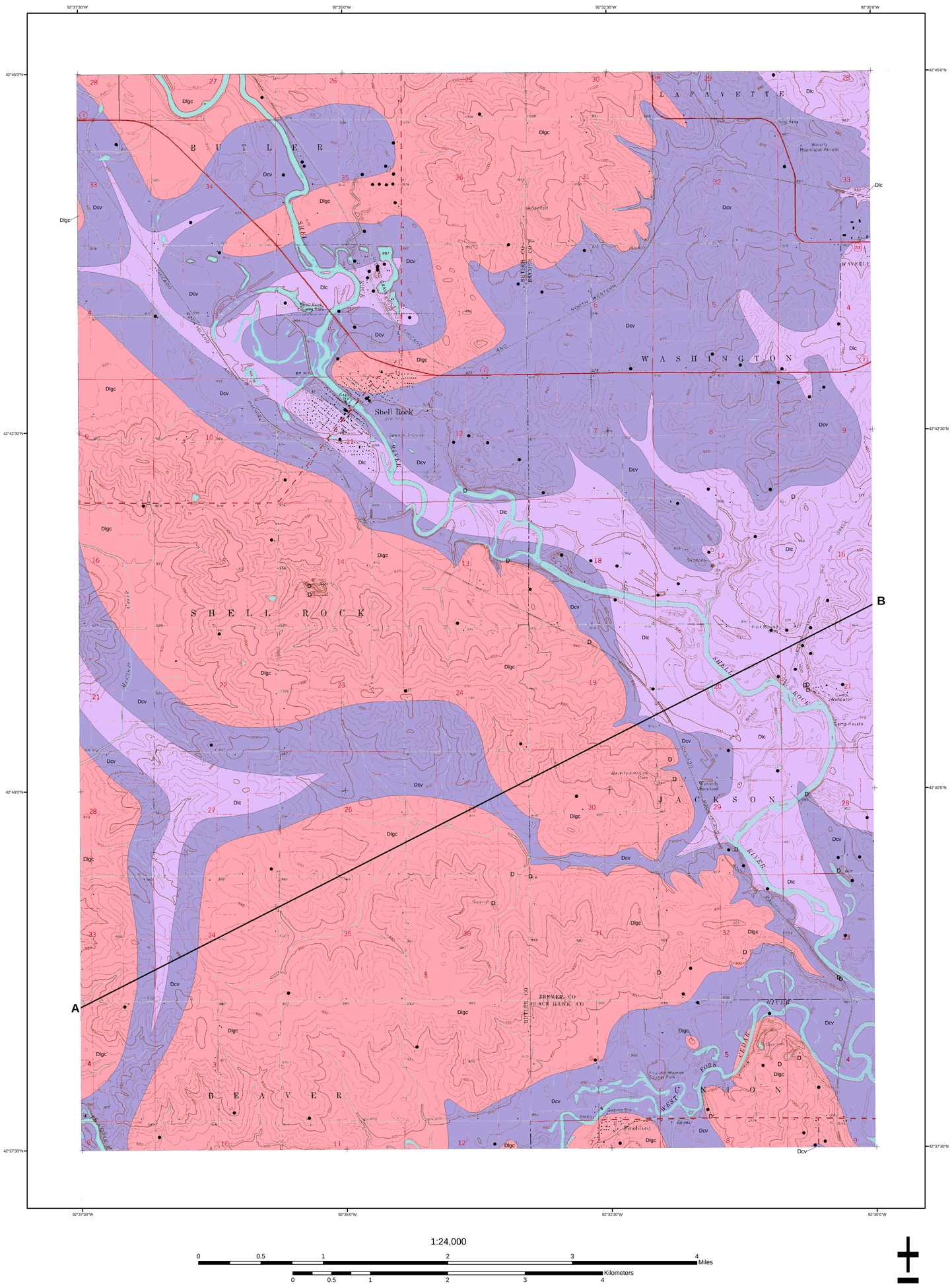
Bedrock Geology of the Shell Rock (Iowa) 7.5' Quadrangle



BEDROCK GEOLOGY OF THE SHELL ROCK 7.5' QUADRANGLE, BUTLER, BLACK HAWK AND BREMER COUNTIES, IOWA

Iowa Geological Survey
Open File Map OFM-09-01
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prepared by

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LEGEND

CENOZOIC

QUATERNARY SYSTEM

Qu – Undifferentiated unconsolidated sediment Consists of loamy soils developed in loess, glacial till, and colluvium of variable thickness, and alluvial clay, silt, sand and gravel. Total thickness can be up to 61 m (200 ft) in southwest part of the quad. Unit shown only on cross-section, not on map.

