OWNER: Norfolk General Hospital DRILLER: Layne-Atlantic Company COUNTY: Norfolk (Norfolk) VDMR: 1959 WWCR: 161 TOTAL DEPTH: 125¹

GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-10^t)

0 - 10

Sand - binder of tan clay, a few shell fragments; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; slightly feldspathic; minor magnetite

YORKTOWN FORMATION (10-125^t)

11

10-23 Sand and Shell - abundant matrix of gray- and brownish-gray clays; 50% coarse pelecypod shells and shell fragments, and several genera of gastropods; 50% fine- to coarsegrained, poorly-sorted, angular to subrounded sand; clear quartz, with small amounts of partially decomposed feldspar (in coarse fraction) and glauconite; traces of muscovite, and phosphatic and carbonaceous materials; foraminifers common, but not abundant

23-33 " with considerable brown- to blackish-brown, sand free, organic clay, and a few plant fragments

11

- 33-43
- 43-53 Sand and Shell sparse binder of drab, brownish clay, 25% coarse pelecypod shell fragments; fine- to coarse-grained, rather poorly-sorted, angular to subrounded; clear quartz, with small amounts of feldspar (in coarse fraction), magnetite, glauconite, epidote, hornblende, muscovite, and carbonaceous material; a few foraminifers and echinoid spines
- 53-64 Sand moderately-abundant binder of brownish-gray clay; 10% pelecypod shell fragments; fine- to medium-grained, moderately-sorted, angular to subangular; clear quartz, with minor amounts of magnetite, glauconite, muscovite, hornblende, epidote, and garnet; foraminifers, ostracods, and echinoid spines moderately abundant

OWNER: Norfolk General Hospital

0	64-74	fa w bl aı	- clayey (medium-gray clay); fine- to medium-grained, fairly well-sorted, angular to subangular; clear quartz, with subordinate glauconite, magnetite, muscovite, horn- blende, epidote, and carbonaceous material; a few shell and plant fragments; abundant echinoid spines, foraminifers (Nonion and Globigerina prominent), and ostracods				
	74-85	11		about 15% microfossils (echinoid spines and plates, foraminifers, and ostracods)			
	85-95	п		11			
	95-1 05	11		н			
	105-110	r w m q	ather poorly-s with minor amo nagnetite; trace uartz; 5% shell	(grayish-brown clay); fine- to coarse-grained, orted, angular to subrounded; clear quartz, unts of feldspar (in coarse fraction) and es of glauconite and muscovite; some blue l fragments; echinoid spines, foraminifers, and non, but not abundant			
0	110-125	11		moderately clayey			

GEOLOGIC SUMMARY

Rock Unit

Age

0-10	Columbia Group	Pleistocene
10-125	Yorktown Formation	Late Miocene

Virginia Division of Mineral Resources Robert H. Teifke, Geologist November 10, 1967

