

#### DISCUSSION

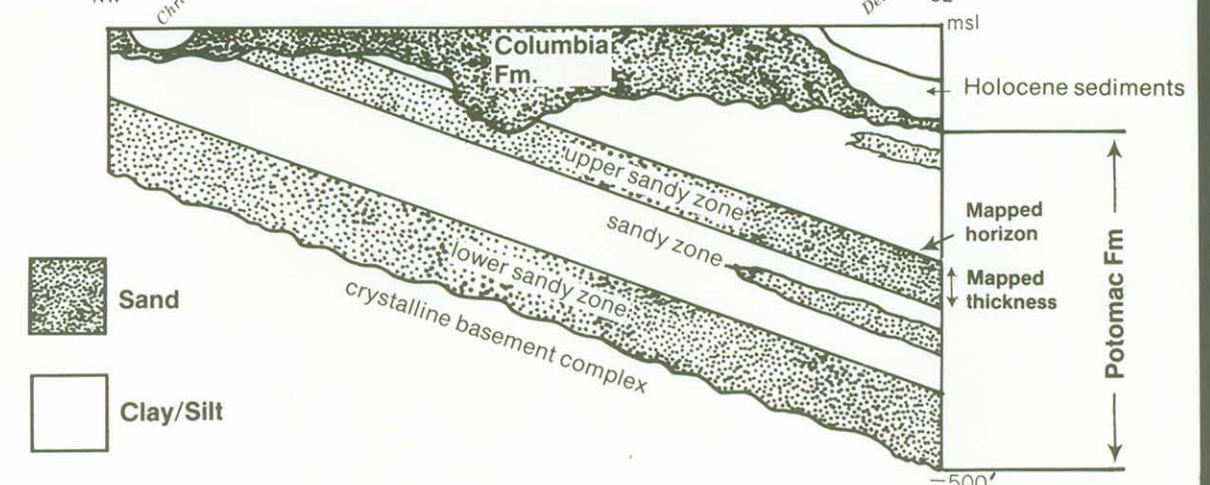
This map shows the thickness of the sandy zone in the upper part of the Potomac Formation (upper hydrologic zone of Sundstrom and Pickett, 1967) by means of isopach lines (orange) and the elevation of the top of the zone by structure contour lines (black). Cross-sections showing the stratigraphic position of these upper sands appear on Sheet 1 (Basic Geology). Sheet 3 (Structural Geology) indicates the structure contours on the base of this zone.

The thickness of the upper sandy section may include thin interbedded clays or silts and is measured from the first Potomac sand lying beneath the Columbia Formation (Pleistocene age) downward to the top of a mappable clay. The clay occupies about the middle one-third of the Potomac Formation and hydrologically separates the upper sands from the lower sandy unit. Some workers have further subdivided the Potomac Formation by suggesting a middle sandy zone. This interpretation is possible in some portions of the map area, particularly just north of the City of New Castle.

