

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

MAILING ADDRESS:

B 3667
Charlottesville, VA 22903

DIVISION OF MINERAL RESOURCES

JAMES L. CALVER, COMMISSIONER

WATER WELL COMPLETION REPORT

OFFICE ADDRESS:

McCormick Road
Charlottesville, Virginia

OWNER: Melvin K. Helmick #4 Mailing Address: P. O. Box 11, Warrenton, Va. 22186

TENANT: Warrenton Lakes West Mailing Address: _____

DRILLER: Lehew Drilling Company Mailing Address: P. O. Box 1564, Front Royal, Va. 22630

WELL LOCATION: County Fauquier Approx. 2 1/2 ^{feet}/_{miles} NE (direction) of
Warrenton and _____ ^{feet}/_{miles} _____ (direction) of N side of 605.

(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 1, 1976 DATE COMPLETED: September 2, 1976

TYPE OF DRILL RIG USED: Air Rotary TOTAL DEPTH 225' feet

WATER LEVEL: Stands 16 feet below surface OR

has NATURAL flow of _____ gallons per minute.

YIELD TEST: Method Air

Drawdown _____ feet

Rate 60 gal. per min.

Duration 7 hrs., _____ min.

HOLE SIZE: 10 inches from 0 to 70 feet

6 1/8 inches from 70 to 225 feet

_____ inches from _____ to _____ feet

SCREEN SIZE: _____ inches from _____ to _____ feet

_____ inches from _____ to _____ feet

_____ inches from _____ to _____ feet

CASE SIZE: 6 inches from 0 to 70 feet

_____ inches from _____ to _____ feet

_____ inches from _____ to _____ feet

WATER ZONES: from _____ to _____ feet

four from _____ to _____ feet

from _____ to _____ feet

WATER: Color _____ Taste _____

Odor _____ Temp. _____ °F

GROUTING: Method pressure

Material _____ Depth _____ feet

PUMP: Type _____

Capacity _____ gal. per min

Depth of intake _____ feet

WATER ANALYSIS AVAILABLE: Yes _____ No _____

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: _____

LOG

FURNISHED BY: Lehew Drilling Co. DATE: _____

DEPTH (feet)		TYPE OF ROCK OR SOIL PENETRATED (gravel, clay, etc., hardness, color, etc.)	REMARKS (water, caving, shot, screen, sample, etc.)
FROM	TO		
0	30	Sandy Clay	Samples were kept.
30	50	Shale, sand, Silt, Surface water	A log was sent to the Fauquier county Health Dept. and the Grouting was witnessed by them. The well is cased 70' and is cased 20' into solid green stone. Water was encountered at least 4 different depths in the hole and was discharged from the well for at least 7 hours by air pressure with very little difference in drawdown.
50	225	Catoctin Green Stone	Muddy and sandy water encountered between 40 and 50 feet was unusable.

OWNER:- Melvin K. Helmick #4
(Warrenton Lakes West)
DRILLER - Lehew Drilling Co.
COUNTY - Fauquier (Warrenton)

W - 4582
C - 172
TOTAL DEPTH: 225 feet
(68.6 meters)

GEOLOGIC LOG

Depth in feet (meters)	
10 (3.0)	Unconsolidated overburden Saprolite - light reddish-brown silt and clay with sand-sized quartz grains and weathered mica; trace amounts of iron- and/or manganese- oxide stains
20 (6.1)	Saprolite - "
30 (9.1)	Saprolite - "
40 (12.2)	Saprolite - light-brown to yellow-brown silt and clay with white, weathered mica, quartz grains, and trace amounts of magnetite and iron-and/or manganese-oxide stains
50 (15.2)	Saprolite - light-brown to yellow-brown frag- ments of earthy, mica schist that is largely decomposed to silt, clay, quartz grains and fine white mica; trace amounts of iron-and/ or manganese-oxide stains
60 (18.3)	Saprolite - "
70 (21.3)	Saprolite - "
80 (24.4)	Vein quartz - white, slightly foliated, coarse, angular fragments of relatively pure, un- weathered quartz; this is first occurrence of hard rock
	Bedrock
90 (27.4)	Amphibole gneiss and chlorite schist - dark- green, medium-grained, weakly foliated amphibole gneiss and dark-green, fine- grained, strongly foliated chlorite, schist; both rock types are slightly calcareous "greenstones"
100 (30.5)	Amphibole gneiss and chlorite schist - as above, with large (up to 2 inches or 5 cm in length)

rectilinear fragments of amphibole gneiss
bounded by natural fracture surfaces

110	(33.5)	Amphibole gneiss and chlorite schist - "
120	(36.6)	Amphibole gneiss - sample consists of single fragment about 3 inches (7.6 cm) long showing four natural fracture surfaces that are weathered or coated with iron-oxides
130	(39.6)	Chlorite schist - dark green, fine grained, strongly foliated (slaty); composed of chlorite, quartz, feldspar and sericite, and has calcite in the matrix and as veins; minor amounts of pyrite and magnetite
140	(42.7)	Chlorite schist - "
150	(45.7)	Chlorite schist - as above, with coarse fragments of amphibole gneiss exhibiting weathered fracture surfaces
160	(48.8)	Chlorite schist - "
170	(51.8)	Chlorite schist - "
180	(54.9)	Chlorite schist - "
190	(57.9)	Chlorite schist - "
200-225	(60.0-63.1)	No samples

GEOLOGIC SUMMARY

Interval, in
feet (meters)

10-70	(3.0-21.3)	Unconsolidated soil and saprolite composed of clay, silt, and sand. Some cohesive saprolite in lower part of interval.
80	(24.4)	Vein quartz
90-190	(27.4-57.9)	Bedrock—dark-green gneiss and schist with some fractures as indicated by the large fragments recovered during drilling. These fragments, which show little or no contact with the drill bit and are too large to have passed the bit during drilling, must have fallen from a broken zone in the sidewall of

the well bore above the bit and been blown to the surface. The several large fragments of gneiss in samples between the 100- and 150-foot (30.5 and 45.7 m) depths are very similar in composition and may have come from a single fracture zone at a depth of about 100 feet (30.5 m).

VIRGINIA DIVISION OF MINERAL RESOURCES
Thomas M. Gathright, Geologist
February 3, 1977