

INTERVAL SHEET

WWCR #59

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VDMR Well No.: Well No. 1246

Date 2/3/65

Sample Interval: from 0 to 726

PROP: Douglas & Dickinson
(Eden Estates)

Total depth 728

COMP: Douglas & Dickinson

Oil Gas Water Exploratory

COUNTY: King George (Weedonville)

Cuttings Core Other

VDMR Well No: W-1246

From-To	From-To	From-To	From-To	From-To
-	0 - 21	609 - 630	-	-
-	21 - 30	630 - 651	-	-
-	30 - 42	651 - 672	-	-
-	42 - 63	672 - 679	-	-
-	63 - 84	679 - 699	-	-
-	84 - 105	699 - 714	-	-
-	105 - 126	714 - 726	-	-
-	126 - 147	726 - 728 No sample	-	-
-	147 - 168	-	-	-
-	168 - 189	-	-	-
-	189 - 210	-	-	-
-	210 - 231	-	-	-
-	231 - 252	-	-	-
-	252 - 273	-	-	-
-	273 - 294	-	-	-
-	294 - 315	-	-	-
-	315 - 336	-	-	-
-	336 - 357	-	-	-
-	357 - 378	-	-	-
-	378 - 399	-	-	-
-	399 - 420	-	-	-
-	420 - 441	-	-	-
-	441 - 462	-	-	-
-	462 - 483	-	-	-
-	483 - 504	-	-	-
-	504 - 525	-	-	-
-	525 - 546	-	-	-
-	546 - 567	-	-	-
-	567 - 588	-	-	-
-	588 - 609	-	-	-

OWNER: Douglas & Dickinson, Inc. (Eden Estates)
DRILLER: Douglas & Dickinson, Inc.
COUNTY: King George (Weedonville)

VDMR #1246
WWCR #59
TOTAL DEPTH: 728'

GEOLOGIC LOG

Calvert Formation (0-105')

- 0-21 Sand — brownish-yellow; slightly to moderately argillaceous (most clay is limonitic coating on sand grains, but some lumps of variegated clay are also present); medium- to very-coarse-grained, fairly well sorted, subangular to subrounded; slightly arkosic; small amount muscovite.
- 21-30 Sand — brownish-yellow; slightly to moderately argillaceous (most clay is limonitic coating on sand grains, but some lumps of purplish-pink, very sandy clay are also present); medium- to coarse-grained, fairly well sorted, subangular to subrounded; scattered granules and small pebbles; slightly arkosic; traces of muscovite and glauconite.
- 30-42 Sand — yellow; very argillaceous (including small amount of white clay); very-fine-grained, well sorted, angular.
- 42-63 Sand — dark-gray, with greenish cast; slightly argillaceous; very silty; a very-well-sorted sediment consisting of angular, very-fine-grained sand and angular very-coarse-grained silt (1/12 - 1/24 mm.); small amounts of muscovite and glauconite.
- 63-84 Clay — gray, with very faint greenish cast; diatomaceous.
- 84-105 Clay — medium-gray, with greenish cast; moderately silty and sandy; moderately diatomaceous, scattered echinoid spines.

Nanjemoy Formation (105-252')

- 105-126 Sand — gray; silty; very argillaceous; very-fine- to fine-grained, very well sorted, angular to subangular; micaceous (rounded plates of muscovite); phosphorite rather abundant as black to yellowish-brown plates and equant, rounded grains; (most muscovite and phosphorite much coarser than quartz), very slightly glauconitic; trace of epidote; a few phosphatic fish teeth, phosphatic and chalky pelecypod shell fragments, and echinoid spines; rare planospiral foraminifera.
- ← Calv.
NANJ
126-147 Sand — dark-gray; argillaceous and silty; very-fine- to fine-grained, well sorted, angular to subangular; about 10% dark-green glauconite; micaceous (abundant muscovite, and a trace of chlorite); small amounts of phosphorite and brown epidote; traces of magnetite, pyrite, graphite, aragonite; a few phosphatic and chalky pelecypod shell fragments; rare phosphatic fish teeth; slightly diatomaceous.

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- 147-168 Sand — black; argillaceous and slightly silty; very-fine- to fine-grained, well sorted, angular quartz (40-50%), and fine- to medium-grained, well sorted, dark-green glauconite (50-60%); micaceous (muscovite, and some chlorite); small amount of phosphorite, traces of pyrite, epidote, garnet, and euhedral, zircon, and tourmaline; abundant, chalky pelecypod shell fragments, a few echinoid spines; very slightly diatomaceous.
- 168-189 As above — but with only a trace of diatoms.
- 189-210 Sand — dark-gray; very argillaceous and silty; very-fine- to fine-grained, well sorted, angular; about 25% of sand is dark-green glauconite; micaceous (muscovite, and a trace of chlorite); traces of phosphorite, pyrite, garnet, epidote, and euhedral, zircon, and tourmaline; small amount chalky pelecypod shell fragments; very few forams and diatom fragments.
- 210-231 As above — but with more shell fragments.
- 231-252 Clay — pink, mottled gray and greenish-gray; slightly sandy; very slightly glauconitic; scattered, chalky pelecypod shell fragments.
- Aquia Formation (252-336')
- 252-273 Clay and Sand (1:1) — laminae of pink, slightly sandy, very slightly glauconitic clay, and laminae of brownish-gray, very-fine-grained, well sorted, angular, very argillaceous, moderately glauconitic sand; abundant, finely-divided, chalky shell fragments.
- 273-294 Sand - Clay (4:1) — laminae of pink, slightly sandy, very slightly glauconitic clay, and laminae of dark-gray, very-fine-grained, well sorted, angular, very argillaceous, micaceous (muscovite), glauconitic (about 30% of sand) sand; abundant, fine to coarse, chalky pelecypod shell fragments.
- 294-315 Sand — black; moderately argillaceous; very-fine- to medium-grained, fairly well sorted dark-green glauconite (about 70% of the sand), and fine-grained, fairly well-sorted quartz (about 30%) slightly micaceous (muscovite); traces of phosphorite, pyrite, chlorite, garnet, and brown epidote; small amount of pink, slightly sandy clay (occurs as discrete chunks); small amount of chalky, pelecypod shell fragments; a few fish teeth; some planospiral foraminifera.

