

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: State Highway Dept. Mailing Address: James City County

TENANT: _____ Mailing Address: _____

DRILLER: W. H. Gammon Mailing Address: Rt. 2, Box 125
Providence Forge, VA. 23140

WELL LOCATION: County James City Approx. 2 ~~miles~~^{feet} W (direction) of
Lee Hall and 100 ~~miles~~^{feet} N (direction) of 143

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

DATE STARTED: 9-20-74 DATE COMPLETED: 10-11-74

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 545 feet

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

YIELD TEST: Method _____
Drawdown _____ feet
Rate 20 gal. per min.
Duration 3 hrs., _____ min.

HOLE SIZE: 7 7/8 inches from 0 to 492 feet
4 inches from 492 to 545 feet
_____ inches from _____ to _____ feet

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

SCREEN SIZE: _____ inches from _____ to _____ feet

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

_____ inches from _____ to _____ feet
CASE SIZE: 4 inches from 0 to 492 feet
_____ inches from 492 to 545 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 _____ No _____

PUMP: Type _____
Capacity _____ gal per min
Depth of intake _____ feet

DRILL CUTTINGS SAVED: Yes X 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: _____

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

INTERVAL SHEET

Page of

Well Repository No.: ~~W-4249~~ W-4249
 C- 172

Date rec'd: 10/28/74 Date Processed: 9/3/75

Sample Interval: from 0 to: 545

PROPERTY: Va. Dept. of Highways

Number of samples: 27

COMPANY: W. H. Gammon

Total Depth: 545'

COUNTY: James City (Grove)

Oil or Gas: Water: X Exploratory:

From-To	From-To	From-To	From-To
0 - 23	-	-	-
23 - 35	-	-	-
35 - 57	-	-	-
57 - 79	-	-	-
79 - 101	-	-	-
101 - 123	-	-	-
123 - 145	-	-	-
145 - 167	-	-	-
167 - 189	-	-	-
189 - 211	-	-	-
211 - 233	-	-	-
233 - 255	-	-	-
255 - 270	-	-	-
270 - 290	-	-	-
290 - 310	-	-	-
310 - 330	-	-	-
330 - 350	-	-	-
350 - 370	-	-	-
370 - 390	-	-	-
390 - 410	-	-	-
410 - 430	-	-	-
430 - 450	-	-	-
450 - 470	-	-	-
470 - 490	-	-	-
490 - 510	-	-	-
510 - 530	-	-	-
530 - 545	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

All intervals have both washed and unwashed samples.

OWNER: Va. Dept. of Highways
DRILLER: W. H. Gammon
COUNTY: James City (Grove)

W#: 4249
C#: 172
TOTAL DEPTH: 545'

GEOLOGIC LOG

Depth
(feet)

WINDSOR FORMATION (0-23)

0-23 Sand - orange; moderate clay; silty; fine to granular grained; subangular to subrounded; poorly sorted; quartz; feldspar; 4% shell fragments; ferricrete fragments; fine opaques; some weathered glauconite.

YORKTOWN FORMATION (23-167)

23-35 Shells and sand - light brown; moderate clay; silty; very fine to some medium, a few granules; subangular to rounded; moderately sorted; 55% granular sized shell hash; quartz; some fine opaques; weathered glauconite; spines; forams rare.

35-57 Coquina - gray; abundant clay; abundant fine to medium sands; few pebbles; shells inc. pecten, gastropod and coral.

57-79 Coquina and sand - gray; abundant clay; fine to medium grained; subangular to subrounded; moderately well sorted; 60% shell fragments; quartz; 12% glauconite; spines; forams rare.

79-101 Sand and coquina - gray; slightly clayey; fine to medium grained; subrounded to rounded; moderately sorted; 45% shell hash; quartz; 8% glauconite; spines; forams scarce.

101-123 Sand - dark gray, abundant clay; silty; very fine to fine; subangular to subrounded; moderately well sorted; quartz; 25% shell fragments; some glauconite; abundant spines; forams common (inc. Buccella, Discorbis and Textularia).

123-145 As above except (only Nonion identified); some spines; ostracode.

145-167 Sand - dark gray; abundant clay; silty; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; 30% shell fragments; some glauconite; some phosphatic material; forams; spines; ostracode.

CALVERT FORMATION (167-410)

167-189 Clay and sand - dark gray; abundant clay; abundant silt; very fine sand; subangular; moderately well sorted; quartz; 10% shell fragments; some glauconite; some phosphatic material; forams (inc. Nonion); spines.

