

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

DIVISION OF MINERAL RESOURCES

OFFICE ADDRESS:

P. 3667

JAMES L. CALVER, COMMISSIONER

McCormick Road

Charlottesville, VA 22903

WATER WELL COMPLETION REPORT

Charlottesville, Virginia

OWNER: J. E. Burrough Mailing Address: Tappahannock, VA

TENANT: Essex Acres Mailing Address:

DRILLER: Douglas & Dickinson, Inc. Mailing Address: Box 498 - Warsaw, VA

WELL LOCATION: County Essex Approx. 2 1/4 miles west (direction) of Tappahannock and 1/4 miles north (direction) of St. Rd. 659

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

DATE STARTED: September 1968 DATE COMPLETED: September 30, 1968

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 558 feet

WATER LEVEL: Stands 108 feet below surface OR has NATURAL flow of gallons per minute.

YIELD TEST: Method Drawdown 32 feet Rate 40 gal. per min. Duration hrs., min.

HOLE SIZE: 6 inches from 0 to 315 feet 5 7/8 inches from 315 to 558 feet

WATER ZONES: from 526 to 546 feet from feet from feet

SCREEN SIZE: 2 inches from 526 to 546 feet inches from feet inches from feet

WATER: Color Taste Odor Temp. °F

CASE SIZE: 4 inches from 0 to 315 feet (526?) 2 inches from 315 to 410 feet 2 inches from 546 to 558 feet

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

GROUTING: Method Material Depth feet

WATER ANALYSIS AVAILABLE: Yes No X

PUMP: Type Capacity 40 gal. per min. Depth of intake feet

DRILL CUTTINGS SAVED: Yes 54 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 & Dickinson, Inc.

DATE: March 17, 1970

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	19	yellow sandy and gray clay	
19	30	"	
30	241	Gray clay	
241	251	Clay sand	
251	262	Sandy clay-gray	
262	283	Clay	
283	304	Gray clay	
304	346	Clay	
346	367	Light gray clay	
367	409	Black sand (salt and pepper)	
409	419	Sand and clay	
419	430	black sand and clay	
430	451	Gray clay	
451	461	Sandy clay	
461	472	Salt and pepper, clay	
472	493	" , sand	
493	504	Sand, rock	
504	514	Gray sand, rock	
514	546	Gray sand with clay	
546	558	Yellow, gray clay	

(Use additional forms if necessary)

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

INTERVAL SHEET

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Date rec'd: 3/24/70 ; processed 1/14/71	Well Repository No: 3056
PROPERTY: J. E. Burrough (Essex Acres)	Sample Interval; from 0 to: 558'
COMPANY: Douglas & Dickinson, Inc.	Number of samples: 54
COUNTY: Essex (Tappahannock)	Total Depth: 558'
	Oil or Gas: Water: <input checked="" type="checkbox"/> Exploratory:

From-To	From-To	From-To	From-To
0 - 19	272 - 283	525 - 532	-
19 - 30	283 - 293 *	532 - 539	-
30 - 40	293 - 304 *	539 - 546	-
40 - 51	304 - 314 *	546 - 558	-
51 - 62	314 - 325	-	-
62 - 73	325 - 335 *	-	-
73 - 83	335 - 346 *	-	-
83 - 94	346 - 356 *	-	-
94 - 104	356 - 367 *	-	-
104 - 115	367 - 377 *	-	-
115 - 125	377 - 388 *	-	-
125 - 136	388 - 398 *	-	-
136 - 146	398 - 409 *	-	-
146 - 157	409 - 419 *	-	-
157 - 167	419 - 430 *	-	-
167 - 178	430 - 440	-	-
178 - 188	440 - 451	-	-
188 - 199	451 - 461	-	-
199 - 209	461 - 462	-	-
209 - 220	462 - 472	-	-
220 - 230	472 - 483	-	-
230 - 241	483 - 493	-	-
241 - 251	493 - 504	-	-
251 - 262	504 - 514	-	-
262 - 272	514 - 525	-	-

* Washed only

(Essex Acres)
OWNER : J. E. Burrough
DRILLER: Douglas and Dickinson
COUNTY : Essex

W# : 3056
C# : 147
TOTAL DEPTH: 558'
QUAD : Mount Landing

GEOLOGIC LOG

Depth
(feet)

0-19 Sand- grayish-orange; moderate clay; medium to coarse grained; subangular to subrounded; moderately well sorted; quartz; feldspar; 2% glauconite.

