

INTERVAL SHEET

WWCR - 95

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VDMR Well No: 1854

Date rec'd: 4/12/67

Sample Interval: from 0 to 595

PROP: Black Stump Water Co. (F. Lackert)

Number of samples: 58

COMP: Douglas & Dickinson

Total Depth: 595

COUNTY: Lancaster (Kilmarnock)

Oil or Gas: Water: ^X Exploratory:

From-To	From-To	From-To	From-To
0 - 10	315 - 325	-	-
10 - 21	325 - 336	-	-
21 - 31	336 - 346	-	-
31 - 42	346 - 357	-	-
42 - 52	357 - 367	-	-
52 - 63	367 - 378	-	-
63 - 73	378 - 388	-	-
73 - 84	388 - 399	-	-
84 - 94	399 - 409	-	-
94 - 105	409 - 420	-	-
105 - 115	420 - 430	-	-
115 - 126	430 - 441	-	-
126 - 136	441 - 451	-	-
136 - 147	451 - 462	-	-
147 - 157	462 - 472	-	-
157 - 168	472 - 483	-	-
168 - 178	483 - 493	-	-
178 - 189	493 - 504	-	-
189 - 199	504 - 514	-	-
199 - 210	514 - 525	-	-
210 - 220	525 - 535	-	-
220 - 231	535 - 546	-	-
231 - 241	546 - 550	-	-
241 - 252	550 - 561	-	-
252 - 262	561 - 571	-	-
262 - 273	571 - 581	-	-
273 - 283	581 - 591	-	-
283 - 294	591 - 595	-	-
294 - 304	-	-	-
304 - 315	-	-	-

No washed samples

OWNER: Black Stump Water System
DRILLER: Douglas & Dickinson, Inc.
COUNTY: Lancaster (Kilmarnock)

VDMR: 1854
WWCR: 95
TOTAL DEPTH: 595'

GEOLOGIC LOG

Depth in feet

ST. MARY'S AND CALVERT FORMATIONS (0'-168')

- | | |
|---------|---|
| 0-10 | Clay - gray, locally yellow (limonitic), moderate amounts of silt and fine sand; traces of glauconite and muscovite; a few plant fragments. |
| 10-21 | Clay - mottled gray and yellowish-brown, very slightly sandy; slightly micaceous (muscovite); a few plant fragments. |
| 21-31 | Sand - brownish-gray, slightly clayey; coarse-grained, well sorted, subrounded to rounded; traces of glauconite and carbonaceous matter. |
| 31-42 | Shell - pelecypod shell fragments, and a few gastropods (<u>Turritella</u>), scaphopods, and echinoid spines; matrix of fine- to <u>medium-</u> grained quartz sand, and gray and brown clay. |
| 42-52 | " |
| 52-63 | " |
| 63-73 | Shell and Sand - slightly to moderately clayey; 30% coarse molluscan shell fragments; 50% fine- to very fine-grained, very well-sorted, angular sand; trace of glauconite; a few plant fragments. |
| 73-84 | Clay - gray, with purple cast, locally greenish-gray; a few coarse shell fragments. |
| 84-94 | " |
| 94-105 | Silt and Clay - gray, with greenish cast; subequal amounts of coarse-grained silt and clay; a few plant and shell fragments. |
| 105-115 | " |
| 115-126 | " |
| 126-136 | Clay - light-gray; abundant plant fragments. |

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- 136-147 Sand - dark-gray, with greenish cast, clayey; very fine-grained, very well-sorted, angular; a few plant and shell fragments.
- 147-157 "
- 157-168 Clay - dark-gray, with greenish cast, moderate amount of coarse silt and fine sand; a few plant fragments.

CALVERT FORMATION (168'-273')

- 168-178 Clay - light-gray, with greenish cast, moderately silty, trace of sand; a few plant fragments and fragments of carbonaceous matter; slightly diatomaceous.
- 178-189 Clay - light-gray, with greenish cast, uniformly moderately silty; a few plant fragments; diatomaceous.
- 189-199 "
- 199-210 " very diatomaceous.
- 210-220 " very diatomaceous.
- 220-231 " very diatomaceous; foraminifers (Siphogenerina) common.
- 231-241 Clay - light-gray; a few plant and shell fragments; extremely diatomaceous (Diatomaceous earth?).
- 241-252 Clay - light-gray, slightly sandy; foraminifers moderately abundant (mostly Siphogenerina, a few Nonion, Robulus, Dentalina); a few plant and shell fragments; very diatomaceous.
- 252-262 Clay - light- and medium-gray, variably silty and sandy; 10% pelecypod shell fragments; foraminifers (Siphogenerina) common but not abundant; moderately diatomaceous.
- 262-273 Sand and Clay - dark brownish-gray; 50% medium- to coarse-grained, fairly well-sorted, subrounded sand; 40% dark-brown, sand-free clay; 10% pelecypod shell fragments; a few plant fragments, phosphatic shell fragments, and foraminifers (Siphogenerina).

