

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS: DIVISION OF MINERAL RESOURCES OFFICE ADDRESS:
Box 3667 JAMES L. CALVER, COMMISSIONER McCormick Road
Charlottesville, VA 22903 WATER WELL COMPLETION REPORT Charlottesville, Virginia

OWNER: State Water Control Board, Ob. Well #76 Mailing Address: 2111 N. Hamilton St., Richmond, VA
23220

TENANT: _____ Mailing Address: _____

DRILLER: Sydnor Hydrodynamics Inc. Mailing Address: 2111 Magnolia St., Richmond, VA 23220

WELL LOCATION: County Nansemond S. Quay (w. edge) Approx. _____ feet miles _____ (direction) of _____
_____ 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: 04/21/75 DATE COMPLETED: 06/06/75

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 1,063 feet

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

YIELD TEST: Method _____ HOLE SIZE: 11 inches from 0 to 1063 feet
Drawdown _____ feet _____ inches from _____ to _____ feet
Rate _____ gal. per min. _____ inches from _____ to _____ feet
Duration _____ hrs., _____ min. SCREEN SIZE: 4 inches from 452 to 457 feet
499 to 504 feet

WATER ZONES: from _____ to _____ feet
_____ inches from _____ to _____ feet
from _____ to _____ feet
_____ inches from 812 to 817 feet
_____ inches from 988 to 993 feet
CASE SIZE: 4 inches from 0 to 452 feet

WATER: Color _____ Taste _____
Odor _____ Temp. _____ °F _____ inches from _____ to _____ feet

WELL TO SUPPLY: (check one) Home _____
Farm _____ Town _____ School _____
Industry _____ Other _____ Observation _____
GROUTING: Method _____
Material _____ Depth 30 feet

WATER ANALYSIS AVAILABLE: Yes _____ No _____
PUMP: Type _____ Capacity _____ gal per min
DRILL CUTTINGS SAVED: Yes XX 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: _____

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	8	Yellow, Brown, Gray Sandy Clay	
8	20	Light and Dark Gray Clay	
20	30	Gray Sandy Clay	
30	40	Brown and Gray Coarse Sand, Small gravel mixed with streaks of Gray Clay	
40	55	Blue Clay and Shells Mixed	
55	85	Gray Clay and Shells Mixed	
85	115	Blue and Gray Clay with Fine Sand	
115	130	Blue and Gray Clay, Shells and Some Sand	
130	145	Tough Blue Clay	
145	160	Dark Gray Sandy Clay	
160	182	Black Sand, Gray Clay and Shells Mixed	
182	183	Hard Streak of Shells	
183	190	Black Sand, Gray clay and Shells	
190	203	Shells, Black Sand with streaks of Green Clay	
203	210	Black Sand with Some Gray Clay Mixed	
210	220	Gray and Green Sandy Clay	
220	230	Gray Sandy Clay with Streaks of Shell Mixed	
230	235	Mostly Gray Sand Mixed with Streaks of Gray Clay	
235	255	Brown Sandy Clay with MICA and Some Gray Sand	
255	265	Mostly Gray Sand, Little Green Clay Mixed	
265	270	Gray and Brown Clay with some Gray Sand	
270	280	Gray Sand	
280	297	Coarse Gray Sand with Mica and Few Shells	
297	315	Gray Clay and Gray Sand Mixed	
315	325	Mostly Gray Clay with Little Sand Mixed	
325	330	Dark Gray Clay with Mica	
330	340	Tough Dark Brown Clay	
340	365	Black and Gray Sand, Gray Clay and Streaks of Shells	
365	366	Streak of Dark Gray Rock	
366	385	Gray Clay with Streaks of Fine Sand	
385	390	Gray Clay	
390	400	Mixed Colors of Clay	
400	420	Red and Light Yellow Clay with Streaks of gray sand	
420	430	Brown and red and gray clay	
430	445	Gray sandy clay	
445	460	Mostly gray sand with streaks of gray clay	
460	480	Mostly gray sand with some gray clay and streaks of quartz	
480	490	Gray Clay	
490	500	Gray sand and gray clay mixed	
500	520	Gray sand, gray and white sandy clay mixed	
520	538	Light gray sand clay with shells	
538	553	Light gray and white sandy clay	
553	568	Green clay with white sandy clay	

(Continued)

Driller's Log (Cont.)

