

INTERVAL SHEET

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WWCR: 64
VDMR Well No: 2247

Date rec'd: 9/27/68

Sample Interval: from 0 to: 1560'

PROP: Dow Badische Company, Well #7

Number of samples: 67

COMP: Layne-Atlantic Company

Total Depth: 1560'

COUNTY: Warwick (Lee Hall)

Oil or Gas: Water: Exploratory: X

From-To	From-To	From-To	From-To
0 - 4	628 - 649	1251 - 1274	-
4 - 15	649 - 670	-	-
15 - 36	670 - 691	1297 - 1320	-
36 - 60	691 - 712	1320 - 1343	-
60 - 101	712 - 733	1343 - 1375	-
101 - 122	733 - 754	1375 - 1404	-
122 - 143	754 - 775	-	-
143 - 164	775 - 797	1405 - 1435	-
164 - 185	797 - 818	1435 - 1450	-
185 - 206	818 - 839	1450 - 1481	-
-	839 - 860	1481 - 1512	-
207 - 249	860 - 881	1512 - 1542	-
249 - 270	-	1542 - 1560	-
270 - 291	902 - 923	-	-
-	923 - 944	-	-
-	944 - 965	-	-
312 - 334	965 - 981	-	-
334 - 355	-	-	-
355 - 376	986 - 1007	-	-
376 - 397	1007 - 1028	-	-
397 - 418	1028 - 1049	-	-
418 - 439	1049 - 1070	-	-
439 - 460	-	-	-
460 - 481	1071 - 1092	-	-
481 - 502	1092 - 1113	-	-
502 - 523	1113 - 1136	-	-
523 - 544	1136 - 1159	-	-
544 - 565	1159 - 1182	-	-
565 - 586	1182 - 1205	-	-
586 - 607	1205 - 1228	-	-
607 - 628	1228 - 1251	-	-

All intervals have both washed and unwashed samples.

OWNER: Dow Badische Company, Well # 7
DRILLER: Layne-Atlantic Company
COUNTY: Warwick (Lee Hall)

VDMR: 2247
WWCR: 64
TOTAL DEPTH: 1560'

GEOLOGIC LOG

Depth in
feet

COLUMBIA GROUP (0-122')

- 0-4 Clay - brownish-yellow, silty, trace of very fine, well-sorted sand
- 4-15 Sand - grayish-brown, very clayey, ferricrete and plant fragments common; very fine to medium, fairly well-sorted, angular; slightly feldspathic and micaceous; minor magnetite and green epidote
- 15-36 Sand - gray, clean; medium, well-sorted, subangular to subrounded; slightly feldspathic; hornblende and green epidote common
- 36-60 Clay - tan and gray, locally orange-brown, silty, moderately sandy; ferricrete, plant fragments, and carbonaceous fragments are common; sand is fine to coarse, rather poorly sorted, angular to subangular; slightly feldspathic; traces of hornblende, muscovite, green epidote, and weathered glauconite
- 60-101 Sand - brownish-gray, very slightly clayey; fine to coarse, moderately sorted, angular to subrounded; slightly feldspathic; minor muscovite; traces of green epidote, garnet, and decomposed glauconite
- 101-122 Sand - brownish-gray, trace of clay; coarse to very coarse, well-sorted, subangular; feldspathic; minor epidote, garnet, and hornblende

YORKTOWN FORMATION (122-207')

- 122-143 Sand - brownish-gray, clayey, small shell fragments common; fine, well-sorted, angular; very slightly glauconitic; minor vivianite; foraminifers rare
- 143-164 Granule gravel - matrix of gray clay; pelecypod and gastropod shell fragments common; slightly to moderately feldspathic, slightly lithic
- 164-185 Gravel and Sand - matrix of gray clay, 70 percent fine (2-10 mm), fairly well-sorted, rounded gravel; 25 percent fine to coarse, poorly sorted sand; gravel fraction is moderately feldspathic, sand fraction is very slightly glauconitic

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185-206 Clay - dark-gray, carbonaceous, silty

206-207 No sample

CALVERT FORMATION (207-291')

207-249 Clay - yellowish-gray, silty, slightly sandy, a few shell fragments; sand is fine to coarse, poorly sorted

249-270 Sand - brownish-gray, slightly clayey, 10 percent pelecypod shell fragments; medium to coarse, fairly well-sorted, subangular to subrounded; clear quartz, with 5 percent small fragments of bone phosphorite and a trace of glauconite; a very few foraminifers

270-291 Sand - brownish-gray, moderately clayey, locally dolomitic, 5 percent shell fragments and a trace of fine gravel; medium to very coarse, subangular to well-rounded; clear quartz, with 5 percent bone and nodular phosphorite and a trace of fine-grained glauconite; foraminifers (including Uvigerina) common, ostracods rare

NANJEMOY FORMATION (291-410') Top of formation defined on basis of other information.

