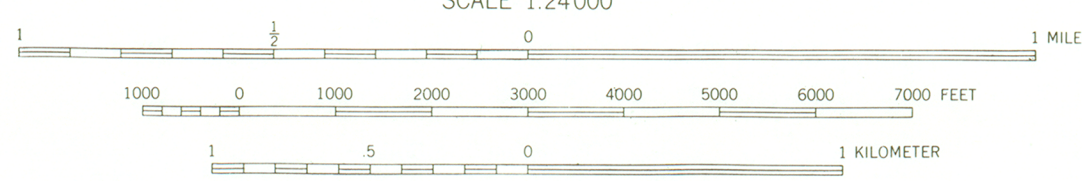


by  
Kenneth D. Woodruff  
1978

SCALE 1:24000



CONTOUR INTERVAL 10 AND 20 FEET (APPROX. 3 METERS AND 6 METERS)

RECORDING STREAM GAGE

U.S.G.S. Gage No.

sq. km.

Drainage Area: sq. miles

Ave. Daily Flow, CFS

Years of Record

milligrams/liter

Ca		804
Mg		21
Na		1603
F		
TD	0	20
Fe		200
pH		2
	0	10

N = negligible

PARTIAL RECORD STREAM GAGE

U.S.G.S. Gage No.

sq. km.

Drainage Area: sq. miles

Lowest Recorded Flow, CFS

Highest Recorded Flow, CFS

DAM (Water Supply)

Surface Area, Acres

MAX. NORMAL

CAPACITY ACRE-FEET

Capacity, MGD

Ave. Daily Use, MGD

O OBSERVATION WELL

RO OBSERVATION WELL WITH RECORDER

● PRODUCTION WELL, PUBLIC SUPPLY

● IRRIGATION WELL

● SPRING

Q : COLUMBIA Fm.

Kp : POTOMAC Fm.

