

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

DIVISION OF MINERAL RESOURCES

OFFICE ADDRESS:

B- 3667  
Charlottesville, VA 22903

JAMES L. CALVER, COMMISSIONER

McCormick Road  
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: James City Service Authority Mailing Address: Williamsburg, Virginia

TENANT: Old Town Road - Well #1 Mailing Address: \_\_\_\_\_

DRILLER: Sydnor Hydrodynamics, Inc. Mailing Address: P. O. Box 27186, Richmond, VA. 23261

WELL LOCATION: County James City Approx. .6 ~~xxxx~~ miles Rt. 60 (direction) of \_\_\_\_\_  
and 300 <sup>feet</sup> ~~xxxx~~ South (direction) of Rt. 658

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

DATE STARTED: 10/30/73 DATE COMPLETED: 12/13/73

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 400 feet

WATER LEVEL: Stands 123 feet below surface OR  
has NATURAL flow of \_\_\_\_\_ gallons per minute.

YIELD TEST: Method Turbine  
Drawdown 30 feet  
Rate 316 gal. per min.  
Duration 24 hrs., \_\_\_\_\_ min.

HOLE SIZE: 22 inches from 0 to 50 feet  
17 1/4 inches from 50 to 300 feet  
9-7/8 inches from 300 to 400 feet

WATER ZONES: from 242 to 282 feet  
from \_\_\_\_\_ to \_\_\_\_\_ feet  
from \_\_\_\_\_ to \_\_\_\_\_ feet

SCREEN SIZE: 6 inches from 242 to 282 feet

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

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

WATER: Color \_\_\_\_\_ Taste \_\_\_\_\_  
Odor \_\_\_\_\_ Temp. \_\_\_\_\_ °F

CASE SIZE: 8 inches from +2 to 242 feet

8 inches from 282 to 288 feet

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

WELL TO SUPPLY: (check one) Home \_\_\_\_\_  
Farm \_\_\_\_\_ Town \_\_\_\_\_ School \_\_\_\_\_  
Industry \_\_\_\_\_ Other Subdivision

GROUTING: Method Pressure

Material Cement-water Depth 50 feet

WATER ANALYSIS AVAILABLE: Yes X No \_\_\_\_\_

PUMP: Type \_\_\_\_\_

Capacity \_\_\_\_\_ gal per min

DRILL CUTTINGS SAVED: 40 Yes X No \_\_\_\_\_

Depth of intake \_\_\_\_\_ feet

(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: Gravel packed 50-282'

VIRGINIA DIVISION OF MINERAL RESOURCES  
 Box 3667, Charlottesville, VA 22903

INTERVAL SHEET

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Date rec'd: 1-17-74 Date Processed: 10-31-74

PROPERTY: James City Service Auth.  
 (Old Town Road - Well #1)

COMPANY: Sydnor

COUNTY: James City (Ewell)

Well Repository No.: W-4057  
 C- 167

Sample Interval: from 0 to: 400

Number of samples: 40

Total Depth: 400

Oil or Gas: Water: x Exploratory:

From-To	From-To	From-To	From-To
0 - 10	300 - 310	-	-
10 - 20	310 - 320	-	-
20 - 30	320 - 330	-	-
30 - 40	330 - 340	-	-
40 - 50	340 - 350	-	-
50 - 60	350 - 360	-	-
60 - 70	360 - 370	-	-
70 - 80	370 - 380	-	-
80 - 90	380 - 390	-	-
90 - 100	390 - 400	-	-
100 - 110	-	-	-
110 - 120	-	-	-
120 - 130	-	-	-
130 - 140	-	-	-
140 - 150	-	-	-
150 - 160	-	-	-
160 - 170	-	-	-
170 - 180	-	-	-
180 - 190	-	-	-
190 - 200	-	-	-
200 - 210	-	-	-
210 - 220	-	-	-
220 - 230	-	-	-
230 - 240	-	-	-
240 - 250	-	-	-
250 - 260	-	-	-
260 - 270	-	-	-
270 - 280	-	-	-
280 - 290	-	-	-
290 - 300	-	-	-

Both washed and unwashed samples.