PALEOZOIC

DEVONIAN SYSTEM

Dlgc - Dolomite, Limestone, and Shale (Lithograph City Formation) Middle to Upper Devonian. Maximum thickness of this map unit is up to 30 m (97 ft), consisting of, in ascending order, Osage Springs Member which is dominated by dolomite and dolomitic limestone, in part argillaceous and fossiliferous; Thunder Woman Shale Member which is characterized by grey shale, slightly dolomitic and silty; and partial Idlewild Member which is characterized by interbeds of laminated lithographic and sublithographic limestone and dolomitic limestone with scattered to abundant brachiopods and/or stromatoporoids.

Dcv - Limestone and Dolomite (Coralville Formation) Middle Devonian. Thickness of this formation varies between 10 and 18 m (35-60 ft), and is dominated by limestone, dolomitic limestone, and dolomite, in part laminated and argillaceous; brachiopods and corals are usually abundant in the limestone facies.

Dlc - Dolomite and Limestone (Little Cedar Formation) Middle Devonian. The thickness of this formation ranges from 27 to 36 m (90-120 ft) in this quad. It is dominated by slightly argillaceous to argillaceous dolomite and dolomitic limestone, usually vuggy and partially laminated and/or cherty. This unit is commonly fossiliferous and brachiopods are especially abundant in lower portion.

Dw - Dolomite, Limestone, Shale, and minor Sandstone (Wapsipinicon Group) Middle Devonian. This map unit usually contains the Pinicon Ridge Formation only, with a total thickness that varies between 9 and 14 m (30-45 ft) in the mapping area. It is dominated by shaly, laminated or brecciated, unfossiliferous limestone and dolomite that is sometimes sandy at its base. Unit shown only on cross-section, not on map.

- **Drill Holes**
- D **Bedrock Outcrops**

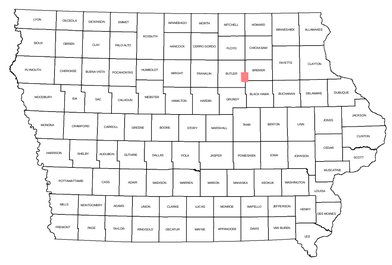
Correlation of Map Units

AGE (Ma)	SYSTEM	SERIES	STAGE	MAP UNIT
	QUATERNARY			Qu
2.58				
385	DEVONIAN	Upper	Frasnian	Dlgc
				Dcv
390		Middle	Givetian	Dlc
				Dw
395			Eifelian	

Adjacent 7.5' Quadrangles

CLARKSVILLE	PLAINFIELD	BREMER
COSTER	SHELL_ROCK	WAVERLY
STOUT	NEW_HARTFORD	CEDAR_FALLS

Location Map



GEOLOGIC CROSS-SECTION A-B

Base map from USGS Shell Rock 7.5' Digital Raster Graphic (IGS GIS file DRGH34.TIF) which was scanned from the Shell Rock 7.5' Topographic Quadrangle map, published by US Geological Survey in 1971
Topographic contours and land features based on 1967 aerial photography, field checked in 1971
Land elevation contours (10' interval).

Iowa Geological Survey digital cartographic file ShellRockquad_bedrock09.mxd, version 6/15/09 (ArcGIS 9.2)
Map projection and coordinate system based on Universal Transverse Mercator (UTM) Zone 15, datum NAD83.

The map and cross section are based on interpretations of the best available information at the time of mapping. Map interpretations are not a substitute for detailed site specific studies.