

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

W-4849  
C-196

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: SWCB, SE 77-4 Mailing Address: Richmond  
Dept. of

TENANT: Highways and Transportation Mailing Address: Whaleyville

DRILLER: \_\_\_\_\_ Mailing Address: \_\_\_\_\_

WELL LOCATION: County Nansemond Approx. \_\_\_\_\_ feet  
36°56'10"N; 76°40'10"W and \_\_\_\_\_ 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: 1/24/77 DATE COMPLETED: 3/1/77

TYPE OF DRILL RIG USED: \_\_\_\_\_ TOTAL DEPTH 1200 feet

WATER LEVEL: Stands 134 feet below surface OR  
has NATURAL flow of \_\_\_\_\_ gallons per minute.

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

HOLE SIZE: 4 inches from \_\_\_\_\_ to \_\_\_\_\_ feet  
\_\_\_\_\_ inches from \_\_\_\_\_ to \_\_\_\_\_ feet  
\_\_\_\_\_ inches from \_\_\_\_\_ to \_\_\_\_\_ feet  
SCREEN SIZE: \_\_\_\_\_ inches from 660 to 665 feet

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

\_\_\_\_\_ inches from 828 to 833 feet  
938 943  
\_\_\_\_\_ inches from 1069 to 1074 feet  
CASE SIZE: \_\_\_\_\_ inches from \_\_\_\_\_ to \_\_\_\_\_ feet

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

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

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

GROUTING: Method \_\_\_\_\_  
Material \_\_\_\_\_ Depth \_\_\_\_\_ feet

WATER ANALYSIS AVAILABLE: Yes XX No \_\_\_\_\_  
DRILL CUTTINGS SAVED: Yes XX No \_\_\_\_\_

PUMP: Type \_\_\_\_\_  
Capacity \_\_\_\_\_ gal per min  
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: Electric and gamma log available.

# 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	10	Medium Fine Sand	
10	20	Fine Sand	
20	30	Fine Gray Sand	
30	40	Fine-Medium Gray Sand	
40	50	Fine-Medium Gray Sand	
50	60	Fine Gray Sand, Shell Chips	
60	70	Fine Gray Sand, Shell Chips, Some Small Stones	
70	80	Missed Sample	
80	90	Fine Gray Sand, Shell Chips	
90	100	Fine Gray Sand, Shell Chips	
100	110	Silty Gray Sand, Shell Chips	
110	120	Silty Gray Sand, Clay Streaks	
120	130	Silty Gray Sand, Clay Streaks	
130	140	Fine Gray Sand, Shell Chips	
140	150	Very Fine Gray Sand, Shell Chips	
150	160	Fine Gray Sand, Shell Chips	
160	170	Fine Gray Sand, Shell Chips	
170	180	Very Fine Gray Sand	
180	190	Very Fine Gray Sand, Shell Chips	
190	200	Very Fine Black Sand	
200	210	Fine Gray Sand	
210	220	Fine Gray Sand, Clay Streaks	
220	230	Fine Gray Sand, Shell Chips	
230	240	Missed Sample	
240	250	Gray Silt	
250	260	Fine-Medium Gray Sand	
260	270	Fine Gray Sand, Hard Streaks	
270	280	Fine Gray Sand, Clay Streaks	
280	290		
290	300	Fine Dark Sand	
300	310	Fine Dark Sand	
310	320	Medium-Fine Dark Sand	
320	330	Fine Gray Sand	
330	340	Fine Dark Sand	
350	360	Medium Sand	
360	370	Fine Gray Sand	
340	380	Medium Gray Sand	
380	390	Coarse Gray Sand	
390	400	Coarse Gray Sand	
400	410	Fine Gray Sand, Many Clay Lumps	
410	420	Gray & Green Clay, Shell Chips	
420	430	Gray and Green Clay, Shell Chips	
430	440	Gray Clay, Shell Chips	
440	450	Gray Clay, Shell Chips	
450	460	Gray Clay, Shell Chips	
460	470	Gray Clay, Shell Chips	
470	480	Gray and Tan Clay, Shell Chips	
480	490	Gray Clay, Less Shell	
490	500	Gray Clay, Shell	
500	510	Gray Clay, More Shell	
		(CONTINUED)	

(Use additional forms if necessary)

Driller's Log (Cont.)

