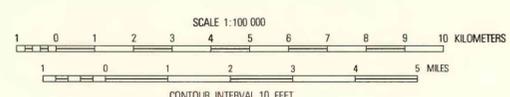


MAP UNIT AND DOMINANT ROCK TYPE	PRINCIPAL ROCK TYPES AND EQUIVALENT GEOLOGIC FORMATIONS (APPROXIMATE THICKNESS OF SEDIMENTARY ROCKS)	STRUCTURAL AND PLANAR ELEMENTS	RESIDUUM
Siltstone S1	Siltstone, shale, and sandstone. Triassic, Culpeper Group, Balls Bluff Siltstone.	Thin- to thick-bedded (0.5 cm (0.25 in.) to 90 cm (3 ft)); micaceous. Commonly intensely jointed, yielding platy fragments.	0-6 m (0-20 ft) (average 1.5 m (5 ft)). Thin and clayey residual soils.
Sandstone S2	Sandstone (arkose), conglomerate (quartz and quartzite pebbles), and siltstone. Triassic, Culpeper Group, Manassas Sandstone.	Thin- to thick-bedded (0.5 cm (0.25 in.) to 4.5 (15 ft)); micaceous, arkose with interlocking grains; interbedded with 2-cm (1-in.) to 30-cm (1-ft) beds of siltstone and shale.	0-6 m (0-20 ft) (average 1.5 m (5 ft)). Very thin, sandy, residual soils.
Conglomerate S3	Conglomerate (quartz, quartzite, and schist pebbles), sandstone, siltstone, and shale. Triassic, Culpeper Group, Reston Member of Manassas Sandstone.	Thin- to thick-bedded (1 cm (0.05 in.) to 4.5 m (15 ft)); conglomerate crudely bedded, lenticular, with subrounded to rounded and angular quartz and schist pebbles.	0-9 m (0-30 ft) (average 3 m (10 ft)). Thin, gravelly soil.
Phyllite A	Phyllite, metasiltsstone, schistose phyllite, and phyllitic slate. Wisahickon Formation, Popes Head Formation.	Foliated to fissile, locally bedded, locally schistose. Steeply dipping foliation and cleavage are dominant planar elements. Fissile, splits along 0.25 m (0.08 in.) to 0.5 cm (0.25 in.) planes. Faults and joints commonly parallel foliation. Cross joints vary in spacing and development; commonly closely spaced.	0-30 m (0-100 ft) (average 9 m (30 ft)). Thin to moderately thick, micaceous saprolite and thin cherty soil.
Metapelite B	Pelitic schist, mica schist, metagraywacke, quartz-feldspar-mica schistose gneiss. Wisahickon Formation, pelitic schist facies; Phyllonite (Potomac Gorge unit).	Metamorphic foliation is dominant planar element; dips steeply, multiple directions common. Fissile, splits along 0.25-cm (0.08-in.) to 1-cm (0.5-in.) planes. Many small-scale isoclinal folds; faults and joints commonly parallel foliation, jointing irregular; transverse sets facilitate breakage into polygonal blocks.	0-48 m (0-160 ft) (average 18 m (60 ft)). Thick, micaceous saprolite and soil.
Metagraywacke C	Impure quartzite, metagraywacke, schist. Wisahickon Formation, metagraywacke facies (Potomac Gorge unit).	Thin- to thick-bedded, interbedded with schist. Dip of bedding and foliation moderate to steep, locally folded. Prominent joints about 1 m (3 ft) apart, locally closely spaced, especially on fold crests. Locally sheared along contacts with schist.	0-24 m (0-80 ft) (average 11 m (35 ft)). Thin to moderately thick, micaceous saprolite; locally silty and sandy soil.
Gneiss D	Schistose gneiss, granofels (metagraywacke, schist, and so on). Sykesville Formation, Wisahickon Formation, diamicite facies (boulder gneiss), includes migmatite.	Massive, layered, thick-bedded to foliated where interbedded with schist or along shear planes. Splits along 0.5-cm (0.25-in.) to 1-m (3-ft) planes. Joints prominent, dip steeply, parallel and perpendicular to layering.	0-30 m (0-100 ft) (average 12 m (40 ft)). Moderately thick, micaceous saprolite and soil.
Horofels E	Thermally metamorphosed shale, siltstone, sandstone, and conglomerate; entirely recrystallized adjacent to diabase, gradually decreasing in metamorphic grade away from intrusive. Rocks bleached grey, green, and mauve; new metamorphic minerals common.	Layered and bedded, well-indurated, tough and strong. Sheets, joints, and fractures variable; platy fragments common.	0-3 m (0-10 ft) (average 1 m (3 ft)). Thin subsoil and soil.
Granitoid Rocks G	Granite, adamellite, aplite, tonalite, pegmatite, and granodiorite. Occoquan Granite, "Clarendon granite," "Kensington gneiss."	Massive to foliated, moderately to coarsely crystalline; may extend to depth greater than 1,500 m (5,000 ft) without change. Joints prominent, usually widely spaced; commonly with prominent sheet set subparallel to ground surface and other intersecting sets steeply inclined.	0-30 m (0-100 ft) (average 12 m (40 ft)). Moderately thick, quartzose, micaceous saprolite, and soil.
Mafic H	Metadiabase, metavolcanic, and volcanoclastic greenstones; epidote-chlorite schist, amphibolite, chlorite-actinolite-talc schist, metagabbro, tonalite-metadiabase, and so on. Includes Piney Branch Complex, Choptawmastic Formation.	Foliated schistose to banded and massive; locally many fractures. Locally fissile; splits along 0.25-cm (0.08-in.) to 4-cm (2-in.) planes. Also splits into blocks. Joints abundant, closely spaced, dip steeply. Locally tightly folded.	0-23 m (0-75 ft) (average 6 m (20 ft)). Thin to moderately thick, clayey saprolite and soil.
Ultramafic I	Serpentine (peridotite, pyroxenite, dunite), gabbro, and so on.	Massive to locally foliated; commonly sheared and broken by intersecting zones of weak, friable, slippery material. Joints common, 3-m (10-ft) blocks where massive, 0.5-cm (0.25-in.) plates are foliated. Locally tightly folded.	0-2.5 m (0-8 ft) (average 1 m (3 ft)). Thin to no saprolite or soil.
Diabase J	Intrusive Mesozoic Triassic dikes and sill-like beds; interlocking crystalline mosaic of feldspar and pyroxene; locally coarsely crystalline pegmatite, gabbro, and norite.	Massive to blocky. Joints very common, especially at dike margins; baked horizons at contact zone. Dikes nearly vertical, sill-like bodies nearly flat or gently dipping.	0-9 m (0-30 ft) (average 3 m (10 ft)). Thin to moderately thick saprolite and soil with spheroidally weathered core-stones.
Unconsolidated Sediments K	Unconsolidated Cretaceous and younger gravels, sands, and clays.	not applicable	not applicable

EXPLANATION
● F10 Boring location
— Contact between rock units, approximately located



GENERALIZED LITHOLOGIC MAP OF FAIRFAX COUNTY, VIRGINIA