-2-

1

OWNER: Noriolk General Hospital Moiling Address: Noriolk, Virginia TENANT: Moiling Address: DRILLER: Layne-Atlantic Company Mailing Address: ORILL COATION: County Norfolk Approx feet diffection) of (direction) of (Give DRECTION AND DISTANCE IN FEET OR MILES FROM TWO REFERENCE POINTS - ROADS, TOWNS, RIVERS, ETC - COUNTY HIGHWAY OR OTHER MAP.) DATE STARTED: June 13, 1966 DATE COMPLETED: July 15, 1967 TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 75* WATER LEVEL: Stands 12 feet below surface OR Stands 10 has NATURAL flow of galions per minute Drawdown 60 feet Rate 30 gal. per min. inches from 10 Duration 8 hrs., 0 min. SCREEN SIZE: 6 inches from 10 WATER COOR 63 to 68 feet from to feet GROUTING: Method Pressure pumped 50 MATER: Color clear Teste good Odor Teste good	P 3667 JAI	OF MI	NERAL RES er, commissioner OMPLETION	OUR	CES	OFFICE AD	
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WELL LOCATION: County Norfolk Approximation for the state of	DRILLER: Layne-Atlantic Company	LA OF ARS	- Mailing Address:	P. 0.	Box 7095	, Norfolk	, VA 2350
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has NATURAL flow ofgallons per minute	WATER LEVEL: Stands <u>12</u> fee	t below	surface <u>OR</u>				
YIELD TEST: Method Test-pumped Inchest from 0 to 75 Drawdown 60 feet inchest from 0 to 75 Rate 30 gal. per min. inchest from 10 Duration 8 hrs., 0 min. SCREEN SIZE: 6 inchest from 63 to 68 WATER ZONES: from 63 to 68 feet inchest from 10 from 10 feet MATER: Color clear Taste good Odor none Temp. ND °F WELL TO SUPPLY: (check one) Home 6 Farm Town School Material cement Depth 50 Industry Other Hospital PUM P: Type Turbine WATER ANALYSIS AVAILABLE: Yes X No Depth of intake 63 DRILL CUTTINGS SAVED: Yes X No Depth of intake 63 OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FUNSHED FREE OF CHARGE UPON REQUEST.) MARKS: Pump is equipped with gear drive and gasoline engine.	has <u>NATURAL</u>	flow of_	gallons	per	minute.	15 5	112 1
Rate 30 gal. per min. Duration 8 hrs., 0 min. WATER ZONES: from 63 to 68 feet from to 68 feet from to 66 feet from to 63 feet from to 66 feet from to 66 feet MATER Color clear Taste good Odor none Temp. ND °F WELL TO SUPPLY: (check one) Home Farm Town School Industry Other Hospital WATER ANALYSIS AVAILABLE: Yes X No DRILL CUTTINGS SAVED: Yes X No DRILL CUTTINGS SHOULD BE COLLECTED AT IO FOOT INTERVALS. THESE SAMPLES MAY BE SHIPPED TO TO OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHED FREE OF CHARGE UPON REQUEST.)					ADIC		
Duration	Drawdown <u>60</u> feet	F		19	_inches from	to _	feet
WATER ZONES: from 63 to 68 feet	Rate <u>30</u> gal. per min				_inches from	to	feet
from to feet from to feet from to feet WATER: Color clear Taste good Odor none Temp. ND % WELL TO SUPPLY: (check one) Home	Duration <u>8</u> hrs., <u>0</u> min		SCREEN SIZE	: 6	_inches from	<u>63</u> to _	68feet
from	WATER ZONES: from 63 to 6	8feet		<u>and and and and and and and and and and </u>	_inches from	to _	feet
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Odor	fromt o	feet	CASE SIZE:	6	_inches from	n_0to	63_feet
WELL TO SUPPLY: (check one) Home	WATER: Color	ood		6	_inches fror	<u>.68</u> to_	75 feet
Farm Town School Material Cement Depth 50 Industry Other Hospital PUMP: Type Turbine WATER ANALYSIS AVAILABLE: Yes X No Capacity 35 gal. per DRILL CUTTINGS SAVED: Yes No Depth of intake 63 (DRILL CUTTINGS SHOULD BE COLLECTED AT IO FOOT INTERVALS. THESE SAMPLES MAY BE SHIPPED TO TO OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHED FREE OF CHARGE UPON REQUEST.) Gasoline engine.	Odor <u>none</u> Temp	ND °F			-inches from	n to_	feet
IndustryOtherHospital PUMP: TypeTurbine WATER ANALYSIS AVAILABLE:Yes_X_No Capacity35gal. per DRILL CUTTINGS SAVED: Yes_XNo Depth of intake63 (DRILL CUTTINGS SHOULD BE COLLECTED AT 10 FOOT INTERVALS. THESE SAMPLES MAY BE SHIPPED TO TO OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHED FREE OF CHARGE UPON REQUEST.) 63 FARKS: Pump is equipped with gear drive and gasoline engine. 63	WELL TO SUPPLY: (check one) Home		GROUTING:	Method	Press	ure pump	ped 501
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* Pilot hole to 125 ^t	ARKS: Pump is equipped with gea	r drive an	d gasoline engi	ine.			
	* Pilot hole to 125 ^t						
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VDMR - 1959 COMMONWEALTHOODE VIRGINIA WWCR - 161