Owner:	SWCB, SE 77-4	W# 4849
Driller:	" " "	C# 196
County:	Nansemond	

<u>Depth (feet)</u>		<u>Type of Rock or Soil Penetrated</u>
<u>From</u>	<u>To</u>	
510	520	Gray Clay, Shell Chips
520	530	Gray Clay, Shell Chips
530	540	Gray Clay, Shell Chips
540	550	Gray Clay, Shell Chips
550	560	Gray Clay, Shell Chips
560	570	Gray Clay, Shell Chips
570	580	Gray Clay, Less Shell
580	590	Gray and Red Clay, Less Shell
590	600	Sand, Some Blue Clay
600	610	Blue and Gray Clay, Shell
610	620	Sand with Some Clay
620	630	Clay With Some Sand
630	640	Blue Clay, Shell
640	650	Sand (Clear)
650	660	Sand With Some White Clay
660	670	Coarse Sand
670	680	Fine-Coarse Sand, White and Gray Clay Lumps
680	690	Medium Coarse Sand, Gray Clay Lumps
690	700	Medium Coarse Sand, White Clay Lumps
700	710	Gray Clay, Fine Sand, Shell Chips
710	720	Gray Clay, Fine Sand, Shell Chips
720	730	Gray Clay, Medium Coarse Sand, Less Shell Chips
730	740	Gray Clay, White and Tan Clay Lumps, Shell Chips
740	750	Light Gray Clay, Medium Fine Sand, Shell Chips
750	760	Coarse Clear Sand, Some White Clay Lumps
760	770	Gray Clay, Medium Sand
770	780	Gray and Rust Color Clay, Medium Sand
780	790	Fine-Medium Sand, Gray Clay Lumps
790	800	Fine-Coarse Sand, Gray Clay Lumps
800	810	Fine Coarse Sand, Gray Clay Lumps
810	820	Medium Coarse Clear Sand, Gray Clay Lumps
820	830	Medium Coarse Clear Sand, Gray Clay Lumps
830	840	Fine-Medium Sand, Clay Lumps
840	850	Fine-Coarse Sand
850	860	Fine-Coarse Sand, Clay Lumps
860	870	Fine-Coarse Sand, More Clay Lumps, Shell Chips
870	880	Medium Sand, Gray Clay, Shell Chips
880	890	Fine Sand, Gray Clay
890	900	Fine Sand, Gray Clay
900	910	Medium-Coarse Clear Sand, Gray and Green Clay
910	920	Medium-Coarse Sand, Green Clay Lumps
920	930	Sand and Clay
930	940	Fine-Medium Sand, Gray Clay
940	950	Fine Sand
950	960	Fine-Medium Sand, Gray Clay, Red Sandstone Lumps

Driller's Log (Cont.)

Owner: SWCB, SE 77-4 W# 4849  
Driller: " " " C# 196  
County: Nansemond

<u>Depth (feet)</u>		<u>Type of Rock or Soil Penetrated</u>
<u>From</u>	<u>To</u>	
960	970	Fine Sand, Light Gray Clay Lumps
970	980	Fine Sand, Small Stones, Clay Lumps
980	990	Fine-Medium Clear Sand, Small Stones, Some Clay Lumps
990	1000	Fine-Medium Clear Sand, Small Stones, Hard Black Clay Lumps
1000	1010	Fine Sand, Red Clay, Small Stones
1010	1020	Fine-Coarse Sand, Gray, Green, and Red Clay
1020	1040	Fine Sand, Clay Lumps
1040	1050	Fine-Medium Sand, Clay Lumps
1050	1060	Fine-Coarse Sand, Clay Lumps, Small Stones
1060	1080	Fine-Medium Sand
1080	1100	Fine-Medium Sand, Clay Lumps
1100	1110	Fine-Coarse Sand, Clay Lumps
1110	1120	Fine-Coarse Sand, Red Clay Lumps
1120	1140	Fine-Coarse Sand, Red and Clay Lumps
1140	1160	Fine-Coarse Clear Sand, Few Red Clay Lumps
1160	1180	Red Clay Top 10', Red and Gray and Hard Black Clay Bottom 10'
1180	1200	Fine-Coarse Sand, Less Clay

