

INTERVAL SHEET

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VDMR Well No: 979

Date rec'd: 3/31/64

Sample Interval: from 0 to 1500

PROP: Chesapeake Bay Bridge-Tunnel Comm Number of samples: 127

COMP: Layne-Atlantic Co.

Total Depth: 1500

COUNTY: Norfolk (Chesapeake Bay)

Oil or Gas: Water: X Exploratory:

From-To	From-To	From-To	From-To
0 - 120 *	410 - 420	730 - 740	1110 - 1120
120 - 130	420 - 430	740 - 750	1120 - 1130
130 - 140	430 - 460 *	750 - 760	1130 - 1140
140 - 150	460 - 470	760 - 770	1140 - 1150
150 - 160	470 - 480	770 - 780	1150 - 1160 **
160 - 170	480 - 490	780 - 790	1160 - 1170
170 - 180	490 - 500	790 - 800	1170 - 1180
180 - 190	500 - 510	800 - 810	1180 - 1190
190 - 200	510 - 520	810 - 820	1190 - 1200
200 - 210	520 - 530	820 - 830	1200 - 1210
210 - 220	530 - 540	830 - 840	1210 - 1220
220 - 230	540 - 550	840 - 850	1220 - 1230
230 - 240	550 - 560	850 - 860 *	1230 - 1240
240 - 250	560 - 570	860 - 870	1240 - 1250
250 - 260	570 - 580	870 - 880	1250 - 1260
260 - 270	580 - 590 *	880 - 890	1260 - 1270
270 - 280	590 - 600	890 - 900	1270 - 1280
280 - 290	600 - 610	900 - 910	1280 - 1290
290 - 300	610 - 620	910 - 920	1290 - 1300
300 - 310	620 - 630	920 - 1000 *	1300 - 1310
310 - 320	630 - 640	1000 - 1010	1310 - 1320
320 - 330	640 - 650	1010 - 1020	1320 - 1330
330 - 340 *	650 - 660	1020 - 1030	1330 - 1340 **
340 - 350	660 - 670	1030 - 1040	1340 - 1350
350 - 360	670 - 680	1040 - 1050	1350 - 1360
360 - 370	680 - 690	1050 - 1060 *	1360 - 1370
370 - 380 *	690 - 700	1060 - 1070	1370 - 1380
380 - 390	700 - 710	1070 - 1090 *	1380 - 1390
390 - 400	710 - 720	1090 - 1100	1390 - 1400
400 - 410	720 - 730	1100 - 1110	1400 - 1410



OWNER: Chesapeake Bay Bridge-Tunnel Commission  
DRILLER: Layne-Atlantic Company  
COUNTY: Princess Anne

VDMR #979  
WWCR #50  
TOTAL DEPTH: 1500

GEOLOGIC LOG

0-120	No samples.
120-130	Sand and Clay - light olive gray, silty, well rounded to subrounded polished quartz grains, mica, potassic feldspar, glauconite, minor magnetite and fine heavy minerals. Ostracods and foraminifera and other shell fragments constitute a large portion of washed sample.
130-140	As above - except no ostracods, and increase in foraminifera.
140-150	As above - with some ostracods.
150-160	As above.
160-170	Marl - olive gray, fine grained glauconitic, siliceous sand, silt and clay with abundant shell fragments.
170-180	Marl - as above, but sediment enclosing calcareous shell fragments is a medium to fine grained, subangular to rounded, glauconitic, polished quartz sand with occasional quartz pebbles.
180-190	As above.
190-200	As above.
200-210	As above - with collophane.
210-220	As above.
220-230	Shell, Sand, and Clay - pale yellowish-brown, coarse to fine, glauconitic, quartzose, silty, moderately poorly sorted with some potassic feldspar and large shell fragments.
230-240	As above - with decrease in calcareous shell material.
240-250	As above.
250-260	Sand and Clay - pale yellowish-brown, silty, moderately sorted, with small quantity of medium-grained glauconitic, well rounded sand and very little shell material.

