

Bedrock Geology Linn County, Iowa

LEGEND

Description of Map Units

Pennsylvanian System

Shale and Sandstone (Cascyville Formation and Cherokee Group) – Soft, dark gray pyritic, carbonaceous shale with interbedded sandstone up to 6 meters in thickness. Mantles Devonian and Silurian carbonates on the bedrock surface, and also occurs as paleokarst fill.

Devonian System


Dev FRACTURED CARBONATE BEDROCK (Cedar Valley Group) – Fossiliferous gray limestones and dolostones with skeletal lime packstone, wackestone, and mudstone fabrics, up to 47 meters in thickness.


Dpr FRACTURED CARBONATE BEDROCK (Pinnon Ridge Formation) – Unfossiliferous limestone, dolomite, and shale. Includes up to 7.5 meters of light gray to dark brown subthighographic lime mudstone (Davenport Member), overlying up to 7.5 meters of laminated, porous, dolomite (Spring Grove Member), overlying up to 6 meters of blue gray sandy calcitic shale with limestone and dolomite interbeds (Kecrowd Member). The Spring Grove Member is a porous, vuggy, unit contains cavernous openings that yield groundwater to many natural springs. Active karst is developed in this unit in the Robins area.

Deb FRACTURED CARBONATE BEDROCK (Otis and Bertram formations) – Unfossiliferous to poorly fossiliferous limestone and dolomite with mudstone fabrics. The Otis consists of up to 15 meters of laminated brown dolomite (Cedar Rapids Member) with subthighographic fenestral lime mudstone fabrics, petaloid fabrics, and oolitic limestone fabrics containing the spiriferid brachiopod *Emanuella* sp. The Otis overlies the Bertram, which consists of up to 23 meters of brown to gray subthighographic laminated, sandy, intracrystalline dolomite.

Silurian System

S FRACTURED CARBONATE BEDROCK (Gower, Scotch Grove, and Hopkinton formations) – Fossiliferous dolostones with lime packstone, wackestone, to mudstone fabrics. This unit is the principal bedrock aquifer in Linn County. The Gower ranges from 0 to 20 meters in thickness and is mostly confined to the southern half of Linn County. It includes flat-lying laminated unfossiliferous facies (Anamosa Member) and fossiliferous mounded facies (Brady Member). Underlying the Gower is the Scotch Grove Formation, up to 50 meters in thickness. The Scotch Grove includes cherty units of sparsely skeletal-moldic dolomite (Black Creek Quarry Member), units of sparsely skeletal-moldic dolomite (Washbeck Member), and mounded facies with abundantly fossiliferous skeletal-moldic and skeletal-replaced dolomite (Palaos-Keeper Member). The Hopkinton Formation contains about 40 meters of fossiliferous skeletal-moldic to skeletal-replaced dolostones.

 bedrock outcrop

 fault trace

Prepared by the Iowa Department of Natural Resources,
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Open File Map 98-3