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

INTERVAL SHEET

Page 1 of 1

Well Repository No.: C-196  
 W- 4849

Date rec'd: 4/26/77 Date Processed: 8/13/77

Sample Interval: from 0 to:1200

PROPERTY: State Water Control Board  
 (G. W. Research Station SE 77-4)

Number of samples: 111

COMPANY: State Water Control Board

Total Depth: 1200'

COUNTY: Nansemond (Whaley)

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	-	640-650	940-950	-
50-60	350-360	650-660	950-960	-
60-70	360-370	660-670	960-970	-
-	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	1000-1010	-
110-120	410-420	710-720	1010-1020	-
120-130	420-430	720-730	1020-1040	-
130-140	430-440	730-740	-	-
140-150	440-450	740-750	1040-1050	-
150-160	450-460	750-760	1050-1060	-
160-170	460-470	760-770	1060-1080	-
170-180	470-480	770-780	-	-
180-190	480-490	780-790	1080-1100	-
190-200	490-500	790-800	-	-
200-210	500-510	800-810	1100-1110	-
210-220	510-520	810-820	1110-1120	-
220-230	520-530	820-830	1120-1140	-
230-240	530-540	830-840	-	-
240-250	540-550	840-850	1140-1160	-
250-260	550-560	850-860	-	-
260-270	560-570	860-870	1160-1180	-
270-280	570-580	870-880	-	-
280-290	580-590	880-890	1180-1200	-
290-300	590-600	890-900	-	-

Washed and unwashed samples

Owner:	SWCB (G.W. Station 77-4)	W# 4849
Driller:	SWCB	C# 196
County:	Nansemond (Whaley)	Total Depth: 1200'
		Quad: Whaleyville
		Elev: 73'

Depth  
(Feet)

WELL LOG

0-10	Sand - very pale yellow brown (10YR 7/2); medium to coarse with granules, subangular, moderately well sorted.
10-30	Sand - very pale yellow brown (10YR 7/2); sparse clay; medium to coarse, subangular, moderately well sorted.
30-50	Sand - light olive gray (5Y 7/1); fine to medium and coarse at 40-50, subangular, well sorted; wood fragments; 3% <u>fine</u> phosphate fragments at 40-50.
50-70	Sand - light olive gray (5Y 6/1); very sparse dusky yellow clay; medium to coarse with some granules, subangular, well sorted; 3% <u>fine</u> phosphate fragments at 50-60; echinoderm spines; 40% <u>very fine</u> shell fragments; ostracods; forams - <u>Quinqueloculina</u> .
70-80	No Sample.
80-90	Sand - light olive gray (5Y 6/1); coarse, subangular, well sorted; forams - <u>Nonion</u> ; 45% <u>very fine</u> shell fragments - juvenile forms - snails, bivalves.
90-100	Sand - light olive gray (5Y 6/1); medium to very coarse, subangular, moderate sorting; echinoderm spines; 48% <u>very fine</u> shell fragments.
100-110	Sand, Shelly - light olive gray (5Y 6/1); 50% <u>fine</u> shell fragments; fine to very coarse, subangular, moderate sorting; forams - <u>Nonion</u> ; rose quartz.
110-120	Sand - light olive gray (5Y 6/1); medium to coarse, subangular, moderate sorting; 5% phosphate fragments; forams - <u>Robulus</u> , <u>Cibicides</u> , <u>Quinqueloculina</u> , <u>Nonion</u> ; 40% <u>very fine</u> shell fragments.
120-150	Sand - light olive gray (5Y 6/1); 50% fine shell fragments with 60% at 130-140; fine to coarse, subangular, moderate sorting; 5% phosphate fragments; forams; 40% very fine shell fragments - oysters, dentalium; echinoderm spines.
150-160	Sand - light olive gray (5Y 6/1); 60% fine shell fragments; fine to very coarse, subangular, moderate sorting; 5% phosphate fragments; forams; 40% <u>very fine</u> shell fragments; echinoderm spines.

