

OWNER: Division of Mineral Resources
Douthat State Park - Well #2
DRILLER: Sydnor Pump & Well Company, Inc.
COUNTY: Bath (Clifton Forge)

VDMR #1086
WWCR #28
TOTAL DEPTH: 336'

GEOLOGIC LOG

- 0-5 Overburden -- reddish-brown, fine-grained, sandy clay with pebbles of shale, ferruginous sandstones, and quartz.
- 5-10 As above -- with larger rock fragments.
- 10-15 As above -- less clay; more sand.
- 15-20 Overburden -- medium-brown, coarse-grained, sand and gravel with white, brown, red, and black sandstone and siltstone, angular fragments and pebbles; feldspar pebbles; quartz crystal vein filling.
- Brallier Formation (20-100')
- 20-25 Shale (weathered) -- light-brown and gray, medium-brown and gray, very-fine-grained, minor red and black sandstone fragments.
- 25-30 Shale -- dark-bluish-gray and light-brown, fine-grained; minor white and red sandstone; light-brown siltstones; minor clay.
- 30-35 As above -- no sandstones or siltstones.
- 35-40 Shale -- dark-bluish-gray, fine-grained; light-brown micaceous siltstone; minor vein quartz; minor ferruginous sandstones.
- 40-45 Shale -- dark-bluish-gray, fine-grained.
- 45-50 Shale -- medium-bluish-gray, fine-grained.
- 50-55 As above.
- 55-60 As above -- minor pyrite.
- 60-65 As above -- no pyrite; very minor magnetite.
- 65-70 Shale -- medium purplish-gray, fine-grained, very minor magnetite.
- 70-75 Shale -- light-medium-gray, fine-grained; slickensides.
- 75-80 As above -- minor vein quartz.

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- 80-85 Shale — light-medium-gray, fine-grained; slickensides, minor gypsum.
- 85-90 As above.
- 90-95 As above — minor vein quartz.
- 95-100 Sandstone — dark-gray, fine-grained, quartz and dolomite veins, minor hematite and muscovite; minor dark-gray shale.

Millboro Shale (100-336')

- 100-105 Shale — dark-gray fine-grained, silty, minor sandstone (as above); quartz veins; slickensides.
- 105-110 As above.
- 110-115 Shale — dark-gray, very-fine-grained, minor vein quartz.
- 115-120 As above — minor silty shale.
- 120-125 Shale — medium-dark-gray, very-fine-grained, very minor pyrite and gypsum.
- 125-130 Shale — dark-gray, very-fine-grained; minor vein quartz.
- 130-135 Shale — medium-gray, fine-grained, calcareous.
- 135-140 Shale — dark-gray, very-fine-grained; minor vein quartz.
- 140-145 Shale — medium-dark-gray fine-grained, minor pyrite; slickensides.
- 145-150 Shale — dark-gray, fine-grained, very minor pyrite and gypsum.
- 150-155 As above.
- 155-160 Shale — very-dark-gray fine-grained, minor vein dolomite; slickensides.
- 160-165 Shale — dark-gray, fine-grained, minor gypsum.
- 165-170 Shale — very-dark-gray, fine-grained; vein quartz and dolomite; minor gypsum; minor greenish siltstone with siderite.
- 170-175 As above.
- 175-180 As above — with minor pyrite.
- 180-185 As above — more sideritic siltstone.

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- 185-190 Shale — very-dark-gray, very-fine-grained to fine-grained; minor greenish shale and siltstone; minor vein quartz.
- 190-195 Shale — dark-gray, fine-grained, minor siltstone; abundant vein-dolomite; minor greenish micaceous shale; minor gypsum, pyrite, and quartz.
- 195-200 As above — increase of vein quartz; no pyrite or gypsum.
- 200-205 As above — minor chlorite.
- 205-210 As above.
- 210-215 Silty Shale — medium-gray, fine-grained, minor dolomite and quartz veins; minor pyrite; one-third of sample is ferruginous siltstone with minor dolomite and gypsum.
- 215-220 Shale — medium-dark, fine-grained, and green micaceous; minor medium-gray siltstone; minor vein quartz; slickensides.
- 220-225 Sandy Shale — 80% medium-gray, fine-grained shale; with slickensides; 20% dark-greenish-gray, fine-grained sandstone, with minor mica.
- 225-230 As above — with dolomite and quartz veins, minor gypsum.
- 230-235 As above — darker.
- 235-240 As above — with minor pyrite.
- 240-245 Sandy Shale — 80% very-dark-gray fine-grained shale; slickensides; 20% dark-greenish-gray sandstone with minor mica; veins of dolomite and chlorite; trace of pyrite.
- 245-250 As above.
- 250-255 As above.
- 255-260 As above.
- 260-265 Sandy Shale — 80% very-dark-gray, fine-grained shale, minor mica; slickensides; 20% dark-gray sandstone, with mica; vein quartz and dolomite; minor pyrite.
- 265-270 As above — less mica.
- 270-275 As above.
- 275-280 As above — less sandstone.

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- 280-285 Sandy Shale — dark-gray, fine-grained; minor mica, dolomite; veins of quartz and dolomite; very minor pyrite; slickensides.
- 285-290 As above — less vein material.
- 290-295 As above — less sandy material.
- 295-300 Silty Shale — dark-gray very-fine-grained, dark-gray silty layers, containing mica; minor vein quartz and dolomite; minor pyrite.
- 300-305 As above — with slickensides; increase of silt.
- 305-310 As above.
- 310-315 Shale — medium-gray, fine-grained; slickensides; silty layers; minor quartz and vein dolomite.
- 315-320 As above — less silt and no slickensides.
- 320-325 Shale — dark-gray, fine-grained; slickensides, vein dolomite, minor pyrite; minor silty layers.
- 325-330 As above.
- 330-336 As above — less silt.

GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>TIME ROCK UNIT</u>
0-20	Overburden	Quaternary
20-100	Brallier Formation	Devonian
100-336	Millboro Shale	Devonian

Virginia Division of Mineral Resources
 Hollis N. Walker, Geologist
 December 21, 1964