

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

B-3667
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:

McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Rural Site Development Corp. Mailing Address: Box 633, Williamsburg, Va.
c/o L. V. Woodson and Assoc. Inc.

TENANT: Forest Glen Subdivision #1 Mailing Address: _____

DRILLER: SYDNOR HYDRODYNAMICS, INC. Mailing Address: P. O. Box 27186, Richmond, VA. 23268

WELL LOCATION: County James City Approx. 700 ^{feet}~~miles~~ East (direction) of
Rt. 614 and 500 ^{feet}~~miles~~ North (direction) of Rt. 612

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

DATE STARTED: 5/29/72 DATE COMPLETED: 6/21/72

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 428 feet

WATER LEVEL: Stands 115' 7" feet below surface OR
has NATURAL flow of _____ gallons per minute

YIELD TEST: Method Submersible
Drawdown 2' 9" feet
Rate 132 gal. per min.
Duration 24 hrs., _____ min.

HOLE SIZE: 22 inches from 0 to 55 feet
17 inches from 55 to 293 feet
9-7/8 inches from 293 to 428 feet

WATER ZONES: from 225 to 240 feet
from 262 to 277 feet
from _____ to _____ feet

SCREEN SIZE: 6 inches from 225 to 240 feet
6 inches from 262 to 277 feet
_____ inches from _____ to _____ feet

WATER: Color Clear Taste _____
Odor None Temp. _____ °F

CASE SIZE: 8 inches from +2 to 225 feet
6 inches from 240 to 262 feet
6 inches from 277 to 282 feet

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

GROUTING: Method Pressure
Material Cement & Water Depth 55 feet

WATER ANALYSIS AVAILABLE: Yes X No _____

PUMP: Type _____
Capacity _____ gal. per min.
Depth of intake _____ feet

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: Electric Log Ran.

LOG

FURNISHED BY: SYDNOR HYDRODYNAMICS, INC.

DATE: 6/22/72

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	1	Top Soil	
1	20	Brown Clay	
20	40	Yellow Clay	
40	45	White Sand	
45	50	Brown Sand	
50	63	Brown Clay	
63	83	Shells	
83	110	Gray Marl	
110	120	Gray Marl - Shells	
120	208	Gray Clay	
208	260	Gray Clay and shells mixed	
260	283	Shell Rock	
283	345	Gray Clay	
345	355	Pink Clay	
355	360	Gray Clay	
360	398	Soft Gray Marl	
398	418	Gray Sand	
418	428	Gray Clay	

(Use additional forms if necessary)

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

W-3639
C-161
W-3639

MAILING ADDRESS:
Box 3667
Charlottesville, VA 22903

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

OFFICE ADDRESS:
McCormick Road
Charlottesville, Virginia

OWNER: Rural Site Development Corp. Mailing Address: Box 633, Williamsburg, Virginia.

C/o L. V. Woodson and Assoc. Inc.

TENANT: Forest Glen Subdivision Mailing Address:

DRILLER: SYDNOR HYDRODYNAMICS, INC. Mailing Address: P. O. Box 27186, Richmond, Va. 23261

WELL LOCATION: County James City Approx. 700 feet East (direction) of Rt. 614 and 500 feet North (direction) of Rt. 612

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

DATE STARTED: 5/29/72 DATE COMPLETED: 6/21/72

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 428 feet

WATER LEVEL: Stands 115'7" feet below surface OR has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method Submersible

Drawdown 2'9" feet

Rate 132 gal. per min.

Duration 24 hrs., _____ min.