Owner: SWCB (G.W. Station 77-4)

W# 4849

C# 196

Depth  
(feet)

160-170 Sand - light olive gray (5Y 6/1); 50% fine shell fragments; fine to coarse, subangular, moderate sorting; 30% phosphate fragments; foram - Textularia; 40% fine shell fragments; echinoderm spines.

170-190 Sand - light olive gray (5Y 6/1); fine to coarse, subangular, moderate sorting; 30% phosphate fragments; forams; 40% very fine shell fragments; echinoderm spines; mica.

190-200 Sand - light and dark green; 50% phosphate fragments; fine to coarse, subangular, moderate sorting; echinoderm spines; forams; 30% fine shell fragments.

200-220 Sand - light and dark green; fine to coarse, subangular, moderate sorting; 40% phosphate fragments; 30-40% fine shell fragments; echinoderm spines; forams.

220-230 Sand - light and dark green; 50% shell fragments; fine to coarse, subangular, moderate sorting; 30% phosphate fragments; echinoderm spines; shells - 4 types snails;

230-240 Sand - light olive gray (5Y 6/1); very sparse clay; very fine to coarse, subangular, moderate sorting; 20% phosphate fragments; echinoderm spines; 40% shell fragments.

240-270 Sand - light olive gray (5Y 6/1); very fine to coarse, subangular, moderate sorting; 20% phosphate fragments with 10% at 240-250; echinoderm spines; forams - Robulus at 250-270; 40% shell fragments, 30% at 250-260, 5% at 260-270.

270-280 Sand - light olive gray (5Y 6/1); sparse clay; very fine to coarse, subangular, moderate sorting; 30% glauconite; phosphate fragments; ostracods; 10% shell fragments.

280-300 Sand, Glauconite - grayish olive green (5GY 3/2); 80% glauconite, coarse, green; very sparse clay; fine to coarse, subangular, moderate sorting; 10-15% shell fragments - Mulina; echinoderm spines; bryozoa; garnet.

300-320 Sand, Glauconite - light and dark gray, 50% glauconite; fine to coarse, subangular, moderate sorting; 5-15% shell fragments - Phacoides; bone fragments; teeth; forams - Robulus; very sparse clay; pyrite; rose quartz.

Owner: SWCB (G.W. Station 77-4)

W# 4849

C# 196

Depth  
(feet)

- 320-360 Sand - light and dark gray; very sparse clay at 320-340; medium to very coarse, angular and subangular, moderate sorting; 40% glauconite; shell fragments - 15% at 320-330, 10% at 330-340, 40% at 340-350 and 10% at 350-360; bone fragments at 320-330; bryozoa and teeth at 340-350; pyrite at 320-340; rose quartz; garnet.
- 360-370 Sand - light olive gray (5Y 6/1); medium to coarse, subangular, moderate sorting; 8% glauconite; rare shell fragments; mica.
- 370-390 Sand - light and dark gray; medium to very coarse, subangular, moderate sorting; 40% glauconite; 10-40% shell fragments; echinoderm spines; small limb bones, bone fragments; garnet.
- 390-400 Sand - light and dark gray; 50% shell fragments; fine to very coarse, subangular, moderate sorting; 10% glauconite; echinoderm spines; bryozoa; bone fragments; shark teeth; garnet.
- 400-410 Sand - light olive gray (5Y 5/2); moderate clay in small clasts of yellow, pink, orange; very fine to very coarse, subangular, poorly sorted; 20% shell fragments; phosphate nodules; rare glauconite grains.
- 410-430 Sand - light olive gray (5Y 5/2); sparse clay; very fine to granule, subangular, poorly sorted; 5-3% glauconite; 10% - few shell fragments.
- 430-530 Sand - light olive gray (5Y 5/2); moderate clay with abundant at 440-460; very fine to granule, subangular, poorly sorted; rare glauconite; shell fragments - 10% with 25% at 450-460 and 40% at 510-530 - Ensis; shark teeth 430-440 and 520-530; mica.
- 530-550 Clay - olive gray (5Y 4/1); abundant sand; very fine to medium and some larger grains, subangular, poor sorting; ~~orange~~ red/yellow clasts; 10% shell fragments - Mulinia; mica.
- 550-560 Sand - light olive gray (5Y 5/1); abundant clay; very fine to medium, angular and subangular, poorly sorted; 10% shell fragments; mica.
- 560-580 Clay - olive gray (5Y 4/1); abundant sand; very fine to medium, angular and subangular, poorly sorted; 10% shell fragments; mica.
- 580-610 Sand - light olive gray (5Y 5/1); moderate clay; fine to granule at 590-610 mostly in the coarse to granule range, subangular, poorly sorted; 3% shell fragments - Turritella; mica.