- 260-270 Sand, Clay, and Shell - light olive-gray, silty, with glauconitic, rounded, highly polished sand. Notable calcareous fossil fragments, macrofossils include a small high-spired gastropod.
- 270-280 As above - but better sorted.
- 280-290 As above.
- 290-300 As above.
- 300-310 As above.
- 310-320 Sand and Clay - pale yellowish-brown, silty. The sand is multicolored, coarse to fine grained, glauconitic, and feldspathic, with predominately round to subangular, sometimes polished quartz grains and a minor amount of calcareous shell material.
- 320-330 Sand - predominately multicolored, coarse grained, sub-angular to rounded, sometimes highly polished, quartz sand with minor amounts of other assorted minerals. Contains some gray to clear, fine grained, slightly glauconitic quartz sand, minor coarse, calcareous fossil fragments, and consolidated clay, quartz sand and silt with carbonate cement.
- 330-340 No sample.
- 340-350 Sand and Clay - light olive-gray, silty, with some consolidated siltstone and coarse sand with carbonate cement. Washed sample is combination of multicolored coarse sand with calcareous shell fragments and a light colored, fine grained quartz sand. One small speck of questionable gold, minor glauconite, and a small, thick, high-spired gastropod are present.
- 350-360 As above.
- 360-370 As above.
- 370-380 No sample.
- 380-390 Sand and Clay - light olive-gray, silty, with some consolidated siltstone and coarse sand with carbonate cement. Washed sample is combination of multicolored coarse sand with calcareous shell fragments and a light colored, fine grained quartz sand.

- 390-400 Sand and Clay - light olive-gray, silty, with some consolidated siltstone and coarse sand with carbonate cement. Washed sample is combination of multicolored coarse sand with calcareous shell fragments and a light colored, fine grained quartz sand, better sorted and less shell material.
- 400-410 Sand and Clay - light olive-gray, silty, multicolored, coarse to fine quartz with minor glauconite and feldspar. Calcareous shell material is present in moderate amounts with a few textularia-type foraminifera.
- 410-420 As above.
- 420-430 As above - with minor pyrite.
- 430-460 No sample.
- 460-470 Sand Clay - light olive-gray, silty, multicolored, coarse to fine quartz with minor glauconite and feldspar.
- 470-480 As above.
- 480-490 As above - with minor quartz pebbles and robus-type foraminifera.
- 490-500 As above - with very little calcareous shell material.
- 500-510 As above.
- 510-520 As above - with questionable small shark or fish teeth.
- 520-530 As above.
- 530-540 As above.
- 540-550 Sand - multicolored, coarse to fine, subangular to rounded quartz with red feldspar grains, glauconite, small amounts of other residual minerals, and minor calcareous shell fragments, very little silt and clay present.
- 550-560 As above - except light olive-gray silt is main component.
- 560-570 As above.
- 570-580 As above - small gastropod with medium spire.
- 580-590 No sample.

590-600	Silty sand - multicolored coarse to fine, subangular to rounded quartz with red feldspar grains and considerable light olive-gray silt with pyrite, glauconite and collophane. Some lithified greenish-gray sandy and silty dolomite is present and some gastropod shells.
600-610	As above - little shell material present.
610-620	As above.
620-630	As above.
630-640	As above.
640-650	As above.
650-660	As above.
660-670	As above.
670-680	As above.
680-690	As above.
690-700	As above.
700-710	As above.
710-720	As above - with some foraminifera.
720-730	As above - lithology, no foraminifera.
730-740	As above.
740-750	As above - with some gypsum.
750-760	As above.
760-770	As above - with shark teeth and foraminifera.
770-780	As above.
780-790	As above.
790-800	As above.

- 800-810 Sand and Clay - pale olive, coarse to fine grained, silty very glauconitic, feldspathic and quartzose. Some lithified greenish-gray, sandy and silty dolomite, pyrite, and some calcareous shell material.
- 810-820 As above.
- 820-830 As above - with fragments of medium to large sharks teeth.
- 830-840 As above.
- 840-850 As above - with some foraminifera fragments.
- 850-860 No sample.
- 860-870 Sand and Clay - pale olive, coarse to fine grained, silty, very glauconitic, feldspathic and quartzose. Some lithified greenish-gray sandy dolomite, pyrite, sharks teeth and foraminifera. (Unwashed sample only).
- 870-880 As above.
- 880-890 As above - no sharks teeth noted.
- 890-900 As above - with some tooth fragments and considerable foraminifera.
- 900-910 As above.
- 910-920 As above.
- 920-1000 No samples.
- 1000-1010 Sand and Clay - light olive-gray, silty. Sand is multicolored, coarse to fine grained, somewhat rounded and polished, with quartz glauconite, feldspar, pyrite and other minor accessory minerals. Some greenish gray, lithified, sandy, and silty dolomite is also present.
- 1010-1020 Sand and Clay - olive gray, silty, sand is predominately white to gray, coarse grained, with subangular to rounded and polished quartz grains, glauconite, feldspar, minor pyrite, and calcareous shell fragments and sharks teeth. Some light tan to gray lithified, glauconitic dolomite is also present.
- 1020-1030 As above.

