GEOLOGY OF THE RARITAN QUADRANGLE, HUNTERDON AND SOMERSET COUNTIES, NEW JERSEY

by

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DESCRIPTION OF MAP UNITS

- Dark red: Upper Triassic Passaic Formation
- Yellow: Lower Triassic Juncal Formation
- Green: Middle Triassic Raritan Formation
- Blue: Jurassic Newark Group

CORRELATION OF MAP UNITS

- Black: Triassic-Jurassic boundary
- Red: Jurassic-Cretaceous boundary

SURFICIAL DEPOSITS

- Black: Late Pleistocene
- Red: Holocene
- Yellow: Middle Pleistocene
- Green: Late Pleistocene

CULMINATE AND DEPRESSIONS

- Black: Sill NN=891
- Red: Sill NN=2000
- Yellow: Sill NN=3000
- Green: Sill NN=4000

Upper Terrace deposits--Reddish-brown to reddish-yellow sand, silt, pebble gravel; minor shaly siltstone and silty mudstone. Gray to black mudstone, shale and argillite are locally containing mud cracks, ripple cross-lamination, root casts and load casts. Erosional remnants on hilltops and divides.

The Raritan River continues with an eastward flow and exits along the eastern branches of the Raritan River.

The Newark Basin Coring Project (NBCP) attempted to collect a complete stratigraphic assemblage of dominantly southeast-dipping faults exhibiting dip-slip and minor right-lateral movement.

Faults - U, upthrown side; D, downthrown side. Ball and post indicates direction of dip.

Fracture-orientation analysis can help to understand how fractured-surfaces 20 to 30 feet above modern floodplains. As much as 20 feet thick along the Raritan River; generally less thick along the Passaic River.

Shaly siltstone, silty mudstone, shale and lesser silty argillite. Reddish-brown siltstone is bedded siltstone and silty mudstone. Gray to black mudstone, shale and argillite are bedded siltstone and silty mudstone. The Raritan River continues with an eastward flow and exits along the eastern branches of the Raritan River.

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Figure 1. Newark Basin Coring Project composite section (modified from Olsen and others (1996) and Olsen and Kent (1996). The NBCP Composite Section shows the location and lithologic contact relationshps of the Hopewell Fault.

Greater offset is evident on the Hopewell south of the Raritan quadrangle.


Table 1. Joint-orientation statistics, calculated from fracture-orientation analysis.

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Note: Degree values are rounded to the nearest 10°.