



EXPLANATION OF CROSS SECTION SYMBOLS:

WATER WELL

- J-60 ← WELL ID NUMBER AND SURFACE ELEVATION (SOURCE: J-JOHNSTON; D-DARTON; F-FROELICH)
- ← WELL CASING
- ← % SAND IN 100-FT INTERVAL REPORTED BY FROELICH (1985)
- ← WATER LEVEL
- ← WELL SCREEN
- ← BEDROCK SURFACE
- ← REPORTED BEDROCK LITHOLOGY
- ← BOREHOLE IN BEDROCK
- ← BOTTOM ELEVATION

GEOTECHNICAL BORING SITES

- GT-27 ← ID NUMBER AND HIGHEST SURFACE ELEVATION
- ← APPROXIMATE LATERAL AND VERTICAL EXTENT OF SITE ALONG CROSS SECTION LINE
- ← WATER LEVEL
- ← BOTTOM ELEVATION OF DEEPEST BORING

WATER LEVELS REPORTED IN WELLS AND GEOTECHNICAL BORINGS

- 119 ← WATER LEVEL MEASURED IN WELL OR CASSED GEOTECHNICAL BORING COMPLETED IN THE CAMERON VALLEY SAND (LOWER AQUIFER OF THE POTOMAC FORMATION)
- 132 ← WATER LEVEL MEASURED IN 1976 FROM WELL COMPLETED IN CAMERON VALLEY SAND (JOHNSTON AND LARSON, 1977)
- 210 ← WATER LEVEL MEASURED IN WELL OR GEOTECHNICAL BORING COMPLETED IN OTHER AQUIFERS. MAY REPRESENT A COMPOSITE OR AVERAGE WATER LEVEL AT GEOLOGICAL SITES WITH MANY BORINGS

OTHER SYMBOLS

- 47 ← SURFACE EXPOSURE. SOME EXPOSURES AT EXCAVATIONS COINCIDE WITH GEOLOGICAL BORING SITES
- ||| ← VERTICAL MOTION ON REVERSE FAULT
- A/T ← HORIZONTAL MOTION ON STRIKE-SLIP FAULT (T – TOWARD VIEWER A – AWAY FROM VIEWER)
- DUKE ST ← INTERSECTION WITH ANOTHER CROSS SECTION. CROSS SECTIONS ARE DISTINGUISHED BY NAME AND COLOR-CODED SECTION LINES AND TITLES

GEOLOGIC CROSS SECTION 2J – NORTHWEST
 Cross section 2J encompasses the extreme northwestern edge of the City, following the Fairfax County line through Lincolnia, Holmes Run Gorge, Dowden Terrace, and Washington Forest to Baileys Crossroads, before bending east through far southern Arlington County and ending at Four Mile Run. The section represents one of the more dissected parts of the map area, featuring the entrenched valleys of Turkeycock, Holmes, and Four Mile Runs and several tributary ravines. The stream valleys are set off by relatively level uplands representing erosional remnants of what were once much more extensive late Tertiary "gravel plains" of the Dowden and Chinquapin Village terraces. The section also

encompasses the expansive system of parks and natural areas centered on Holmes Run Gorge that comprise "natural Alexandria"-- Dora Kelley/Ford Nature Center, Rynex, and Chambliss -- along with Barcroft Park, the premier natural area in southern Arlington County. Geotechnical borings are more sparse than in other places, but natural outcrops are abundant. These data, and other sites of cultural, historical, and environmental interest are indicated by labels and symbols along on the cross section. The specific location of the cross section is indicated on Plate 1 by a red section line.

The cross sections are designed to be used together with the geologic maps, particularly Plate 5, to illustrate the third

dimension of the map units and their relations to landforms and water resources. Contacts between map units are approximately located and may be gradational or transitional, especially in the Potomac Formation. The abundance of control points (surface exposures, wells, geotechnical sites) along the cross section provides a general indication of the reliability of contact locations. Map units are depicted using the same colors, patterns, and labels as on Plate 5, and the explanation of map units on Plate 5 serves as the legend.

The dominant physiographic features are the many ravines that cut through the upland terraces and Potomac Formation to expose the underlying bedrock. The unconsolidated

sediments are comparatively thin along most of the section, so relatively more is known about the bedrock geology in this area than in other parts of the City. Outcrops of all of the bedrock units may be seen in Holmes Run Gorge and its tributary ravines, such as Rynex Natural Area and Chambliss Park. The base of the Potomac Formation is also exposed in several places. The section of Holmes Run upstream of North Beauregard Street is among the most scenic places in the City, featuring nearly continuous, water-sculpted ledges and flumes of Occoquan Granite and Indian Run Formation. Outcrops along the west bank of the stream near the mouth of Rynex ravine feature a complicated ductile fault zone that juxtaposes several Paleozoic rock units.