

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

VDMR: 2106  
WWCR: 175

MAILING ADDRESS:

B-3667  
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES  
JAMES L. CALVER, COMMISSIONER  
WATER WELL COMPLETION REPORT

OFFICE ADDRESS:

McCormick Road  
Charlottesville, Virginia

OWNER: Joel E. Harrell & Sons, Inc. Mailing Address: Suffolk, Va.

TENANT: \_\_\_\_\_ Mailing Address: \_\_\_\_\_

DRILLER: R. L. Magette Well Drilling Co. Mailing Address: Smithfield, Va.

WELL LOCATION: County Nansemond Approx. \_\_\_\_\_ feet miles \_\_\_\_\_ (direction) of \_\_\_\_\_  
in Suffolk \_\_\_\_\_ and \_\_\_\_\_ feet miles \_\_\_\_\_ (direction) of \_\_\_\_\_

(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 5, 1967 DATE COMPLETED: March 28, 1967

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 674 feet  
(plugged at 654')

WATER LEVEL: Stands 60 feet below surface OR  
has NATURAL flow of \_\_\_\_\_ gallons per minute.

YIELD TEST: Method Pump

\* Drawdown 65 feet

\* Rate 340 gal. per min.

Duration 24 hrs., \_\_\_\_\_ min.

WATER ZONES: from 634 to 654 feet

from \_\_\_\_\_ to \_\_\_\_\_ feet

from \_\_\_\_\_ to \_\_\_\_\_ feet

WATER: Color \_\_\_\_\_ Taste \_\_\_\_\_

Odor \_\_\_\_\_ Temp. \_\_\_\_\_ °F

WELL TO SUPPLY: (check one) Home \_\_\_\_\_

Farm \_\_\_\_\_ Town \_\_\_\_\_ School \_\_\_\_\_

Industry X 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.)

REMARKS: \* Preliminary test @ 450 gpm w/140' drawdown.

Electric logs run by driller. Annular packed with pea gravel

HOLE SIZE: 20 inches from 0 to 20 feet

15 1/2 inches from 20 to 634 feet

36 inches from 634 to 654 feet

SCREEN SIZE: 6 inches from 634 to 654 feet

\_\_\_\_\_ inches from \_\_\_\_\_ to \_\_\_\_\_ feet

\_\_\_\_\_ inches from \_\_\_\_\_ to \_\_\_\_\_ feet

CASE SIZE: 16 inches from 0 to 20 feet

8 inches from 0 to 300 feet

6 inches from 300 to 634 feet

GROUTING: Method Poured

Material Cement Depth 20 feet

PUMP: Type turbine, 25 HP, 1800 RPM

Capacity 300 gal. per min

Depth of intake 150 feet

# LOG

FURNISHED BY: R. L. Magette Well Drilling Co. DATE: 2/9/68

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	22	Fine white sand and traces of clay	
22	41	Coarse, brown and white sand/traces of blue clay	
41	65	Blue clay - shell - sand	
65	70	Hard shell bed	
70	148	Soft blue clay - shell	
148	226	Soft blue clay - shell - pepper sand	
226	276	Soft gray mud	
276	282	Hard shell bed	
282	320	Blue clay - shell - coarse gravel	
320	340	Pepper sand	
340	520	Blue clay - shell - coarse - gravel-peppers sand	
520	610	Hard blue clay - shell-coarse gravel-pepper sand	
610	650	Clean fine sand	
650	674	Fine sand	

(Use additional forms if necessary)

INTERVAL SHEET WWCR 175

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VDMR Well No: 2106

Date rec'd: 2/12/68

Sample Interval: from 20 to: 660'

PROP: J. E. Harrell & Sons, Inc.

Number of samples: 33

COMP: R. L. Magette Well Drilling Co.

Total Depth: 674'

COUNTY: Nansemond (Suffolk)

Oil or Gas: Water: XExploratory:

From-To	From-To	From-To	From-To
20 -	620-	-	-
40 -	640-	-	-
60 -	660-	-	-
80 -	-	-	-
100 -	-	-	-
120 -	-	-	-
140 -	-	-	-
160 -	-	-	-
180 -	-	-	-
200 -	-	-	-
220 -	-	-	-
240 -	-	-	-
260 -	-	-	-
280 -	-	-	-
300 -	-	-	-
320 -	-	-	-
340 -	-	-	-
360 -	-	-	-
380 -	-	-	-
400 -	-	-	-
420 -	-	-	-
440 -	-	-	-
460 -	-	-	-
480 -	-	-	-
500 -	-	-	-
520 -	-	-	-
540 -	-	-	-
560 -	-	-	-
580 -	-	-	-
600 -	-	-	-

All intervals have both washed and unwashed samples

OWNER: J. E. Harrell & Sons, Inc.  
DRILLER: R. L. Magette Well Drilling Co.  
COUNTY: Nansemond (Suffolk)

VDMR: 2105  
WWCR: 175  
TOTAL DEPTH: 674'

GEOLOGIC LOG

Depth in  
feet

YORKTOWN FORMATION (0-200') Top of formation defined on basis of other information.

