

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: Sydnor Hydrodynamics Mailing Address: 2911 Magnolia Street, Richmond, VA

23223

TENANT: First Colony Sub. #2 Mailing Address: 2911 Magnolia Street, Richmond, VA

23223

DRILLER: C. P. Brooker Mailing Address: 2111 Magnolia Street, Richmond, VA

23223

WELL LOCATION: County James City Approx. 260 <sup>feet</sup> ~~xxxxx~~ East (direction) of

Route 1103 and 58 <sup>feet</sup> ~~xxxxx~~ South (direction) of Route 1107

(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 3, 1977 DATE COMPLETED: March 25, 1977

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 494 feet

WATER LEVEL: Stands 71'10" feet below surface OR  
has NATURAL flow of 105 gallons per minute.

YIELD TEST: Method Pump

Drawdown 20 feet

Rate 105 gal. per min.

Duration 48 hrs., \_\_\_\_\_ min.

HOLE SIZE: 12 1/2 inches from 0 to 494 feet

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

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

SCREEN SIZE: 4 inches from 425 to 430 feet

4 inches from 438 to 448 feet

4 inches from 460 to 470 feet

4 inches from 480 to 485 feet

CASE SIZE: 6 inches from 12 to 302 feet

4 inches from 302 to 425 feet

4 inches from 430 to 438 feet

448-460, 470-480, 485-490

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

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

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

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

Odor \_\_\_\_\_ Temp. \_\_\_\_\_ °F

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

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

Industry \_\_\_\_\_ Other Subdivision

GROUTING: Method \_\_\_\_\_

Material \_\_\_\_\_ Depth 50 feet

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

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

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

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

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: \_\_\_\_\_

# LOG

FURNISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	5	Brown Clay	
5	20	Light Gray Clay	
20	30	Gray Clay and Shell Rock	
30	50	Gray Sand	
50	100	Blue Clay and Sand	
100	108	Blue Clay	
108	130	Blue Clay and Gray Sand	
130	160	Fine Gray and Black Sand with Shells	
160	170	Hand Shell Roach and Sand	
170	180	Blue Clay and Shells	
180	200	Sand and Shells	
200	240	Black Sand, Clay and Shells	
240	260	Gray Clay	
260	280	Black Sand, Gray Clay and Shells	
280	300	Black Sand, Green Clay and Shells	
300	318	Black and Gray Sand, Gravel and Shells	
318	340	Black and Gray Sand, Gravel and Fine Sand	
340	360	Gray and Green Clay	
360	370	Sand, Shells and Green Clay	
370	380	Green Clay	
380	400	Coarse Sand, Shells and Clay	
400	420	Coarse Sand, Shells	
420	440	Coarse Sand, Gravel	
440	460	Coarse Sand	
460	468	Gray Sand, Streaks of Clay	
468	494	Gray Sand Clay	

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

INTERVAL SHEET

C-176

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Well Repository No.: W- 4879

Date rec'd: 8/29/77 Date Processed: 9/2/77

Sample Interval: from 0 to: 490

PROPERTY: Sydnor Hydrodynamics  
*(First Colony Sub, well #2)*

Number of samples: 47

COMPANY: Sydnor Hydrodynamics

Total Depth: 494'

COUNTY: James City (Five Forks)

Oil or Gas: Water:X Exploratory:

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	410-420	-	-	-
70-80	420-430	-	-	-
80-90	430-440	-	-	-
90-100	440-450	-	-	-
100-110	450-460	-	-	-
110-120	-	-	-	-
120-130	470-480	-	-	-
130-140	480-490	-	-	-
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	-	-	-	-
300-318	-	-	-	-
318-328	-	-	-	-
328-340	-	-	-	-
-	-	-	-	-
340-350	-	-	-	-

Washed and Unwashed samples

OWNER: Sydnor Hydrodynamics  
DRILLER: Sydnor Hydrodynamics  
COUNTY: James City (Five Forks)

W-4879  
C-176  
TOTAL DEPTH: 494

GEOLOGIC LOG

DEPTH  
(feet)

Norfolk Formation (0-130)