CHICKAHOMINY FORMATION (273-595')

- 273-283 Sand - dark grayish-brown, very clayey; medium- to coarse-grained, moderately sorted, subrounded; clear quartz; about 10% pelecypod shell fragments; a very few plant fragments, bone fragments, echinoid spines, and Late Eocene foraminifers.
- 283-294 "
- 294-304 " about 2% pelecypod shell fragments.

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- 304-315 Clay - medium-gray, very silty; traces of glauconite, muscovite, phosphorite, and pyrite; Late Eocene foraminifers moderately abundant; a few shell fragments and echinoid spines.
- 315-325 Sand - light-gray, moderately silty and clayey; fine- to very coarse-grained, rather poorly-sorted, angular to rounded; very slightly glauconitic and phosphatic; about 5% arenaceous, glauconitic limestone; a few shell fragments, plant fragments, and foraminifers (mostly Siphogenerina).
- 325-336 "
- 336-346 " slightly glauconitic (about 10%).
- 346-357 Sand - brown, moderately clayey; fine- to coarse-grained, moderately sorted (skewed coarse); 75-80% clear, yellow- and brown-stained, subrounded to rounded quartz; 15-20% goethite after glauconite, and 5% glauconite; a few shell and bone fragments.
- 357-367 Sand - dark grayish-brown, clayey; fine- to coarse-grained, rather poorly-sorted; subequal amounts of stained quartz and goethite after glauconite; subordinate amount fresh glauconite, trace of muscovite; a few shell bone fragments, and foraminifers.
- 367-378 "
- 378-388 "
- 388-399 "
- 399-409 " 60-70% glauconite, subordinate goethite after glauconite.
- 409-420 " "
- 420-430 Sand - gray, slightly to moderately clayey; medium-grained, fairly well-sorted; 80% fresh glauconite, 20% rounded quartz; a few shell fragments, plant fragments, and Eocene foraminifers.
- 430-441 Clay - gray, moderately sandy; sand is predominately fresh glauconite; a very few shell and plant fragments.
- 441-451 Clay - gray and moderately sandy (75%); sand is predominately glauconite: yellow and sandy; sand is predominately quartz; a very few plant and shell fragments.
- 451-462 Clay - gray, very sandy; sand is 30% glauconite; plant fragments common; a few shell fragments and foraminifers (Nodosaria).
- 462-472 "

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- 472-483 Sand - dark-gray, slightly clayey; fine- to coarse-grained, rather poorly-sorted; 65% fresh glauconite, 35% quartz; plant fragments common; a few foraminifers (Nodosaria).
- 483-493 Clay - gray, sandy; sand is highly glauconitic; plant fragments abundant; traces of pyrite and carbonaceous matter; foraminifers (Nodosaria, Robulus, Dentalina) and ostracods common; a very few shell fragments and echinoid spines.
- 493-504 Sand - light-gray, moderately clayey; fine- to coarse-grained, moderately sorted; 70% subangular to subrounded quartz, 30% fresh glauconite; very few microfossils and plant fragments.
- 504-514 Clay - greenish-gray, abundant silt to fine-grained sand; traces of glauconite, muscovite, plant fragments, shell fragments, and echinoid spines.
- 514-525 "
- 525-535 Sand - gray, speckled, slightly to moderately clayey; fine- to very coarse-grained, moderately sorted (skewed coarse); 70% subangular to rounded quartz, 30% fresh glauconite; traces of garnet and muscovite; a few plant fragments and foraminifers (Nodosaria, Robulus, Dentalina).
- 535-546 "
- 546-550 " very few microfossils.
- 550-561 " "
- 561-571 Sand - light-gray, trace of clay; coarse- to very coarse-grained, fairly well-sorted, subangular to subrounded; 10-15% glauconite, 5-10% fresh potassic feldspar; traces of muscovite and garnet; a very few Nodosaria.
- 571-581 Sand - gray, speckled, clean; medium- to very coarse-grained, fairly well-sorted; 55% quartz, 40% fresh glauconite, and 5% feldspar; traces of muscovite and garnet.
- 581-591 "
- 591-595 Clay - greenish-brown, abundant silt to very fine-grained sand; trace of glauconite.

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GEOLOGIC SUMMARY

	<u>Rock Name</u>	<u>Age</u>
0-168 ¹	St. Mary's and Calvert formations	Miocene
168-273 ¹	Calvert Formation	Miocene
273-595 ¹	Chickahominy Formation	Late Eocene

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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