Owner: State Water Control Board W# 4448
Driller: Sydnor Hydrodynamics C# 192
County: Nansemond (Suffolk)

<u>Depth (feet)</u>		<u>Type of Rock or Soil Penetrated</u>
<u>From</u>	<u>To</u>	
568	620	Gray clay, streaks of gray sand, quartz mixed with some mica
620	628	Gray sand, gray sand, clay and river rock
628	653	Gray and white sandy clay with streaks of sand
653	660	Gray Clay
660	671	Tough purple clay
671	673	Sandy and Gray clay mixed
673	684	Gray sandy clay, Big gravel and river rock
684	703	Green, Brown, gray clay mixed
703	718	Gray Clay
718	725	Gray sand clay with coarse sand
725	730	Coarse Sand
730	758	Gray, white, purple clay with sand and pebble
758	761	Tough Clay
761	764	White and Gray sandy clay
764	770	Tough blue and gray clay
770	778	Light gray sandy clay
778	808	Green and gray sand clay
808	828	Sandy, gravel, gray sandy clay
828	845	Brown and gray clay
845	870	Tough red clay
870	883	Gray, brown, and green sandy clay
883	900	Brown, gray, sandy clay
900	920	Red, Green, Blue and Gray Clay
920	921	Tough red clay
921	930	Red Clay and Shale
930	943	Red, Gray clay, streaks of shells and rock
943	955	Red Clay
955	973	Tough red and Gray Clay
973	978	Tough Gray Clay
978	988	Brown and white sandy clay, shells and rock mixed
988	1013	White sandy clay, lot of gravel mixed
1013	1014	Hard Rock Streak
1014	1028	Hard clay, Gravel and shells mixed
1028	1030	Hard rock streak
1030	1048	Tough, blue, brown, with streaks of red clay and shells
1048	1050	Tough Gray and brown Clay
1050	1051	Tough gray clay
1051	1058	Limestone and shells mixed
1058	1063	Limestone

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

INTERVAL SHEET

Page 1 of 1

C-192

Well Repository No.: W- 4448

Date rec'd: 9/22/75 Date Processed: 8/9/76

Sample Interval: from 0 to: 1063

PROPERTY: State Water Control Board, Ob. Well #76

Number of samples: 106

COMPANY: Sydnor Hydrodynamics

Total Depth: 1063'

COUNTY: Nansemond S. Quay

Oil or Gas: Water: XX Exploratory:

From-To	From-To	From-To	From-To	From-To
0-10	300-310	600-610	900-910	-
10-20	310-320	610-620	910-920	-
20-30	320-330	620-630	920-930	-
30-40	330-340	630-640	930-940	-
40-50	340-350	640-650	940-950	-
50-60	350-360	650-660	950-960	-
60-70	360-370	660-670	960-970	-
70-80	370-380	670-680	970-980	-
80-90	380-390	680-690	980-990	-
90-100	390-400	690-700	990-1000	-
100-110	400-410	700-710	1000-1060	-
110-120	410-420	710-720	1060-1063	-
120-130	420-430	720-730	-	-
130-140	430-440	730-740	-	-
140-150	440-450	740-750	-	-
150-160	450-460	750-760	-	-
160-170	460-470	760-770	-	-
170-180	470-480	770-780	-	-
180-190	480-490	780-790	-	-
190-200	490-500	790-800	-	-
200-210	500-510	800-810	-	-
210-220	510-520	810-820	-	-
220-230	520-530	820-830	-	-
230-240	530-540	830-840	-	-
240-250	540-550	840-850	-	-
250-260	550-560	850-860	-	-
260-270	560-570	860-870	-	-
270-280	570-580	870-880	-	-
280-290	580-590	880-890	-	-
290-300	590-600	890-900	-	-

Washed and unwashed

Owner: State Water Control Board
Driller: Sydnor Hydrodynamics
County: Nansemond (Suffolk)

W# 4448
C# 192
Total Depth: 1063
Quad: Gates
Elev: 80'

Depth
(feet)

WELL LOG

0-10 Sand - dark yellowish brown (10YR 4/2); moderate clay; medium to very coarse, subangular, few granules, moderately well sorted; quartz.

10-20 Sand - light olive gray (5Y 6/1); moderate clay; fine to coarse, subangular, few very coarse, moderately well sorted; quartz.

20-30 Sand - as above, except: clay in clasts; fine to very coarse; feldspar; root debris.

