COMMONWEALTH	OF VIRGINIA WWCD. 174
DEPARTMENT OF CONSERVATIO	N AND ECONOMIC DEVELOPMENT
MAILING ADDRESS: DIVISION OF MIN	IERAL RESOURCES OFFICE ADDRESS:
C. lottesville, VA 22903 WATER WELL CO	DMPLETION REPORT Charlottesville, Virginia
OWNER: Hedgerow water Corporation	Mailing Address:
TENANT:	Mailing Address:
DRILLER: R. L. Magette Drilling Co.	Mailing Address: Smithfield, Va.
WELL LOCATION: County Nansemond	Approxfeet(direction) of
Near Churchland	rfeets(direction) of
(GIVE DIRECTION AND DISTANCE IN FEET OR MILES FROM T COUNTY HIGHWAY OR OTHER MAP.)	WO REFERENCE POINTS - ROADS, TOWNS, RIVERS, ETC ON
DATE STARTED: October 1, 1967	DATE COMPLETED. October 28, 1967
TYPE OF DRILL RIG USED. Rotary	TOTAL DEPTH 580 feet
WATER LEVEL: Stands <u>30</u> feet below	surface <u>OR</u>
has NATHRAL flow of	gallons per minute
VIELD TEST Manual Pump	$\frac{1}{1}$
Drawdown <u>120</u> teet	<u> </u>
Rate <u>700</u> gal. per min.	*_30_inches from <u>340_</u> to <u>380_</u> feet
Durationhrs.,min.	SCREEN SIZE: <u>b</u> inches from <u>530</u> to <u>550</u> feet
WATER ZONES: from 530 to 550 feet	<u> </u>
from <u>560 to 580</u> feet	inches fromtofeet
fromtotofeet	CASE SIZE: <u>16 inches from 0 to 50 feet</u>
WATER: ColorTaste	<u>     8   inches</u> from <u>   0  to 275   feet</u>
OdorTempTemp9F	6_inches_from_275_to_580_feet
WELL TO SUPPLY:(check one)Home	GROUTING: Method _ poured
Farm Town School	Material <u>cement</u> Depth <u>50</u> feet
IndustryOther_Subdivision	PUMP: Type
WATER ANALYSIS AVAILABLE:YesNoX	Capacitygal. per min
DRILL CUTTINGS SAVED: Yes $X = N_0$ (DRILL CUTTINGS SHOULD BE COLLECTED AT IO FOOT I OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISHI	Depth of intakefeet NTERVALS. THESE SAMPLES MAY BE SHIPPED TO THIS ED FREE OF CHARGE UPON REQUEST.)
ARKS: * packed w/pea gravel; 8" x 6" bu	shing @ 275 <sup>1</sup> , ball plug @ 580 <sup>1</sup>
Electric Log by driller	
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	(LOG OF WELL) OVER
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# LOG

FURNISHED BY: R. L. Magette

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\_\_\_\_\_DATE: February 1968

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED	REMARKS
FROM	то	(graver, clay, etc., noralless, color, etc.)	(warei, caving, shoi, screen, sample, etc.)
1 6 20	6 20 30	fine brown sand fine gray " " " and trace of shell	
30 63 120 225 380	63 120 255 380 485	coarse shell and fine gray sand fine brown sand and trace of shell medium shell, fine sand and trace of sh hard clay and shell hard clay and trace of shell and sand	ie 11
485 500 530	530- c 530 580-	brown sand and trace of shell black and white sand coarse white and black sand and trace o	f clay
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	INTERVAL SHEET WWCR 176
Pare 1 of 1	VDMR Well No: 2105
Date rec'd: 2/9/68	Sample Interval: from 20' to: 580'
PROP: Hedgerow Water Corp.	Number of samples: 29
COMP: R. L. Magette	Total Depth: 580 <sup>*</sup>
COUNTY: Nansemond (Churchland)	Oil or Gas: Water:X Exploratory:

