

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

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: Douglas and Dickinson, Inc. Mailing Address: Box 498, Warsaw, Va. 22572

TENANT: Windsor Builders (Glendale Acres) Mailing Address: Richmond, Va.

DRILLER: Douglas Drilling Co., Inc. Mailing Address: Box 498, Warsaw, Va. 22572

WELL LOCATION: County Charles City Approx. 1/2 ^{feet}/_{miles} west (direction) of
St. Rt. 604 and 5 ^{feet}/_{miles} southwest (direction) of Roxbury

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

DATE STARTED: _____ DATE COMPLETED: May 1, 1972

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 275 feet

WATER LEVEL: Stands 142 feet below surface OR
has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method test pump
Drawdown 87 feet
Rate 40 gal. per min.
Duration 72 hrs., 0 min.

HOLE SIZE: 6 inches from 0 to 275 feet
_____ inches from _____ to _____ feet
_____ inches from _____ to _____ feet

WATER ZONES: from 262 to 272 feet
from _____ to _____ feet
from _____ to _____ feet

SCREEN SIZE: 4 inches from 262 to 272 feet
_____ inches from _____ to _____ feet
_____ inches from _____ to _____ feet

WATER: Color _____ Taste _____
Odor _____ Temp. _____ °F

CASE SIZE: 4 inches from 0 to 262 feet
WEIGHT: 4 inches from 272 to 275 feet
standard
Sched. 40
Galvanized _____ inches from _____ to _____ feet

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

GROUTING: Method _____
Material _____ Depth _____ feet

WATER ANALYSIS AVAILABLE: Yes X No _____

PUMP: Type submersible
Capacity 30 gal per min
Depth of intake 252 feet

DRILL CUTTINGS SAVED: Yes 27 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: Douglas Drilling Co., Inc.

DATE: 1 May 1972

Location: Lot #7 on South side of the West end of Whit Lane, Glendale Acres subdivision on Warriner Road (Route 206), 2.6 miles South of Darbytown Road.

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
- 0	approx. 80'	coarse sand and fine gravel with some clay	
80	approx. 260'	fine sand with clay binder	
260	approx. 270'	coarse sand	
270	approx. 275'	fine sand with clay binder	

(Use additional forms if necessary)

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

INTERVAL SHEET

C 111

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Well Repository No: 3541

Date rec'd: 5-15-72 Date Processed: 5-30-72

Sample Interval: from 0 to: 273

PROPERTY: Windsor Builders
 (Glendale Acres)

Number of samples: 27

COMPANY: Douglas and Dickinson

Total Depth: 275

COUNTY: Charles City

Oil or Gas: Water: x Exploratory:

From-To	From-To	From-To	From-To
0 - 10	252 - 62	-	-
10 - 21	262 - 73	-	-
21 - 31	-	-	-
31 - 42	-	-	-
42 - 49	-	-	-
49 - 56	-	-	-
56 - 63	-	-	-
63 - 73	-	-	-
73 - 84	-	-	-
84 - 94	-	-	-
94 - 105	-	-	-
105 - 115	-	-	-
115 - 26	-	-	-
126 - 36	-	-	-
136 - 147	-	-	-
147 - 57	-	-	-
157 - 68	-	-	-
168 - 78	-	-	-
178 - 89	-	-	-
189 - 99	-	-	-
-	-	-	-
199 - 210	-	-	-
210 - 20	-	-	-
220 - 31	-	-	-
231 - 41	-	-	-
241 - 52	-	-	-
-	-	-	-

All intervals have both washed and unwashed samples

OWNER: Windsor Builders
DRILLER: Douglas Drilling Co., Inc.
COUNTY: Charles City

W-3541
C-111
TOTAL DEPTH: 275'

GEOLOGIC LOG

Depth
(feet)

COLUMBIA GROUP (0-60')

- 0-10 Sand — very fine- to coarse-grained, poorly sorted; abundant matrix and many lenses of silty variegated clay (red, orange, yellow, white, tan).
- 10-21 Clay — variegated (red, orange, yellow, white, tan, gray); locally silty and sandy.
- 21-31 Gravel — subrounded to rounded, 2 to 10 mm; quartz and feldspar, with a few pebbles of sandstone.
- 31-42 " , except: with matrix of sand-silt-clay.
- 42-49 Sand — tan, trace of clay, trace of fine-grained gravel; medium- to very coarse-grained, fairly well sorted, angular to subrounded; 10 percent each of blue quartz and decomposed feldspar; trace of chert.
- 49-56 Gravel — brown, rounded, mainly 10 to 25 mm; mainly quartz, some feldspar and quartzitic rock fragments.
- 56-63 " , except: with some ferricrete; sample also contains considerable amount of decomposed and iron-stained equivalent of underlying material (interval 63-73').

YORKTOWN FORMATION (60-90')

- 63-73 Sand and Shells — sand (about 50 percent): medium- to very coarse-grained, moderately sorted, subangular to subrounded; quartz and sand-size shell fragments; coarse shell (about 50 percent): 2 to 10 mm, abraded, mainly pelecypods, dominantly bluish-gray (carbonaceous?); some gastropods, scaphopods, bryozoans, echinoid spines.
- 73-84 " , except: coarse shell subordinate (about 20 percent); locally indurated (carbonate).

