OWNER: Bull Run Mountain Estates Well #4
DRILLER: H. L. Singhas
LOCATION: Prince William (Haymarket)

VDMR - 1680
WWCR - 287
TOTAL DEPTH - 482'

GEOLOGIC LOG

Depth in Feet	
0 - 10	Soil — with weathered biotite and micaceous quartzite fragments.
10 - 15	"
15 - 20	Micaceous Quartzite — white, with silvery, lustrous, sericitic cleavage planes, stained in places with iron oxides.
20 - 30	"
30 - 40	"
40 - 50	Biotite Schist — brownish gray, soft, fine-grained.
50 - 60	Biotite Schist and Micaceous Quartzite — brownish-gray, iron-oxide stained schist and quartzite with fine-grained (0.5 mm) biotite flakes in cleavage laminae.
60 - 70	Biotite Schist and Quartzite — black, fine-grained, soft; some gray, massive quartzite.
70 - 80	Micaceous Quartzite — gray, massive, with fine-grained (0.1 mm) laminae of sericitic and biotite.
80 - 90	Quartzite — gray, massive, with schistose sericitic partings; some biotite schist.
90 - 100	Micaceous Schist and Gneiss — gray, silvery schistose, biotite-sericitic-quartz gneiss and micaceous quartzite with gray, vitreous massive quartzite without grain boundaries and with biotitic leaves; the mica content varies from 5-40%.
100 - 110	Phyllite and Quartzite — gray, silvery, lustrous sericitic phyllite and grayish-white massive quartzite.
110 - 120	"
120 - 130	" with 1-2 mm pyrite crystals in trace amounts.
130 - 140	Micaceous Quartzite — tan to light silvery gray; sericitic cleavage.
140 - 150	"

150 - 160	Micaceous Quartzite — white; pulverized sample.
160 - 170	"
170 - 180	Phyllite — silvery-gray, lustrous, sericitic.
180 - 190	" pulverized sample
190 - 200	Micaceous Quartzite — gray, with silvery, lustrous sericitic cleavage.
200 - 210	"
210 - 220	Quartzite and Phyllite — white to light gray; massive quartzite with no grain boundaries and gray, sericite phyllite.
220 - 230	Quartzite — gray, massive; with sericitic cleavage.
230 - 240	Quartzite and Phyllite — greenish-gray, massive quartzite, with no visible grain boundaries and silvery gray, lustrous phyllite.
240 - 250	"
250 - 260	Micaceous Quartzite — light gray, with sericitic partings and brown iron-oxide stains; traces of specular hematite.
260 - 270	Phyllitic Quartzite — dark gray, with silvery, fine-grained sericite partings
270 - 280	" with 0.1 mm euhedral grains of accessory magnetite.
280 - 290	Phyllite — gray, silvery, lustrous, hard sericite-quartz phyllite.
290 - 300	" with brown iron-oxide staines.
300 - 310	Phyllite and Quartzite — gray, silvery lustrous sericite phyllite and gray, massive quartzite.
310 - 320	Phyllitic Quartzite — gray, silvery, sericitic and black fine-grained biotitic leaves through gray quartzite; few rounded (3 and 5 mm) flattened blue-quartz grains visible between the micaceous leaves.
320 - 330	"
330 - 340	Quartzite — white, massive; no sericite.
340 - 350	"
350 - 360	Micaceous Quartzite — gray, with sericitic cleavage.

360 - 370	Micaceous Quartzite and Diabase — gray, hard, massive quartzite with sericitic and biotitic cleavage planes; traces of pyrite and magnetite; a few fragments of dark, hard, aphanitic diabase with semi-conchoidal fracture; some cleaved graines of plagioclase and black pyroxene.
370 - 380	Micaceous Quartzite — gray, hard, sericitic
380 - 390	"
390 - 400	"
400 - 410	"
410 - 420	Sheared Micaceous Quartzite — as above but with one fragment of a limonitic, aphanitic "jasper", part of which is hard and part is soft and ochery; a few 0.1 mm-0.5 mm angular quartz cataclasts are visible under high-power binocular examination. This is an iron-permeated fault-breccia fragment.
420 - 430	Sheared Biotite Quartzite — black to dark gray, quartzite sediment with black, slickensided, biotite-chlorite slip planes.
430 - 440	Phyllitic Quartzite — white to gray, sericitic quartzite with phyllitic bands.
440 - 450	"
450 - 460	"
460 - 470	"
470 - 480	"
480 - 482	"

GEOLOGIC SUMMARY

	Rock Unit	Age
0 - 15	Overburden	
15 - 360	Weverton Formation	Early Cambrian
360 - 370	Diabase	Triassic (?)
370 - 482	Weverton Formation	Early Cambrian

Virginia Division of Mineral Resources
Richard S. Good - Geologist
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