COMMONWEALTH OF VIRGINIA

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

W#: 4208
C#: 170

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

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

OFFICE ADDRESS:
McCormick Road
Charlottesville, Virginia

WATER WELL COMPLETION REPORT

OWNER: Kings Dominion Mailing Address: Box 166, Ashland, VA

TENANT: Kings Dominion Mailing Address: "

DRILLER: Sydnor Hydrodynamics, Inc. Mailing Address: 2111 Magnolia, Richmond, VA 23223

WELL LOCATION: County Hanover Approx. 2500 ~~feet~~ ~~miles~~ east (direction) of U. S. I-95 and 300 ~~feet~~ ~~miles~~ south (direction) of State Route 30

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

DATE STARTED: 3/28/74 DATE COMPLETED: 4/12/74

TYPE OF DRILL RIG USED: Rotary TOTAL DEPTH 420 feet

WATER LEVEL: Stands 20 feet below surface OR

has NATURAL flow of _____ gallons per minute

YIELD TEST: Method Air Lift

Drawdown _____ feet

Rate 1 gal. per min.

Duration _____ hrs., _____ min.

WATER ZONES: from 170 to 200 feet

from _____ to _____ feet

from _____ to _____ feet

WATER: Color _____ Taste _____

Odor _____ Temp. _____ °F

WELL TO SUPPLY: (check one) Home _____

Farm _____ Town _____ School _____

Industry _____ Other Amusement Park

WATER ANALYSIS AVAILABLE: Yes _____ No X

DRILL CUTTINGS SAVED: 42 Yes X No _____

HOLE SIZE: 12 inches from 1 to 230 feet

6 inches from 230 to 420 feet

_____ inches from _____ to _____ feet

SCREEN SIZE: 6 inches from 170 to 200 feet

_____ inches from _____ to _____ feet

_____ inches from _____ to _____ feet

CASE SIZE: 6 inches from 0 to 170 feet

6 inches from 200 to 230 feet

_____ inches from _____ to _____ feet

GROUTING: Method Pressure

Material Cement & Water Depth 50 feet

PUMP: Type None

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: Well Capped - Insufficient Water

(LOG OF WELL) OVER

LOG

FURNISHED BY: Sydnor Hydrodynamics DATE: 4/3/74

DEPTH (feet) FROM	TO	TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
0	1	Top soil	
1	10	Red clay	
10	20	Brown and white sand with clay mixed	
20	30	Gray clay	
30	60	Hard gray sand	
60	70	Soft rock in bedded with clay	
70	90	Hard brown sand	
90	103	Brown clay	
103	115	Hard brown sand	
115	170	Brown clay	
170	203	Hard sand	
203	205	Brown sandy clay	
205	220	Brown clay	
220	224	Gray and brown sand clay	
229	231	Rock	
231	370	Brown shale	
370	420	Gray granite	

(Use additional forms if necessary)

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

INTERVAL SHEET

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Well Repository No: W#: 4208 C#: 170

Date rec'd: 5/13/74 Date Processed: 7/8/75

Sample Interval: from:- to:- 0 420

PROPERTY: Kings Dominion

Number of samples: 42

COMPANY: Sydnor Hydrodynamics

Total Depth: 420'

COUNTY: Hanover (Garnett)

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
0-10	250-260	-	-
10-20	260-270	-	-
20-30	270-280	-	-
30-40	280-290	-	-
40-50	290-300	-	-
50-60	300-310	-	-
60-70	310-320	-	-
70-80	320-330	-	-
80-90	330-340	-	-
90-100	340-350	-	-
100-110	350-360	-	-
110-120	360-370	-	-
120-130	370-380	-	-
130-140	380-390	-	-
140-150	390-400	-	-
150-160	400-410	-	-
160-170	410-420	-	-
170-180	-	-	-
180-190	-	-	-
190-200	-	-	-
200-210	-	-	-
210-220	-	-	-
220-230	-	-	-
230-240	-	-	-
240-250	-	-	-

All have washed and unwashed samples.

OWNER: King's Dominion
DRILLER: Sydnor Hydrodynamics
COUNTY: Hanover
(Garnett)

