OWNER: Fred W. Haislip
DRILLER: Douglas & Dickinson, Inc.
COUNTY: Northumberland (Burgess)

VDMR: 2000
WWCR: 140
TOTAL DEPTH: 673'

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-42')

0-10 Sand - orange-brown, slightly clayey; fine- to medium-grained, very well-sorted, subangular to subrounded; trace of feldspar

10-21 " "

21-31 " "

31-42 " "

YORKTOWN FORMATION (42-65')

42-52 Sand - light-gray, clean, 15% rounded gravel (2-10 mm); medium- to coarse-grained, fairly well-sorted, subangular to subrounded; clear quartz with accessory magnetite and feldspar; traces of epidote, weathered glauconite, carbonaceous material, and shell; a few ostracods

52-63 " slightly feldspathic

CALVERT FORMATION (65-358') Top of formation defined on basis of other information.

63-74 Clay - dark-gray with greenish cast, uniformly silty; trace of glauconite; trace of shell

74-84 " "

84-94 Silt and Clay - silt (60%) is greenish-gray, coarse, well sorted, very clayey, slightly glauconitic; clay (40%) is dull pink, pure; a few shell and plant fragments

94-105 " 75% greenish-gray silt, 25% dull-pink clay

105-115 Silt and Clay - silt (60%) is greenish-gray, coarse, well-sorted, very clayey, slightly glauconitic; clay (40%) is dull pink, pure; abundant plant fragments and a few shell fragments; a very few foraminifers

115-126 Clay - dark- to light-gray, very little silt or sand; a few shell and plant fragments; dark clay contains a few foraminfers; diatomaceous

OWNER: Fred W. Haislip # 2000

126-136 Silt and Clay - dark, greenish-gray, clayey silt (predominant) and light-gray to pinkish-gray, essentially sand- and silt-free clay; a few plant and shell fragments; trace of phosphatic bone fragments; trace of glauconite.

136-147 " "

147-157 " "

157-168 " "

168-178 " "

178-189 Clay - dull pink; very slightly sandy (locally); a few pelecypod and gastropod shell fragments

189-199 " with 15% greenish,gray, clayey silt

199-210 " "

210-220 " "

220-231 Silt - greenish-gray, clayey; plant fragments common; a few shell fragments

231-242 Clay - light- to dark-greenish-gray, variably silty and sandy (quartz); a few plant and shell fragments

242-252 Clay - light-gray, with greenish cast, typically silt- and sand-free; small amounts carbonaceous material and plant debris; a few fragments of shell and phosphorite; a few foraminifers, including Siphogenerina, Nonion; very diatomaceous

252-263 " "

263-273 Clay - dull-pink, silt- and sand-free with subordinate greenish-gray clayey silt; trace of glauconite; a few shell fragments, plant fragments; trace of diatoms in pink clay

273-284 Clay - light-gray, moderately silty, slightly sandy; traces of glauconite, carbonaceous material, and muscovite; a few plant fragments; trace of diatoms

284-294 Clay - light-gray, with greenish cast, slightly silty, trace of sand; traces of glauconite and carbonaceous material; a few plant and shell fragments; Siphogenerina common; very diatomaceous

294-305 " "

OWNER: Fred W. Haislip # 2000

305-315 Clay - lightgray, very silty, trace of sand; locally ferrigenous (goethitic-limonitic leminae); trace of muscovite and carbonaceous material; a few plant fragments; trace of diatoms

315-326 Clay - dark- to light-gray, variably silty and sandy (dark-gray clay is very sandy, slight-gray clay is essentially sand-free); limonitic clay abundant; a few carbonaceous fragments, pelecypod shell fragments, and Siphogenerina; diatom content not determined

326-336 Clay - light-gray, slightly silty, trace of sand; trace of shell material; very diatomaceous

336-347 Sand - light-medium-gray, very slightly clayey; medium- to coarse-grained, fairly well-sorted, subrounded to rounded; clear quartz, with traces of glauconite, phosphorite; 10% coarse pelecypod shell fragments; a few foraminifers

347-357 Sand and Shell - light-gray, clean; medium- to very coarse-grained, fairly well-sorted, subangular to subrounded; clear quartz, with 5% glauconite and a trace of phosphorite; about 30% pelecypod shell fragments, and a very few foraminifers and ostracods

NANJEMOY FORMATION (358-421') Top of formation defined on basis of other information.

