

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

VDMR #1135

WWCR #109

MAILING ADDRESS:

Box 3667, University Sta.
Charlottesville, Virginia

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:

McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Sydnor Pump & Well Co., Inc. Mailing Address: Richmond, Virginia

TENANT: Stove Point Mailing Address: Stove Point Neck, Virginia

DRILLER: Sydnor Pump & Well Co., Inc. Mailing Address: Richmond, Virginia

WELL LOCATION: County Middlesex 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: 3/23/64 DATE COMPLETED: 5/27/64

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 792 feet

WATER LEVEL: Stands 5 feet below surface OR
has NATURAL flow of gallons per minute.

YIELD TEST: Method
Drawdown 17 feet
Rate 20 gal. per min.
Duration 9 hrs., min.

HOLE SIZE: 12 inches from 0 to 473 feet
 inches from to feet
 inches from to feet
SCREEN SIZE: inches from to feet

WATER ZONES: from to feet
from to feet
from to feet

 inches from to feet
 inches from to feet
CASE SIZE: Pulled 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 Public

GROUTING: Method
Material Depth feet

WATER ANALYSIS AVAILABLE: Yes X No
DRILL CUTTINGS SAVED: Yes X 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: See separate report dated August 17, 1964 by Garland S. Sydnor, Jr.
Hole abandoned - poor quality water

LOG

FURNISHED BY: Sydnor Pump & Well Co., Inc. DATE: August 27, 1964

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	4	Sand clay, fill dirt	
4	6	Logs and stumps	
6	18	White sand	
18	22	Sand and shells, iron	
22	53	Blue clay	
53	60	Shells and blue clay	
60	74	Coarse shells	
74	83	Shells and sand	
83	119	Fine gray and green sand	
119	135	Green silty fine sand clay, traces of shells	
135	143	Green silty fine sand clay	
143	207	Gray clay	
207	222	Gray silty fine sand clay, traces of shells	
222	238	Gray clay	
238	245	Mixture of clay and shells	
245	310	Silty gray clay with a greenish cast	
310	335	Silty green clay	
335	436	Green clay	
436	457	Gray and black sand and shells, clay binder, few sharks teeth	
457	500	Gray clay	
500	515	Gray clay, traces of shells	
515	596	Tough gray clay	
596	598	Streak of sand	
598	627	Gray clay	
627	635	Gray sand, hard, few clay streaks	
635	650	Gray sand, hard, some mica	
650	667	Gray sand, coarse	
667	688	Gray sand clay, fine	
688	696	Coarse gray sand	
696	700	Clay	
700	708	Gray clay	
708	722	Hard gray sand	
722	786	Gray sand, soft	
786	789	Sand clay	
789	792	Hard gray clay	

INTERVAL SHEET

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VDMR Well No.: Well No. 1135

Date 9/15/64

Sample Interval: from 75 to 786

PROP: Stove Point Dev.

Total depth 792

COMP: Sydnor

Oil Gas Water Exploratory

COUNTY: Middlesex

Cuttings Core Other

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Core		Ditch Samples	
From-To	From-To	From-To	From-To
100 -101	400 -401	-	75 - 83
110 -111	410 -411	-	440 -
120 -121	420 -421	-	445 -
130 -131	430 -431	-	435 - 455
140 -141	440 -441	-	630 - 650
150 -151	445 -446	-	650 - 667
160 -161	450 -451	-	708 - 726
170 -171	455 -	-	725 - 735
180 -181	465 -466	-	735 - 745
190 -191	480 -481	-	745 - 760
200 -201	490 -491	-	760 - 775
210 -211	500 -501	-	775 - 786
220 -221	510 -511	-	786 - 792 No sample
230 -231	540 -541	-	-
240 -241	600 -601	-	-
250 -251	635 -636	-	-
260 -261	650 -651	-	-
270 -271	660 -661	-	-
280 -281	675 -676	-	-
290 -291	690 -691	-	-
300 -301	725 -726	-	-
310 -311	735 -736	-	-
320 -321	745 -746	-	-
330 -331	760 -761	-	-
340 -341	776 -777	-	-
350 -351	-	-	-
360 -361	-	-	-
370 -371	-	-	-
380 -381	-	-	-
390 -391	-	-	-

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(Stove Point)
DRILLER: Sydnor Pump & Well Co., Inc.
COUNTY: Middlesex (Deltaville)

VDMR: 1135
WWCR : 109
Total DEPTH : 792'

GEOLOGIC LOG

0-75 No samples

YORKTOWN FORMATION (75-145')