WATER ZONES: from 225 to 240 feet

from 262 to 277 feet

from _____ to _____ feet

WATER: Color Clear Taste _____

Odor None Temp. _____ °F

WELL TO SUPPLY: (check one) Home _____

Farm _____ Town _____ School _____

Industry _____ Other Subdivision _____

WATER ANALYSIS AVAILABLE: Yes No _____

DRILL CUTTINGS SAVED: Yes 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: Electric Log Ran. NORGE QUADRANGLE

HOLE SIZE: 22 inches from 0 to 55 feet

17 inches from 55 to 293 feet

9-7/8 inches from 293 to 428 feet

SCREEN SIZE: 6 inches from 225 to 240 feet

6 inches from 262 to 277 feet

_____ inches from _____ to _____ feet

CASE SIZE: 8 inches from +2 to 225 feet

6 inches from 240 to 262 feet

6 inches from 277 to 282 feet

GROUTING: Method Pressure

Material Cement & Water Depth 55 feet

PUMP: Type _____

Capacity _____ gal. per min

Depth of intake _____ feet

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

INTERVAL SHEET

Page 1 of 1 Well Repository No.: C- 161 W- 3639
 Date rec'd: 8/21/72 Date Processed: 11/20/72 Sample Interval: from 0 to: 428'
 PROPERTY: Rural Site Development Corp. Number of samples: 42
 COMPANY: Syndor Hydrodynamics Inc. Total Depth: 428'
 COUNTY: James City (^{Centerville}~~Williamsburg~~) Oil or Gas: Water: ~~x~~Explosive:

From-To	From-To	From-To	From-To	From-To
0 - 10	350-360	-	-	-
10 - 20	360-370	-	-	-
20 - 30	370-380	-	-	-
30 - 40	380-390	-	-	-
40 - 50	390-400	-	-	-
50 - 60	400-410	-	-	-
60 - 70	410-428	-	-	-
70 - 80	< -	-	-	-
80 - 90	-	-	-	-
90 - 100	-	-	-	-
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	-	-	-	-
300 - 310	-	-	-	-
310 - 320	-	-	-	-
320 - 330	-	-	-	-
330 - 340	-	-	-	-
340 - 350	-	-	-	-

All intervals have both washed and unwashed samples.

OWNER: Rural Site Development Corp.
DRILLER: Sydnor Hydrodynamics
COUNTY: James City (Williamsburg)

W-3639
C- 161
TOTAL DEPTH: 428'

GEOLOGIC LOG

Depth
(feet)

BACONS CASTLE (0-60')

- 0-10 Sand - abundant and matrix of orange brown clay, interlayered with yellow to white silty clay and brown sand clay lenses; fine grained; moderately sorted; subangular; feldspathic; some hematitic clasts, few very fine heavy minerals.
- 10-20 Sand - orange, abundant clay, fine grained; well sorted sand; subangular; quartz; feldspathic; clay clasts; few grains of weathered glauconite, few very fine heavy minerals.
- 20-30 Sand - tan to purple, with yellow to white silty clay lenses; fine grained; well sorted; subangular; quartz, some feldspar; few white sandy clay clasts few very fine heavy minerals.
- 30-40 Sand - yellow; stained (iron); slightly clayey; medium grained; well sorted; subangular to subrounded; quartz, some feldspar; few white sandy clay clasts.
- 40-50 Sand - tan; slightly clayey; medium to coarse grained; moderately well sorted; subangular to subrounded; quartz; feldspathic; few white sandy clay clasts; few very fine heavy minerals.
- 50-60 Sand - dark orange brown; stained (iron); moderately clayey; silt to medium grained; poorly sorted; subangular to rounded; quartz, feldspar; 7% ferricrete fragments; trace of glauconite; fossil crinoids stems and very fine heavy minerals.

YORKTOWN FORMATION (60-180')

- 60-70 Sand - light gray; slightly clayey; fine to medium grained, with coquina beds; moderately well sorted, subangular to rounded; 80% shell fragments; quartz; glauconite, echinoid spines; forams (Sp); ostracodes (Sp), a few ferricrete fragments.
- 70-80 Coquina - tan; slightly clayey; mixed fine to medium grained; moderately well sorted; subangular to subrounded; 80% shell fragments; quartz; glauconite; echinoid spines; a few forams.