Depth
(feet)

- 189-211 Clay - gray; abundant very fine sands; 9% shell fragments; quartz; some phosphatic material; some glauconite; forams (Nonion).
- 211-233 As above except 10% shell fragments inc. gastropod; spines; forams (+ Bulimina, and Buccella); ostracode (Murrayina howei).
- 233-255 As above except forams (+ Textularia, no Buccella observed); ostracode (not Murrayina).
- 255-270 Clay and sand - dark gray; abundant clay; silty; fine to medium grained; subrounded; moderately well sorted; quartz; 5% shell fragments; some phosphatic material; some glauconite; forams (inc. Nonion, Cibicides, Textularia and Uvigerina); spines.
- 270-290 Clay - gray; few fine quartz grains; few glauconite grains; few shell fragments; forams (inc. Uvigerina and Nonion); abundant Diatoms.
- 290-310 As above forams common (+ Siphogenerina).
- 310-330 Sand - gray; slightly clayey; silty; fine to medium grained; subangular to rounded; moderately well sorted; quartz; 30% shell fragments; 7% glauconite; some phosphatic material; forams common (inc. Nonion, Cibicides, Robulus, Marginulina, Dentalina, Nodesaria, and Textularia); ostracodes common; spines.
- 330-350 Sand - gray; moderate clay; silty; fine to coarse grained; subangular; moderately sorted; quartz; 3% shell fragments; some black phosphatic material; glauconite; spines; forams (inc. Robulus and Cibicides); few bone fragments.
- 350-370 Sand - dark gray; abundant clay; silty; fine to coarse grained; subangular to rounded; poorly sorted; quartz; 3% shell fragments; black phosphatic material; glauconite; forams (inc. Uvigerina, Nonion, Siphogenerina, Bulimina, Globigerina and Quingueloculina) abundant; bone fragments; spines.
- 370-390 Sand and clay - dark gray; abundant clay; fine to coarse grained; subangular; moderately sorted; quartz; 5% shell fragments; black phosphatic material; glauconite; abundant forams (Sp) (inc. Uvigerina, Siphogenerina, Nonion, Dentalina and Robulus); spine; bone fragments.

Depth
(feet)

390-410 Sand - gray; abundant clay; silty; fine to coarse grained; subrounded to rounded; moderately sorted; quartz; 35% glauconite; 3% shell fragments; phosphatic material; forams (sp) common (inc. Uvigerina, Robulus, Nonion, Siphegenerina and Dentalina).

NANJEMOY FORMATION (410-490)

410-430 Sand and clay - dark gray; abundant clay; fine to granular grained; subangular to rounded; poorly sorted; quartz; 25% glauconite; 7% limestone (sandy) fragments; 5% shell fragments; some phosphatic material; forams (inc. Robulus and Uvigerina).

430-450 As above except less granules; more brown glauconite vs. dark green; 2% limestone fragments; some shell fragments; forams (sp) (+ Siphogenerina); spines.

450-470 Sand - dark gray; moderately clayey; silty; fine to coarse grained; subangular to rounded; moderately sorted; quartz; 40% glauconite; some sandy limestone fragments; some shell fragments inc. gastropod; forams (inc. Uvigerina and Textularia).

470-490 Sand - dark gray; moderate clay; abundant silt; fine to very coarse grained; subrounded to rounded; quartz; 40% glauconite; some limestone fragments; shell fragments; forams (sp) (inc. Uvigerina, Robulus, Dentalina and Siphogenerina); ostracodes (sp); spines.

MATTAPONI FORMATION (490-510)

490-510 Sand and clay - charcoal gray; moderate clay (gray w/some green); some pure gray clay; medium w/some coarse sands; rounded; moderately well sorted; 80% glauconite; quartz (some green); forams rare.

PATUXENT FORMATION (510-545+)

510-530 Sand - light gray; slightly clayey; medium to coarse w/some v. coarse granules; subangular to subrounded; moderately sorted; quartz; feldspar; trace glauconite; garnet.

530-545 As above except only few grains of glauconite; couple grains of garnet.

Note - Sp: sample taken.

GEOLOGIC SUMMARY

<u>Thickness (feet)</u>	<u>Rock Unit</u>	<u>Time Rock Unit</u>
23	Windsor Formation	Pleistocene
144	Yorktown Formation	Pliocene-Miocene
243	Calvert Formation	Miocene-Eocene
80	Nanjemoy Formation	Eocene
20	Mattiponi Formation	Eocene-Cretaceous
35+	Patuxent Formation	Cretaceous

Abundant occurrences of a large variety of Forams were observed in samples of this well; a number of individual forams were picked. A good well to float.

Virginia Division of Mineral Resources
David A. Hubbard, Geologist
June 12, 1978