30-40 Sand - moderate yellowish brown (10YR 5/4); moderate clay in clasts of gray, yellow-orange; fine to granule, subangular to subrounded, poorly sorted; quartz; feldspar; iron; wood fragments.

40-50 Sand - light olive gray (5Y 5/2); moderate clay, some in clasts; fine to granule, subangular to subrounded, poorly sorted; quartz; 10% shell fragments, pelecypod - Mulina Congesta.

50-60 Sand - as above, except: 50% shell fragments, of which most are Mulina Congesta, 2 other pelecypods, and gastropods, Cancellaria and Littorina.

60-70 Sand - as above, except: echinoderm spines.

70-80 Clay - as above, except: clay in small pellets; sparse sand; medium to very coarse; 40% shells - Mulina.

80-90 Clay - as above, except: moderate sand; 15% shell fragments; mica.

90-100 Sand - light olive gray (5Y 6/1); clay in clasts; medium to coarse, subangular, moderately well sorted; quartz; 5% shell fragments; mica.

100-110 Sand - as above, except: 10% shell fragments.

110-120 Clay - greenish gray (5GY 6/1); sparse sand; medium to coarse, subangular, poor sorting; quartz; 7% shell fragments.

120-130 Clay - as above.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

- 130-140 Sand - light olive gray (5Y 6/1); moderate clay (gray) in clasts; medium to coarse, subangular, moderate sorting; quartz; 7% shell fragments.
- 140-150 Clay - greenish gray (5GY 6/1) to light olive gray (5Y 6/1); clay in clasts; sparse sand; medium to coarse, subangular, poor sorting; quartz; sparse shell fragments.
- 150-160 Clay - light olive gray (5Y 6/1); abundant clasts of clay; ~~very~~ mica; wood fragments; shell fragments, rare.
- 160-170 Sand - olive gray (5Y 2/1); abundant clasts of clay; sparse silt; medium to coarse, few very coarse, subangular, poor sorting; quartz; 25% glauconite (green); 3% large black glauconite/phosphate; bone fragments; leaves; shell fragments; shark teeth; wood fragments.
- 170-180 Sand, Glauconitic - greenish black (5GY 2/1); sparse clay in clasts; sand - 80% medium to coarse grained glauconite; 20% medium to coarse, moderately sorted, quartz; phosphatic bone fragments; shell fragments rare.
- 180-190 Gravel - blue-white to white (N9), and green, salt and pepper; clasts of sandy limestone with glauconite embedded; sparse sand; medium to very coarse, subangular, poorly sorted; quartz; 30% glauconite; echinoderm spines; feldspar; garnet chips; shark teeth; corals; shell fragments; forams - Nodosaria.
- 190-200 Gravel - as above, including: bryozoa; pelecypod casts.
- 200-210 Sand - salt and pepper, olive gray; sparse clay/sandy limestone; medium to very coarse, subangular, some granules, poor sorting; quartz; 20% glauconite; shell fragments; leaf debris; iron; echinoderm spines; foram - Robulus; blue quartz; garnet.
- 210-220 Sand - light olive gray (5Y 6/1); very sparse clay; sparse silt; medium to very coarse, subangular, poor sorting; quartz; 5% glauconite; 2% mica (muscovite); coral; echinoderm spine; foram - Nodosaria.
- 220-230 Sand - as above, except: medium to granule; feldspar; wood and bone fragments; shell fragments rare.
- 230-240 Clay - medium olive gray (5Y 5/1); clay in clasts and grains; very sparse silt; moderate sand; medium to coarse, poorly sorted; quartz; 1% glauconite; 1% mica.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