	From-1	O Fro	om-To	From-To	From-To
ź	20 -		-	-	-
4	40 -		-	-	_
(	60 –		-	-	-
ş	80 -		-	-	-
10	00 -		-	-	-
12	20 -		_	_	_
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16	40 <b>-</b>		_	_	
	80 <b>-</b>		_	_	
2	00 -		-	-	-
					,
22	20 -		-	-	-
24	40 -		-	-	• –
20	60 -		-	-	-
28	80 -		-	-	-
30	00 -		-	-	-
32	20 -		-	-	-
34	40 -		-	-	· -
36	60 -		-	-	· –
38	80 -		<b>-</b> .	-	-
4	00 -	•	-	-	-
÷					
42	20 -		-	· –	-
44	40 -		-	-	-
40	60 -		-	-	-
48	80 -		-	-	-
50	- 00		-	-	-
- 52	20 -			_	-
54	40 -		-	-	_
50	60 -		-	-	_
58	80 -		-	-	_
	-		-	-	_

All intervals have both washed and unwashed samples

OWNER: Hedgerow Water Corporation DRILLER: R. R. Magette Drilling Co. COUNTY: Nansemond (Churchland) VDMR: 2105 WWCR: 176 TOTAL DEPTH: 580'

### GEOLOGIC LOG

Depth in \_\_\_\_\_feet

20

40

60

80

YORKTOWN FORMATION (20-380') Top of formation defined on basis of other information.

Clay and Sand - 50% dark-gray, sand-free, slightlypyritic clay, with abundant carbonaceous material and plant fragments; 50% medium, fairly well-sorted, angular to subrounded sand; minor glauconite, goethite after glauconite, feldspar, magnetite; trace of epidote; trace of shell fragments

Sand - gray, moderately clayey, 5% shell fragments; medium- to coarse-grained, moderately sorted, angular to rounded; slightly feldspathic; minor glauconite; clay is moderately carbon- aceous; accessory epidote, garnet, tourmaline, kyanite, and iron ores

Sand - tan, very slightly clayey, 20% shell fragments; medium, fairly well-sorted, subangular to rounded; slightly feldspathic and glauconitic; minor muscovite,epidote, magnetite, garnet and rutile; echinoid spines common; very few foraminifers

Sand - tan, clean, 10% shell fragments; fine- to mediumgrained, moderately sorted, angular to subrounded; slightly feldspathic; very slightly glauconitic; varied assemblage of accessory minerals; trace of plant material

100 Sand - light-brown, slightly clayey, 10-15% shell fragments; fine- to coarse-grained, moderately sorted, subangular to rounded; slightly glauconitic; feldspar common in coarser fraction; accessory magnetite

120 Sand - greenish-gray, slightly clayey, 10% shell fragments; fine- to medium-grained, fairly well-sorted, angular to subrounded; slightly feldspathic and glauconitic; varied assemblage of accessory minerals

140 Sand - gray, slightly clayey; medium to very coarse-grained, moderately sorted; subrounded quartz and bioclasts with 25% shell fragments larger than 2 mm; quartz is concentrated in medium and coarse fractions; minor feldspar and partially decomposed glauconite; forams and ostracods common, but not abundant; echinoid spines abundant

