

OWNER: National Park Service (Shenandoah)  
(Big Meadows Test Hole #2, Site #4)  
DRILLER: Valley Drilling Corporation  
COUNTY: Page (Mauck)

VDMR: 1348  
WWCR: 95  
TOTAL DEPTH: 500'

GEOLOGIC LOG

Depth in feet

OVERBURDEN (0-70')

0- 5	Clay and Pebbles — medium brown to medium gray; angular pebbles of metamorphosed basalt and quartz.
5- 10	"
10- 15	Clay — yellow brown; with sand and granule-sized, subangular- to rounded fragments of metamorphosed basalt and quartz.
15- 20	Clay and Pebbles — dark gray-purple to orange-brown and tan; pebbles; fragments of kaolinized- to fresh-metamorphosed amygdaloidal basalt, minor quartz and epidosite.
20- 25	Clay — medium brown with angular fragments of sand-sized metamorphosed basalt and quartz.
25- 30	" with some pebbles.
30- 35	Pebbles and Sand — medium brown, green gray and purple gray; water-worn, rounded- to subangular, coarse sand to coarse pebble size; metamorphosed basalt, quartz, epidotized basalt.
35- 40	"
40- 45	"
45- 50	" with abundant freshly-broken, angular fragments of metamorphosed basalt; (pebbles or gravel that have been crushed by drill).
50- 55	"
55- 60	"

60- 65 Residual Metamorphosed Basalt — medium-light green-gray, and purple-gray; fine-grained; plagioclase, epidote, magnetite, chlorite; minor small rounded pebbles of kaolinized metamorphosed basalt.

65- 70 "

CATOCTIN FORMATION (70-500')

70- 75 Weathered Metamorphosed Basalt — medium-light green and purple-gray; fine-grained; massive, minor amygdules; plagioclase, epidote, chlorite, magnetite, and clay.

75- 80 "

80- 85 Greenstone — medium gray to medium-light green-brown; very slight bedding; epidote, chlorite, plagioclase.

85- 90 Epidotized Scoriaceous Basalt — dark gray, slightly purple, and bright yellow-green; amygdules of quartz and epidote; groundmass of fine-grained hematitic epidote.

95-100 "

100-105 " fewer amygdules and slightly coarser groundmass.

105-110 "

110-115 Greenstone, Metamorphosed Basalt and Epidotized Scoriaceous Basalt — epidotized basalt as above; metamorphosed basalt is medium gray, fine-grained; plagioclase, epidote and chlorite; greenstone is light gray, fine-grained; trace of foliation chlorite, sericite, epidote and plagioclase.

115-120 Metamorphosed Basalt — medium gray, fine-grained, massive; plagioclase, chlorite, epidote, pyroxene.

120-125 "

125-130 "

130-135 "

135-140 "

140-145 " with ferruginous vein quartz.

145-150 " no vein quartz.

150-155 "

- 155-160 Greenstone and Metamorphosed Basalt — greenstone is medium gray, fine grained, traces of bedding and lineation; chlorite, sericite, plagioclase; metamorphosed basalt is dark purple-gray, fine-grained, amygdaloidal; epidote, plagioclase, chlorite, pyroxene and quartz.
- 160-165 " "
- 165-170 " "
- 170-175 " no amygdules.
- 175-180 Metamorphosed Basalt — dark gray, very-fine-grained; plagioclase, sericite, epidote, quartz, magnetite, and pyroxene.
- 180-185 " "
- 185-190 " "
- 190-195 " "
- 195-200 " "
- 200-205 Greenstone — dark gray, fine-grained, chlorite, epidote, sericite, plagioclase; replacement and veins of yellow-green epidote.
- 205-210 " "
- 210-215 Greenstone and Metamorphosed Basalt — dark gray to dark purple-gray; fine-grained; chlorite, epidote, plagioclase, sericite, magnetite; minor amygdules and fractured zones filled with epidote.
- 215-220 Metamorphosed Basalt — purple-gray; fine-grained, amygdaloidal; plagioclase, epidote, chlorite, jasper, pyroxene; minor greenstone with slight foliation.
- 220-225 " fewer amygdules, with vein epidote and quartz.
- 225-230 " "
- 230-235 " "
- 235-240 " no greenstone.
- 240-245 " with minor greenstone.
- 245-250 " "

