

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

B 3667
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:

McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Mr. C. W. Engel - Bleak Hill Farm Mailing Address: Hanover, Virginia

TENANT: _____ Mailing Address: _____

DRILLER: Sydnor Hydrodynamics, Inc. Mailing Address: 1305 Brook Road, Richmond, VA.

WELL LOCATION: County King William Approx. 1000 feet ~~xxxx feet~~ south (direction) of
State Road 614 and 1 ~~xxxx feet~~ miles northeast (direction) of Pamunkey River

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

DATE STARTED: 9/5/69 DATE COMPLETED: 9/15/69

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 281 feet

WATER LEVEL: Stands 27 1/2 feet below surface OR
has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method Air lift
Drawdown 137 1/2 feet
Rate 60 gal. per min.
Duration 2 hrs., 0 min.

HOLE SIZE: 8 inches from 0 to 281 feet
_____ inches from _____ to _____ feet
_____ inches from _____ to _____ feet

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

SCREEN SIZE: 4 inches from 198 to 208 feet
4 inches from 225 to 230 feet
4 inches from 240 to 250 feet

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

CASE SIZE: 5 inches from +1 to 20 feet
4 inches from 20 to 198 feet
4 inches from 208 to 225 feet
4 inches from 230 to 240 feet
4 inches from 250 to 254 feet

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

GROUTING: Method None
Material _____ Depth _____ feet

WATER ANALYSIS AVAILABLE: Yes _____ No _____
DRILL CUTTINGS SAVED: Yes 28 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: _____

FURNISHED BY: Sydnor Hydrodynamics, Inc.

DATE: 9/16/69

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	14	Brown sand clay	
14	28	Coarse brown sand and gravel	
28	71	Silty gray clay with some streaks of black sand and shells	
71	116	Sticky gray clay	
116	127	Hard shell streaks - dark gray clay with some black sand	
127	147	Hard brown sand	
147	168	Gray sand clay	
168	251	Hard gray and brown sand - some gray clay	
251	281	Hard gray sand clay	
TOTAL DEPTH 281			

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WATER WELL COMPLETION REPORT

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_____ inches from _____ to _____ feet
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from _____ to _____ feet
from _____ to _____ feet

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

GROUTING: Method None
Material _____ Depth _____ feet

WATER ANALYSIS AVAILABLE: Yes _____ No _____

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

DRILL CUTTINGS SAVED: Yes 28 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: ELEV. : 63' 4/73
HANOVER QUADRANGLE

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

INTERVAL SHEET

Page 1 of 1

Well Repository No: 2929 C-166

Date rec'd: 10/6/69 ; processed 9/3/70

Sample Interval: from 0 to: 280'

PROPERTY: Mr. C. W. Engel (Bleak Hill Farm)

Number of samples: 28

COMPANY: Sydnor Hydrodynamics, Inc.

Total Depth: 281'

COUNTY: King William (Bleak Hill Fork)

Oil or Gas: Water: ~~xs~~Exploratory:

From - To	From - To	From - To	From - To
0 - 10	250 - 260	-	-
10 - 20	260 - 270	-	-
20 - 30	270 - 280	-	-
30 - 40	-	-	-
40 - 50	-	-	-
50 - 60	-	-	-
60 - 70	-	-	-
70 - 80	-	-	-
80 - 90	-	-	-
90 - 100	-	-	-
100 - 110	-	-	-
110 - 120	-	-	-
120 - 130	-	-	-
130 - 140	-	-	-
140 - 150	-	-	-
150 - 160	-	-	-
160 - 170	-	-	-
170 - 180	-	-	-
180 - 190	-	-	-
190 - 200	-	-	-
200 - 210	-	-	-
210 - 220	-	-	-
220 - 230	-	-	-
230 - 240	-	-	-
240 - 250	-	-	-

All intervals have both washed and unwashed samples



OWNER: C. W. Engel (Bleak Hill Farm)
DRILLER: Sydnor
COUNTY: King William (Bleak Hill Fork)

C# 166
W # 2929
TOTAL DEPTH - 280'

DEPTH
(FEET)