OWNER: Rural Site Development Corp.

W-3639

Depth
(feet)

- 80-90 Coquina - tan; fine grained, well sorted, subangular to rounded; 50% shell fragments; 30% fragments of calcareous cemented fine sandstones; quartz; glauconite; echnoid spines.
- 90-100 Sand - gray; moderately clayey; fine grained with coquina; well sorted; subangular to rounded; 60% shell fragments; quartz; some glauconite; fragments of calcareous fine grained sandstone; weathered mica.
- 100-110 Sand - greenish gray; moderately clayey; fine grained, very well sorted, subangular; quartz; 3% glauconite; 2% mica (muscovite); 3% shell fragments.
- 110-120 Sand - gray, locally orange, moderately clayey; fine grained; well sorted; subangular; quartz; 30% shell fragments; trace of glauconite and black phosphatic material; fragments of calcareous cemented fine grained sandstone, sharks tooth.
- 120-130 Sand - gray, locally orange; moderately clayey; fine grained well sorted; subangular to subrounded; quartz 15% shell fragments; trace of glauconite and black phosphatic material; fragments of calcareous cemented fine sandstone, bone fragments.
- 130-140 Sand - gray, locally orange; moderately clayey; fine grained well sorted; subangular to subrounded; quartz; 30% shell fragments; glauconite and black phosphatic material; fragments of calcareous cemented fine sandstone; bone fragments; trace of mica; echnoid spine.
- 140-150 Sand - gray, abundant clay; fine to medium grained, moderately well sorted; subangular to rounded, quartz; 2% black phosphatic (material); few fragments of calcareous cemented fine sandstone; a few shell fragments; few glauconite grains; sharks tooth.
- 150-160 As above except fine grained.
- 160-170 As above except less phosphatic material.
- 170-180 Silty sand - gray, abundant clay; silt to very fine grained; moderately well sorted, subangular to subrounded; inter-lensed with gray silty clay; quartz; trace of black phosphatic material, scarce glauconite, sharkes tooth fragments, few sandstone pebbles and shell fragments.

OWNER: Rural Site Development Corp.

W-3639

Depth
(feet)

CALVERT FORMATION (180-250')

- 180-190 Clay - gray, silty and sandy; sand is very fine to fine grained; moderately sorted; subangular to rounded; quartz; some black phosphatic material; bone fragments; glauconite; a few sandstone, ferricrete, and shell fragments.
- 190-200 As above + sharks teeth.
- 200-210 As above except sand is fine to medium and 5% shell fragments; sharks teeth.
- 210-220 Sand - gray; moderate clay; silty; fine to coarse grained; poorly sorted; subangular; quartz, 40% shell fragments; black phosphatic material and sharks teeth; glauconite; forams common (Sp), bone fragments.
- 220-230 Sand - gray; slightly clayey; fine to medium grained; moderately sorted; subangular to subrounded; quartz; 20% shell fragments; black phosphatic materials and sharks teeth; ostracod (Sp).
- 230-240 Sand - gray; abundant clay; fine to medium grained, moderately well sorted; subangular to subrounded; quartz; 10% shell fragments; some black phosphatic material including scales (turtle shell like) and sharks teeth; bone fragments; forams (Sp) inc. Siphogenerina.
- 240-250 Sand - gray; moderate clay; fine to medium grained; moderately well sorted; subangular to subrounded; quartz 5% shell fragments; black phosphatic material and sharks teeth inc. scales and sharks teeth; forams (Sp).

NANJEMOY FORMATION (250-350')

- 250-260 Sand and sandstone - gray; slightly clayey; fine to medium sand, moderately sorted, largely indurated with calcareous cement; subrounded to well rounded; quartz; shell fragments; brown shiny clay pellets, some pyritized; black (some green) glauconite; black phosphatic material, inc. scales and sharks teeth; forams (Sp).
- 260-270 Sandstone - tan; calcareous; very fine to medium; moderately sorted; subrounded to well rounded; almost equal quantities of quartz, brown shiny clay pellets some pyritized and black glauconite; shell fragments; forams (Sp).