357-368 Sand - dark-gray, very slightly clayey; 5% round quartz granules; 40% medium- to coarse-grained; fresh to moderately decomposed glauconite; 60% coarse- to very coarse-grained, clear to yellow-brown- and green-stained, subrounded to well-rounded and polished quartz; traces of pyrite and phosphorite; a few pelecypod and scaphopod shell fragments, and a very few foraminifers and ostracods

368-378 " "

378-389 Sand - tan, clean; medium- to coarse-grained, well-sorted; 70-75% clear to brown- and yellow-stained, subangular to subrounded quartz; 25-30% medium-grained glauconite and goethite after glauconite; shell fragments and foraminifers rare

389-399 " "

399-410 Sand - dark-gray, clean, 5% quartz granules; coarse- to very coarse-grained, fairly well-sorted; 40% glauconite and goethite after glauconite; 50% rounded, stained quartz; 5% shell fragments - pelecypods, ramose bryozoans, and a few foraminifers; a few fragments of arenaceous (glauconitic) limestone

410-420 Sand - dark-gray, trace of clay; 70% medium-grained, very well-sorted, and 30% coarse- to very coarse-grained, rounded

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410-420 (cont.) to well-rounded, stained quartz; a few foraminifers and shell fragments

MATTAPONI FORMATION (421-640') Top of formation defined on basis of other information.

420-431 Sand - black, trace of clay; 90-95% fresh, coarse-grained, well-sorted glauconite; 5-10% quartz; foraminifers rare

431-441 Sand - dark-gray, trace of clay, a few quartz granules; 65% medium- to coarse-grained glauconite and subordinate goethite after glauconite; 35% medium- to very coarse-grained stained, rounded quartz; a few shell fragments and foraminifers

441-452 Sand - black, clean; medium-grained, well-sorted; 75% fresh glauconite, 25% clear, subangular to subrounded quartz; trace of shell; foraminifers moderately abundant; a few ostracods

452-462 " moderately silty

462-473 Clay - brownish-gray, compact; abundant silt-size muscovite; moderately glauconitic; trace of pyrite and phosphorite; a few plant fragments and foraminifers

473-483 Sand and Shell - dark-gray, clean; coarse-grained, well-sorted; 70% fresh glauconite, 5% quartz, 25% abraded pelecypod shell fragments; trace of feldspar; a very few foraminifers and bryozoans

483-494 Shell and Sand - 40% coarse-grained black glauconitic sand with subordinate quartz; 55% abraded pelecypod shell fragments; 5% dark-gray, silt- and sand-free slightly glauconitic clay

494-504 Sand - grayish-brown, moderately silty and clayey (tan clay) a very few granules and very small pebbles of quartz; fine- to coarse-grained, rather poorly sorted; 40% dark- to medium-green glauconite, 40% angular to subrounded clear quartz, 20% abraded pelecypod shell fragments; small amounts feldspar, pyrite, muscovite, garnet; a few bryozoans and fish teeth; foraminifers and ostracods common but not abundant

504-515 Sand - grayish-brown, clayey (tan clay); fine- to coarse-grained, moderately sorted; 30% fresh glauconite, 70% angular to subrounded quartz; and some feldspar; shell fragments common; a few fragments of limonitic clay and a few of arenaceous (glauconitic) limestone; a very few bryozoans, foraminifers , and plant fragments

515-525 " very clayey

525-536 " "

OWNER: Fred W. Haislip # 2000

536-546 Sand - grayish-brown, moderately clayey (mottled clay matrix); medium- to coarse-grained, moderately sorted; 20% fresh glauconite, 10-20% fresh to moderately decomposed feldspar; 60-70% variably rounded clear quartz (trace of blue quartz); traces of muscovite, garnet and pyrite; a very few shell fragments and foraminifers.