19-30 Sand- pale yellowish-orange; slightly clayey; moderate silt; medium to coarse grained, some fine grains, 5% granules, 7% pebbles; subangular to subrounded; poorly sorted; quartz; feldspar; few grains of glauconite.

30-40 Clay- light olive gray; slightly silty; some quartz sand; few flakes of muscovite.

40-51 As above plus some glauconite.

51-62 As above plus some plant remains; few grains of glauconite.

62-73 As above except no glauconite.

73-83 As above.

83-94 As above.

94-104 Clay- light olive gray; slightly silty; slightly sandy; medium grained; subangular to subrounded; well sorted; quartz; few plant remains; glauconite; muscovite.

104-115 As above except abundant plant remains.

115-125 As above.

125-136 As above except some plant remains.

136-146 As above.

146-157 Clay- light olive gray; some quartz sand; few plant remains; glauconite; few shell fragments; muscovite.

157-167 Silt- light olive gray; moderate clay; slightly sandy; very fine to medium grained; subangular to subrounded; moderately well sorted; quartz; few plant remains; few diatoms; bone fragment.

(Essex Acres)

OWNER: J. E. Burrough

W#: 3056

Depth
(feet)

- 167-178 Silt and clay- light olive gray; abundant sand; very fine to medium grained; subangular to rounded; moderately sorted; quartz; 3% glauconite; few shell fragments; few diatoms.
- 178-188 Sand and clay- light olive gray; moderate silt; fine to medium grained; subangular to rounded; moderately well sorted; quartz; 5% glauconite; abundant plant remains; few shell fragments; few diatoms.
- 188-199 Sand- light olive gray; moderate clay; medium grained, some coarse grains; subrounded to rounded; well sorted; quartz; 40% glauconite; 10% shell fragments; few plant remains; muscovite.
- 199-209 Sand- light olive gray; abundant clay; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; few shell fragments; glauconite.
- 209-220 Sand- light olive gray; abundant clay; moderate silt; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; some shell fragments; few plant remains; glauconite; muscovite.
- 220-230 Clay- light olive gray; abundant sand; medium grained; subangular to rounded; well sorted; quartz; glauconite 40% of sand fraction; few black phosphatic fragments; few shell fragments.
- 230-241 Sand- light olive gray; abundant clay; moderate silt; very fine to medium grained; subangular to subrounded; moderately sorted; quartz; some shell fragments; few grains of glauconite.
- 241-251 Sand- olive light gray; slightly clayey; moderate silt; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; 2% glauconite; some shell fragments; muscovite.
- 251-262 As above except fine to coarse grained; moderately sorted.
- 262-272 Sand- olive light gray; moderate clay; slightly silty; medium to coarse grained, some fine grains; subangular to rounded; moderately well sorted; quartz; 35% glauconite; some shell fragments; few flakes of muscovite.
- 272-283 As above plus abundant plant remains; forams scarce (inc. Buccella).

(Essex Acres)

OWNER: J. E. Burroughs

W#: 3056

Depth
(feet)

- 283-293 Sand- olive light gray; slightly clayey; slightly silty; fine to medium grained; subangular to rounded; moderately well sorted; quartz; 25% glauconite; some muscovite; some shell fragments.
- 293-304 As above.
- 304-314 As above except 40% glauconite.
- 314-325 Sand and clay- olive light gray; slightly silty; medium grained; subrounded to rounded; well sorted; glauconite 60% of sand fraction; quartz; some shell fragments; some plant remains; few flakes of muscovite.
- 325-335 Sand- light olive gray; slightly clayey; slightly silty; fine to medium grained; subangular to subrounded; moderately well sorted; quartz; some glauconite; few flakes of muscovite.
- 335-346 As above.
- 346-356 Sand- olive light gray; some stained grains; moderate clay (clasts)- moderate orange-pink, very light gray; coarse grained, some medium grains, few granules; subrounded to rounded; well sorted; 50% glauconite (black, brown); quartz; few sandy limestone and shell fragments; muscovite.
- 356-367 As above plus few black phosphatic fragments including shark's tooth.
- 367-377 Sand- salt and pepper; medium grained, some coarse grains; subrounded to rounded; well sorted; 65% glauconite; quartz.
- 377-388 Sand- olive light gray; slightly clayey (clasts)- moderate orange-pink; coarse grained, some medium grains, 3% granules, few pebbles; subrounded to rounded; moderately well sorted; 60% glauconite; quartz; 2% sandy limestone and shell fragments.
- 388-398 Sand- salt and pepper; medium grained, some coarse grains; subangular to subrounded; well sorted; quartz; 50% glauconite; few shell fragments; ostracode.
- 398-409 As above except some shell fragments.
- 409-419 As above.

