples

OWNER: Douglas & Dickinson, Inc.
DRILLER: Douglas & Dickinson, Inc.
COUNTY: Northumberland (Sunnybank)

VDMR: 1856
WWCR: 139
TOTAL DEPTH: 792'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-42')

- 0-10 Gravel - tan, matrix of tan clay and poorly-sorted sand; 2-10 mm, fairly well-sorted, subrounded to rounded; quartzose.
- 10-21 Sand and Gravel - brown, clayey; sand (60%) is medium- to very coarse-grained, subrounded to rounded; gravel (40%) is 2-10 mm in diameter, rounded; some ferricrete; traces of magnetite, hematite, and glauconite.
- 21-31 Sand - brown, slightly clayey, 15% rounded-quartz gravel, 2-8 mm; medium- to coarse-grained, fairly well-sorted, subrounded to rounded; slightly feldspathic; some ferricrete, and a few rock fragments.
- 31-42 Sand - orange-brown, clean; medium- to coarse-grained, well-sorted, subangular to subrounded; slightly feldspathic; trace of glauconite; most of quartz is stained brown or yellow; ferric-cementation common.

YORKTOWN FORMATION (42-84')

- 42-52 Clay - medium-gray to brown, brown-weathering, silty and slightly sandy; traces of carbonaceous material, glauconite, muscovite.
- 52-63 " "
- 63-73 " lignitic fragments and films common.
- 73-74 " "
- 74-84 Sand - gray, clayey; fine- to very fine-grained, well-sorted, angular; slightly glauconitic; shell material common - mostly pelecypods, with a few echinoid spines, bryozoans, and foraminifers.

CALVERT FORMATION (84-356')

- 84-95 Clay - light- to medium-gray, silty; traces of glauconite and muscovite; a very few shell fragments.
- 95-105 Silt - Clay - bluish-gray; subequal amounts of coarse-grained silt to very fine-grained sand, and bluish-gray clay; traces of muscovite and fine shell fragments; trace of diatoms.

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105-115	Clay - bluish-gray, slightly silty; slightly diatomaceous.
115-126	" "
126-136	" moderately silty.
136-147	Clay - light-gray, compact, pure.
147-157	" trace of glauconite.
157-168	Clay - medium-gray, slightly silty, trace of sand.
168-179	Clay - medium greenish-gray, compact; trace of shell material.
179-189	Clay - medium-gray, moderately silty and sandy; sand is fine- to very fine-grained, well-sorted; about 2% shell fragments.
189-200	Sand - medium-gray, very clayey; fine- to very fine-grained, well-sorted, angular; small amount of shell debris; moderately diatomaceous.
200-210	Clay - bluish-gray, slightly silty; trace of glauconite; a very few shell fragments and foraminifers.
210-221	" "
221-231	Silt - greenish-gray, very clayey; trace of sand; coarse-grained, well-sorted; traces of glauconite, carbonaceous material, and plant fragments; a few shell fragments and foraminifers; slightly to moderately diatomaceous.
231-242	Clay - greenish-gray, silty; traces glauconite and phosphorite; a few plant and shell fragments; foraminifers (<u>Siphogenerina</u> , <u>Nonion</u>) common, but not abundant.
242-252	Clay - greenish-gray, locally moderately silty; trace of glauconite; trace of shell material; moderately diatomaceous.
252-263	" "
263-274	" "
274-284	Clay - light greenish-gray, pure; traces of glauconite, plant fragments, and finely-divided shell material; diatomaceous.
284-295	" "
295-315	" "
315-325	" "

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- 325-335 Clay - light greenish-gray, pure; traces of glauconite, plant fragments, and finely-divided shell material; diatomaceous.
- 335-346 " " "
- 346-356 " diatomaceous to very diatomaceous.

CHICKAHOMINY FORMATION (356-400)

- 356-367 Sand - brownish-gray, moderately clayey, coarse-grained, fairly well-sorted, subrounded; quartzose; about 10% pelecypod shell fragments, and a few echinoid spines and foraminifers; plant fragments common; trace of phosphorite.
- 367-378 " " "
- 378-389 " about 25% pelecypod shell fragments; foraminifers and ostracods common.
- 389-400 " " "

NANJEMOY FORMATION (400-497)

- 400-410 Clay - light-gray to greenish-gray, very calcareous, slightly sandy; small amount of phosphorite, trace of glauconite; about 10% coarse pelecypod shell fragments; a few plant fragments; foraminifers present.
- 410-421 Shell - light-gray, calcareous clay matrix, with very small amounts of glauconite and phosphorite; pelecypod shell "hash" with abundant foraminifers and ostracods.
- 421-432 Sand - medium greenish- to brownish-gray, abundant (30%) matrix of very calcareous clay and shell "hash", a very few small rounded pebbles; dominantly fresh, coarse-grained glauconite, subordinate quartz; a few pyrite concretions; foraminifers and ostracods moderately abundant.
- 432-442 " moderately abundant matrix (15-20%) of glauconitic, slightly-calcareous clay.
- 442-453 Sand - medium-gray, matrix of slightly-calcareous clay, 2-5% well-rounded quartz granules; medium- to coarse-grained, moderately sorted; 50% glauconite, 50% rounded to subrounded quartz; foraminifers and ostracods common but not abundant; a few fragments of arenaceous (glauconitic) limestone.