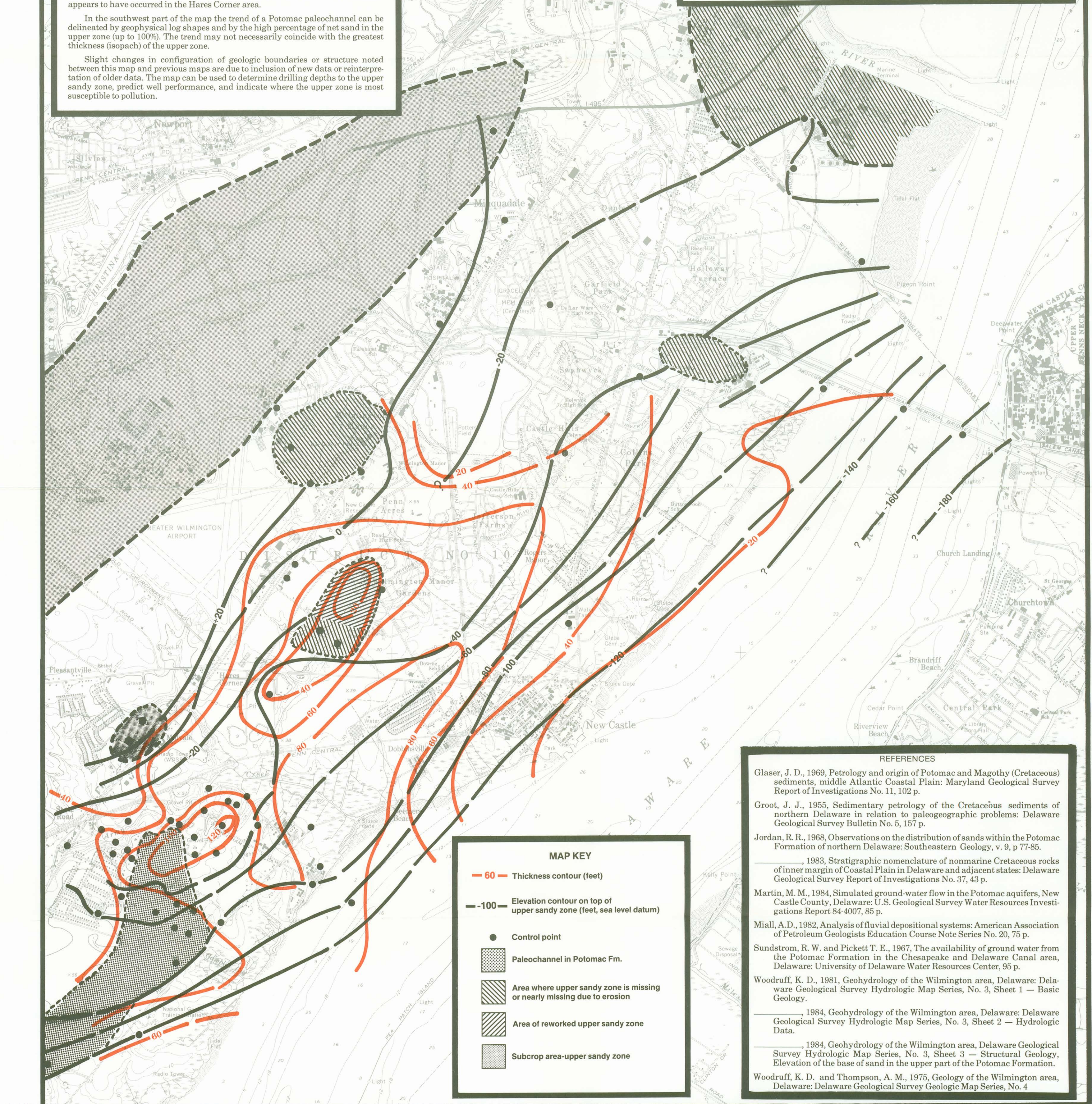
The subcrop area of the upper sandy unit extends from the west central part of the map area northeasterly to the Christina River north of Minquadales. The Christina River appears to mark the northern edge of the subcrop zone, but sands are not always persistent along the strike, or trend, of the subcrop. Erosion has removed much or all of the upper part of the Potomac Formation in some areas as indicated on the map. In small areas between New Castle and the Greater Wilmington Airport the Potomac was reworked, particularly during deposition of the Columbia Formation. Slumping of the Potomac over the Columbia sediments appears to have occurred in the Hares Corner area.

In the southwest part of the map the trend of a Potomac paleochannel can be delineated by geophysical log shapes and by the high percentage of net sand in the upper zone (up to 100%). The trend may not necessarily coincide with the greatest thickness (isopach) of the upper zone.

Slight changes in configuration of geologic boundaries or structure noted between this map and previous maps are due to inclusion of new data or reinterpretation of older data. The map can be used to determine drilling depths to the upper sandy zone, predict well performance, and indicate where the upper zone is most susceptible to pollution.



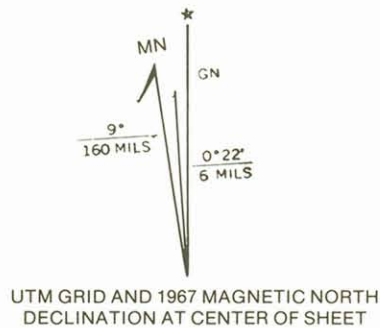
Diagrammatic cross-section showing stratigraphic relationships  
(Not to Scale)



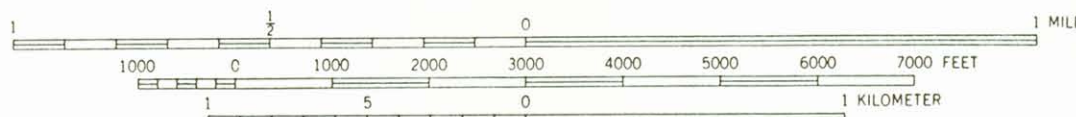
### ELEVATION OF TOP AND ISOPACH MAP OF UPPER SANDY ZONE, POTOMAC FORMATION

by  
Kenneth D. Woodruff  
1985

Base map—USGS Wilmington South Quadrangle



SCALE 1:24000



TOPOGRAPHIC CONTOUR INTERVAL 10 FEET

