

Bedrock Geology of South-Central Iowa

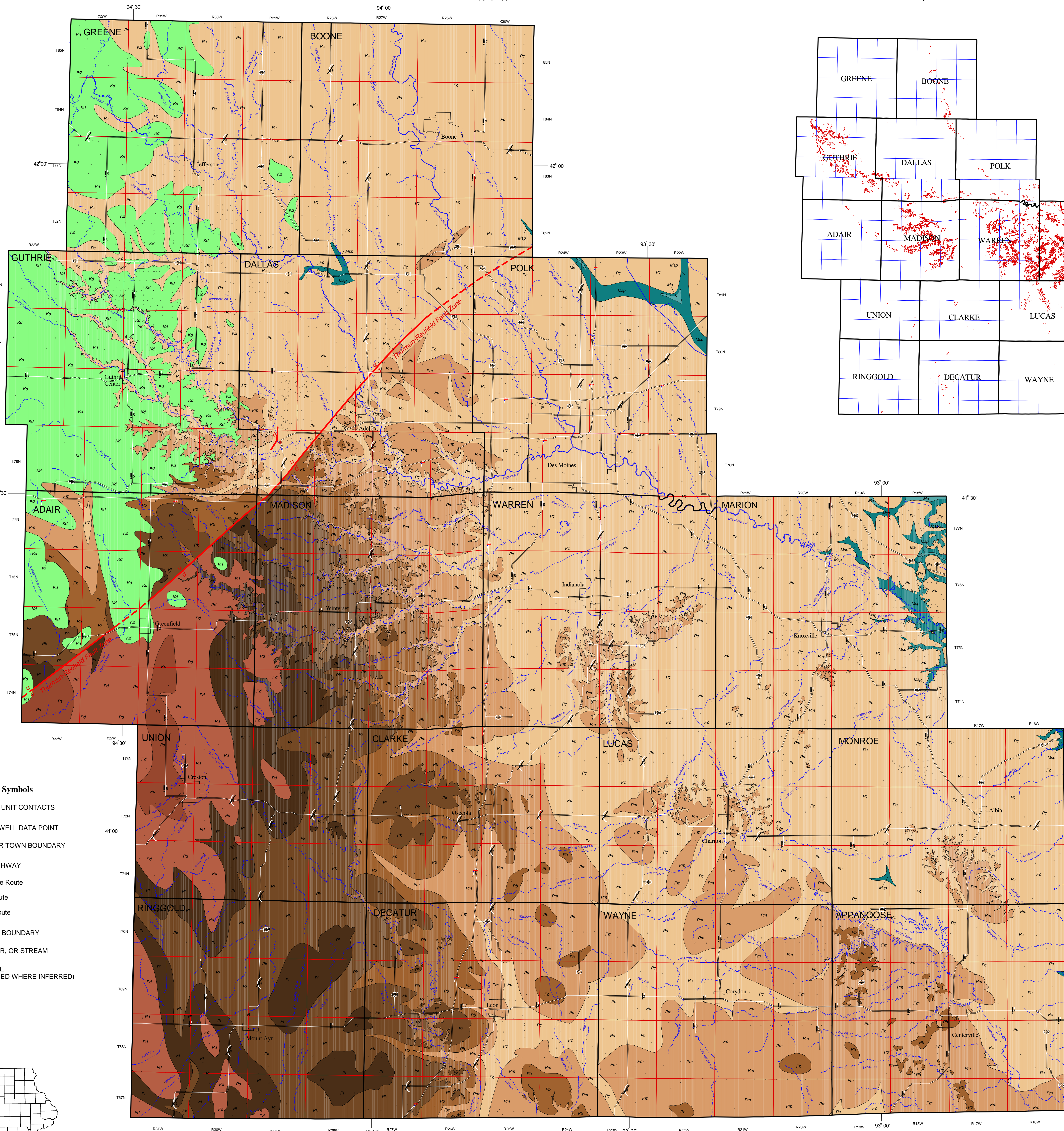