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- 453-464 75-80% quartz, 20-25% glauconite.
- 464-475 Sand - medium-gray, slightly to moderately clayey, 15% well-rounded quartz granules; coarse-grained, moderately sorted; 50% glauconite, 50% rounded quartz; a few fragments of shell and arenaceous (glauconitic) limestone; trace of pyrite; a few foraminifers.
- 475-486 " clayey (pale, brownish-gray clay).

486-497 " "

MATTAPONI FORMATION (497-613)

- 497-507 Clay - medium-gray, with greenish-cast; calcareous and glauconitic; abundant foraminifers.
- 507-517 Sand - medium-gray, abundant clay matrix; dominantly glauconite; foraminifers abundant.
- 517-528 " moderately clayey; 85% coarse-grained glauconite; foraminifers common.
- 528-538 " "
- 538-549 " "
- 549-560 Sand - dark-gray, slightly clayey; 90% coarse-grained, fresh glauconite; 10% rounded quartz; foraminifers common but not abundant.
- 560-570 " moderately clayey.
- 570-581 Clay - light brownish-gray, compact, pure; trace of fine-grained glauconite and muscovite.
- 581-592 Clay and Sand - clay (50%) is light brownish-gray, compact, pure; sand (50%) is coarse-grained, very well-sorted, fresh glauconite.
- 592-603 Sand - dark-gray, slightly to moderately clayey; coarse-grained, well-sorted, fresh glauconite; a few fragments of fossiliferous and arenaceous (glauconitic) limestone; a very few foraminifers and shell fragments.

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603-613 Sand and Shell - sand (60%) is coarse-grained, fairly well-sorted, fresh to moderately decomposed glauconite with subordinate rounded quartz; 40% abraded pelecypod shells and a very few foraminifers.

PATUXENT FORMATION (613-792)

- 613-623 Sand - medium-gray, slightly clayey; trace of granule gravel; coarse- to very coarse-grained, moderately sorted; 15% medium- to coarse-grained glauconite; moderately feldspathic; traces of garnet and shell debris.
- 623-634 Clay - greenish-gray, mottled, reddish-brown, orange-brown, silty; moderately glauconitic and slightly micaceous (muscovite); a few plant fragments.
- 634-641 Clay and Sand - 50% mottled, silty clay; 50% coarse-grained glauconite sand.
- 641-652 Sand - brownish-gray, very slightly silty and clayey; medium-grained, well sorted, subangular to subrounded; 5% glauconite, moderately feldspathic; trace of muscovite.
- 652-663 Sand - brownish-gray, slightly clayey; medium- to coarse-grained, fairly well-sorted, subrounded; 5% glauconite, feldspathic; traces of muscovite and garnet; a few shell fragments.
- 663-671 " medium-grained, fairly well-sorted, subrounded.
- 671-683 Sand - brownish-gray, slightly clayey; coarse- to very coarse-grained, moderately sorted, subrounded to rounded; 5% glauconite, feldspathic; traces of muscovite, garnet; a few plant fragments.
- 683-695 Clay and Sand - clay (60%) is bright, variegated, slightly glauconitic; sand (40%) is coarse- to very coarse-grained, fairly well-sorted fresh glauconite with subordinate amount of rounded quartz and a small amount of feldspar; a few ostracods and plant fragments.
- 695-705 Sand - brownish-gray, slightly clayey; coarse-to very coarse-grained, fairly well-sorted, subrounded to rounded; feldspathic, 3-5% glauconite; trace of muscovite; a very few plant and shell fragments.

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- 705-715 Clay and Sand - clay (50%) is variegated, slightly glauconitic, locally silty; sand (50%) is medium- to coarse-grained, fairly well-sorted fresh glauconite, with subordinate quartz and feldspar; a few plant fragments.
- 715-725 " 80% clay, 20% sand.
- 725-736 " 70% clay, 30% sand.
- 736-746 Sand - light-gray, very slightly clayey, 10% granule gravel; medium- to very coarse-grained, well-sorted (skewed coarse), sub-rounded to rounded; 25-35% feldspar, 2% glauconite; traces of garnet and muscovite; plant fragments common.
- 740-750 Sand - grayish-brown, slightly to moderately clayey, 5% granule gravel; coarse-grained, moderately sorted, sub-rounded; feldspathic, 2% glauconite; trace of muscovite; abundant plant fragments.
- 750-757 Clay - variegated, silty, sandy; sand is coarse, glauconitic; a few shell and plant fragments.
- 757-767 " "
- 767-778 Clay - variegated, slightly silty and sandy; slightly glauconitic.
- 778-788 " moderately sandy, moderately glauconitic; a few shell and plant fragments.
- 788-792 Clay - light-brown, silty and moderately sandy; very slightly glauconitic; plant fragments common; a few shell fragments; feldspar present in sand fraction.

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GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-42	Columbia Group	Pliocene - Pleistocene
42-84	Yorktown Formation	Late Miocene
84-356	Calvert Formation	Middle Miocene
356-400	Chickahominy Formation	Late Eocene
400-497	Nanjemoy Formation	Middle Eocene
497-613	Mattaponi Formation	Paleocene
613-792	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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