1030-1040 Sand and Clay - olive gray, silty, sand is predominately white to gray, coarse grained, with subangular to rounded and polished quartz grains, glauconite, feldspar, minor pyrite, and calcareous shell fragments and sharks teeth. Some light tan to gray lithified, glauconitic dolomite is also present, with minor pink garnet fragments.

1040-1050 As above.

1050-1060 No sample.

1060-1070 Sand and Clay - olive gray, silty, sand is predominately white to gray, coarse grained, with subangular to rounded and polished quartz grains, glauconite, feldspar, minor pyrite, and calcareous shell fragments and sharks teeth. Some light tan to gray lithified, glauconitic dolomite is also present.

1070-1080 As above.

1080-1090 No sample.

1090-1100 Sand and Clay - olive gray, silty, sand is predominately white to gray, coarse grained, with subangular to rounded and polished quartz grains, glauconite, feldspar, minor pyrite, and calcareous shell fragments and sharks teeth. Some light tan to gray lithified, glauconitic dolomite is also present.

1100-1110 As above.

1110-1120 As above.

1120-1130 As above.

1130-1140 As above.

1140-1150 As above.

1150-1160 As above.

1160-1170 As above.

1170-1180 As above.

1180-1190 As above.

1190-1200 As above.

1200-1210 As above.



- 1210-1220 Sand and Clay - olive gray, silty, sand is predominately white to gray, coarse grained, with subangular to rounded and polished quartz grains, glauconite, feldspar, minor pyrite, and calcareous shell fragments and sharks teeth. Some light tan to gray lithified, glauconitic dolomite is also present, slightly coarser grain size.
- 1220-1230 As above.
- 1230-1240 As above - but not as coarse grained, and better sorted.
- 1240-1250 As above.
- 1250-1260 Sand and Silt - light olive gray, poorly sorted, mostly quartz and glauconite with minor light colored feldspar, pyrite, heavy minerals and clay. Some light tan, lithified, siliceous dolomite with large glauconite pellets, and minor calcareous shell fragments.
- 1260-1270 As above - with increase in coarse material.
- 1270-1280 As above.
- 1280-1290 As above.
- 1290-1300 As above.
- 1300-1310 As above.
- 1310-1320 As above.
- 1320-1330 As above.
- 1330-1340 No sample.
- 1340-1350 Sand and Silt - light olive gray, medium to fine grained, mostly quartz and glauconite with minor light colored feldspar, pyrite, heavy minerals and clay. Some light tan, lithified, siliceous dolomite with minor calcareous shell fragments.
- 1350-1360 As above.
- 1360-1370 As above - with miliolid foraminifera.
- 1370-1380 Sand and Silt - light olive gray. Sand is light colored, medium to fine grained, slightly glauconitic, subangular to rounded quartz with minor white feldspar, pink to red garnet, with

OWNER: Chesapeake Bay Bridge-Tunnel Commission (Continued) #979

1370-1380	assorted heavy metallics and calcareous fossil fragments. Some olive gray, sandy and silty lithified carbonate rock.
1380-1390	As above.
1390-1400	As above.
1400-1410	As above.
1410-1420	As above.
1420-1430	As above.
1430-1440	As above.
1440-1450	As above.
1450-1460	As above - with some coarse sand and an increase in calcareous shell material.
1460-1470	As above - with slight increase in shell content.
1470-1480	As above.
1480-1490	As above.
1490-1500	As above.

GEOLOGIC SUMMARY

<u>DEPTH</u>	<u>ROCK UNIT</u>	<u>AGE</u>
0-120	No sample	?
120-160	Columbia group	Pleistocene
160-590	Chesapeake group	Miocene
590-800	Chickahominy formation	Eocene
800-900	Pamunkey group	Eocene
900-1210	Mattaponi formation	Cretaceous
1210-1500	Potomac group	Cretaceous

Virginia Division of Mineral Resources  
Francis Fitzgerald, Geologist  
July 17, 1964