

OWNER: King George-Stafford Public Schools
(Stafford Junior High School)
DRILLER: Sydnor Pump & Well Company, Inc.
COUNTY: Stafford

VDMR #1230
WWCR #55
TOTAL DEPTH: 295'

GEOLOGIC LOG

Columbia Group (0-10')

0-10 Clay — yellow, very sandy; sand fine- to very-coarse-grained, poorly sorted; scattered grains of weathered feldspar; traces of glauconite, earthy hematite; limonitic.

Potomac Group (10-210')

- 10-20 Sand — tan; very slightly argillaceous and silty; sand coarse-grained well-sorted, subangular to subrounded; very abundant gray- and hyacinth-tinted quartz; very arkosic; moderately limonitic. Feldspar moderately to intensively decomposed (kaolinitized) microcline and a little microperthite; it occurs as dull white to yellow-stained subrounded grains and is especially abundant in the finer end of the distribution.
- 20-30 As above.
- 30-40 As above — but yellowish-brown, considerably more limonitic.
- 40-50 Sand — gray, very slightly argillaceous, coarse-to very-coarse-grained, well-sorted, subangular to subrounded; very abundant gray- and hyacinth-tinted quartz; a few grains of chert; arkosic; slightly limonitic; trace of fine-grained pyrite. Feldspar is moderately decomposed, dull white to yellow-stained, subrounded microcline and is especially abundant in the finer end of the distribution.
- 50-60 As above — but less arkosic and limonitic. Feldspar is fresher (notable increase in ratio of gray, lustrous grains to dull white grains).
- 60-70 Sand — gray, slightly argillaceous, coarse- to very-coarse-grained, fairly well-sorted, subangular to subrounded; abundant gray- and hyacinth-tinted quartz; arkosic (gray and white; slightly to moderately decomposed microcline); very small amount of iron staining; traces of fine-grained pyrite and vivianite.
- 70-80 Sand — gray, slightly argillaceous, medium- to very-coarse-grained, rather poorly sorted, subangular to subrounded; abundant hyacinth-tinted quartz and some pink- and orange-tinted quartz; arkosic (gray and white, slightly to moderately decomposed, subrounded, medium- to coarse-grained microcline); small amount of pyrite.

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- 80-90 Clayey Gravel — gray, argillaceous and sandy; gravel (40%) consists of granules and small pebbles (2-6 mm), subangular to subrounded, of clear, white, orange-, yellow-, and hyacinth-tinted quartz; matrix consists of poorly sorted arkosic sand (30%) and greenish-gray clay (30%).
- 90-100 As above — but gravel: sand: clay ratio is 5:3:2, and gravel is slightly coarser grained (2-10 mm).
- 100-110 Clay — reddish-brown, mottled pale-green; sandy and slightly pebbly; under microscope, clay (65-75%) highly variegated (reds, browns, yellows, pale green, and gray); sand (20-30%) poorly sorted, arkosic, and contains abundant amethystine quartz; gravel (5%) consists of small pebbles (up to 7 mm) of quartz.
- 110-120 Clay — pink, sandy; slightly to moderately pebbly; under microscope, clay (65-75%) highly variegated; sand (15-25%) poorly sorted, arkosic; gravel (10%) consists of small pebbles (up to 10 mm) of quartz.
- 120-130 As above.
- 130-140 Clay — pale-greenish-gray mottled pink; moderately sandy; slightly pebbly; sand medium-grained, fairly well-sorted, arkosic, scattered pebbles (up to 10 mm) of quartz.
- 140-150 Clay — pale-greenish-gray, mottled pink; sandy; slightly pebbly; under microscope, clay seen to be variegated; sand poorly sorted, arkosic; scattered pebbles (up to 10 mm) of quartz; traces of magnetite and chloritized biotite.
- 150-160 As above.
- 160-170 No sample.
- 170-180 Clay — greenish-gray, sandy, slightly pebbly; under microscope, clay seen to be slightly variegated (greens, grays, and tan); sand poorly sorted, arkosic (white, moderately decomposed microcline); scattered, subrounded to rounded pebbles (up to 15 mm) of quartz.
- 180-190 As above.
- 190-200 Clay — greenish-gray, very sandy; sand very fine- to coarse-grained, poorly sorted, subangular to subrounded; abundant hyacinth-tinted quartz arkosic (white, moderately decomposed microcline); trace of muscovite; a few subrounded pebbles (up to 15 mm) of quartz; small amount of intensely altered crystalline rock.

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200-210 Clay — greenish-gray, very sandy; sand very fine- to coarse-grained, poorly sorted, subangular to subrounded; abundant hyacinth-tinted quartz; arkosic (white, moderately decomposed microcline); trace of muscovite; a few subrounded pebbles (up to 15 mm) of quartz; small amount of intensely altered crystalline rock.

Granite (210-290')

210-220 Residuum — intensively altered, phaneritic, crystalline rock, consisting of quartz, microcline, some chlorite, and small amounts of muscovite, biotite, magnetite, and vivianite.

220-230 As above.

230-240 As above.

240-250 * As above.

250-260 As above — but with appreciable carbonaceous material and a trace of pyrite.

260-270 * Residuum — intensively weathered, phaneritic, crystalline rock, consisting of quartz, microcline, some chlorite and carbonaceous matter, and traces of micas, pyrite, and magnetite.

270-280 As above — but with some aggregates of pyrite and carbonaceous material.

280-290 * Granodiorite — intensively weathered; quartz, feldspar (plagioclase greater than microcline), biotite; appreciable chlorite; some muscovite.

290-295 No sample.

* X-ray.

GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>TIME ROCK UNIT</u>
0-10	Columbia Group	Quaternary
10-210	Potomac Group	Lower Cretaceous
210-290	Granite	Unknown
290-295	No sample	

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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