WELL LOG

- | DEPTH (FEET) | WELL LOG |
|--------------|--|
| 0-10 | Sand - dark, yellowish orange (10YR 5/6); abundant clay; medium to pebble, angular to subangular with some rounded pebbles, poor sorting; rare phosphate fragments; mica. |
| 10-20 | Sand - grayish orange (10YR 7/6); fine to very coarse, angular to subangular, moderate sorting; 3% phosphate fragments. |
| 20-30 | Sand - light olive gray (5Y 7/1); fine to very coarse, angular and subangular, moderate sorting; 10% glauconite/phosphate fragments; feldspar; rose quartz; garnet. |
| 30-40 | Sand, glauconitic- light and dark gray; 95% glauconite; fine to granule, angular and subangular, poorly sorted; 25% shell fragments. |
| 40-60 | Sand - light and dark gray; sparse clay; fine to medium and granules, subangular, very poorly sorted, clay mixed in finer grains, 60% granules; 20-50% glauconite; 10% shell fragments; forams - <u>Robulus</u> , <u>Lagena</u> , <u>Cibicides</u> , <u>Discorbis</u> ; ostracods; pyrite nodules and crystals; mica; granite fragments; bone fragments; garnet. |
| 60-100 | Sand - olive gray (5Y 4/1); moderate clay; very fine to fine and few coarse grains; subangular, moderately well sorted; glauconite - 8% at 60-70', 30% at 70-80' and 40% at 80-100'; shell fragments - 5% at 60-70' and 90-100' and 10% at 70-90'; forams; ostracods; mica. |
| 100-110 | Sand - light and dark gray; 50% fine glauconite; sparse clay, very fine to granule with mostly smaller grain size, subangular, moderate sorting; 20% shell fragments, coquina fragments; forams; bone fragments; kyanite. |
| 110-120 | Sand - light and dark gray; very fine to granule, subangular to subrounded, poorly sorted; 45% fine glauconite; 1% shell fragments; garnet; feldspar. |

DEPTH
(FEET)

WELL LOG

- | | | |
|---------|------|--|
| 120-160 | Sand | - yellowish gray (5Y 7/2); very fine to granular, subangular to subrounded, poorly sorted; 25% shell fragments at 120-140' and 15% at 140-160'; feldspar; garnet. |
| 160-180 | Sand | - yellowish gray (5Y 8/1); very sparse clay in clasts - gray and pale reddish brown; very fine to very coarse, subangular, moderately sorted; feldspar. |
| 180-260 | Sand | - yellowish gray (5Y 7/1); fine to granule, subangular, poorly sorted; rare glauconite; feldspar; occasional shell fragments/clay clasts; iron oxide staining at 240-260'; garnet at 250-260'. |
| 260-280 | Sand | - yellowish gray (5Y 7/1); fine to very coarse; subangular, moderate sorting; 5% glauconite; feldspar. |

Logged by:
J. K. Polzin
Apr., 1981

OWNER: C. W. Engel (Bleak Hill Farm)
DRILLER: Sydnor Hydrodynamics, Inc.
COUNTY: King William (Bleak Hill Fork)

VDMR # 2929
WWCR# 166
TOTAL DEPTH : 281'

GEOLOGIC SUMMARY

<u>Depth (feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0-30	Columbia Group	Pleistocene
30-120	Mattaponi Formation	Paleocene - Late Cretaceous
120-280	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
February 11, 1971

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DRILLER: Sydnor Hydrodynamics, Inc.
COUNTY: King William (Bleak Hill Fork)

VDMR # 2929
WWCR# 166
TOTAL DEPTH : 281'
ELEV. : 63'
HANOVER QUADRANGLE

GEOLOGIC SUMMARY

<u>Depth (feet)</u>	<u>Rock Unit</u>	<u>Age</u>
0-30-28	Columbia Group	Pleistocene
28-80	<i>Nanjemoy Formation</i>	<i>Eocene</i>
80 30-120 115	Mattaponi Formation	Paleocene - Late Cretaceous
115 120-280	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke - Geologist
February 11, 1971

Robert H. Teifke
June 19, 1973

0-30 abundant and varied "heavy" mineral assemblage.