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315-336 Sand — brownish-gray; extremely argillaceous (40-50% clay); very-fine- to fine-grained, well sorted, and consists of angular to subangular quartz (about 65%) and dark-green glauconite pellets (about 35%); micaceous (muscovite, some chlorite); scattered grains of phosphorite; traces of garnet and brown epidote; slightly limonitic; abundant plant material consisting of twigs, roots, leaves, and carbonaceous fragments with woody texture (fusain); scattered, chalky, pelecypod shell fragments; rare planospiral foraminifera.

Mattaponi Formation (336-726')

336-357 Clay — gray, mottled yellowish-brown; moderately sandy; sand is very- fine- to fine-grained, fairly well sorted, angular to subangular; slightly glauconitic (fresh, dark-green pellets that average about one grade-size coarser than the quartz); arkosic (dull white to iron-stained, moderately decomposed to intensively altered microperthite and microcline); small amount of muscovite; traces of phosphorite, chlorite, and magnetite, and ocherous hematite; scattered, chalky, pelecypod shell fragments.

357-378 As above.

378-399 As above.

399-420 As above.

420-441 As above — but with very little glauconite.

*P. W. N. H. 611
P. W. N. H. 612*

441-462 Clay — gray, with pinkish cast (variegated in grays, yellows, reds, and browns); very slightly sandy (fine-grained, arkosic, slightly glauconitic, and slightly micaceous).

462-483 As above.

483-504 As above.

504-525 Clay — reddish-brown (variegated in grays, grayish-green, yellows, reds and browns); moderately sandy (very fine-to coarse-grained, poorly sorted subangular to subrounded; moderately arkosic); a few glauconite pellets and abraded, chalky shell fragments.

525-546 As above.

546-567 As above — but more sandy.

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- 567-588 Clay — brown, mottled gray (variegated in grays, grayish-green, yellows, reds, and browns); moderately sandy (very-fine- to coarse-grained, poorly sorted subangular to subrounded; moderately arkosic); a few pellets of glauconite.
- 588-609 Sand — brown; argillaceous (variegated clay); sand is very-fine- to very-coarse-grained, poorly sorted subangular to subrounded; abundant hyacinth-tinted quartz; arkosic (moderately decomposed subrounded, white to iron-stained microperthite and microcline); scattered pellets of glauconite; small amounts of detrital chert; trace of opal in cavities in clay; scattered, chalky, pelecypod shell fragments.
- 609-630 Clay — brown (variegated in grays, yellows, browns, and reds); very sandy; sand is fine- to coarse-grained, poorly sorted, subangular to subrounded; abundant hyacinth-tinted quartz; arkosic (moderately decomposed, subrounded, white microperthite and microcline); very small amounts of glauconite, detrital chert, and cavity-filling opal; scattered, chalky, pelecypod shell fragments.
- 630-651 As above.
- 651-672 Clay — reddish-brown (highly variegated in grays, greens, yellows, reds, and browns); slightly to moderately sandy; sand is poorly sorted, arkosic, and very slightly glauconitic.
- 672-679 As above — but more sandy.
- 679-699 Sand — brown; very slightly argillaceous and pebbly; sand is medium- to very-coarse-grained, fairly well sorted, subangular to subrounded; arkosic (white to gray, fresh to moderately decomposed microperthite and microcline).
- 699-714 As above.
- 714-726 As above — but very arkosic and with a few plant fragments.
- 726-728 No samples.

GEOLOGIC SUMMARY

<u>ROCK UNIT</u>	<u>AGE</u>
0-105'	Miocene
105-252'	Eocene
252-336'	Paleocene - Aquia
336-726'	Upper Cretaceous - Paleocene
726-728	No sample

Virginia Division of Mineral Resources
 Robert H. Teifke, Geologist
 February 24, 1965

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- 126-147 Sand — dark-gray; argillaceous and silty; very-fine- to fine-grained, well sorted, angular to subangular; about 10% dark-green glauconite; micaceous (abundant muscovite, and a trace of chlorite); small amounts of phosphorite and brown epidote; traces of magnetite, pyrite, graphite, aragonite; a few phosphatic and chalky pelecypod shell fragments; rare phosphatic fish teeth; slightly diatomaceous.

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336-726'	Mattaponi Formation	Upper Cretaceous - Paleocene
726-728	No sample	

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