- 0-10 Clay-cream to tan; scattered sand grains; fine to coarse; subangular.
- 10-20 Clay-cream; locally silty; scattered fine to coarse sand; a few pebbles (quartz).
- 20-30 Clay-lt. gray; silty; scattered fine sand grains.
- 30-40 Clay and sand gray; scarce to abundant sands; medium to slightly coarse grained; well sorted; subangular; some feldspar; green amphibole.
- 40-50 Sand-lt. gray; medium to coarse grained; subangular; moderately well sorted; various types of quartz; abundant feldspar; few garnets.
- 50-60 Clay and sand-lt. gray; silty; abundant fine to coarse grained; moderately sorted; subangular to subrounded; various types of quartz; abundant feldspar; minor weathered glauconite.
- 60-70 Sand-lt. gray; abundant clay; silty, fine to coarse grained; moderately sorted; subangular to subrounded; various types of quartz; abundant feldspar; minor fine glauconite; a pebble of Petersburg granite.
- 70-80 Clay and sand-lt. gray; abundant sand; silty; fine to coarse grained; moderately sorted; subangular to subrounded; various types of quartz; abundant feldspar; fine weathered glauconite; bone fragment (weathered).
- 80-90 Clay and sand-gray; scattered to abundant sand; silty; fine and very coarse grained; moderately well sorted; subangular to subrounded; various types of quartz; abundant feldspar; quartz pebble.
- 90-100 Clay and sand-gray; abundant sand; silty; fine to very coarse; moderately sorted; subangular to subrounded; various types of quartz; abundant feldspar; some fine weathered glauconite; phosphatic material; amphibole.
- 100-110 As above except fine and very coarse grained; moderately well sorted.

DEPTH  
(feet)

- 110-120 Sand-gray; abundant clay; silty; fine and very coarse grained; moderately well sorted; subangular to subrounded; various types of quartz; abundant feldspars; some fine weathered glauconite; phosphatic material.
- 120-130 As above

## Calvert Formation (130-180)

- 130-140 Sand-greenish gray-abundant clay; medium to coarse grained; well sorted; subangular to subrounded; clear quartz; 20% shell fragments; 3% black phosphatic material; fish vertebra.
- 140-150 Sand-gray; moderate clay; medium to coarse grained; moderately well sorted; subangular and subrounded; clear quartz; 35% shell fragments; some black phosphatic material; spines; bone fragments.
- 150-160 As above except no spines.
- 160-170 Sand-gray, moderate clay, medium to coarse grained; moderately well sorted; subangular to subrounded; clear quartz; 6% shell fragments; some phosphate material (including sharks teeth); some glauconite; spines; forams (including Globigerina): fragments of limestone.
- 170-180 As above plus (Uvigerina; Nonion; Textularia)

## Nanjemoy Formation (180-260)

- 180-190 Sand-lt. gray; moderate clay; medium to coarse grained; moderately well sorted; subangular to rounded; clear quartz, 10% sandy limestone fragments; 7% glauconite; shell fragments; phosphatic material including teeth; pyrite; some spines; few bone fragments.
- 190-200 Sand-lt. gray; moderate clay; medium to coarse grained; moderately well sorted; subangular to rounded; clear quartz; 7% sandy limestone fragments; 7% glauconite; some shell fragments; black phosphatic material including sharks teeth; few bone fragments and spines; forams; pyrite.

DEPTH  
(feet)