75-83 Sand and Shells in subequal amounts - sand fine- to coarse-grained fairly well-sorted, subangular to rounded; sand consists essentially of clear quartz, and many of the rounder grains are frosted; slightly glauconitic; trace of phosphorite; shell material consists of pelecypod fragments

100-101 Sand - grayish-green; moderately silty and argillaceous; fine- to medium-grained, well-sorted subangular to subrounded with small amount of well-rounded grains; predominantly clear quartz; small amounts of green glauconite, magnetite, and black to gray phosphatic grains (these concentrated in fine sand and coarse silt fractions); traces of brown epidote, muscovite, tourmaline; scattered echinoid spines and some coarse pelecypod fragments

110-111 "

120-121 "

130-131 " with more echinoid spines

140-141 Sand - greenish-gray; moderately silty and argillaceous; very fine to fine-grained, well-sorted angular to subangular; predominantly clear quartz; small amount of phosphate; very small amounts of magnetite and green glauconite; traces of muscovite, brown epidote, garnet, vivianite; scattered schinoid spines and pelecypod fragments

141-150 No sample

CALVERT FORMATION (145-445') Top of formation defined on basis of other information.

150-151 Clay - gray with greenish cast; very slightly sandy and silty; sand and silt slightly glauconitic; slightly ferruginous (limonitic), trace of diatoms

160-161 Clay - light-gray; compact; virtually sand-free; slightly ferruginous (limonitic); moderately diatomaceous

170-171 Clay - gray; sandy, silty, sand very fine-grained, well-sorted, angular to subangular; predominantly clear quartz, with some muscovite, phosphate, and magnetite; slightly to moderately diatomaceous

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- 180-181 Clay - gray, with greenish cast; virtually sand-free, very silty, slightly ferruginous (limonitic); abundant coarse pelecypod fragments; a few foraminifers
- 190-191 Clay - greenish-gray; very sandy, silty; very fine-grained sand and very coarse-grained silt; well-sorted, angular to sub-angular; predominantly clear quartz
- 200-201 Clay - dark-gray (locally pyritic), grayish-brown (slightly sandy and silty), and some yellow (sand-free and silt-free)
- 210-211 Sand - grayish-green; argillaceous and slightly silty; very fine-grained, well-sorted, subangular; predominantly clear and green-tinted quartz; moderate amounts magnetite, glauconite, and phosphate (all are very fine-grained); small amounts of selenite gypsum crystals and acicular aragonite; abundant pelecypod and bryozoan shell fragments
- 220-221 Clay - grayish-green; very sandy; sand very fine-grained, very well-sorted, subangular; sand predominantly clear to green-tinted quartz with trace amounts of muscovite, glauconite and phosphate; relatively abundant crystals of selenite gypsum, somewhat larger than the quartz grains; moderate amount chalky, pelecypod shell fragments
- 230-231 Clay - gray; moderately coherent; essentially sand free; traces of pyrite, muscovite, selenite, and columnar brown epidote (authigenic); some foraminifera
- 240-241 Sand - gray; slightly argillaceous (olive-brown, locally dark-gray); medium-grained, well-sorted, subangular to subrounded; predominantly quartz; trace muscovite; a few foliated rock fragments (quartz-muscovite); abraded pelecypod shell fragments very abundant; a few foraminifers (including Textularia, Lagena) and ostracods
- 250-251 Sand - brown; slightly to moderately silty and argillaceous; very fine- to fine-grained, well-sorted, angular to subangular; predominantly clear quartz; small amount fine-grained chitino-phosphatic (shell?) material; traces of garnet and muscovite
- 260-261 Sand - gray; argillaceous; very fine-to fine-grained, well-sorted, angular to subangular; predominantly clear quartz; traces of muscovite, acicular aragonite, phosphate and garnet; a few foraminifera; moderately diatomaceous
- 270-271 Clay - gray; slightly sandy; diatomaceous
- 280-281 Clay - gray; trace of sand; trace of columnar brown epidote (authigenic); trace of gypsum; a few foraminifera; diatomaceous