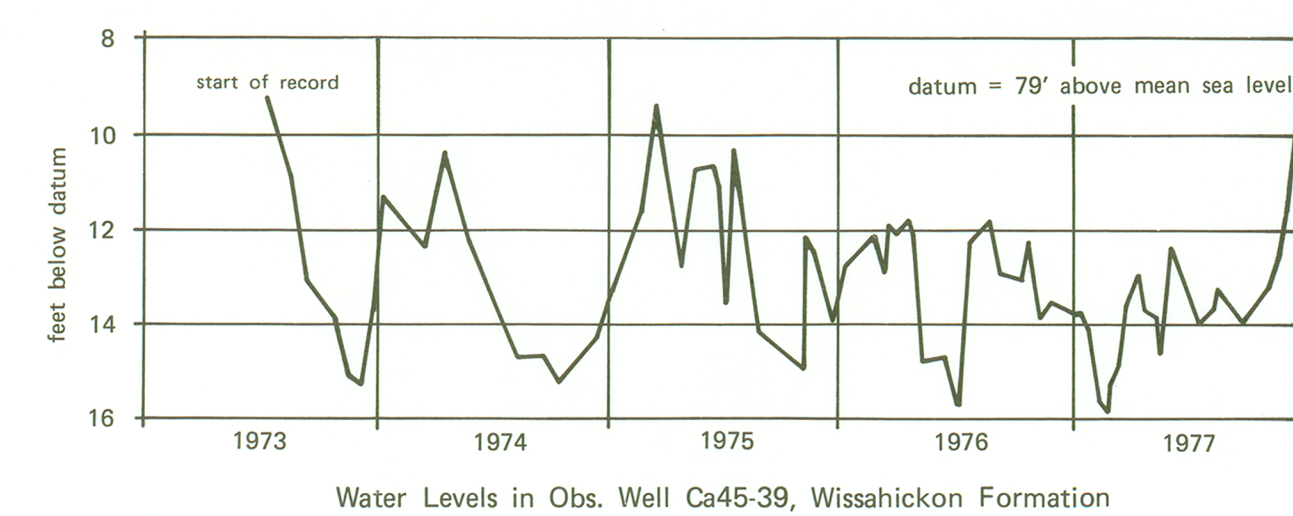
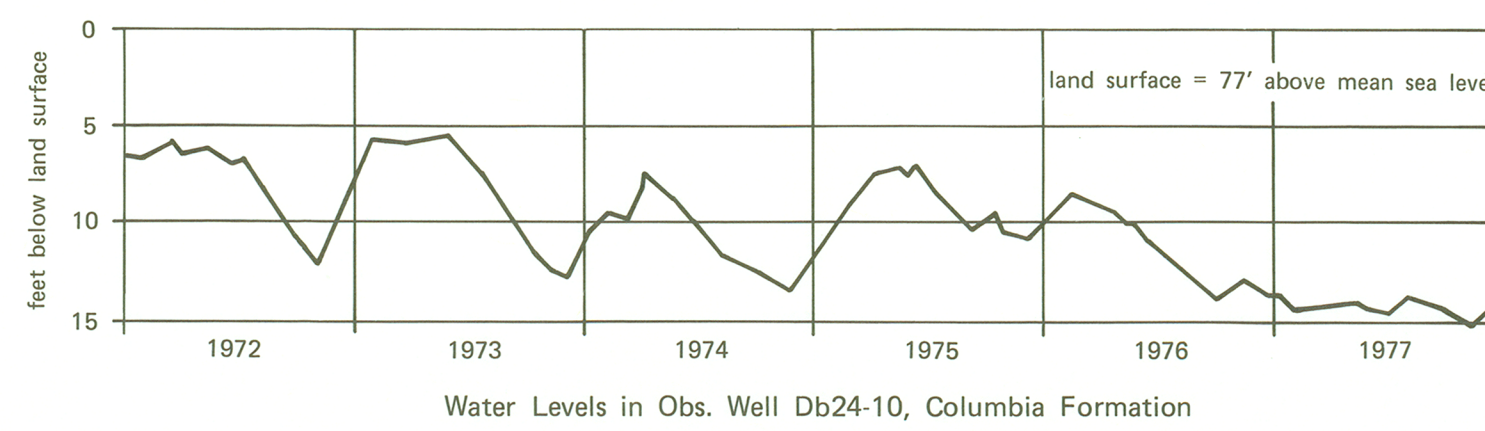
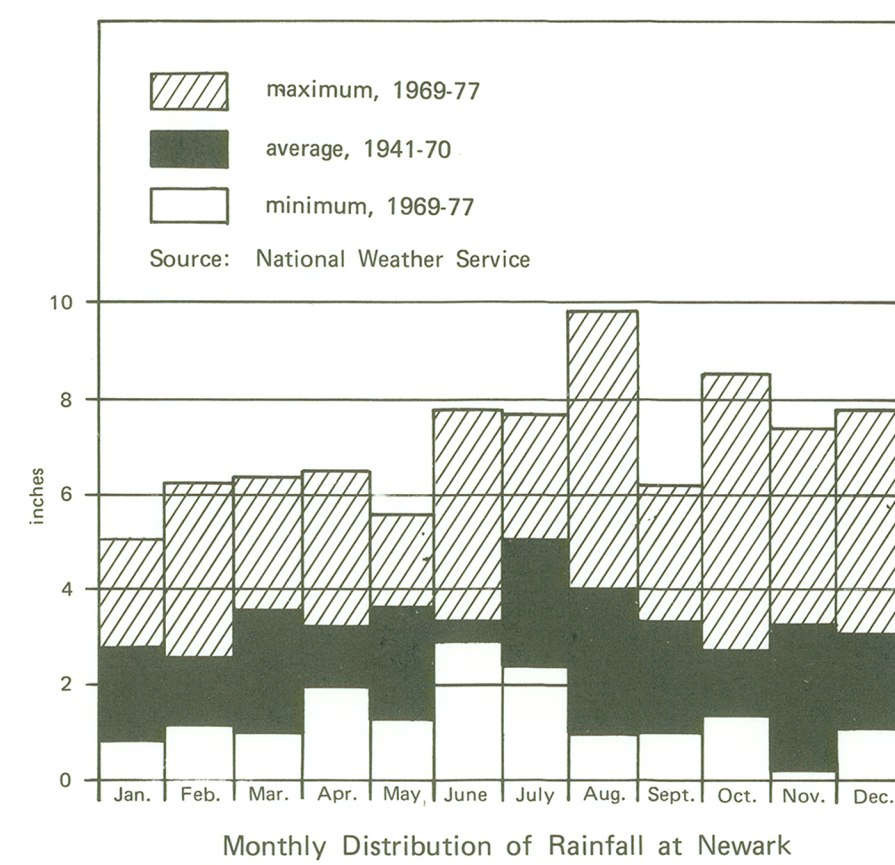
Wg : WISSAHICKON Fm.