0-20	No sample
20	Sand - gray, clean; fine- to medium-grained, well-sorted; angular quartz, with 25% bioclasts; echinoid spines, foraminifers, and ostracods common, but not abundant
40	Sand - gray, slightly clayey; 20% coarse shell fragments; fine-grained, well-sorted; angular quartz, with 30-35% bioclasts; echinoid spines, foraminifers, and ostracods moderately abundant
60	" moderately clayey, 35% coarse shell fragments
80	Sand - gray, moderately clayey, 5% coarse shell fragments; medium- to coarse-grained, fairly well-sorted; 40% blackish-green glauconite, 60% clear, subangular to subrounded quartz
100	" trace of clay; 60% glauconite, 40% quartz
120	Sand - gray, very slightly clayey, 20% coarse shell fragments; medium- to coarse-grained, fairly well-sorted, 60% quartz, 40% glauconite; glauconite is coarser than quartz
140	" slightly clayey; 35% coarse shell fragments
160	Sand - gray, moderately clayey, 20% coarse shell fragments; 85% fine, well-sorted, angular, clear to greenish quartz, 15% fine to coarse, blackish-green glauconite
180	Clay - greenish-gray, very sandy, a few shell fragments; fine- to coarse-grained, moderately sorted; angular; yellowish quartz with 5% glauconite and a trace of feldspar; a few plant fragments

## CALVERT FORMATION (200-300')

200	Clay - greenish-gray, silty to sandy, a few shell fragments; coarse silt to very fine-grained sand, well-sorted, angular; very slightly glauconitic; minor muscovite and bone phosphorite
220	" "
240	" "
260	" "
280	" " with 5% nodular and bone phosphorite

## MATTAPONI FORMATION AND TRANSITIONAL BEDS (300-500')

300	Sand - black, trace of clay; a few shell fragments; medium to very coarse-grained, well-sorted (skewed coarse); 73% blackish-green, autochthonous glauconite, and 23% quartz; numerous phosphorite nodules and bone fragments
320	" " 90% glauconite, 10% quartz
340	Sand - gray, slightly clayey, a very few shell fragments; 50% medium- to coarse-grained, blackish-green glauconite, and 50% fine- to medium-grained, angular quartz; minor feldspar; trace of garnet; nodular and bone phosphorite common, a few <u>Nodosaria</u>
360	" " with 25% fragments of calcitic, fine-grained sandstone
380	" " with 10% fragments of calcitic, fine-grained sandstone
400	Clay - gray, sandy, 5% coarse shell fragments, 5% granule gravel; sand is fine- to very coarse-grained, poorly sorted; 50% fresh glauconite, 50% angular quartz; nodular and bone phosphorite common; a few fragments of calcitic sandstone; minor garnet and muscovite; a few foraminifers
420	" " moderately sandy; 20% coarse shell fragments
440	Clay - gray, silty and sandy, 5% shell fragments, sand is generally fine, angular, micaceous; 5% coarse glauconite; minor pyrite and phosphorite; plant fragments common
460	" "
480	" " 15% glauconite

possibly  
trans.  
beds

possibly  
trans.  
beds

## PATUXENT FORMATION (500-660')

500	Sand - brown, trace of clay; coarse-grained, well-sorted, angular to subrounded; feldspathic; slightly micaceous; traces of pyrite, garnet, and glauconite
520	" "
540	" coarse- to very coarse-grained
560	" "
580	" "
600	" "
620	" coarse- to very coarse-grained
640	" "
660	" coarse- to very coarse-grained

GEOLOGIC SUMMARY

	<u>Rock Unit</u>	<u>Age</u>
0-200	Yorktown Formation	Miocene
200-300	Calvert Formation	Miocene
300-500	Mattaponi Formation and Transitional beds	Paleocene - Late Cretaceous
500-660	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources  
Robert H. Teifke, Geologist  
March 14, 1968

Robert H. Teifke  
March 7, 1972

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240	" "
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480	" 15% glauconite



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