

INTERVAL SHEET

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VDMR Well No: 1633

Date rec'd: 6/22/66

Sample Interval: from 0 to 850

PROP: City of Portsmouth

Number of samples: 85

COMP: Layne-Atlantic Co.

Total Depth: 856

COUNTY: Nansemond (Suffolk)

Oil or Gas: Water:  Exploratory:

From-To	From-To	From-To	From-To
0 - 10	300 - 310	600 - 610	-
10 - 20	310 - 320	610 - 620	-
20 - 30	320 - 330	620 - 630	-
30 - 40	330 - 340	630 - 640	-
40 - 50	340 - 350	640 - 650	-
50 - 60	350 - 360	650 - 660	-
60 - 70	360 - 370	660 - 670	-
70 - 80	370 - 380	670 - 680	-
80 - 90	380 - 390	680 - 690	-
90 - 100	390 - 400	690 - 700	-
100 - 110	400 - 410	700 - 710	-
110 - 120	410 - 420	710 - 720	-
120 - 130	420 - 430	720 - 730	-
130 - 140	430 - 440	730 - 740	-
140 - 150	440 - 450	740 - 750	-
150 - 160	450 - 460	750 - 760	-
160 - 170	460 - 470	760 - 770	-
170 - 180	470 - 480	770 - 780	-
180 - 190	480 - 490	780 - 790	-
190 - 200	490 - 500	790 - 800	-
200 - 210	500 - 510	800 - 810	-
210 - 220	510 - 520	810 - 820	-
220 - 230	520 - 530	820 - 830	-
230 - 240	530 - 540	830 - 840	-
240 - 250	540 - 550	840 - 850	-
250 - 260	550 - 560	-	-
260 - 270	560 - 570	-	-
270 - 280	570 - 580	-	-
280 - 290	580 - 590	-	-
290 - 300	590 - 600	-	-

All intervals have both washed and unwashed samples

OWNER: City of Portsmouth  
DRILLER: Layne-Atlantic Company  
COUNTY: Nansemond (Suffolk)

VDMR #1633  
WWCR #172  
TOTAL DEPTH: 856'

GEOLOGIC LOG

Yorktown Formation (0'-120')

0-10	Sand — buff, very argillaceous; very fine to medium grained, fairly well-sorted, angular to subangular; small amount of magnetite; 2-5% pelecypod shell fragments
10-20	Sand and clay — gray; about 40% gray clay; about 50% sand; fine to very fine-grained, well sorted, angular; about 5% of sand is fresh glauconite; small amounts of muscovite and fine fragments of carbono-phosphatic material; traces of pyrite and hornblende; 10% shell material, mostly pelecypods, and some gastropods, scaphopods, echinoid spines and plates, worm tubes, foraminifers, and ostracods
20-30	"
30-40	"
40-50	"
50-60	"
60-70	"
70-80	"
80-90	"
90-100	"
100-110	"
110-120	"

Pamunkey Group (120'-520')

120-130	Sand — dark gray, very argillaceous; fine to medium-grained, fairly well-sorted; sand fraction is 80% fresh glauconite, and 20% fine-grained, angular to subangular quartz; traces of phosphorite, pyrite, and kyanite; about 10% of sediment is shell material, mainly pelecypods and echinoid spines, and some gastropods, scaphopods, worm tubes, ostracods, foraminifers, and fish teeth and vertebrae
130-140	"

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- 140-150 Sand — dark gray, very argillaceous; fine to medium-grained, fairly well-sorted; sand fraction is 80% fresh glauconite, and 20% fine-grained, angular to subangular quartz; traces of phosphorite, pyrite, and kyanite; about 10% of sediment is shell material, mainly pelecypods and echinoid spines, and some gastropods, scaphopods, worm tubes, ostracods, foraminifers, and fish teeth and vertebrae
- 150-160 " sand fraction is 50% glauconite, 50% quartz
- 160-170 Clay — gray, sandy; sand is very fine to coarse grained, moderately sorted (skewed fine), angular to slightly sub-rounded; sand fraction is about 75% quartz, and 25% glauconite; traces of muscovite and phosphorite; small amount of shell debris, mostly pelecypods and echinoid spines and plates, and some gastropods, foraminifers, and ostracods
- 170-180 "
- 180-190 Sand — gray, argillaceous; medium to coarse grained, fairly well-sorted; sand fraction is 50% fresh glauconite, and 50% variably rounded quartz; about 10% shell material, mostly as sand-size fragments
- 190-200 "
- 200-210 "
- 210-220 " sand fraction is 60-70% quartz, 30-40% glauconite
- 220-230 Sand — gray, very argillaceous; very fine to medium grained, well sorted (skewed fine), angular to subangular; sand fraction is 75-80% clear quartz, 20-25% fresh glauconite; about 5% pelecypod shell fragments, and some gastropods, echinoid spines, corals, foraminifers, and ostracods
- 230-240 Clay — gray, with greenish cast, abundant coarse-grained silt and fine to very fine-grained sand; silt-sand fraction contains about 20% glauconite; small amount of pelecypod shell debris, and a few foraminifers
- 240-250 " scattered grains of phosphorite
- 250-260 Sand — dark gray, very argillaceous; fine to very coarse-grained, rather poorly sorted, subangular to rounded; clear quartz, with 5-8% yellowish-brown phosphorite, and 2-4% fresh glauconite; foraminifers moderately abundant (mostly Siphogenerina); scattered pelecypod fragments, gastropods, echinoid spines and plates, ostracods, fish teeth, and vertebrae
- 260-270 "