546-550 Clay - mottled gray and dull reddish-brown, moderately sandy; sand is fine- to very fine-grained quartz (70-80%) glauconite (20-30%) and minor muscovite; plant fragments common; a few shell fragments and foraminifers

550-561 " "

561-571 " "

571-582 " "

582-592 Sand and Clay - clay (30%) is mottled gray and reddish-brown; sand (70%) is fine- to coarse-grained, poorly sorted, feldspathic (white, weathered) and slightly glauconitic; small amounts chert and blue quartz; minor hematite, magnetite, pyrite, muscovite

592-603 Clay - mottled gray and reddish-brown, slightly sandy; sand is fine-grained, fairly well-sorted; 60% clear, angular quartz, 40% glauconite; minor muscovite; traces phosphorite, feldspar, vivianite; a few shell and plant fragments and foraminifers

603-613 Sand and Clay - clay (50%) is variegated (reds, browns, yellows, grays, greens); sand (50%) is fine- to coarse-grained, poorly sorted, variably rounded; 60% quartz (some blue quartz), 25% feldspar, 15% glauconite; much of quartz and feldspar is stained yellow to brown; minor hematite, chert, magnetite; a few plant fragments

613-624 " 65% clay, 35% sand

624-634 Clay - brightly variegated (white, reds, browns, greens, grays); very slightly sandy; some glauconite

634-640 " "

PATUXENT FORMATION (640-673')

640-650 Sand - grayish-brown, very slightly clayey; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic (abundant, fresh potassic feldspar); 5% glauconite; traces of garnet, pyrite, muscovite

645-655 Clay - brightly variegated, moderately silty and sandy; slightly glauconitic; shell fragments common

OWNER: Fred W. Haislip #2000

655-665	Sand - brownish-gray, very slightly sandy; coarse- to very coarse-grained, well-sorted, subrounded; feldspathic; 5% glauconite; trace of garnet	
665-673	"	very coarse-grained

GEOLOGIC SUMMARY

	Rock Unit	Age
0-42	Columbia Group	Pleistocene
42-65	Yorktown Formation	Miocene
65-358	Calvert Formation	Miocene
358-421	Nanjemoy Formation	Eocene
421-640	Mattaponi Formation	Paleocene - Late Cretaceous
640-673	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
September 20, 1967
Robert H. Teifke
March 3, 1972

VDMR-2000
WWCR-140

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:
B[illegible] 3667
C[illegible]lottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

WATER WELL COMPLETION REPORT

OFFICE ADDRESS:
McCormick Road
Charlottesville, Virginia

OWNER: Fred W. Haislip Mailing Address: Edwardsville, Virginia

TENANT: _____ Mailing Address: _____

DRILLER: Douglas & Dickinson Inc. (W. Keeve) Mailing Address: Box 498 Warsaw, Virginia

WELL LOCATION: County Northumberland Approx. 3/4 ~~feet~~ miles N. E. of Intersection (direction) of 604 and 740 and 3 1/2 ~~feet~~ miles North (direction) of Burgess P. O.

(GIVE DIRECTION AND DISTANCE IN FEET OR MILES FROM TWO REFERENCE POINTS - ROADS, TOWNS, RIVERS, ETC. - ON COUNTY HIGHWAY OR OTHER MAP.)

DATE STARTED: March 16, 1967 DATE COMPLETED: March 21, 1967

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 673 feet

WATER LEVEL: Stands 8 feet below surface OR

has NATURAL flow of None gallons per minute.

YIELD TEST: Method Air Lift

Drawdown 32 feet

Rate 40 gal. per min.

Duration 2 hrs., 0 min.

WATER ZONES: from 655 to 670 feet

from _____ to _____ feet

from _____ to _____ feet

WATER: Color None Taste None

Odor None Temp. _____ °F

WELL TO SUPPLY: (check one) Home X

Farm _____ Town _____ School _____

Industry _____ Other _____

WATER ANALYSIS AVAILABLE: Yes _____ No X

DRILL CUTTINGS SAVED: Yes X No _____

(DRILL CUTTINGS SHOULD BE COLLECTED AT 10 FOOT INTERVALS. THESE SAMPLES MAY BE SHIPPED TO THIS OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHED FREE OF CHARGE UPON REQUEST.)