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290-291	"	diatomaceous
300-301	"	"
310-311	Clay	-light-greenish-gray; very sandy; sand very fine-grained, well-sorted, angular; predominantly clear quartz; traces of gypsum, garnet, muscovite, and brown epidote; trace of phosphate; a few foraminifera; diatomaceous
320-321	"	slightly less sandy; diatomaceous
330-331	Clay	-gray; silty- very fine-sandy; small amounts of muscovite and gypsum; moderately abundant foraminifera (planospiral types) and a few echinoid spines; diatomaceous
340-341	Clay	-gray with greenish cast; small amounts coarse silt and very fine-grained sand; non-clay fraction well-sorted, angular; traces of acicular aragonite, muscovite; small amount massive gypsum; abundant foraminifera (planospiral and uniserial forms) and a few echinoid spines; diatomaceous
350-351	Clay	-gray, with greenish cast; very small amount coarse silt and very fine-grained sand; non-clay fraction, well-sorted, angular, small amount massive gypsum; a few foraminifera and echinoid spines; moderately diatomaceous
360-361	"	diatomaceous
370-371	"	very diatomaceous
380-381	"	moderately diatomaceous
390-391	"	"
400-401	Clay	-gray with greenish cast; traces of coarse silt and very fine-grained sand; small amount gypsum; traces of muscovite, glauconite, and yellow-brown phosphate; a few foraminifera; slightly to moderately diatomaceous
410-411	Clay	-gray, with greenish cast; traces of coarse silt and very fine-grained sand; foraminifera moderately abundant (fusiform types dominant); a few worm borings; diatomaceous
420-421	"	with a more abundant and varied assemblage of foraminifera (fusiform, uniserial, and planospiral types)
421-430	No sample	
430-431	Clay	-gray, with greenish cast, diatomaceous; moderately sandy; sand poorly sorted, angular to rounded (very-coarse, sub-rounded to rounded grains of limpid quartz are conspicuous); 35% sand-size grains of black and yellow-brown phosphorite

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- (cont.)
430-431 Clay -abundant; small amount glauconite and equant crystals of chalk-white gypsum; small amount chalky, abraded shell fragments; a few echinoid spines; abundant foraminifera in a varied assemblage (fusiform, uniserial, biserial, and plano-spiral types); Dentalina, Siphogenerina
- 440-441 Sand -grayish-green, argillaceous, locally calcarous, a few rounded granules of quartz, medium- to coarse-grained, fairly well-sorted, subangular to subrounded limpid quartz with some opaque inclusions (about 90%), and very fine- to medium-grained glauconite pellets (about 10 %); moderately abundant gray- to yellow-brown phosphorite nodules and plates; small amount fibrous to acicular aragonite; trace of pink garnet; abundant chalky pelecypod shell fragments; a few foraminifera; phosphorite bone fragments, shark teeth and nodules relatively abundant

441-445 No sample

NANJEMOY FORMATION (445-465') Top of formation defined on basis of other information.

445-446 Sand -grass-green, argillaceous glauconitic clay and silty (silt is very glauconitic), very fine- to very-coarse-grained, poorly sorted, angular to subrounded; clear quartz and light-green to black glauconite in subequal amounts, with quartz/glauconite ratio increasing as grain size increases; moderate amount of phosphorite nodules and plates; trace of gypsum; abundant pelecypod shell fragments; scattered echinoid spines, uniserial foraminifera

450-451 Sand -green, argillaceous, fine-grained, well-sorted, glauconite (80-85%); coarser, poorly sorted, angular to rounded, limpid quartz (10-15%); abundant and varied assemblage of foraminifera (5-10%); small amounts of phosphorite and gypsum; abundant echinoid spines and a few pelecypod shell fragments and bryozoans

455 " less fossiliferous

455-465 No sample

MATTAPONI FORMATION (465-635') Top of formation defined on basis of other information.

465-466 Clay -gray, with purple cast; slightly sandy; sand size material mostly authigenic glauconite; small amount of fine-grained pyrite; small amount gypsum; some echinoid spines, abundant foraminifera (uniserial, biserial, and planospiral types), and a trace of comminuted, chalky shell fragments

480-481 Clay -gray, with purple cast; trace of sand; sand size material mostly authigenic glauconite; very abundant fine-grained,

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(cont.)

- 480-481 Clay - authigenic pyrite and ferruginous clay (brown, reddish-brown, and greenish-yellow) derivatives of pyritic material; very abundant bladed aggregates of brown to clear impure authigenic gypsum; moderate amount bright yellow clay as drusy coatings in cavities; small amount chalky white shell fragments; some echinoid spines and moderately abundant foraminifera (varied assemblage including uniserial, biserial and planospiral types)
- 490-491 Clay - gray, with purple cast; small amounts of coarse silt and very fine-grained sand; silt and sand size material mostly authigenic glauconite and gypsum; with traces of quartz and muscovite; small amounts of fine-grained pyrite; moderately abundant foraminifera (varied assemblage)
- 500-501 Clay - gray, with purple cast; considerable amounts of coarse silt and very fine-grained sand; silt and sand size material mostly authigenic glauconite and gypsum, with traces of quartz and muscovite; small amount of fine-grained pyrite; moderately abundant foraminifera (varied assemblage), scattered chalky pelecypod shell fragments
- 510-511 Clay - gray, with purple cast; slightly sandy; sand size material consists of authigenic gypsum and glauconite, and a little muscovite; abundant, fine-grained pyrite; small amount chalky pelecypod shell fragments, abundant foraminifera (varied assemblage), and some ostracods
- 540-541 Clay - gray, with purple cast; slightly sandy; sand size material mostly authigenic gypsum; small amounts glauconite and muscovite; trace of pelecypod shell fragments, moderately abundant foraminifera, and a few ostracods
- 600-601 Clay - light-gray; slightly sandy; sand size material predominantly gypsum; small amounts glauconite and muscovite; scattered foraminifera; minor amount clayey arkosic sand
- 601-636 No Samples

