

INTERVAL SHEET

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VDMR Well No: 1535

Date rec'd: 3/25/66

Sample Interval: from 0 to 800

PROP: Chesapeake Corp. #16

Number of samples: 32

COMP: Layne-Atlantic

Total Depth: 811

COUNTY: King William (West Point)

Oil or Gas: Water: ~~X~~Exploratory:

From-To	From-To	From-To	From-To
0 - 10 *	748 - 765	-	-
10 - 20	765 - 780	-	-
20 - 30	780 - 800	-	-
30 - 68	-	-	-
68 - 90	-	-	-
90 - 120	-	-	-
120 - 150	-	-	-
150 - 160	-	-	-
160 - 192	-	-	-
192 - 222	-	-	-
222 - 254	-	-	-
254 - 285	-	-	-
285 - 317	-	-	-
317 - 348	-	-	-
348 - 379	-	-	-
379 - 410	-	-	-
410 - 425	-	-	-
425 - 472	-	-	-
472 - 502	-	-	-
502 - 565	-	-	-
565 - 596	-	-	-
596 - 627	-	-	-
627 - 637	-	-	-
637 - 657	-	-	-
658 - 667 *	-	-	-
667 - 682	-	-	-
682 - 700	-	-	-
700 - 713	-	-	-
713 - 748	-	-	-

* Unwashed sample only

OWNER: Chesapeake Corp., Well #16
DRILLER: Layne-Atlantic Company
COUNTY: King William (West Point)

VDMR #1535
WWCR #133
TOTAL DEPTH: 811'

GEOLOGIC LOG

Columbia Group (0-30')

- 0-10 Clay — gray, very slightly silty and sandy; limonitic in part
- 10-20 Sand — buff, very slightly argillaceous; fine- to medium-grained, well-sorted, angular to subangular; small amounts of magnetite and muscovite; trace of glauconite
- 20-30 Sand — buff, clean; medium-grained, well-sorted, subangular; minor muscovite, magnetite, and epidote

Yorktown Formation (30-160')

- 30-68 Sand — gray; fine- to coarse-grained, rather poorly sorted, angular to subrounded; 10-15% chalky and phosphatic pelecypod shell fragments; minor magnetite, muscovite, and glauconite
- 68-90 "
- 90-120 fine- to medium-grained, fairly well sorted
- 120-150 Sand — gray, clean; medium-grained, well-sorted, angular to subangular; minor magnetite and platy phosphorite; about 5% chalky pelecypod shell fragments and a few echinoid spines; a very few foraminifers
- 150-160 foraminifers more abundant

Pamunkey Group (160-348')

- 160-192 Sand and limestone — gray; medium- to very-coarse-grained, moderately sorted, subangular to well rounded quartz-glauconite sand with abundant hydrous iron oxides after glauconite; much of this sand is firmly cemented by gray to cream-colored carbonate and is best described as sandy limestone, small amount of pyrite in carbonate matrix; abundant shell material includes pelecypods, gastropods, echinoid spines, bryozoa, and a few foraminifers
- 192-222 Sand — dark-gray; fine- to coarse-grained, fairly well sorted (skewed coarse); 65% fresh glauconite, and 35% clear to yellow- or green-stained, angular to rounded quartz; trace of green epidote, pyrite; a few pelecypod shell fragments, echinoid spines, and foraminifers

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- 222-254 Sand — brownish-gray, argillaceous (brown clay binder); fine- to coarse-grained, moderately sorted; about 50% fresh black glauconite, 20% quartz, and 30% limestone fragments and some fragments of shell and encrusting limonite; a few small nodules of phosphorite; trace of pyrite; a very few echinoid spines and foraminifers
- 254-285 Sand — black, trace of clay; medium- to coarse-grained, well-sorted; 85-90% fresh glauconite, and 10-15% subangular to rounded quartz; trace of shell
- 285-317 "
- 317-348 Sand — dark-gray, moderately argillaceous (buff clay binder); medium-grained, fairly well sorted; 65-75% fresh glauconite, and 25-35% quartz; small amounts of shell, muscovite, and limonite after glauconite
- Potomac Group (348-800')
- 348-379 Sand — white, clean; medium- to very-coarse-grained, fairly well sorted, subrounded; about 5% fresh glauconite (fine- to medium-grained); traces of garnet and muscovite; 5-10% fresh potassic feldspar
- 379-410 10-20% fresh potassic feldspar
- 410-425 Sand — brownish-gray, slightly argillaceous, about 5% very-fine-gravel (granules of quartz and feldspar); medium- to very-coarse-grained, moderately sorted, subangular to subrounded; about 5% fresh, fine- to medium-grained glauconite; traces of garnet and muscovite; 15-25% potassic feldspar
- 425-472 Sand — brownish-gray; coarse- to very-coarse-grained, fairly well sorted, subangular to subrounded; about 10% each of potassic feldspar and fresh glauconite; scattered grains of garnet, epidote, muscovite, and kyanite
- 472-502 more feldspathic and glauconitic
- 502-565 Clay — dominantly reddish-brown, but mottled, sandy; sand medium- to very-coarse-grained, moderately sorted, subangular to subrounded; arkosic and glauconitic; traces of epidote, garnet, muscovite
- 565-596 "

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- 596-627 Sand and gravel — buff, clean; 10-15% fine-gravel composed of subrounded quartz and feldspar up to 10 mm; 85-90% sand: medium- to very-coarse-grained, moderately sorted, subangular to subrounded; moderately arkosic; slightly glauconitic; trace of garnet
- 627-637 Sand — gray, argillaceous (coherent, gray and brown clay); coarse, moderately sorted, rather poorly rounded; moderately arkosic; traces of glauconite, muscovite, tourmaline
- 637-657 Sand and gravel - gray, clean; 10-15% fine-gravel up to 10 mm; 85-90% sand: coarse- to very-coarse-grained, fairly well sorted, subrounded; moderately arkosic; slightly glauconitic; traces of muscovite and garnet
- 657-658 No sample
- 658-667 Sand — buff, argillaceous (coherent; yellowish brown clay); sand fine- to coarse-grained, poorly sorted, variably rounded; arkosic (white potassic feldspar); trace of glauconite
- 667-682 Sand and gravel — gray, clean; about 15% fine-gravel up to 8 mm; about 85% sand: coarse- to very-coarse-grained, fairly well sorted, subrounded; arkosic; very slightly glauconitic; traces of garnet and muscovite
- 682-700 Sand and gravel — yellowish-gray, slightly argillaceous; fine- to very-coarse-grained, rather poorly sorted, angular to subrounded; 10-20% fine-gravel up to 8 mm; arkosic; slightly glauconitic, especially in finer fractions; small amount muscovite; traces of garnet, tourmaline
- 700-713 cleaner, without clay and fine-sand
- 713-748 Sand — brown, slightly argillaceous, 5-10% fine-gravel up to 8 mm; fine- to very-coarse-grained, rather poorly sorted, subangular to subrounded; arkosic; slightly glauconitic, especially in finer fractions; traces of garnet, epidote, and tourmaline
- 748-765 about 20% fine gravel
- 765-780 Sand — brown, very argillaceous (coherent, yellowish brown clay), about 5% very-fine-gravel; coarse, rather poorly sorted, variably rounded; arkosic; trace of glauconite
- 780-800 "
- 800-811 No sample

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GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>AGE</u>
0-30	Columbia Group	Pliocene-Pleistocene
30-160	Yorktown Formation	Miocene
160-348	Pamunkey Group	Eocene
348-800	Potomac Group	Lower Cretaceous
800-811	No sample	

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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