- 240-250 Sandy-Clay - olive gray (5Y 4/1); abundant clasts of clay; abundant sand; medium to very coarse, subangular, some granules, poorly sorted; quartz; 1% glauconite; some mica; saprolitic feldspar; garnet; root debris.
- 250-260 Clay, Sandy - greenish gray (5GY 6/1); as above, except: fine to very coarse; 7% mica - very fine.
- 260-270 Sand - salt and pepper; sparse clay in clasts; fine to granule, subangular to subrounded, some pebbles, poor sorting; quartz; 8% glauconite; feldspar; garnet; mica; root debris.
- 270-280 Sand - as above.
- 280-290 Sand - as above, except: very sparse clay clasts; no pebbles; echinoderm spine; pelecypod shells.
- 290-300 Sand - as above, except: moderate clay in clasts; fine to granule, subangular, poor sorting; quartz; 8% glauconite; some mica; echinoderm spines; feldspar; blue quartz; garnet.
- 300-310 Sand - as above, except: 1% root debris.
- 310-320 Sand-Clay - olive gray (5Y 4/1); abundant clay in gray, tan, clasts; abundant sand; fine to coarse, subangular, poorly sorted; quartz; 7% glauconite; iron; some mica; shell fragments.
- 320-330 Clay - olive gray (5Y 4/1); abundant clasts of clay; moderate sand; fine to very coarse, subangular, poorly sorted; quartz; 8% glauconite; shell bits; root debris; garnet.
- 330-340 Clay - as above.
- 340-350 Clay - moderate olive gray (5Y 5/1); as above, except: 5% glauconite; no shell/root debris.
- 350-360 Clay - olive gray (5Y 4/1); as above.
- 360-370 Clay - moderate olive gray (5Y 5/1); as above, except: very sparse sand, very fine; pyrite; rare shell fragments; mica.
- 370-380 Clay - as above.
- 380-390 Clay - as above, except: sparse sand; medium to coarse; some glauconite.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

390-400 Clay - moderate yellow-brown (10YR 5/2); clay in clasts and pellets; moderate sand; medium to very coarse, subangular, poor sorting; quartz; few glauconite; few shell fragments.

400-410 Clay - yellow brown (10YR 6/4); as above, except: root debris.

410-420 No sample.

420-430 Clay - as above, except: medium to coarse; sparse sand.

430-440 Clay - light olive gray (5Y 6/1); clay in clasts, grains; moderate sand; medium to very coarse, subangular, poorly sorted; quartz; few glauconite; mica and shell fragments.

440-450 Sand - as above, except: abundant clay; sand, medium to coarse.

450-460 Sand - as above, except: moderate clay; sand, medium to granule; 1% glauconite.

460-470 Sand - as above, except: medium to pebble; rare glauconite.

470-480 Sand - as above, except: sparse clay in sand clasts; medium to granule, most grains granule size; glauconite rare.

480-490 Sand - as above, except: moderate clay in clasts; medium to very coarse, some granules; iron.

490-500 Sand - as above, except: clay in light beige clasts; moderate silt; medium to granule; garnet chips; mica; rare glauconite; shell fragments.

500-510 Sand - light olive gray (5Y 5/2); as above, except: sparse clay in sand clasts; moderate sorting.

510-520 Sand - light olive gray (5Y 6/1); as above, except: moderate clay in clasts and pellets; moderate silt; poorly sorted.

520-530 Sand - as above, except: sparse silt.

530-540 Sand - as above.

540-550 Sand - as above, except: some pebbles.

550-560 Clay - as above, except: sparse sand; medium to pebble, poorly sorted; few glauconite.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

560-570 Clay - as above, except: some mica; shell fragments.

570-580 Clay - as above, except: yellowish gray (5Y 8/1); medium to very coarse.

580-590 Clay - as above.

590-600 Clay - as above.

600-605 No Sample.

605-610 Sand - as above, except: abundant clay in clasts; moderate silt; medium to very coarse, some granules, poor sorting; quartz; rare glauconite, mica, shell fragments and garnet.

610-620 Sand - as above, except: sparse clay; some pebbles, moderate sorting; feldspar; wood fragments.

620-630 Sand - as above, except: poor sorting, 3% 10mm+ pebbles.

630-640 Sand - yellow gray (5Y 7/1); abundant clay; medium to granule, subangular to subrounded, few pebbles, poor sorting; quartz; few mica; glauconite; feldspar.

640-650 Sand - moderate yellowish brown (10YR 5/5); sparse clay; sparse silt; sand - medium to granule, subangular, some pebbles, poor sorting; quartz; wood fragments; glauconite.

650-660 Sand - as above; wood fragments.

660-670 Clay - as above; abundant clay clasts; sparse sand.

670-680 Sand - yellow gray (5Y 7/1); abundant clasts; moderate clay; medium to granule, some pebbles; iron.

680-690 Sandy Gravel - light olive gray (5Y 6/1); very sparse clay in clasts; sparse silt; 30% pebbles; sand - as above.

690-700 Clay - moderate olive gray (5Y 5/1); clay in clasts of tan/gray; sparse sand - medium to granule, few pebbles; glauconite; shell fragments.