- 250-255 Metamorphosed Basalt — gray and purple-gray; fine-grained, slightly amygdaloidal; plagioclase, epidote, chlorite, jasper, pyroxene; minor greenstone with slight foliation; minor vein epidote and quartz.
- 255-260 " no greenstone; some replacement by epidote.
- 260-265 "
- 265-270 Greenstone — greenish-gray, very fine-grained, slight lineation; chlorite, epidote, plagioclase, sericite; some replacement by epidote.
- 270-275 "
- 275-280 " with minor vein quartz.
- 280-285 " no vein quartz.
- 285-290 "
- 290-295 Metamorphosed Basalt — dark purple-gray with yellow-green epidote alteration; fine-grained, amygdaloidal; plagioclase, epidote, pyroxene.
- 295-300 Metamorphosed Basalt — dark blue-gray, very fine-grained, slightly amygdaloidal; plagioclase, chlorite, epidote, sericite, magnetite.
- 300-305 " with fewer amygdules; slight lineation.
- 305-310 "
- 310-315 " no lineation; minor epidote vein.
- 315-320 " no vein material.
- 320-325 "
- 325-330 Epidotized Basalt — light yellow-green gray, medium- to fine-grained, epidote, quartz, plagioclase, chlorite.
- 330-335 Metamorphosed Basalt — dark gray to yellow-green gray; fine-grained; epidote, plagioclase, chlorite, quartz, trace asbestos.
- 335-340 "

- 340-345 Metamorphosed Basalt — dark gray to yellow-green gray; fine-grained; epidote, plagioclase, chlorite, quartz, trace asbestos.
- 345-350 "
- 350-355 Metamorphosed Basalt — dark gray, fine-grained; plagioclase, chlorite, epidote ; minor purple, hematitic chlorite.
- 355-360 " more epidote, no purple hematitic chlorite.
- 360-365 "
- 365-370 "
- 370-375 Epidotized Basalt — grayish-yellow-green, medium- to fine-grained; epidote, quartz, plagioclase, chlorite.
- 375-380 Greenstone — green gray, fine-grained; epidote, plagioclase, chlorite.
- 380-385 Epidotized Greenstone — gray and gray-yellow-green, fine-grained; epidote, quartz, plagioclase, chlorite.
- 385-390 Metamorphosed Basalt — dark gray, slightly purple; fine-grained; plagioclase, magnetite, epidote, chlorite and minor vein of epidote.
- 390-395 " with minor replacement by epidote.
- 395-400 " with minor quartz.
- 400-405 " no quartz.
- 405-410 Metamorphosed Basalt — dark gray, slightly purple; fine-grained; plagioclase, magnetite, epidote, chlorite and minor vein of epidote.
- 410-415 "
- 415-420 "
- 420-425 Metamorphosed Basalt — dark blue-gray; fine-grained; minor amygdules; plagioclase, epidote, chlorite, sericite, calcite, and pyroxene.
- 425-430 " minor replacement by epidote.
- 430-435 "
- 435-440 "
- 440-445 "

- 445-450 Metamorphosed Basalt — dark blue-gray; fine-grained, minor amygdules; plagioclase, epidote, chlorite, sericite, calcite, and pyroxene, moderate replacement by epidote.
- 450-455 " "
- 455-460 " with trace of asbestos.
- 460-465 " slightly purple, no asbestos, more amygdules.
- 465-470 " "
- 470-475 " with hematitic epidote.
- 475-480 Metamorphosed Basalt — gray, fine-grained, trace of amygdules; chlorite, epidote, calcite, plagioclase, magnetite.
- 480-485 Greenschist — gray, very fine-grained, foliated; chlorite, magnetite, plagioclase, epidote and sericite.
- 485-490 " "
- 490-495 " "
- 495-500 " "

GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>TIME ROCK UNIT</u>
0- 70	Overburden	Recent
70-500	Catoctin Formation	Precambrian ?

Virginia Division of Mineral Resources  
 Hollis N. Walker, Geologist  
 September 21, 1965