312-334 Sand - gray, moderately clayey, a few shell fragments and small pebbles; fine to very coarse, rather poorly sorted, angular to rounded; clear quartz, with 10 percent fine glauconite and 3 to 5 percent bone and nodular phosphorite

334-355 Sand - dark-gray, moderately clayey, a few shell fragments and very small (2-5 mm) pebbles; fine to very coarse, rather poorly sorted (skewed fine); sand is 60 percent clear quartz, 40 percent green glauconite; small amounts of pyrite and bone phosphorite; foraminifers common, including Dentalina

355-376 Sand - dark-gray, moderately clayey, locally weakly cemented by yellowish carbonate; fine to coarse, rather poorly sorted; sand is 55 percent clear quartz, 40 percent green glauconite; moderately pyritic; foraminifers common, including Dentalina bevani and Bulimina jacksonensis

376-397 Limestone - tan, sandy, very fossiliferous; sand consists of generally fine quartz and green to brown glauconite; shell material is mostly pelecypods, with a few gastropods and echinoderms

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MATTAPONI FORMATION (410-460') Top of formation defined on basis of other information.

- 397-418 Sand - dark-gray, moderately clayey, a few shell fragments, limestone fragments, and small quartz pebbles; fine to coarse, rather poorly sorted; sand is 70 percent clear quartz and 30 percent green glauconite; foraminifers common
- 418-439 Sand - gray, moderately clayey, 10 percent shell fragments and a few fragments of glauconite-bearing limestone; fine to coarse, moderately sorted; sand is 85 percent clear quartz, 15 percent glauconite
- 439-460 Sand - gray, slightly to moderately clayey, a few shell and limestone fragments; fine to coarse, fairly well-sorted; sand is 75 percent quartz, 20 percent glauconite; very slightly feldspathic

PATUXENT FORMATION (460-1560')

- 460-481 Sand - brownish-gray, slightly to moderately clayey; fine to coarse, moderately sorted, angular to subrounded; slightly to moderately feldspathic, slightly glauconitic; traces of muscovite and garnet
- 481-502 Sand and Gravel - gray, slightly to moderately clayey; 15 percent fine (2-8mm) quartzo-feldspathic gravel; 75 percent medium to very coarse, moderately sorted, subangular to rounded feldspathic sand; minor garnet
- 502-523 Sand - brownish-gray, slightly to moderately clayey, 5 percent fine (2-6 mm) quartzo-feldspathic gravel; fine to very coarse, moderately sorted (skewed coarse), angular to rounded; feldspathic; garnet common
- 523-544 Sand and Gravel - brownish-gray, slightly clayey; 30 percent fine (2-10 mm), rounded, quartzo-feldspathic gravel; 60 percent medium to very coarse, moderately sorted, subangular to rounded feldspathic sand
- 544-565 Sand - gray, slightly to moderately clayey, trace of granule gravel; medium to very coarse, moderately sorted, angular to rounded; feldspathic; very slightly glauconitic; minor garnet and muscovite
- 565-586 Sand - grayish-brown, locally orange, slightly clayey, trace of granule gravel; fine to coarse, moderately sorted, subangular; feldspathic, very slightly glauconitic; garnet common
- 586-607 Sand - brown, clayey, 5 percent granule gravel; very fine to very coarse, poorly sorted, angular to rounded; feldspathic; slightly glauconitic and micaceous; minor garnet

