COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

W#: 4286
C#: 193

MAILING ADDRESS:
P. O. Box 3667
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

WATER WELL COMPLETION REPORT

OFFICE ADDRESS:
McCormick Road
Charlottesville, Virginia

OWNER: Commonwealth of Virginia Mailing Address: C. R. Sawtelle, P.O. Box 808.

TENANT: Department of Highways Mailing Address: Fredericksburg, Va. 22401

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

WELL LOCATION: County Westmoreland Approx. 100 ~~miles~~ feet West (direction) of St. Rt. 3 and 500 ~~miles~~ feet South (direction) of Popes Creek at Potomac Mills

(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: October 29, 1974

TYPE OF DRILL RIG USED: rotary TOTAL DEPTH 401 feet

WATER LEVEL: Stands 25 feet below surface OR

has NATURAL flow of -- gallons per minute.

YIELD TEST: Method air

Drawdown 45 feet

Rate 40 gal. per min.

Duration one hrs., -- min.

WATER ZONES: from - to - feet

from - to - feet

from 383 to 393 feet

WATER: Color ____ Taste ____

Odor ____ Temp. ____ °F

WELL TO SUPPLY: (check one) Home ____

Farm ____ Town ____ School ____

Industry ____ Other Va.Hwy.Dept.installation

WATER ANALYSIS AVAILABLE: Yes ____ No X

DRILL CUTTINGS SAVED: 38 Yes X No ____

HOLE SIZE: 6 1/4 inches from 0 to 147 feet

3 7/8 inches from 147 to 401 feet

____ inches from ____ to ____ feet

SCREEN SIZE: ____ inches from ____ to ____ feet

2 inches from 383 to 393 feet

____ inches from ____ to ____ feet

CASE SIZE: 4 inches from 0 to 147 feet

2 inches from 147 to 383 feet

2 inches from 393 to 401 feet

GROUTING: Method -

Material - Depth - feet

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: ____

(LOG OF WELL) OVER

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

INTERVAL SHEET

Page 1 of 1

Well Repository No.: W#: 4286
C#: 193

Date rec'd: 1/3/75 Date Processed: 1/16/76

Sample Interval: from 0 to: 401

PROPERTY: Va. Dept. of Highways

Number of samples: 38

COMPANY: Douglas Drilling Co.

Total Depth: 401'

COUNTY: Westmoreland (Potomac Mills)

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To	From-To
0 - 10	369 - 380	-	-	-
10 - 21	380 - 390	-	-	-
21 - 31	390 - 401	-	-	-
31 - 42	-	-	-	-
42 - 52	-	-	-	-
52 - 63	-	-	-	-
63 - 73	-	-	-	-
73 - 84	-	-	-	-
84 - 94	-	-	-	-
94 - 105	-	-	-	-
105 - 115	-	-	-	-
115 - 126	-	-	-	-
126 - 136	-	-	-	-
136 - 147	-	-	-	-
147 - 157	-	-	-	-
157 - 169	-	-	-	-
169 - 179	-	-	-	-
179 - 190	-	-	-	-
190 - 200	-	-	-	-
200 - 211	-	-	-	-
211 - 221	-	-	-	-
221 - 232	-	-	-	-
232 - 242	-	-	-	-
242 - 253	-	-	-	-
253 - 263	-	-	-	-
263 - 274	-	-	-	-
274 - 284	-	-	-	-
284 - 295	-	-	-	-
295 - 305	-	-	-	-
305 - 316	-	-	-	-
316 - 326	-	-	-	-
326 - 338	-	-	-	-
338 - 348	-	-	-	-
348 - 359	-	-	-	-
359 - 369	-	-	-	-

Both washed and unwashed samples.

OWNER: Virginia Dept. of Highways

DRILLER: Douglas Drilling Co.
COUNTY: Westmoreland
(Potomac Mills)

W#: 4286
C#: 193
TOTAL DEPTH: 401'
QUAD: Colonial Beach South

GEOLOGIC LOG

Depth (feet)	
0 - 10	Sand - grayish orange; moderate clay; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; feldspar; 3% glauconite; few fragments of ferricrete; muscovite.
10 - 21	Clay and sand - gray orange, light olive gray; fine grained, some medium grains, few pebbles; subangular to subrounded; moderately well sorted; quartz; 3% glauconite; some feldspar; few flakes of muscovite.
21 - 31	Clay - yellowish gray; moderately diatomaceous; few grains of quartz; glauconite; muscovite.
31 - 42	Clay - yellowish gray; abundant sand; fine grained; subangular to subrounded; well sorted; quartz; 2% glauconite; some diatoms; few flakes of muscovite.
42 - 52	Clay - yellowish gray; slightly sandy; fine grained; subangular to subrounded; well sorted; quartz; some diatoms; few black phosphatic fragments; glauconite; bone fragment.
52 - 63	As above plus some medium grains; some glauconite; few flakes of muscovite.
63 - 73	As above plus few shell fragments.
73 - 84	As above except 2% glauconite; forams rare (inc. Nonion).
84 - 94	As above except no shell fragments; no Nonion.
94 - 105	Clay - yellowish gray, light olive gray; very fine to fine grained; subangular to subrounded; well sorted; quartz; 2% glauconite; some diatoms; few flakes of muscovite.
105 - 115	Sand - yellowish gray; abundant clay; fine grained; subangular to subrounded; well sorted; quartz; some glauconite; some diatoms; few black phosphatic fragments; few bone fragments.
115 - 126	Clay - yellowish gray; moderate sand; fine grained; subangular to subrounded; well sorted; quartz; some diatoms; few grains of glauconite; few black phosphatic fragments; muscovite.