(Essex Acres)

OWNER: J. E. Burrough

W#: 3056

Depth
(feet)

- 419-430 Sand- olive light gray; moderate clay; slightly silty; medium to coarse grained, some fine grains, few granules, few pebbles; subangular to rounded; moderately well sorted; quartz; 40% glauconite; 2% shell fragments; few flakes of muscovite.
- 430-440 Sand- olive light gray; moderate clay; medium grained, some coarse grains; subrounded to rounded; well sorted; 60% glauconite; quartz; few shell fragments; forams scarce (inc. Buccella).
- 440-457 As above plus Robulus.
- 457-461 Sand- olive light gray; moderate clay; medium to coarse grained; subangular to rounded; moderately well sorted; quartz; 40% glauconite; some rotten limestone and shell fragments; few flakes of muscovite; forams scarce (inc. Buccella and Pyrulina?).
- 461-462 Sand- salt and pepper; medium to coarse grained; subangular to rounded; moderately well sorted; quartz; 25% glauconite; some shell fragments; few flakes of muscovite; forams rare (inc. Nodosaria).
- 462-472 As above except slightly clayey; 35% glauconite.
- 472-483 Sand- salt and pepper; medium to coarse grained; subangular to rounded; moderately well sorted; quartz; 25% glauconite; some shell fragments.
- 483-493 Sand- yellowish-gray; coarse to very coarse grained, some medium grains, some granules, few pebbles; subrounded; moderately sorted; quartz; feldspar; 7% glauconite; few grains of garnet; few shell fragments.
- 493-504 As above except slightly clayey; 2% granules.
- 504-514 Sand- yellowish-gray; slightly clayey; coarse to very coarse grained, 10% granules, 3% pebbles; subrounded; poorly sorted; quartz; feldspar; 7% glauconite; few shell fragments; muscovite; garnet.
- 514-525 As above except 5% granules, few pebbles; moderately sorted.
- 525-532 Sand- yellowish-gray; slightly clayey; coarse to very coarse grained, 2% granules; subrounded; moderately well sorted; quartz; feldspar; 2% glauconite; few flakes of muscovite.

(Essex Acres)

OWNER: J. E. Burrough

W#: 3056

Depth
(feet)

532-539 As above.

539-546 As above except 3% granules.

546-558 Sand- yellowish-gray; coarse grained, some fine grains, some medium grains, few granules; subangular to subrounded; moderately well sorted; quartz; feldspar; 3% glauconite; few flakes of muscovite; garnet.

Note: All samples are unwashed except (283-430)

Logged by: Michael T. Currie
August 7, 1979

OWNER: J. E. Burrough (Essex Acres)
DRILLER: Douglas & Dickinson, Inc.
COUNTY: Essex (Tappahannock)

VDMR # 3056
WWCR # 147
TOTAL DEPTH: 558'

GEOLOGIC SUMMARY

<u>Depth (feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0-30	Columbia Group	Pleistocene
30-260 *	Calvert Formation	Middle Miocene
260-367 *	Nanjemoy Formation	Middle Eocene
350-367	Marlboro Clay Member	
367-483	Mattaponi Formation	Paleocene-Late Cretaceous
483-558	Patuxent Formation	Early Cretaceous

* Plant remains exceptionally abundant.

Pink clay and gray clay (at base of Nanjemoy) submitted for X-ray study:
principal clay-mineral constituent of both clays is Kaolinite.

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
January 26, 1971