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607-628	Sand and Gravel - grayish-brown, slightly clayey; 40 percent fine (2-15 mm), rounded, quartzo-feldspathic gravel; 50 percent medium to very coarse, moderately sorted feldspathic sand; garnet common
628-649	" 20 percent gravel, 70 percent sand
649-670	Sand - abundant matrix of variegated clay with grayish-brown aspect, trace of fine, quartzo-feldspathic gravel; medium to very coarse, moderately sorted, angular to subrounded; feldspathic; traces of glauconite, muscovite and garnet
670-691	"
691-712	Sand - gray, slightly clayey, 5 percent fine, quartzo-feldspathic gravel; coarse, fairly well-sorted, subangular; feldspathic; slightly glauconitic; garnet common
712-733	Sand - gray, slightly clayey, 5 percent fine, quartzo-feldspathic gravel; coarse to very coarse, fairly well-sorted, subangular; feldspathic; slightly glauconitic; garnet common
733-754	Sand and Gravel - grayish-brown, moderately clayey; 35 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel; 55 percent fine to very coarse, poorly sorted feldspathic sand; garnet common; a few shell fragments and fish teeth
754-775	" "
775-797	" "
797-818	Sand - grayish-brown, slightly clayey, 5 percent fine (2-8 mm), rounded feldspathic gravel; medium to coarse, fairly well-sorted, subangular to rounded; feldspathic; garnet common, tourmaline rare
818-839	" "
839-860	" with 10 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel
860-881	" with 15 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel
881-902	No sample

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902-923	Sand and Gravel - brownish-gray, slightly to moderately clayey; 25 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel; 75 percent fine to very coarse, poorly sorted feldspathic sand
923-944	" "
944-965	" "
965-981	" "
981-986	No sample
986-1007	Sand and Gravel - brownish-gray, slightly to moderately clayey; 25 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel; 75 percent fine to very coarse, poorly sorted feldspathic sand
1007-1028	Sand - grayish-brown, locally yellow, slightly to moderately clayey, 5 percent feldspathic granule gravel; sand is medium to coarse, moderately sorted, feldspathic; traces of garnet and glauconite
1028-1049	" with 20 percent feldspathic granule gravel
1049-1070	" with 20 percent fine (2-12 mm), rounded, quartzo-feldspathic gravel
1070-1071	No sample
1071-1092	Sand and Gravel - brown, slightly to moderately clayey; 20 percent quartzo-feldspathic granule gravel; 75 percent medium to very coarse, rather poorly sorted, feldspathic sand; traces of glauconite and garnet
1092-1113	Sand - brown, moderately clayey, 10 percent granule gravel; fine to very coarse, poorly sorted; feldspathic; traces of glauconite, muscovite, and garnet
1113-1136	" "
1136-1159	" "
1159-1182	" clayey
1182-1205	Sand and Gravel - brown, slightly to moderately clayey; 30 percent fine quartzo-feldspathic gravel; 60 to 65 percent poorly sorted feldspathic sand
1205-1228	" "
1228-1251	" "
1251-1274	" with 5 percent granule gravel

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- 1274-1297 No sample
- 1297-1320 Gravel and Sand - brown, slightly clayey, 80 percent fine (2-10 mm), quartzo-feldspathic, slightly lithic gravel; 15 percent coarse- to very coarse- moderately feldspathic sand
- 1320-1343 Sand and Gravel - brown, slightly clayey; 20 percent fine (2-15 mm), quartzo-feldspathic gravel; 75 percent medium to very coarse, moderately sorted, feldspathic sand; very slightly glauconitic
- 1343-1375 Sand - brown, slightly clayey; medium to coarse, fairly well-sorted; feldspathic; trace of glauconite
- 1375-1404 " with 30 percent fine (2-10 mm), slightly lithic and feldspathic gravel, and a few pyrite concretions
- 1404-1405 No sample
- 1405-1435 Sand - brown, slightly clayey, 10 percent granule gravel; fine to very coarse, poorly sorted; feldspathic; slightly glauconitic
- 1435-1450 " very slightly glauconitic
- 1450-1481 " moderately clayey; trace of glauconite
- 1481-1512 Sand and clay - 50 percent lenses of brick-red and grayish green clay; 50 percent fine to very coarse, poorly sorted feldspathic sand
- 1512-1542 " clay is brown and yellow; a few small pebbles
- 1542-1560 Sand - brown, slightly clayey; fine to coarse, fairly well-sorted; feldspathic; slightly glauconitic

GEOLOGIC SUMMARY

<u>Rock Unit</u>	<u>Age</u>	
0-122	Columbia Group	Pleistocene
122-207	Yorktown Formation	Miocene
207-291	Calvert Formation	Miocene
291-410	Nanjemoy Formation	Eocene
410-460	Mattaponi Formation	Paleocene - Late Cretaceous
460-1560	Patuxent Formation	Early Cretaceous

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