#2105 OWNER: Hedgerow Water Corporation -2-160 Sand - greenish-gray, moderately clayey, 25% pelecypod shell fragments; fine- to medium-grained, fairly well-sorted, subangular; 5% glauconite; much of quartz has greenish cast; very few foraminifers 11 180 fine- to coarse-grained; very slightly glauconitic 200 Sand and Shell - greenish-gray, moderately clayey; 50% coarse pelecypod shell fragments; 50% fineto medium-grained, fairly well-sorted, angular to subangular quartz sand; very slightly glauconitic; a few foraminifers, including textularids 220 Sand - greenish-gray, very clayey, 5% shell fragments; fine-grained, fairly well-sorted, angular to subangular; very slightly glauconitic; a few plant fragments; foraminifers common, but not abundant Sand and Shell - gray, moderately clayey to clayey; 30% 240 pelecypod and echinoid shell debris; 70% fine, angular, very slightly glauconitic sand; a few foraminifers, ostracods, plant fragments, and spores n 260 20% shell fragments 11 280 20% shell fragments 300 Sand - light grayish-brown, slightly clayey; a few shell fragments; medium- to coarse-grained, wellsorted, subrounded; slightly feldspathic; abundant and varied accessory mineral assemblage 320 Sand - gray, moderately clayey, a few shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subrounded; slightly feldspathic; abundant and varied assemblage of accessory minerals; plant fragments common; very few foraminifers 340 Sand - gray, moderately clayey, a few shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subrounded; slightly feldspathic; abundant and varied assemblage of accessory minerals; plant fragments common; very few foraminfers 11 11 360 CALVERT FORMATION (380-435') Clay - greenish-brown, sand-free, uniformly silty 380 clay; plant fragments common

400 Clay - greenish-gray, compact, uniformly silty, 5% shell fragments; abundant plant fragments and spores; foraminifers common, but not abundant

- 420 Sand moderately abundant matrix of greenish-gray clay, a few granules and shell fragments; fine- to very coarse-grained, fairly well-sorted (Skewed coarse), angular to rounded; clear quartz with 5% brownish fragmental-to-nodular phosphorite; few foraminifers
- MATTAPONI FORMATION (435-510') Top of formation defined on basis of other information.
- 440 Clay gray to greenish-gray, very sandy, a few shell fragments; sand is medium, moderately sorted, poorly rounded; moderately glauconitic (about 20% of sand fraction); minor phosphorite and feldspar; a few fragments are calcitic, glauconitic sandstone; foraminifers common
- 460 Sand gray, clayey, a few shell fragments; fine- to very coarse-grained, poorly sorted, variably rounded; 15% glauconite; minor feldspar, pyrite, earthy hematite, phosphorite; a few foraminifers (<u>Dentalina</u>, <u>Robulus</u>, globigerinids)
- 480 "

500 " "

TRANSITIONAL BEDS (510-580') Top of formation defined on basis of other information.

- 520 Clay gray and greenish-gray, locally reddish-brown, very sandy, 10% granule gravel; sand is fine- to very coarse-grained, poorly sorted; 10% glauconite; feldspathic in coarser grades; minor pyrite and phosphorite; rock fragments common; a very few foraminifers
- 540 Sand and Gravel slightly clayey; 65% fine (2-6 mm), well-sorted, quartzo-feldspathic gravel; 35% fine- to very coarse-grained, poorly sorted, feldspathic, slightly glauconitic sand; authigenic, cementing pyrite relatively abundant; minor muscovite

11

560 "

580 " 80% gravel, 20% sand

### GEOLOGIC SUMMARY

### Rock Unit

### Age

0-380'Yorktown FormationMiocene380-435'Calvert FormationMiocene435-510'Mattaponi FormationPaleocene - Late Cretaceous510-580'Transitional bedsLate Cretaceous

Virginia Division of Mineral Resources Robert H. Teifke, Geologist March 8, 1968 Robert H. Teifke March 6, 1972