W#: 4208
C#: 170
TOTAL DEPTH: 420'
QUAD.: Ashland

GEOLOGIC LOG

Depth (feet)	
0-10	Sand — dark yellowish orange; slightly stained; slightly clayey; medium grained, some coarse grains, few granules; subangular to subrounded; moderately well sorted; quartz; feldspar; some opaques; few flakes of muscovite; few grains of greenish yellow apatite.
10-20	Sand and granules — dusky yellow; slightly clayey; coarse to very coarse grained, 5% pebbles; subangular to subrounded; moderately sorted; quartz; feldspar; some apatite; some opaques; few flakes of muscovite.
20-30	Sand — light olive gray; moderate clay; fine to coarse grained, 10% granules, 5% pebbles; subangular to subrounded; poorly sorted; quartz; feldspar (mostly granules and pebbles); some ferricrete; some garnet; few black phosphatic fragments; muscovite.
30-40	Sand — off white; coarse to very coarse grained, some medium grains, 3% granules, few pebbles; subangular to subrounded; moderately sorted; quartz; feldspar; some garnet; few grains of pyrite; apatite; few flakes of muscovite; biotite.
40-50	As above plus some fine grains; few grains of garnet; few black phosphatic fragments.
50-60	Sand — light gray; moderate clay; fine grained to granular, 3% pebbles; subangular to subrounded;poorly sorted; quartz; feldspar; some pyrite; muscovite; few grains of apatite; biotite.
60-70	Sand — light gray; moderate clay; fine to medium grained, 10% granules, some pebbles; subangular to subrounded; moderately sorted; quartz; feldspar; some muscovite; few grains of pyrite; garnet.
70-80	Sand — light olive gray; slightly clayey; medium to coarse grained, some fine grains; subangular to subrounded; moderately well sorted; quartz; feldspar; few grains of pyrite; biotite; garnet; muscovite.
80-90	As above except light gray.
90-100	Clay — pale yellowish brown; abundant sand; fine to medium grained, some coarse grains, 3% granules; subangular to subrounded; moderately sorted; quartz; feldspar; some muscovite; some biotite; few grains of pyrite; apatite.
100-110	Sand — light olive gray; slightly clayey;medium to coarse grained, some fine grains, 5% granules; subangular to subrounded; moderately sorted; quartz; feldspar; some siltstone fragments; muscovite;few flakes of biotite; apatite; garnet.

Depth (feet)	
110-120	Siltstone and subgraywacke to subarkose — pale brown; ferruginous; quartz; white potassic feldspar; some limestone fragments; some pyrite; muscovite; few flakes of biotite; few grains of garnet; apatite; few grains of hornblende.
120-130	Siltstone — moderate brown; ferruginous cement; slightly clayey; some quartz; white potassic feldspar; limestone fragments; few flakes of muscovite; biotite; few fragments of subarkose.
130-140	As above plus some pyrite.
140-150	As above except few grains of pyrite.
150-160	Granite (65%) and subgraywacke to subarkose fragments (35%) — very pale brown; slightly clayey; quartz; pink microcline; some muscovite; biotite; apatite; few grains of pyrite.
160-170	As above except 70% subgraywacke to subarkose (mostly ferruginous); 30% granite.
170-180	Granite — very pale brown; slightly clayey; quartz; pink microcline; 15% subgraywacke to subarkose fragments; some muscovite; biotite; apatite; few grains of garnet; pyrite.
180-190	Granite — off white; quartz; pink microcline; white potassic feldspar; few flakes of muscovite;
190-200	As above plus few subgraywacke to subarkose fragments; few grains of garnet.
200-210	As above except 20% subgraywacke to subarkose fragments; 10% siltstone fragments; few grains of apatite.
210-220	Granite (50%) and ferruginous subgraywacke to subarkose (50%) fragments — pale brown; slightly clayey; quartz; pink microcline; white potassic feldspar; some muscovite; biotite; few grains of apatite; pyrite.
220-230	As above except granite; 10% subgraywacke to subarkose; few grains of garnet.
230-240	Siltstone — medium dark brown; ferruginous cement; some quartz; white potassic feldspar; some muscovite; biotite;few grains of apatite.
240-250	As above.
250-260	As above.

Depth (feet)	
260-270	As above plus few fragments of subarkose (some ferruginous).
270-280	As above.
280-290	As above.
290-300	As above.
300-310	As above plus 15% granite fragments; pink microcline.
310-320	As above except 20% granite; few grains of pyrite.
320-330	Siltstone and subgraywacke to subarkose fragments — medium dark brown; ferruginous cement; quartz; white potassic feldspar; some biotite; muscovite; few fragments of granite.
330-340	As above plus few grains of pink microcline; no granite fragments.
340-350	As above plus some greenish gray subgraywacke to subarkose fragments.
350-360	Subarkose — pale greenish gray; quartz; white potassic feldspar; some ferruginous siltstone fragments; biotite; muscovite; some apatite; few grains of pyrite; garnet.
360-370	As above.
370-380	As above plus some granite fragments.
380-390	Granite — off white; quartz; white potassic feldspar; 15% subgraywacke to subarkose and siltstone fragments (some ferruginous); few flakes of muscovite; biotite; pyrite.
390-400	As above except some muscovite
400-410	As above.
410-420	As above except 40% subgraywacke to subarkose and siltstone fragments.

Logged by: Michael T. Currie
January 10, 1979