Owner: SWCB (G.W. Station 77-4)

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C# 196

Depth  
(feet)

- 610-640 Sand - light olive gray (5Y 6/1); sparse clay; fine to granule, subangular, poor sorting; 1% shell fragments; mica.
- 640-670 Sand - light olive gray (5Y 7/1); medium to granule with fine to granule at 660-670, subangular, moderate sorting with poor at 660-670; feldspar.
- 670-720 Sand - light olive gray (5Y 6/1); very sparse clay; fine to granule, subangular, poor sorting; rare shells; feldspar.
- 720-740 Sand - light olive gray (5Y 6/1); moderate clay; fine to granule, subangular, poor sorting; rare shell fragments; feldspar; garnet.
- 740-780 Sand - light olive gray (5Y 6/1); sparse clay with none at 750-760 and moderate at 760-770; fine to granule, subangular, poorly sorted; rare shell fragments; feldspar; garnet; mica at 760-770 and pyrite at 770-780.
- 780-840 Sand - light olive gray (5Y 6/1); medium to very coarse with granules at 810-840; subangular, moderate sorting; feldspar; garnet.
- 840-860 Sand - light olive gray (5Y 6/1); very sparse clay; medium to granule, subangular, moderate sorting; feldspar; garnet.
- 860-880 Sand - light olive gray (5Y 6/1); sparse clay; fine to granule, subangular, poorly sorted; rare glauconite/shell fragments; mica; feldspar; garnet; rose quartz.
- 880-900 Sand - light olive gray (5Y 6/1); moderate clay; fine to granule, subangular, poorly sorted; rare glauconite/shell fragments; mica; feldspar; rose quartz.
- 900-940 Sand - light olive gray (5Y 6/1); sparse clay; medium to granule, subangular, moderate sorting; mica; feldspar; rose quartz.
- 940-970 Sand - light olive gray (5Y 6/1); sparse clay; medium to very coarse with mostly medium and to granule at 960-970, subangular, moderate sorting; mica; feldspar.
- 970-1000 Sand - light olive gray (5Y 6/1); very sparse clay; medium to granule with rounded pebbles at 970-980 and fine to granule from 980-1000, subangular, moderate sorting; feldspar.
- 1000-1040 Sand - pale yellow brown (10YR 6/2); sparse clay at 1000-1010 and moderate thereafter; fine to granule, subangular, moderate sorting; mica; feldspar; garnet.

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Depth  
(feet)

1040-1110	Sand - very pale yellow brown (10YR 7/2); sparse clay in gray, red and white clasts; fine to very coarse, subangular, moderate sorting; mica; feldspar; garnet.
1110-1180	Sand - light brown (5YR 6/4); very sparse clay at 1110-1120 and sparse thereafter - gray clasts at 1160-1180; medium to very coarse, subangular, poorly sorted; feldspar; garnet.
1180-1200	Sand - very pale yellow brown (10YR 7/2); very sparse clay in clasts of gray, light brown; compacted and flat; fine to very coarse, subangular, moderate sorting; mica; feldspar; garnet.

Logged by: J. K. Polzin  
December 4/5, 1980