Depth (feet)	
126 - 136	Sand and clay - light olive gray; moderate clay; abundant sand; fine grained; subangular to subrounded; well sorted; quartz; some glauconite; few black phosphatic fragments; muscovite, bone fragment.
136 - 147	Sand - yellowish gray; abundant clay; fine to coarse grained; subangular to subrounded; moderately sorted; quartz; 5% glauconite; some shell fragments; some black phosphatic material; few flakes of muscovite; few diatoms; bone fragment.
147 - 157	Sand - olive light gray; abundant clay; fine to medium grained; subangular to rounded; moderately well sorted; 60% glauconite; quartz; 2% muscovite; few shell fragments; few echinoid spines; forams scarce (inc. Buccella).
157 - 168	As above plus some coarse grains; some muscovite; foram.
168 - 178	Sand and clay - light gray; moderate clay; abundant sand; fine grained, some medium grains; subangular to subrounded; well sorted; quartz; 5% glauconite; 2% muscovite; few black phosphatic fragments; foram.
178 - 189	As above except no foram.
189 - 200	Sand - olive light gray; abundant clay; medium to coarse grained; subrounded to rounded; moderately well sorted; 65% glauconite; quartz; few flakes of muscovite.
200 - 211	As above except some muscovite.
211 - 221	Clay - grayish orange pink, very light gray, light olive gray; medium grained, some fine grains, some coarse grains; subgranular to rounded; moderately well sorted; glauconite 60% of sand sized fraction; quartz; few flakes of muscovite; forams rare (inc. Robulus).
221 - 232	As above except no Robulus.
232 - 242	Sand - salt and pepper; slight clayey; medium grained, some coarse grains; subangular to rounded; well sorted; 50% glauconite (black, green, brown); quartz; some sandy limestone and shell fragments; few flakes of muscovite; forams scarce (inc. Cibicides and Buccella).
242 - 253	As above except no forams.
253 - 263	As above except forams rare (inc. Robulus).
263 - 274	As above except 2% sandy limestone and shell fragments.

Depth (feet)	
274 - 284	Sand - light olive gray; moderate clay; medium grained; subangular to rounded; well sorted; quartz; 40% glauconite; 5% sandy limestone and shell fragments; 2% forams (inc. Buccella); few echinoid spines. (Note: Most forams are so worn as to be unidentifiable).
284 - 295	As above except forams abundant.
295 - 305	Sand - olive light gray; moderate clay; medium grained; subangular to rounded; well sorted; quartz; 40% glauconite; 7% sandy limestone and shell fragments; forams (inc. Buccella and Robulus).
305 - 316	As above except slightly clayey; forams (inc. Buccella and Guttulina?).
316 - 326	Sand - light olive gray; moderate clay; medium grained, some coarse grains; subangular to rounded; well sorted; quartz; 15% glauconite; 3% sandy limestone and shell fragments; few flakes of muscovite; forams (inc. Buccella and Nodosaria).
326 - 338	As above except no Nodosaria.
338 - 348	Sand - olive light gray; some stained grains; moderate clay; medium to coarse grained; subangular to subrounded; moderately well sorted; quartz; 40% glauconite (black, brown, green); 2% sandy limestone and shell fragments; few flakes of muscovite; forams (inc. Buccella, Guttulina, Robulus, and Discorbis?); few echinoid spines.
348 - 359	Sand - olive light gray; moderate clay (clasts) - olive light gray, moderate orange pink; medium to coarse grained, few granules; subangular to subrounded; moderately well sorted; quartz; 25% glauconite; 5% sandy limestone and shell fragments; some black phosphatic material; few flakes of muscovite; few echinoid spines; forams (inc. Buccella, Guttulina, and Robulus).
359 - 369	Sand - off white; medium to coarse grained, few granules; subangular to subrounded; moderately well sorted; quartz; feldspar; 3% glauconite; some muscovite; few grains of garnet; few shell fragments; few opaques; pyrite.
369 - 380	As above except 5% glauconite; no shell fragments; no pyrite.
380 - 390	As above except 2% granules.
390 - 401	Sand - yellowish gray; moderate clay (clasts) - yellowish gray, light olive gray, dusky yellowish orange; medium to very coarse grained, 2% granules; subangular to subrounded; moderately sorted; quartz; feldspar; 7% glauconite; some muscovite; ostracode.

Logged by: Michael T. Currie
April 30, 1979

GEOLOGIC SUMMARY

Depth (feet)	Thickness (feet)	Rock Unit	Time Rock Unit
0- 10	10	Columbia Group	Pleistocene
10-147	137	Calvert Formation	Miocene
147-211	64	Nanjemoy Formation	Eocene
211-232	21	Marlboro Clay	Eocene
232-359	127	Aquia Formation	Eocene-Cretaceous
359-401	42	Patuxent Formation	Cretaceous

VIRGINIA DIVISION OF MINERAL RESOURCES
David A. Hubbard, Jr., Geologist
May 3, 1979