

Table 3.--Stratigraphic summary of rock units in the Shenandoah province, Spotsylvania County, Va.

System	Series	Rock units		Character	Water-bearing properties
Late Paleozoic(?)		Localized intrusive rocks	Granite	Largely biotite granite and quartz monzonite containing some muscovite granite and pegmatites.	Collectively these formations yield very little water to few wells in the area. The water is generally low in dissolved solids and soft. Hard water may reflect a greater calcium content of the rock.
			Quartz diorite	Predominantly quartz and oligoclase feldspar, with the quartz chiefly of a blue variety.	
			Hornblende gabbro	Gabbro consisting chiefly of pyroxenite, peridotite, soapstone and serpentine.	
Late Paleozoic		Petersburg Granite		Coarse- to fine-grained biotite granite with coarse pink porphyritic facies, intruded by fine grain blue granite in the Fredericksburg area.	In Spotsylvania County, the Petersburg Granite yields small quantities of water for domestic use. Wells tap water from the weathered portion.
Ordovician	Upper Ordovician	Quantico Slate		Graphitic in part, containing some pyrite, including rhyolite flows in northern Virginia; contains gravels of quartzite along the lower portion of the formation.	A few dug wells in the county obtain water from the weathered zone of this formation and sufficient water is obtained for most domestic needs.
Early Paleozoic(?)	Glenarm Series	Peters Creek Quartzite		Chiefly quartzite and chlorite schist, interbedded with chlorite-muscovite schist.	Most of the wells tap water from this formation from depths less than 50 feet, and have an average reported yield of 4 gpm.
		Wissahickon Formation	Schist Facies	Chlorite-muscovite schist containing garnetiferous biotite schist locally. Staurolite, sillimanite, and kyanite associated with the schist.	The weathered zone of this formation is considered a fairly good source of water in the area. Deeper-lying fresh rock is dense and lacks porosity essential to circulation of water. The formation yields water low in dissolved solids, however, objectionable amounts of iron and hardness occur locally. The average depths of wells are 28 feet; average reported yield, 33 gpm.
			Granitized Gneiss Facies	Schist in large part altered to injection gneiss, containing also much hornblende gabbro.	
Cambrian		Baltimore(?) Gneiss		Gray fine-grained garnetiferous biotite granite gneiss intruded by coarse-grained porphyritic granite gneiss with layers of hornblende gneiss, occurring at and south of Fredericksburg; possibly equivalent to Baltimore Gneiss.	Several wells in Fall Zone obtain water from this formation. The wells range in depth from 16 to 300 feet and range in reported yield from 3 to 55 gpm. The water is low in dissolved solids and hardness.

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