OWNER: James City Service Authority  
(Old Town Road - #1)  
DRILLER: Sydnor  
COUNTY: James City  
(Ewell)

W#: 4057  
C#: 167  
TOTAL DEPTH: 400'

GEOLOGIC LOG

Depth  
(feet)

WINDSOR FORMATION (0-40)

- 0-10 Sand - dark orange; moderately clayey; fine with some medium grains; subangular to subrounded; moderately sorted; quartz; feldspar; opaques inc. ilmenite; some muscovite .
- 10-20 Sand - orange; abundant clay; silty; fine to medium grained; subangular to rounded; moderately well sorted; quartz; feldspar; minor ferricrete fragments; some opaques.
- 20-30 Sand - creamy tan; slightly clayey; silty; medium to coarse grained subrounded to round; moderately sorted; various types of quartz; feldspar.
- 30-40 Sand - orangish tan; slightly clayey; moderately iron stained; medium to coarse grained; subrounded; well sorted; quartz; feldspars.

YORKTOWN FORMATION (40-90)

- 40-50 Sand - brownish tan; moderate clay; silty; fine to very coarse; subrounded to rounded; poorly sorted; quartz; 25% shell fragments; trace of weathered glauconite; few spines and limestone fragments.
- 50-60 Sand - tan; slightly clayey; medium to coarse grained; subangular to rounded; moderately well sorted; quartz; 45% shell fragments; trace of weathered glauconite; abundant spines; ostracodes and forams.
- 60-70 Sand - gray; slightly clayey; fine grained; angular to subangular; well sorted; quartz; 3% shell fragments; 2% black phosphatic material; 2% glauconite; spines.
- 70-80 Coquina and sand - light gray; silty; fine to medium grained; subangular to subrounded; moderately sorted; 60% fine shell hash; quartz; some phosphatic material; trace of glauconite; spines.

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Depth  
(feet)

80-90 Coquina and sand - light gray; slightly clayey; silty; fine to medium grained; subangular to rounded; well sorted; 60% granular sized shell hash; quartz; 3% glauconite; phosphatic material.

CALVERT FORMATION (90-250)

90-100 Sand - gray; slightly clayey; silty; fine grained; subangular to subrounded; well sorted; 7% glauconite; 5% black phosphatic material; 2% shell fragments; 2% light green amphiboles; spines; forams (inc. Buccella and Textularia).

100-110 As above plus medium grains; moderately well sorted; forams not observed.

110-120 As (90-100) except forams not observed.

120-130 Sand - gray; moderately clayey; fine grained; subangular; well sorted; quartz; 30% shell fragments; 7% glauconite; 5% phosphatic material; some light green amphibole; spines.

130-140 As above except 35% shell fragments.

140-150 Sand - greenish gray; abundant clay; fine grained; subangular to rounded; moderately well sorted; quartz; 30% shell fragments and rounded limestone fragments; 7% glauconite; 5% phosphatic material; spines.

150-160 Sand - greenish gray; abundant clay; silty; fine to some medium grains; subangular to subrounded; moderately well sorted; quartz; 15% glauconite; some phosphatic material; 3% shell fragments; spines; forams rare (inc. Nonion); bone fragment.

160-170 As above except forams not seen.

170-180 Sand and clay - greenish gray; abundant clay; silty; fine to some medium grains; subangular; moderately well sorted; quartz; 5% glauconite; 3% shell fragments; some phosphatic material; spines; bone fragments.

180-190 As above except gray and more pure clay; 7% shell fragments.

190-200 As above except gray and even more pure clay and 25% shell fragments.