Cm : COCKEYSVILLE Fm.

db15-5 : WELL NUMBER

LANDFILL, ABANDONED

ABANDONED

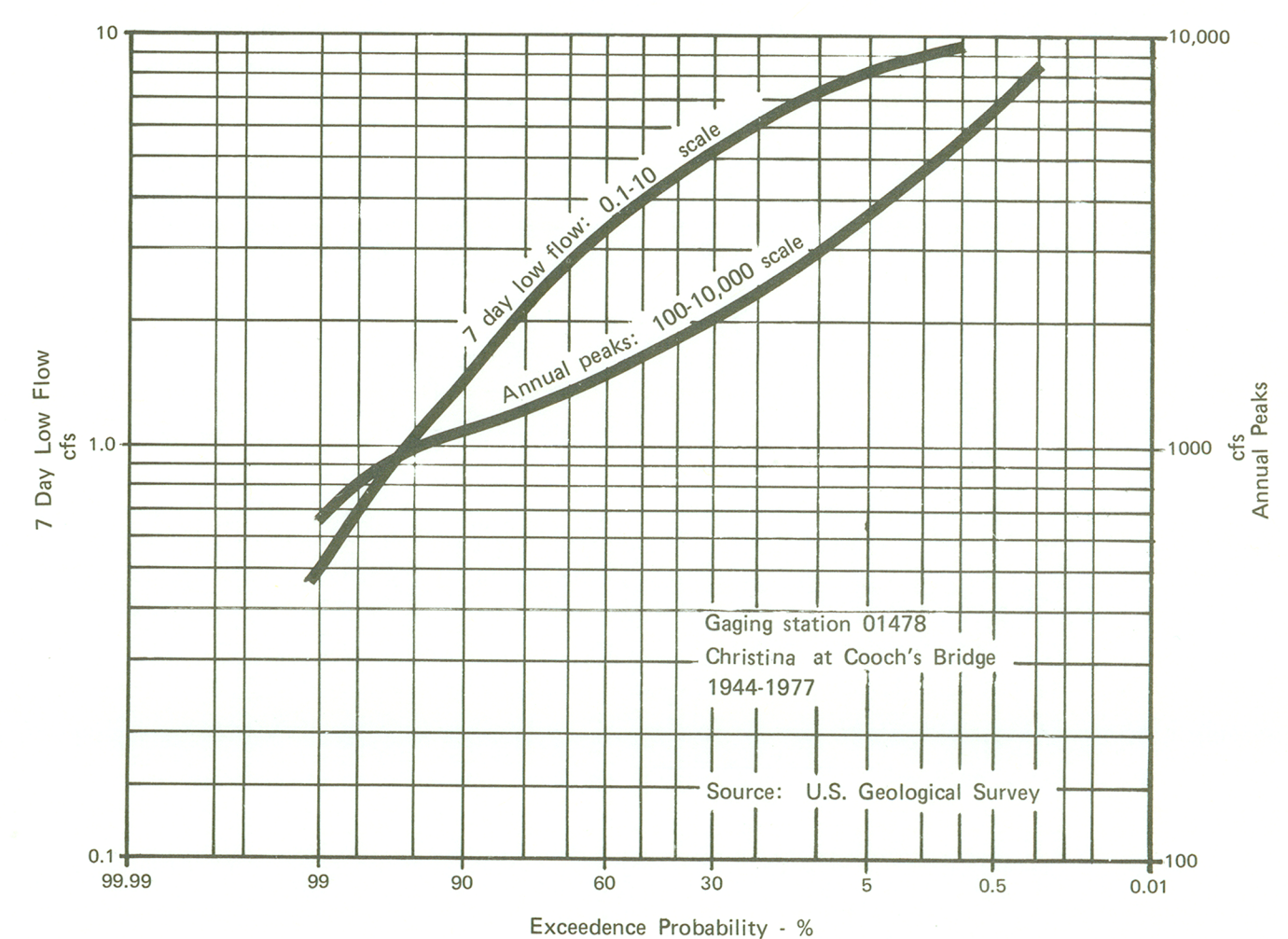
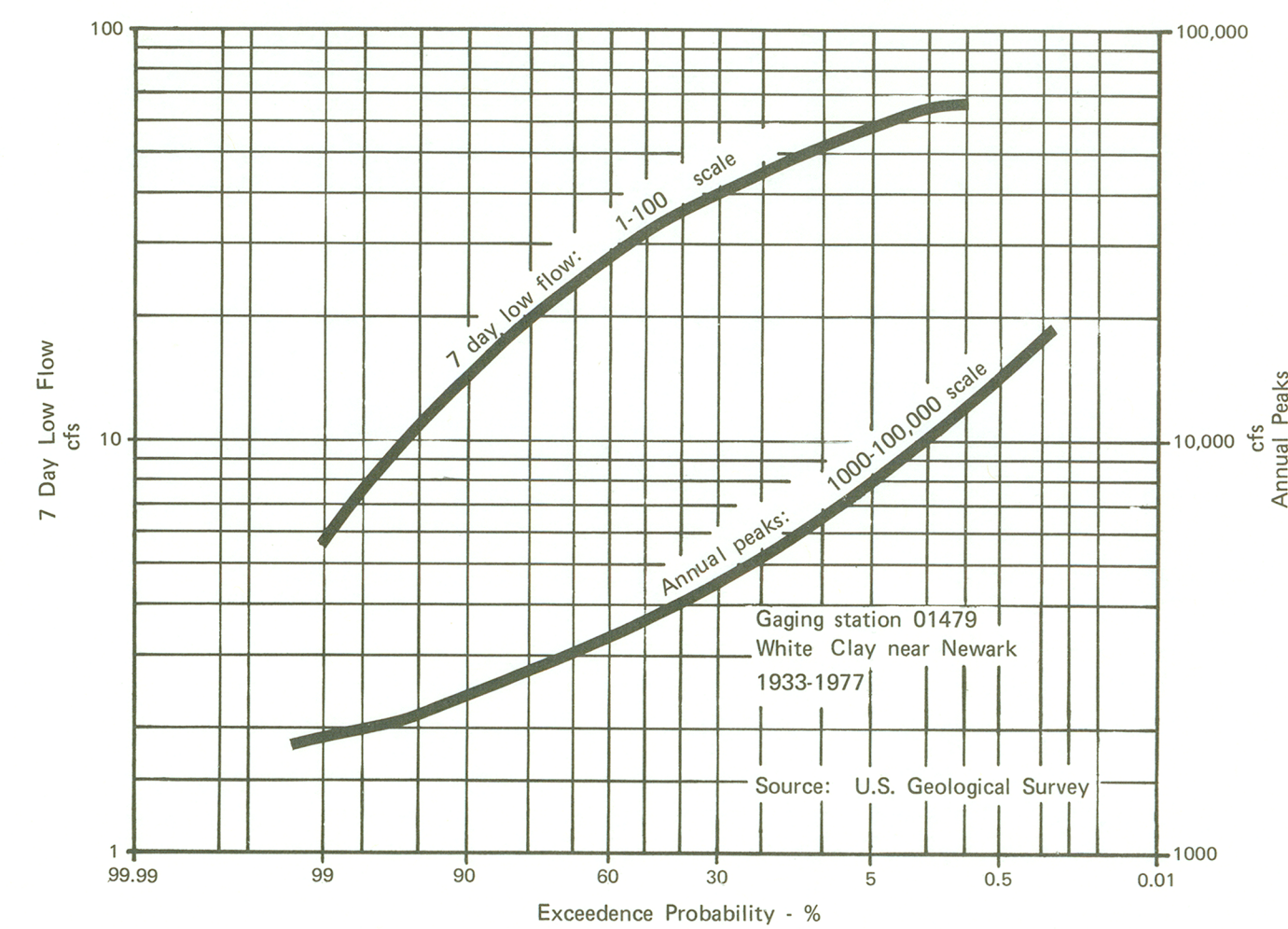