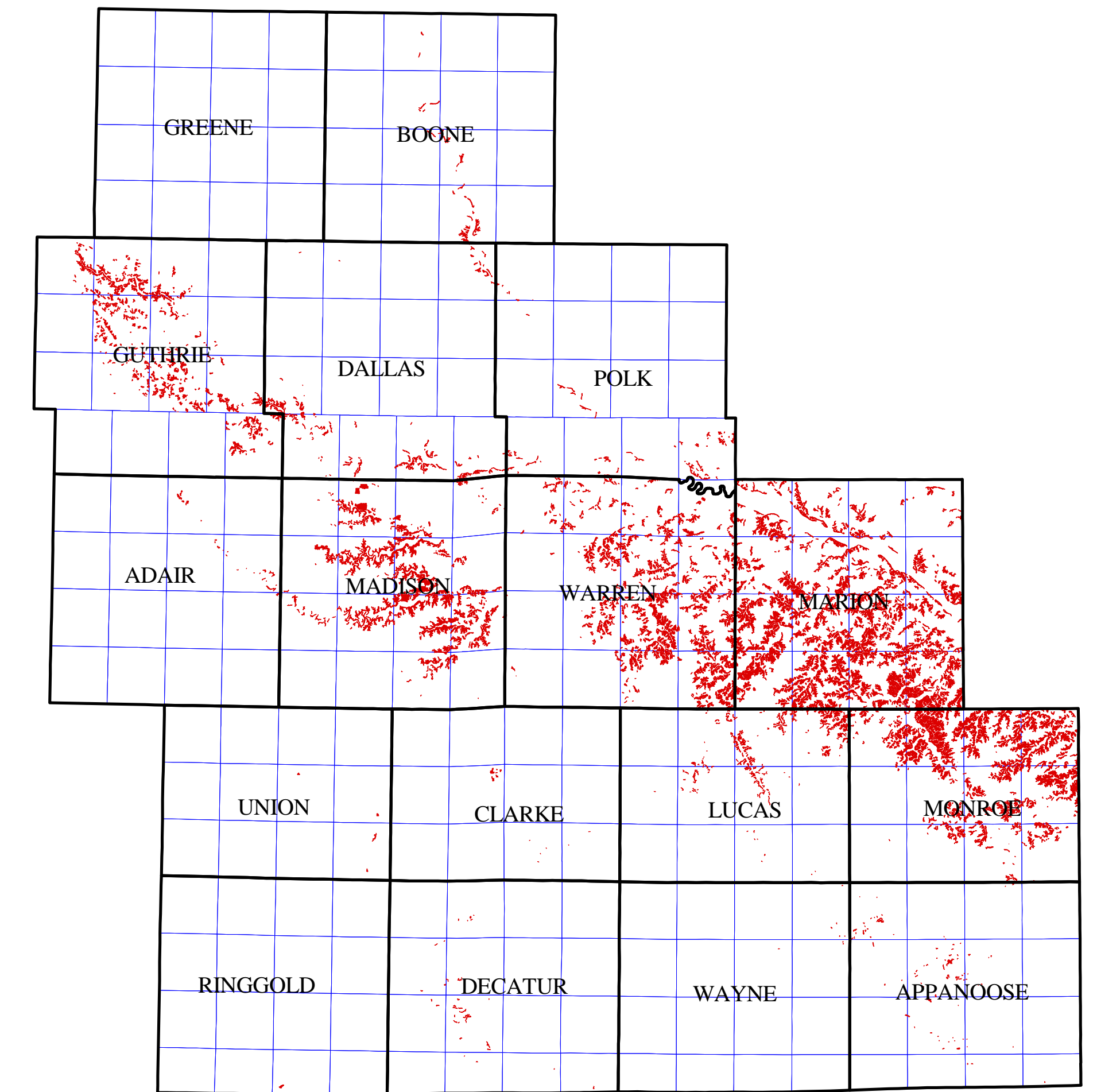
DIGITAL GEOLOGIC MAP OF IOWA PHASE 4: SOUTH-CENTRAL IOWA