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Depth  
(feet)

- 200-210 Clay - gray; some sand; fine to medium grained; sub-angular; moderately well sorted; quartz; 15% shell fragments; some glauconite; some phosphatic material inc. teeth; some forams (inc. Cibicides, Nonion and Bulimina).
- 210-220 Sand and clay - greenish gray; abundant clay; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; 5% shell fragments; 2% phosphatic material inc. teeth; few grains of glauconite; forams (inc. Uvigerina, Nonion and Bulimina); spines.
- 220-230 As above, except forams (sp) (inc. Nonion and Buccella); plus bone fragments.
- 230-240 Sand and clay - brownish gray; more sand; abundant clay; fine to medium grained; subangular; moderately well sorted; quartz; 6% shell fragments; 2% phosphatic material; forams common (Siphogenerina, Robulus, Cibicides, Denticulina and Buccella); spines; ostracode.
- 240-250 As above except 10% shell fragments; (no Buccella, but Nonion and Uvigerina); bone fragments.
- NANJEMOY FORMATION (250-350)
- 250-260 Limestone and sand - gray; slightly clayey; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; some phosphatic material; trace glauconite; spines; forams (inc. Textularia); limestone contains glauconite, quartz, shell fragments and pyrite.
- 260-270 As above except no forams; ostracode.
- 270-280 Limestone and sand - gray; medium to coarse grained; sub-angular to rounded; moderately well sorted; quartz; 10% glauconite; some phosphatic material; spines; forams; limestone varies from sandy (glauconite and quartz) to cavernous and drussy with shell clasts and molds.
- 280-290 Limestone and sand - gray; moderately clayey; medium to coarse grained; subangular to rounded; moderately sorted; quartz; 15% glauconite; some phosphatic material; forams; limestone is sandy to cavernous and drussy with shell casts and molds; pyrite.

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Depth  
(feet)

- 290-300 Sand - dark greenish brown; moderate clay; medium to coarse grained; subrounded to rounded; moderately sorted; 60% glauconite; quartz; some shell and limestone fragments; forams.
- 300-310 Sand - dark greenish brown; moderate clay; fine to coarse grained; subangular to rounded; moderately sorted; quartz; 30% glauconite; 25% shell and limestone fragments; forams (inc. Buccella); ostracode.
- 310-320 Sand - dark greenish brown; moderate clay; fine to medium grained; subrounded to rounded; moderately sorted; 60% glauconite; quartz; few phosphate fragments; few limestone and shell fragments; spines.
- 320-330 As above except 3% limestone fragments; forams (inc. Siphogenerina); bone fragments.
- 330-340 Sand - salt and pepper brownish gray with a few fragments of pink clay; moderately clayey; medium grained; subrounded to rounded; moderately well sorted; quartz; 40% glauconite; few shell fragments; few limestone fragments; few phosphate and bone fragments; some quartz granules.
- 340-350 As above except fine to medium grained.

MATTAPONI FORMATION (350-390)

- 350-360 Sand - brownish charcoal gray; moderate clay; medium to coarse grained; rounded; moderately well sorted; 70% glauconite (black); quartz (some green, blue); 5% shell and sandy limestone fragments; foram (Dentalina).
- 360-370 As above except only 2% sandy limestone fragments.
- 370-380 As above except some sandy limestone fragments; no forams observed.
- 380-390 As above.

PATUXENT FORMATION (390-400+)

- 390-400 Sand - salt and pepper grayish brown; slightly clayey; silty; fine to medium grained w/25% angular granules; subangular to rounded; well sorted; 50% glauconite; quartz; feldspar; some sandy limestone fragments; few shell fragments; amphibole granule .

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W#: 4057

Depth  
(feet)

Note: Sp - sample taken

GEOLOGIC SUMMARY

<u>Thickness (feet)</u>	<u>Rock Unit</u>	<u>Time Rock Unit</u>
40'	Windsor Formation	Pleistocene
50'	Yorktown Formation	Pliocene-Miocene
160'	Calvert Formation	Miocene-Eocene
100'	Nanjemoy Formation	Eocene
40'	Mattiponi Formation	Eocene-Cretaceous
10'+	Patuxent Formation	Cretaceous

Virginia Division of Mineral Resources  
David A. Hubbard, Jr., Geologist  
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