This publication is a companion map to Geohydrology of the Newark Area, Sheet 1, Basic Geology (Woodruff, 1977) and presents information on water supply and quality for the Greater Newark Area. Ground water is the main source of both public and private water supplies within the map area. The City of Newark is the principal user of water with an average daily use of about 3.4 mgd in 1978. Of this amount, 2.5 mgd was ground water pumped from local well fields. The remainder was surface water supplied through an interconnection with a private water company.

Ground water in both the water-table aquifer and deeper artesian aquifers usually is acidic (pH approximately 5.5 to 7.0) and is low in total dissolved solids. However, high iron content (up to several parts per million) is a common problem in both Coastal Plain and Piedmont wells. Fluoride concentrations as high as 0.2 milligrams per liter occur in Piedmont wells and such concentrations should be considered in designing treatment facilities (TAN and KIRBY, 1980). The geologic map of the Coastal Plain wells indicate that the Columbia Formation and sands of the Potomac Formation act as a single leaky system in the central portion of the map area. Levels under present pumping conditions may average about 45 to 50 feet below land surface at the center of the Newark "South Well Field."

In the southeast portion of the map area total sediment thickness is about 400 feet and sands appear to be separated hydrologically. (See cross section I-H, Sheet 1).

Ground-water in the Piedmont rocks usually occurs in fracture zones often associated with pegmatites. Most of the water first pumped from such fracture zones appears to come from storage and continued pumping at high rates may deplete such zones faster than they can be recharged. Therefore initial pumping tests on Piedmont wells may not accurately indicate the optimum long-term pumping rates.



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