PATUXENT FORMATION (635-792') Top of formation defined on basis of other information.

- 635-636 Sand - buff; medium- to coarse-grained, fairly well-sorted, subangular, slightly silty and argillaceous; slightly glauconitic (about 5% of sand is fresh black glauconite); slightly arkosic, (5-10% fresh, gray microcline and perthite with smaller amounts of altered plagioclase); moderately micaceous (muscovite); small amounts pink and brown garnet; trace of epidote
- 630-650 Sand - gray, speckled black; coarse-grained, fairly well-sorted, angular to subrounded; slightly glauconitic (5-10% of fresh black glauconite); slightly arkosic (5-10% of fresh, gray to cream-colored microcline and perthite); small amounts of fine-grained pyrite, garnet, epidote; scattered nodules of brown phosphorite and plates of goethite; scattered pelecypod shell fragments; a few foraminifera

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- 650-651 Sand - buff; very fine- to very-coarse-grained, very poorly sorted, angular to subrounded; moderately silty and argillaceous; arkosic; very micaceous (muscovite and chloritized biotite); traces of glauconite, garnet, epidote, and graphite
- 660-661 Sand - buff; fine- to coarse-grained, poorly sorted, subangular; slightly silty and argillaceous; arkosic (fresh feldspar); slightly glauconitic; slightly micaceous (muscovite); traces of garnet and epidote
- 675-676 Sand - buff, with green cast, fine- to medium-grained, fairly well sorted, angular to subangular, argillaceous; very arkosic (feldspar white to tan and moderately to intensely altered); slightly micaceous (muscovite and chloritized biotite); finest grades contain abundant epidote (brown and green) magnetite, and a little glauconite
- 690-691 Sand - buff; medium- to coarse-grained, rather poorly sorted, subangular to subrounded; slightly argillaceous; small amounts very coarse-grained sand and granules; arkosic (feldspar is fairly fresh, subrounded); small amounts green and brown epidote; traces of garnet, muscovite, and glauconite
- 708-726 Sand - buff; coarse- to very-coarse-grained, well-sorted, subangular to subrounded; arkosic; slightly glauconitic; small amounts of garnet, fine-grained pyrite, and green epidote; traces of muscovite, chloritized biotite, and magnetite; scattered echinoid spines and pelecypod shell fragments; some foraminifera
- 725-726 Sand - buff; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; slightly argillaceous; trace of silt; slightly arkosic (relatively fresh, white to yellowish feldspar); very small amounts glauconite, muscovite, garnet, brown epidote, magnetite; a few echinoid spines
- 735-736 Sand - buff; medium- to coarse-grained, fairly well-sorted, subangular to subrounded; slightly to moderately argillaceous; a few granules of quartz and feldspar; small amount granules; slightly arkosic (fairly fresh gray microcline and perthite); traces of muscovite, glauconite, garnet, brown epidote, magnetite, chloritized biotite
- 745-746 "
- 760-761 " more arkosic and micaceous (muscovite)
- 776-777 Sand - buff; coarse- to very coarse-grained, well-sorted, subangular to subrounded; slightly silty and argillaceous; a few subrounded granules of quartz and feldspar; arkosic (relatively fresh microcline and perthite); traces of muscovite, garnet, brown epidote, magnetite, and chloritized biotite

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775-786 Sand - buff; coarse- to very coarse-grained, well-sorted, sub-angular to subrounded; arkosic; slightly glauconitic; small amounts of garnet, fine-grained pyrite, and green epidote; traces of muscovite, chloritized biotite, and magnetite; scattered echinoid spines and pelecypod shell fragments; some foraminifera

786-792 No sample

GEOLOGIC SUMMARY

<u>Rock Unit</u>		<u>Age</u>
0-75'	No Samples	
75-145'	Yorktown Formation	Miocene
145-445'	Calvert Formation	Miocene
445-465'	Nanjemoy Formation	Eocene
465-635'	Mattaponi Formation	Paleocene - Late Cretaceous
635-792'	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
Revised December 21, 1967
Revised March 1, 1972