700-710 Clay - yellow gray (5Y 7/2); as above, except: medium to very coarse; plant debris.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

710-720 Sandy Clay - as above, except: clay in clasts and pellets; abundant sand; iron.

720-730 Sand - as above, except: sparse clay in clasts; some granules; iron.

730-740 Sand - as above, except: medium to granule; garnet chips; very sparse clay.

740-750 Sand - yellowish gray (5Y 8/1); moderate clay in clasts; moderate silt; sand - medium to very coarse, some granules; garnet; mica; feldspar; shell fragments.

750-760 Sand - as above, except: very sparse clay; ~~sand~~ medium to pebble.

760-770 Sand - as above, except: moderate clay.

770-780 Sand - as above, except: medium to coarse, some very coarse to granule; glauconite, rare; saprolitic feldspar.

780-790 Sand - as above, except: moderate sorting.

790-800 Sand - as above, except: abundant clay; medium to granule, poor sorting; iron.

800-810 Sand - as above, except: medium to pebble.

810-820 Sand - as above, except: sparse clay; garnet; feldspar; mica; glauconite, rare.

820-830 Sand - as above, except: very sparse clay; iron.

830-840 Clay - gross salt and pepper clasts of dark gray, gray, brown, white, red, tan; abundant gravel, medium to pebble, poorly sorted.

840-850 Sand and Clay - as above.

850-860 Clay - light brown (5YR 6/4); abundant clasts of brown, tan, orange; moderate sand; medium to very coarse, few granules.

860-870 Sand, Clayey - pale yellowish brown (10YR 6/2); abundant clay; sand - as above; iron, shell fragments and root debris rare.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

- 870-880 Sand - moderate yellow-brown (10YR 6/4); abundant clay and pellets; medium to very coarse, some granules.
- 880-890 Sand - as above, except: moderate clay; few pebbles; shell fragment; root debris.
- 890-900 Clay - yellowish gray (5Y 7/2); abundant clasts; abundant sand, medium to granule; feldspar.
- 900-910 Sand - color as in 870-880; abundant clay, clasts; sand as above.
- 910-920 Clay - light brown (5YR 6/4); clasts of red, brown, white, tan; abundant sand; medium to granule, subangular to subrounded, some pebbles, poorly sorted; quartz; rare shell fragments.
- 920-930 Shell Hash - variegated in color; abundant clasts of clay in gray, white, red, brown; 17mm+ pebbles; abundant, poorly sorted sand, as above; glauconitic limestone fragments; shell fragments; root debris.
- 930-940 Clay - moderate yellow brown (10YR 6/4); abundant clasts; dark gray and tan, white, orange; sparse sand, as above; no pebbles; mica and garnet rare.
- 940-950 Sand-Clay - light brown (5YR 6/4); as above, except: abundant clay; abundant sand; few 10mm+ pebbles.
- 950-960 Sand - as above, except: abundant large clasts of sand with sparse clay; no pebbles; sparse glauconite, shell fragments; garnet; pyrite.
- 960-970 Sand and Clay - moderate yellow brown (10YR 6/4); as above, except: Mulina fragments.
- 970-980 Sand and Clay - light brown (5YR 6/4); as above, except: root debris.
- 980-990 Clay - tan and white; abundant large clasts, gray, tan, white, orange; moderate sand - as above; Mulina fragments.
- 990-1000 Gravel - salt and pepper; sparse amount dark gray clay clasts; gravel - 50% 10mm+ pebbles; rest, sand, coarse to granule; glauconitic limestone fragments; sandstone fragments.
- 1000-1010 Gravel - as above, except: sand clasts with sparse clay; 8mm+ pebbles; sand, medium to granule.

Owner: State Water Control Board

W# 4448

C# 192

Depth
(feet)

1010-1020 Gravel - as above.

1020-1030 Gravel - as above, except: shell fragment.

1030-1040 Sand - pale yellowish brown (10YR 6/2); very slight clay in sand clasts; medium to granule; subangular; moderately well sorted; quartz; rare glauconite; iron; shell fragment.

1040-1050 Sand - as above, except: abundant clay in sand clasts and pellets.

1050-1060 Clay - light olive gray (5Y 5/2); abundant clasts; abundant sand as above; shell fragments common.

1060-1063 Sand - pale yellow brown (10YR 6/4); very sparse clay - in sand clasts; medium to very coarse, subangular, granules common, moderately well sorted; glauconite; mica; feldspar.

Logged by: J. K. Polzin
March, 1980