MAILING ADDRESS: DIVISION OF MI B 3667 JAMES L. CALV - Iottesville, VA 22903 WATER WELL	NERAL RESOURCES       OFFICE ADDRESS:         ER, COMMISSIONER       McCormick Road         COMPLETION REPORT       Charlottesviller, Virgit
OWNER Hedgerow Water Corporation	- Mailing Address
T ENANT:	Mailing Address
DRILLER: R. L. Magette Drilling Co.	- Mailing Address: Smithfield, Va.
WELL LOCATION: CountyNansemond	feet (): Approx miles'(direction);
Near Churchland	feet (direction) of
(GIVE DIRECTION AND DISTANCE IN FEET OR MILES FROM	TWO REFERENCE POINTS - ROADS, TOWNS, RIVERS, ETC O
DATE STARTED. October 1, 1967	$ = \frac{1}{2} + \frac$
TYPE OF DRUG BIC USED Rotary	
WATER LEVEL AND ONE 30 for holes	
WATER LEVEL. Stands <u>JU</u> teet Delow	SUFFACE <u>OR</u>
has <u>NATURAL</u> flow of.	gallons per minute.
YIELD TEST Method Pump	HOLE SIZE: 20 inches from 0 to 50 fe
Drowdown <u>120</u> feet	<u>15 1/2</u> inches from <u>50</u> to <u>520</u> fe
Rate <u>700</u> gal. per min.	* <u>36</u> inches from <u>520</u> to <u>580</u> fe
Durationhrs.,min.	SCREEN SIZE: 6 inches from 530 to 550 fe
WATER ZONES: from <u>530</u> to <u>550</u> feet	6_inches_from_ <u>560</u> to_ <u>580</u> fe
from <u>560</u> to <u>580</u> feet	inches fromtofe
fromtotofeet	CASE SIZE: 16 inches from 0 to 50 fe
WATER: ColorTaste	<u>8</u> inches from 0 to 275 fe
OdorTemp°F	<u>6_inches_from_275_to_580_free</u>
WELL TO SUPPLY (check one) Home	GROUTING: Method poured
FarmTownSchool	Material <u>cement</u> Depth 50 fe
IndustryOther_Subdivision	
WATER ANALYSIS AVAILABLE Yos No X	Canacity and per m
DRILL CUTTINGS SAVED' Yor X NO	Depth of intoke
(DRILL CUTTINGS SHOULD BE COLLECTED AT 10 FOOT OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISI	INTERVALS. THESE SAMPLES MAY BE SHIPPED TO THI HED FREE OF CHARGE UPON REQUEST.)
A_IARKS: * packed w/pea gravel; 8" x 6" b	oushing @ 275', ball plug @ 580'
Electric Log by driller	1
EL.: 15	

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OWNER: Hedgerow Water Corporation DRILLER: R. R. Magette Drilling Co. COUNTY: Nansemond (Churchland)

VDMR: 2105 WWCR: 176 TOTAL DEPTH: 580'

### GEOLOGIC LOG

Depth in feet YORKTOWN FORMATION (20-380') Top of formation defined on basis of other information. 20 Clay and Sand - 50% dark-gray, sand-free, slightlypyritic clay, with abundant carbonaceous material and plant fragments; 50% medium, fairly well-sorted, angular to subrounded sand; minor glauconite, goethite after glauconite, feldspar, magnetite; trace of epidote; trace of shell fragments

> Sand - gray, moderately clayey, 5% shell fragments; medium- to coarse-grained, moderately sorted, angular to rounded; slightly feldspathic; minor glauconite; clay is moderately carbonaceous; accessory epidote, garnet, tourmaline, kyanite, and iron ores

Sand - tan, very slightly clayey, 20% shell fragments; medium, fairly well-sorted, subangular to rounded; slightly feldspathic and glauconitic; minor muscovite, epidote, magnetite, garnet and rutile; echinoid spines common; very few foraminifers

Sand - tan, clean, 10% shell fragments; fine- to mediumgrained, moderately sorted, angular to subrounded; slightly feldspathic; very slightly glauconitic; varied assemblage of accessory minerals; trace of plant material

100 Sand - light-brown, slightly clayey, 10-15% shell fragments; fine- to coarse-grained, moderately sorted, subangular to rounded; slightly glauconitic; feldspar common in coarser fraction; accessory magnetite

120 Sand - greenish-gray, slightly clayey, 10% shell fragments; fine- to medium-grained, fairly well-sorted, angular to subrounded; slightly feldspathic and glauconitic; varied assemblage of accessory minerals

Sand - gray, slightly clayey; medium to very coarse-grained, 140 moderately sorted; subrounded guartz and bioclasts with 25% shell fragments larger than 2 mm; guartz is concentrated in medium and coarse fractions; minor feldspar and partially decomposed glauconite; forans and ostracods common, but not abundant; echinoid spines abundant