OWNER: Rural Site Development Corp.

W-3639

Depth
(feet)

- 270-280 Sand - gray; moderately clayey; fine to medium grained; moderately well sorted; subangular to well rounded; quartz; 35% shell fragments; 15 % black glauconite; fragments of calcareous sandstone; brown shiny clay pellets; forams common (Sp); echinoid spines; ostracodes; and sharks teeth.
- 280-290 Sand - gray; moderately clayey; fine to medium grained; moderately well sorted; subangular to well rounded; quartz; 20% shell fragments; 20% black glauconite; brown clay pellets; fragments of calcareous sandstone; forams (Sp) common; echinoid spines, ostracodes.
- 290-300 Sand - dark gray; abundant clay ; silty; fine to medium grained; well sorted; well rounded; 70% brown, green and black glauconite; quartz; few shell, and pink silty sandstone fragments; forams common (Sp); echnoid spines; ostracodes.
- 300-310 Sand - dark gray; abundant clay; silty; fine to medium grained; well sorted; rounded; 80% brown, green and black glauconite; 5% quartz; forams (Sp); echnoid spines, few shell fragments.
- 310-320 As above.
- 320-330 Sand - dark greenish gray; abundant clay; silty; fine to coarse grained; moderately well sorted; rounded; 80% green, black and some brown glauconite; 2% quartz (some green); forams (Sp); shell fragments; ostracode; pyrite.
- 330-340 Sand - dark greenish gray; abundant clay; silty; fine to medium grained; well sorted; rounded; 70% green and black glauconite; 5% quartz (some green); forams (Sp) common; shell fragments; ostracodes.
- 340-350 Clay - pink, silty, some fine to medium green sand; glauconite (in some clay layers); quartz; forams (Sp).
- MATTAPONI FORMATION (350-390')
- 350-360 Sand - dark greenish gray; abundant clay; silty; fine to medium grained; well sorted; rounded; 80% green and black glauconite; 10% quartz; (some green); forams (Sp) scarce.

OWNER: Rural Site Development Corp.

W-3639

Depth
(feet)

- 360-370 Sand - dark greenish gray; abundant clay; moderate coarse grained; well sorted; rounded; 80% green and black glauconite; 10% quartz (some green); forams (Sp) very scarce.
- 370-380 As above except forams not sampled.
- 380-390 Sand - green; moderate clay; medium to coarse grained; well sorted; rounded; 80% brown, green, and black glauconite, 7% quartz shell fragments; fragments of calcareous glauconite sandstone; foram (Sp).

PATUXENT FORMATION (390-428')

- 390-400 Sand - salt & peper; medium to coarse grained; well sorted; subangular to rounded, quartz and feldspars 90%; 7 % glauconite; some garnets.
- 400-410 Sand and granules - white; fine to coarse, moderately well sorted; subangular to subrounded; quartz, feldspars; minor glauconite; minor garnet.
- 410-428 Sand and granules - white; slightly clayey (poorly washed); moderately sorted; subangular to subrounded; quartz; feldspars; glauconite; contain ⁱⁿ (?) of shell fragments and limestone fragments.

(Sp) - sample taken.

GEOLOGIC SUMMARY

<u>Thickness (feet)</u>	<u>Rock Unit</u>	<u>Time Rock Unit</u>
60	Bacons Castle Formation	Pleistocene
120	Yorktown Formation	Pliocene-Miocene
70	Calvert Formation	Miocene-Eocene
100	Nanjemoy Formation	Eocene
40	Mattaponi Formation	Eocene-Cretaceous
38+	Patuxent Formation	Lower Cretaceous

Virginia Division of Mineral Resources
David A. Hubbard, Jr., Geologist
May 5, 1978