prepared by

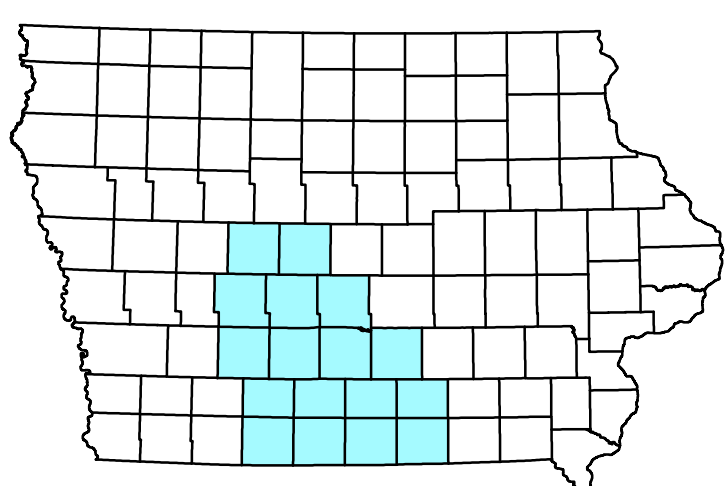
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Iowa Geological Survey
June 2002

Rock Exposures in the Study Area

Areas of bedrock exposure or bedrock surface within soil horizon



- Description of Map Symbols**
- GEOLOGIC UNIT CONTACTS
 - BEDROCK WELL DATA POINT
 - COUNTY OR TOWN BOUNDARY
 - MAJOR HIGHWAY
 - Interstate Route
 - U.S. Route
 - State Route
 - TOWNSHIP BOUNDARY
 - LAKE, RIVER, OR STREAM
 - FAULT ZONE (DASHED WHERE INFERRED)



Index Showing Area of Geologic Map

Prepared under the STATEMAP program, in cooperation with the U.S. Geological Survey, Department of Interior, Supported by Cooperative Agreement 01-HQAG-0091



Prepared by the Iowa Department of Natural Resources
Iowa Geological Survey, June 2002
Open File Map 02-1

LEGEND

Descriptions of Rock Units

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| <p>CRETACEOUS</p> <p>Kd Dakota Formation: Cretaceous (upper Albian and / or Cenomanian). Maximum thickness 150 feet (46 m) across northwestern map area in Greene, Guthrie, and Adair counties. Primary lithologies: sandstone, very fine to coarse-grained, part pebbly to conglomeratic, part cemented by iron oxides; mudstone pale to medium gray, black (carbonaceous), red and pink. Secondary lithologies: chert residuum/gravel, siderite pellets in mudstones.</p> | <p>Pf Lansing Group: (late Missourian) lower Upper Pennsylvanian. Max thickness: 78 ft. (24 m) in Union County. Primary lithologies: shale, light-dk gray; limestone, fossiliferous. Secondary lithologies: shale, black, phosphatic; mudstone, light-dk gray, red. Minor: siltstone.</p> <p>Pk Kansas City Group: (middle Missourian) lower Upper Pennsylvanian. Max thickness: 125 ft. (38 m) in Ringgold County. Primary lithologies: shale, light-dk gray; limestone, fossiliferous. Secondary lithologies: shale, black, phosphatic; mudstone, gray-green to light gray. Minor: mudstone, red; coal.</p> <p>Pb Bronson Group: (early Missourian-latest Desmoinesian) lower Upper and uppermost Middle Pennsylvanian. Max thickness: 110 ft. (34 m) in Madison County. Primary lithologies: shale, light-dk gray; limestone, fossiliferous. Secondary lithologies: shale, black, phosphatic; mudstone, gray-green to light gray. Minor: siltstone; sandstone, f-m; coal; mudstone, red.</p> <p>Pm Marmaton Group: (late Desmoinesian) upper Middle Pennsylvanian. Max thickness: 155 ft. (48 m) in Madison County. Primary lithologies: shale, light-dk gray; limestone, fossiliferous. Secondary lithologies: mudstone, light gray to red; sandstone, f-m; shale, black, phosphatic. Minor: siltstone; coal; conglomerate; pyrite.</p> | <p>Pc Cherokee Group: lower Middle Pennsylvanian (Atokan-Desmoinesian). Maximum thickness: 462 ft. (141 m) in Marion County. Primary lithologies: shale, light-dk gray, part silty, part sandy; sandstone v-fm. Secondary lithologies: shale, black, carbonaceous, part phosphatic; coal; mudstone, light gray to red. Minor: limestone, fossiliferous; sandstone, coarse; conglomerate, sandstone/siltstone/limestone clast; siderite, pellets and concretions; pyrite.</p> <p>Mtp "St. Louis" and Pella fms.: Middle Mississippian (Meramecian). Maximum thickness 150 ft (45 m); beveled to truncated beneath sub-Pennsylvanian unconformity. Primary lithologies: dolomite, part sandy; limestone, part sandy to fossiliferous; sandstone; green-gray shale, calcareous. Secondary lithologies: gypsum/anhydrite; limestone/dolomite breccia; oolite/limestone. Minor: chert, chalcodony.</p> <p>Ma Augusta Group: Includes Burlington, Keokuk, Warsaw fms.; Middle Mississippian (Osagean). Maximum thickness 190 ft (58 m); locally beveled beneath sub-"St. Louis" and sub-Pennsylvanian unconformities. Primary lithologies: dolomite, part argillaceous; dolomitic limestone. Secondary lithologies: limestone, crinoidal packstone; green-gray shale; glauconitic dolomite; chert, nodular to bedded. Minor: chalcodony, quartz geodes.</p> |
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