40

60

80

OWNER: Hedgerow Water Corporation

160 Sand - greenish-gray, moderately clayey, 25% pelecypod shell fragments; fine- to medium-grained, fairly well-sorted, subangular; 5% glauconite; much of quartz has greenish cast; very few foraminifers

--2--

- 180 " fine- to coarse-grained; very slightly glauconitic
- 200 Sand and Shell greenish-gray, moderately clayey; 50% coarse pelecypod shell fragments; 50% fineto medium-grained, fairly well-sorted, angular to subangular quartz sand; very slightly glauconitic; a few foraminifers, including textularids
- 220 Sand greenish-gray, very clayey, 5% shell fragments; fine-grained, fairly well-sorted, angular to subangular; very slightly glauconitic; a few plant fragments; foraminifers common, but not abundant
- 240 Sand and Shell gray, moderately clayey to clayey; 30% pelecypod and echinoid shell debris; 70% fine, angular, very slightly glauconitic sand; a few foraminifers, ostracods, plant fragments, and spores

260 " 20% shell fragments

280 " 20% shell fragments

- 300 Sand light grayish-brown, slightly clayey; a few shell fragments; medium- to coarse-grained, wellsorted, subrounded; slightly feldspathic; abundant and varied accessory mineral assemblage
- 320 Sand gray, moderately clayey, a few shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subrounded; slightly feldspathic; abundant and varied assemblage of accessory minerals; plant fragments common; very few foraminifers
- 340 Sand gray, moderately clayey, a few shell fragments; medium- to coarse-grained, fairly well-sorted, angular to subrounded; slightly feldspathic; abundant and varied assemblage of accessory minerals; plant fragments common; very few foraminfers

11

360

CALVERT FORMATION (380-435')

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380 Clay - greenish-brown, sand-free, uniformly silty clay; plant fragments common

#2105

11

Clay - greenish-gray, compact, uniformly silty, 5% shell fragments; abundant plant fragments and spores; foraminifers common, but not abundant

Sand - moderately abundant matrix of greenish-gray clay, a few granules and shell fragments; fine- to very coarse-grained, fairly well-sorted (Skewed coarse), angular to rounded; clear quartz with 5% brownish fragmental-to-nodular phosphorite; few foraminifers

## MATTAPONI FORMATION (435-510') Top of formation defined on basis of other information.

440

460

400

420

- Clay gray to greenish-gray, very sandy, a few shell
  fragments; sand is medium, moderately sorted,
  poorly rounded; moderately glauconitic (about 20%
  of sand fraction); minor phosphorite and feldspar;
  a few fragments are calcitic, glauconitic sandstone;
  foraminifers common
- Sand gray, clayey, a few shell fragments; fine- to very coarse-grained, poorly sorted, variably rounded; 15% glauconite; minor feldspar, pyrite, earthy hematite, phosphorite; a few foraminifers (Dentalina, Robulus, globigerinids)

500 .

480

TRANSITIONAL BEDS (510-580') Top of formation defined on basis of other information.

520

Clay - gray and greenish-gray, locally reddish-brown, very sandy, 10% granule gravel; sand is fine- to very coarse-grained, poorly sorted; 10% glauconite; feldspathic in coarser grades; minor pyrite and phosphorite; rock fragments common; a very few foraminifers

540

Sand and Gravel - slightly clayey; 65% fine (2-6 mm), well-sorted, quartzo-feldspathic gravel; 35% fine- to very coarse-grained, poorly sorted, feldspathic, slightly glauconitic sand; authigenic, cementing pyrite relatively abundant; minor muscovite

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80% gravel, 20% sand

560 580

### GEOLOGIC SUMMARY

### Rock Unit

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### Age

0-380'Yorktown FormationMiocene380-435'Calvert FormationMiocene435-510'Mattaponi FormationPaleocene - Late Cretaceous510-580'Transitional bedsLate Cretaceous

Virginia Division of Mineral Resources Robert H. Teifke, Geologist March 8, 1968 Robert H. Teifke March 6, 1972