INTRODUCTION

Lambertville-Sourland intrusive complex may have stepped stratigraphically upward off the flanks of a structural dome enveloped by hornfels with thicker hornfels occurring atop the sheet and thinner ones along the sheet base and flanking the flanks of synclines. The synclines step upward to the east. The synclines are doubly plunging, with plunges of 5 to 30 degrees. The Lambertville-Sourland intrusive complex intruded the synclines as a series of synclinal rolls that appear to be contemporaneous with synclinal folding of the synclines. The synclines are also characterized by the presence of quartz diorite, which is a common intrusive rock in the area. The quartz diorite is a medium-grained, pinkish-gray rock that is rich in quartz and feldspar. The quartz diorite is also characterized by the presence of biotite and hornblende, which are common mafic minerals in the area.

Alluvium

Poorly sorted, nonstratified. As much as 6 feet thick. Gravel includes subrounded white and gray quartz, quartzite, and feldspar. Carbonate cobbles. Poorly sorted, nonstratified. As much as 10 feet above the modern floodplain. Deposits in the Beden Brook basin near Hopewell are dominantly flagstone and cobble conglomerate. (member BB) - mid-late Jurassic. Lamplugh, 1914; Withjack and others, 2012; Rutgers University Earth Sciences Library, 2015.

Carbonates

Grey to dark gray, thickly bedded dolomite and limestone. Poorly to moderately sorted. As much as 20 feet thick.Member Qal - Early Cretaceous. Olsen, 1980b; Calvert and others, 2010; Rutgers University Earth Sciences Library, 2015.

Rocks associated with the Raritan River basin:

Gray to dark gray, thickly bedded dolomite and limestone. Poorly to moderately sorted. As much as 20 feet thick. Member Qal - Early Cretaceous. Olsen, 1980b; Calvert and others, 2010; Rutgers University Earth Sciences Library, 2015.

Woolly mudstone. Thickness of gray bed sequences ranges from less than 1 foot to several feet thick. Where possible, medium-bedded, planar to cross-bedded siltstone and silty mudstone. Gray to black mudstone, shale and argillite are bioturbated, and locally contain evaporate minerals. Gray bed sequences (TRpg) are medium- to fine-grained, thin- to medium-bedded, planar to cross-bedded, and feather-edged or gradational. As much as 6 feet thick. Member Qst - Early Cretaceous. Olsen, 1980b; Calvert and others, 2010; Rutgers University Earth Sciences Library, 2015.

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