84-94 Shells and Sandstone — about 70 percent shell fragments up to 15 mm; mainly pelecypods, with some gastropods, bryozoans, scaphopods, echinoid spines, and a few vertebrate remains (otoliths) and miliolid foraminifers; about 30 percent calcite shell-bearing, slightly glauconitic sandstone; a few fragments and nodules of phosphorite. Sample contains about 50 percent of underlying material (interval 94-105').

CALVERT FORMATION (90-115')

94-105 Sand — abundant matrix of brownish-gray silty clay; 10 percent chalky shells and shell fragments larger than 2 mm, 2 to 3 percent phosphorite fragments larger than 2 mm; fine- to medium-grained, moderately sorted; quartz, with subordinate secondary phosphorite and shell fragments; traces of mica and glauconite; a few foraminifers.

105-115 " , except: clayey matrix is grayish-brown.

NANJEMOY FORMATION (115-189')

115-126 Sand — gray, moderately clayey; 5 percent shell fragments larger than 2 mm; fine- to medium-grained, fairly well-sorted; clear and greenish quartz (50 percent), dark-green glauconite (20 percent) and small shell fragments (about 20 percent); very locally, a calcitic sandstone; traces of phosphorite, garnet, muscovite; a few ostracods and foraminifers.

126-136 " , except: 20 to 30 percent shell material, much of it glauconite-mermeated; numerous well-rounded to super-rounded grains in coarser classes (0.5 to 5 mm).

136-147 "

147-157 Sand — fairly abundant matrix of brownish-gray clay, 20 percent chalky shells and shell fragments; well-sorted; 50 percent clear to green-tinted fine- to very fine-grained, angular to subangular quartz, and 50 percent fine- to medium-grained, dark-green to black glauconite; muscovite common; a few ostracods and foraminifers.

- 157-168 Sand — fairly abundant matrix of brownish-gray clay, 20 percent chalky shells and shell fragments; well-sorted; 50 percent clear to green-tinted fine- to very fine-grained, angular to subangular quartz, and 50 percent fine- to medium-grained, dark-green to black glauconite; muscovite common; a few ostracods and foraminifers.
- 168-178 "
- 178-189 Clay and Sand — fairly interlaminated salmon-pink sand-free clay (50 percent), pale-gray sand-free clay (20 percent), and dark greenish-gray glauconite-bearing and micaceous clay (30 percent).

MATTAPONI FORMATION (189-241')

- 189-199 Sand — binder of dark brown-gray micaceous clay (muscovite), 2 to 3 percent shell fragments; fine- to very fine-grained, well-sorted; 70 percent angular quartz, 25 percent fresh glauconite (ranges to 1.0 mm), 2 to 3 percent muscovite; slightly carbonaceous; foraminifers common, mainly Robulus and Dodosaria.
- 199-210 Sand and Clay -- interlaminations of lithology described above (189-199) and pale-yellow silty (quartz) clay with numerous orange- to brown-stained pebbles up to 10 mm; a few thin laminae of brick-red and ochre glauconite-bearing clays.
- 210-220 Sand — abundant matrix of dark-gray silty clay; 10 to 15 percent chalky pelecypod-gastropod shell debris; a few thin lenses of medium-gray calcitic glauconite-bearing sandstone, and small pockets of pink to brick-red sand-free clay; medium- to very fine-grained, moderately sorted; 50 percent clear to greenish angular quartz; 50 percent black to dark-green glauconite (tends to be coarser than quartz); accessory micas and fragmental phosphorite, including a few fragments of phosphatic glauconite-bearing sandstone; foraminifers and ostracods present.

- 220-231 Sand — abundant matrix of dark-gray silty clay; 10 to 15 percent chalky pelecypod-gastropod shell debris; a few thin lenses of medium-gray calcitic glauconite-bearing sandstone, and small pockets of pink to brick-red sand-free clay; medium- to very fine-grained, moderately sorted; 50 percent clear to greenish angular quartz, 50 percent black to dark-green glauconite (tends to be coarser than quartz); accessory micas and fragmental phosphorite, including a few fragments of phosphatic glauconite-bearing sandstone; foraminifers and ostracods present.
- 231-241 " , except: with some fine-grained gravel comprising iron-stained (yellowish) and glauconite-pigmented quartz, feldspar, secondary phosphorite, and minor garnet.

PATUXENT FORMATION (241-273')

- 241-252 Sand — tan, clean; coarse- to very coarse-grained, grading into 10 to 20 percent granule gravel; well sorted, subrounded; feldspathic.
- 252-262 " , except: coarser, with about 10 percent gravel up to 10 mm; very feldspathic; angular pink garnet is common.
- 262-273 " "
- 273-275 No sample

GEOLOGIC SUMMARY

<u>Depth (feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0-60	Columbia Group	post-Miocene
60-90	Yorktown Formation	Miocene
90-115	Calvert Formation	Miocene
115-189	Nanjemoy Formation	Eocene
189-241	Mattaponi Formation	Paleocene-Late Cretaceous
241-273	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
September 28, 1972