- 200-210 Sand-gray; moderate clay; fine to coarse grained; subangular to rounded; moderately sorted; quartz; 15% glauconite (black and brown); some shell fragments; sandy limestone fragments; few forams; pyrite; phosphatic material; spines.
- 210-220 Sand-gray; moderate clay; fine to coarse grained; subangular to rounded; moderately sorted; quartz; 20% glauconite (black, green and brown); 15% sandy limestone fragments; shell fragments; forams (including Nonion and Uvigerina); pyrite; few large quartz granules.
- 220-230 Sand-gray; moderate clay; fine to very coarse; subangular to rounded; moderately sorted; quartz; 15% glauconite; 15% sandy limestone fragments; shell fragments; pyrite; forams scarce; spines; blue quartz granule.
- 230-240 Sand-gray; moderate clay; medium to very coarse; subangular to rounded; moderately sorted; quartz; 10% glauconite; 7% sandy limestone fragments; shell fragments; some phosphatic material including sharks tooth; pyrite.
- 240-250 Clay-pink to gray; locally abundant sand; medium to coarse grained; subangular to rounded; poorly sorted; pink clay less sandy; quartz; glauconite; shell fragments; pyrite.
- 250-260 Clay and sand; pink to some gray; abundant sand, locally; sand scarce; medium to coarse grained; subrounded to rounded; moderately well sorted; quartz; 25% glauconite; few shell and sandy limestone fragments; few forams and ostracodes.
- Mattiponi Formation (260-300)
- 260-270 Sand-gray; moderate clay; medium grained; well sorted; rounded; 80% glauconite; quartz (some green); some shell and sandy limestone fragments; pyrite.
- 270-280 Sand-gray; moderate clay; medium to coarse grained; well sorted; rounded; 80% glauconite; quartz (some green, blue); some sandy limestone fragments; pyrite.
- 280-290 Sand-greenish-gray; moderate clay; medium to coarse grained; moderately well sorted; rounded; 80% glauconite; quartz; shell and sandy limestone fragments; few black phosphate fragments.
- 290-300 As above except abundant clay.

DEPTH  
(feet)

## Patuxent Formation (300-490)

- 300-318 Sand and gravel-gray; moderate clay; medium to coarse grained; moderately well sorted; subangular to rounded quartz; 40% glauconite; quartz pebbles; feldspar; pyrite; garnet.
- 318-328 Sand and granules-lt. gray salt and pepper; slightly clayey; medium to granular grained; moderately well sorted; subangular to rounded; quartz; 40% glauconite; feldspar; garnet; pyrite; few quartz pebbles.
- 328-340 As above plus blue quartz pebble and siltstone pebble.
- 340-350 Sand and gravel-lt. gray salt and pepper; slightly clayey, medium to coarse grained; moderately sorted; subangular to rounded; quartz; feldspar; 20% glauconite; garnet.
- 350-360 As above except moderate clay.
- 360-370 Sand and gravel-lt. gray salt and pepper; slightly clayey; silty medium to granular grained; moderately sorted; subrounded to rounded; quartz; feldspar; 20% glauconite; garnet.
- 370-380 Sand-very lt. gray; abundant clay; medium to coarse grained; moderately well sorted; subangular to rounded; quartz, feldspar; 12% glauconite; muscovite.
- 380-390 Sand-lt. gray; slightly clayey; medium to coarse grained; moderately well sorted; subrounded to rounded; quartz; 15% glauconite; feldspar; garnet; few quartz pebbles.
- 390-400 Sand and granules-lt. gray; slightly clayey; medium to granular grained; moderately well sorted; subrounded to rounded; quartz; 20% glauconite; feldspar; few shell and sandy limestone fragments; few quartz pebbles.
- 400-410 Sand and granules-lt. gray; slightly clayey; locally some inter-layering with clay; medium to granular grained; moderately well sorted; subrounded to rounded; quartz; 15% glauconite; feldspar.
- 410-420 As above except moderately clayey; garnet; few pebbles of quartz; and feldspar.
- 420-430 Granules and sand-lt. gray; slightly clayey; some medium to granular grained; well sorted; subrounded; quartz; feldspar; 7% glauconite; garnet.
- 430-440 As above plus pebble size limestone fragment.

DEPTH  
(feet)

440-450 Granules and sand-lt. gray; slightly clayey; some medium to granular grained; well sorted; subrounded; quartz; feldspar; 7% glauconite; garnet.

450-460 As above except sand and gravel.

460-470 No sample

470-480 As (450-460)

480-490 As above

490-494 No sample

(Note-Glauconite in Patuxent Formation appears to be contamination from overlying Mattiponi Formation)

GEOLOGIC SUMMARY

<u>Thickness</u> <u>(feet)</u>	<u>ROCK UNIT</u>	<u>TIME ROCK UNIT</u>
130'	Norfolk Formation	Pleistocent
50'	Calvert Formation	Miocene-Eocene
80'	Nanjemoy Formation	Eocene
40'	Mattiponi Formation	Eocene-Cretaceous
190'	Patuxent Formation	Cretaceous

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