Layne-Atlantic Company August 16, 1967

8

DEPTH (feet)		TYPE OF ROCK OR SOIL PENET	RATED REMARKS
ROM	то	(gravel, clay, etc., hardness, color,	etc.) (water, caving, shot, screen, sample, et
0	2	-Yellow clay	THAP
22 2 A 1	,10110	Yellow sand	LEFR Layne-Atlantic Company
10	23	Blue clay, shell, some sand	
23	33	Blue clay, shell and sand	L LOCATION CORNY NOTOILS
33	43	Clay, shell and sand	
43	53	Sand	
53	64	Blue clay atmost son sasas ow	E DIRECTION AND DISTANCE IN FEET OR MILES FROM T DATY HIGHWAY OR OTHER MAR.)
64	74	Clay, some sand	이 같은 것 같은 것 이 것 같은 것 같은 것 같은 것 같은 것 같은 것
74	84	Sand DL OBTRUMMOD BTAC	E STARTED: June 13, 1966
84	95	Clay, hard, some sand	Desite of the second
95	105	Same as above	NE OF DRILL RIG USED: Rotaly
105	107	Some sand	TER LEVEL: Stands 12 feat befow.
107	112	Sanu	- 그가 그가 가지 않는 것 같아요. 한것은 것이 가지 않는 것이 가지 않는 것이라. 눈가지 않는 것 같아요. 가지 않는 것이 가지 않는 것이 같아요. 가지 않는 것이 있다. 가지 않는 것이 없다. 가지 않는 것이 있다. 가지 않는 것이 있다. 가지 않는 것이 있다. 가지 않 같이 같이 않는 것이 같이 있다. 것이 있다. 가지 않는 것이 있다. 가지 않는 것이 같이 같이 같이 같이 같이 같이 같이 않는 것이 같이 않는 것이 없다. 가지 않는 것이 같이 않는 것이 않는 것이 않 않는 것이 않 것이 같이 않는 것이 같이 않는 것이 않는 것이 않는 것이 있다. 것이 있는 것이 같이 같이 같이 같이 않는 것이 같이 않는 것이 않는 것이 것이 않는 것이 않 것이 않는 것이 않 않는 것이 않 않 않 않 않 않 않 않는 것이 않 않 않는 것이 않 않 않 않 않 않 않 않 않 않 않 않
112	115	Sand and hard clay	To wolf AARDTAN and
115	125	Olay	그는 가슴 그는 것은 것을 알았다. 것은 것은 것은 것을 가지 않는 것을 것 같아. 물건을 했다.
feee	<u>e7 -or</u>	HOLE SIZE. 15	UO TEST Method Test-pumped
			Drawdown 60
	61	mon1-2.6/pmi	Rote 30. gal per nin
993	80.01	SOREEN SIZE 6	Durdtign, ernogitore0
f.e.o	o1	moil_sedoni	TER. ZONES: Ham 63 to 68 (rest
ee)	o1	(roi)_sedon(Tromfofo
991	10	CABE STZEL <u>6 Inches from 0</u>	feel
eel	91	6 inches from 6.	18A Color Clear Tasia good
	ot	inches from	0dor none Temp ND *
<u>501</u>		GROUTING Mathod Presente	L TO SUPPLY (check one) Home
	ht <u>50</u>	Material Cement	FarmSolon
		PUMP' Dyna Tuibine	I. JigaoHtonoystano
	100		ER ANALYSIS AVAILABLE Ver A
	o) 03891H	VTERVALS THESE SAMPLES MAY BE	L OUTTINGS SAVED: Yes. 2 No. 2 L CUTTINGS SHOULD BE COLLECTED AT 10 FEOT 1 105 EXEMBES COLLECT SAMPLE BASS ARE FURNISH
		gasoline engine.	ARKS Pump is equipped with gear drive and
<u></u>			* Pilop hole to 125!

INTERVAL SHEET

Para 1 of 1

Date rec'd: 9/6/67

PROP: Norfolk General Hospital

COMP: Layne-Atlantic Co.

COUNTY: Norfolk (Norfolk)

VDMR Well No: 1959 Sample Interval: from0^{*} to: 125^{*} Number of samples: 12 Total Depth: 125^{*} Oil or Gas: Wate¥: Exploratory:

From-To	From-To	From-To	From-To
0 - 10	- · · · ·	· -	-
10 - 23	-	-	· · ·
23 - 33	-		
33 - 43	-	_	_
43 - 53	_	_	
45 55			
53 - 64	-	_	_
64 - 74	_	_	
74 - 85	_	_	_
85 - 95	3	_	_
	_		
95 - 105	-	-	-
105 - 110	-	-	-
110 - 125	-	-	-
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All intervals have both washed and unwashed samples