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- 270-280 Sand — grayish brown, argillaceous; fine to coarse grained, moderately sorted, subangular to subrounded; clear quartz with 5-8% yellowish-brown platy, and dark-gray nodular phosphorite, 2-5% glauconite; small amount of very fine-grained, glauconite-sand-bearing limestone; small amount of pyrite and trace of garnet; 5-10% shell material consisting of pelecypods, gastropods, scaphopods, echinoid spines and plates, corals, fish teeth, vertebrae, bone fragments, foraminifers, and a few ostracods
- 280-290 Sand — dark brownish-gray, argillaceous; quartz and brown "glauconite"; scattered phosphate nodules; a few shell fragments and microfossils
- 290-300 "
- 300-310 "
- 310-320 "
- 320-330 "
- 330-340 "
- 340-350 "
- 350-360 " slightly argillaceous; 10% shell fragments
- 360-370 Clay — gray, sandy; glauconitic; scattered shell fragments
- 370-380 "
- 380-390 "
- 390-400 "
- 400-410 "
- 410-420 "
- 420-430 "
- 430-440 "
- 440-450 "
- 450-460 "
- 460-470 "
- 470-480 "

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- 480-490 Sand — grayish brown, slightly argillaceous; quartz and fresh glauconite; scattered shell fragments and foraminifers
- 490-500 Clay — brown, very sandy; glauconitic; small amount of shell debris, and a few foraminifers
- 500-510 Sand — brown, argillaceous; glauconitic; a few shell fragments
- 510-520 "

Potomac Group (520<sup>1</sup>-850<sup>1</sup>)

- 520-530 Sand — brown, moderately argillaceous; coarse grained; slightly glauconitic, arkosic
- 530-540 Sand — brownish gray, argillaceous; medium grained; moderately arkosic; slightly glauconitic and micaceous; a few shell fragments
- 540-550 "
- 550-560 " medium to coarse grained
- 560-570 Sand — brown, slightly argillaceous, a few very-small pebbles; medium to very coarse-grained, moderately sorted; arkosic; slightly glauconitic and micaceous; trace of garnet; a few shell fragments
- 570-580 "
- 580-590 " moderately argillaceous; 15-20% granule gravel and a few very-small pebbles
- 590-600 Sand — brownish gray, argillaceous, a few granules and very small pebbles; fine to very coarse-grained, poorly sorted; arkosic; slightly glauconitic and micaceous
- 600-610 Sand and gravel — slightly argillaceous; coarse sand and granule gravel; arkosic; very slightly glauconitic
- 610-620 "
- 620-630 Clay — dark gray, very sandy; arkosic; slightly glauconitic; small amount of shell material
- 630-640 "

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640-650	Sand and gravel — gray; argillaceous; 30-40% coarse, poorly-sorted sand, and 60-70% fine gravel up to 8 mm.; arkosic; small amounts of glauconite, pyrite, garnet, and tourmaline; small amount of shell material
650-660	" 50% sand, 50% granule gravel
660-670	"
670-680	Sand — brownish gray, moderately argillaceous; about 20% granule gravel; medium to very coarse-grained, rather poorly sorted, subangular to subrounded; arkosic; very slightly glauconitic
680-690	"
690-700	" a few small pebbles up to 10 mm.
700-710	Sand — gray, argillaceous, 10-20% granules and very-small pebbles; fine to very coarse-grained, poorly sorted; arkosic; small amounts of glauconite, garnet, and muscovite
710-720	" 5-10% granules
720-730	" 3-5% granules
730-740	" about 30% granules and very small pebbles
740-750	"
750-760	"
760-770	"
770-780	"
780-790	"
790-800	"
800-810	"
810-820	"
820-830	"
830-840	"
840-850	"
850-856	No sample

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GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>AGE</u>
0-120	Yorktown Formation	Miocene
120-520	Pamunkey Group	Eocene
520-850	Potomac Group	Lower Cretaceous
850-856	No sample	<hr/>

Virginia Division of Mineral Resources  
Robert H. Teifke, Geologist  
July 28, 1966