HOLE SIZE: 6 inches from 0 to 147 feet

3 inches from 147 to 673 feet

_____ inches from _____ to _____ feet

SCREEN SIZE: 2 inches from 655 to 670 feet

_____ inches from _____ to _____ feet

_____ inches from _____ to _____ feet

CASE SIZE: 4 inches from 0 to 147 feet

2 inches from 147 to 655 feet

2 inches from 670 to 673 feet

GROUTING: Method _____

Material _____ Depth _____ feet

PUMP: Type _____

Capacity _____ gal. per min

Depth of intake _____ feet

REMARKS: _____

(LOG OF WELL) OVER

LOG

FURNISHED BY: Douglas & Dickinson Inc. DATE: April 19, 1967

DEPTH (feet) FROM	TO	TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
0	10	Reddish sand	
10	21	" "	
21	31	" "	
31	42	" "	
42	52	White sand, gravel	
52	63	" " "	
63	74	Blue clay	
74	84	" "	
84	94	" "	
94	105	" "	
105	115	" "	
115	126	" "	
126	136	" "	
136	147	" "	
147	157	" "	
157	168	" "	
168	178	" "	
178	189	Light gray clay	
189	199	" " "	
199	210	" " "	
210	220	" " "	
220	231	" " "	
231	242	" " "	
242	252	" " "	
252	263	" " "	
263	273	" " "	
273	284	" " "	
284	294	" " "	
294	305	" " "	
305	315	" " "	
315	326	Greenish clay	
326	336	" "	
336	347	White sand, shell	
347	357	" " "	
357	368	" and black sand and shell	
368	378	" " " " " "	
378	389	" " brown "	
389	399	" " " "	
399	410	" brown, and black sand	
410	420	" " " " "	
420	431	Black sand	
431	441	" "	
441	452	" " , shell	
452	462	" " "	

(Use additional forms if necessary)

LOG

FURNISHED BY: Douglas & Dickinson Inc. DATE: April 19, 1967

DEPTH (feet) FROM	TO	TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
462	473	Grayish clay	
473	483	Black sand, shell	
483	494	" " "	
494	504	Shell black and white sand mix	
504	515	" " " " " "	
515	525	Grayish clay	
525	536	" "	
536	546	" "	
546	550	Gray and red clay	
550	561	" " " "	
561	571	" " " "	
571	582	" " " "	
582	592	" " " "	
592	603	" " " "	
603	613	" " " "	
613	624	" " " " , sand	
624	634	" " " " "	
634	645	" " " " "	
645	655	" " " " "	
655	665	White sand	
665	673	" " and clay	

(Use additional forms if necessary)

INTERVAL SHEET

WWCR-140

Page 1 of 1

VDMR Well No: 2000

Date rec'd: 9/8/67

Sample Interval: from 0 to: 673

PROP: Fred W. Haislip

Number of samples: 66

COMP: Douglas & Dickinson

Total Depth: 673

COUNTY: Northumberland (Burgess)

Oil or Gas: Water:XExploratory:

From-To	From-To	From-To	From-To
0 - 10	315 - 326	624 - 634*	-
10 - 21	326 - 336	634 - 645*	-
21 - 31	336 - 347	640 - 650	-
31 - 42	347 - 357	645 - 655	-
42 - 52	357 - 368	655 - 665	-
	-	-	-
52 - 63	368 - 378	665 - 673	-
63 - 74	378 - 389	-	-
74 - 84	389 - 399	-	-
84 - 94	399 - 410	-	-
94 - 105	410 - 420	-	-
105 - 115*	420 - 431	-	-
115 - 126	431 - 441*	-	-
126 - 136	441 - 452*	-	-
136 - 147	452 - 462	-	-
147 - 157	462 - 473	-	-
157 - 168	473 - 483	-	-
168 - 178*	483 - 494*	-	-
178 - 189*	494 - 504	-	-
189 - 199	504 - 515	-	-
199 - 210	515 - 525	-	-
210 - 220*	525 - 536	-	-
220 - 231*	536 - 546	-	-
231 - 242*	546 - 550	-	-
242 - 252	550 - 561*	-	-
252 - 263	561 - 571	-	-
263 - 273	571 - 582*	-	-
273 - 284	582 - 592	-	-
284 - 294	592 - 603	-	-
294 - 305	603 - 613	-	-
305 - 315	613 - 624*	-	-

* Unwashed samples only