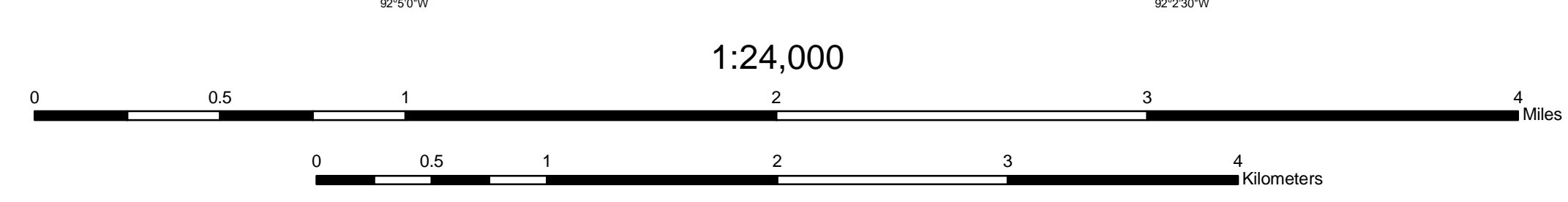
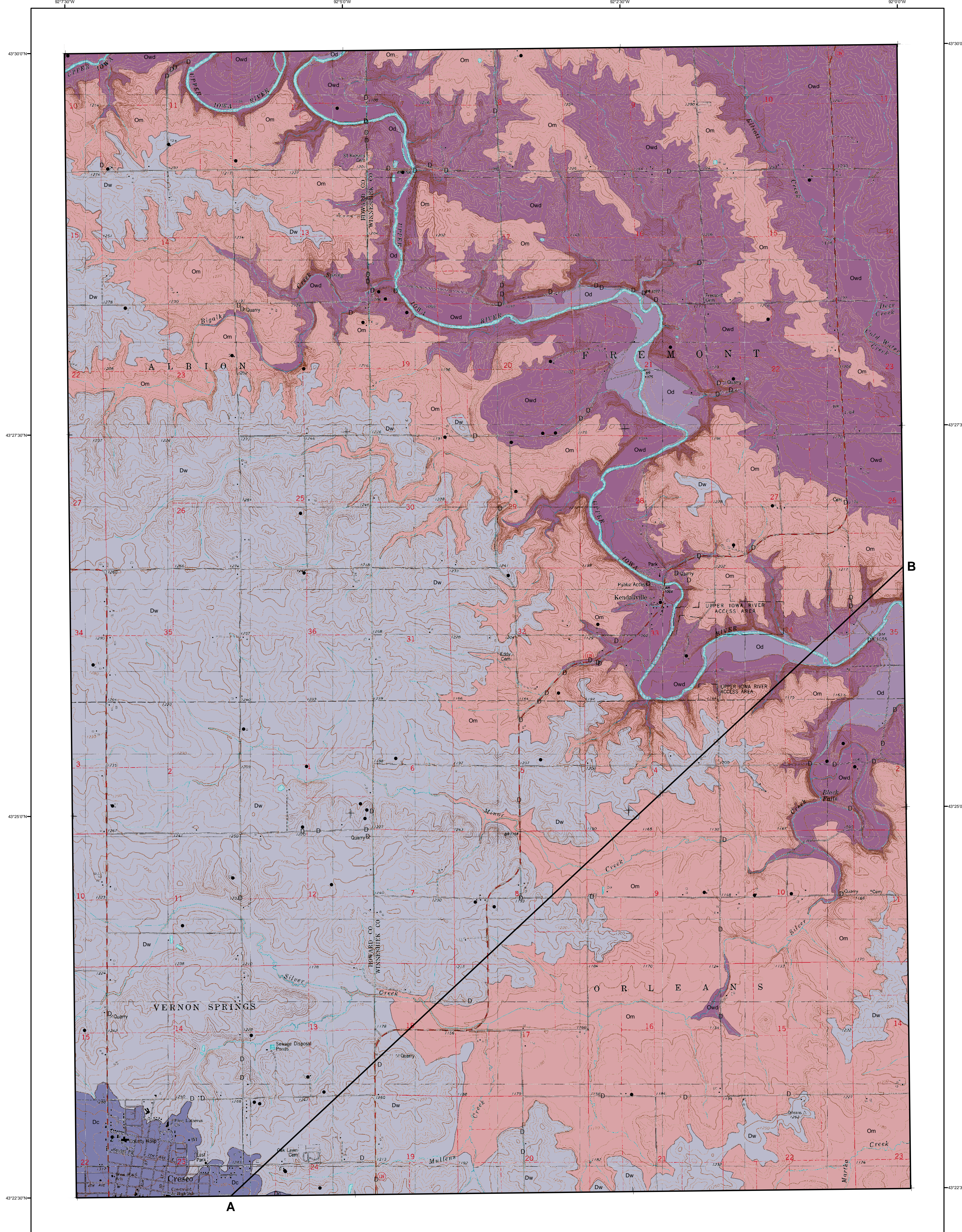
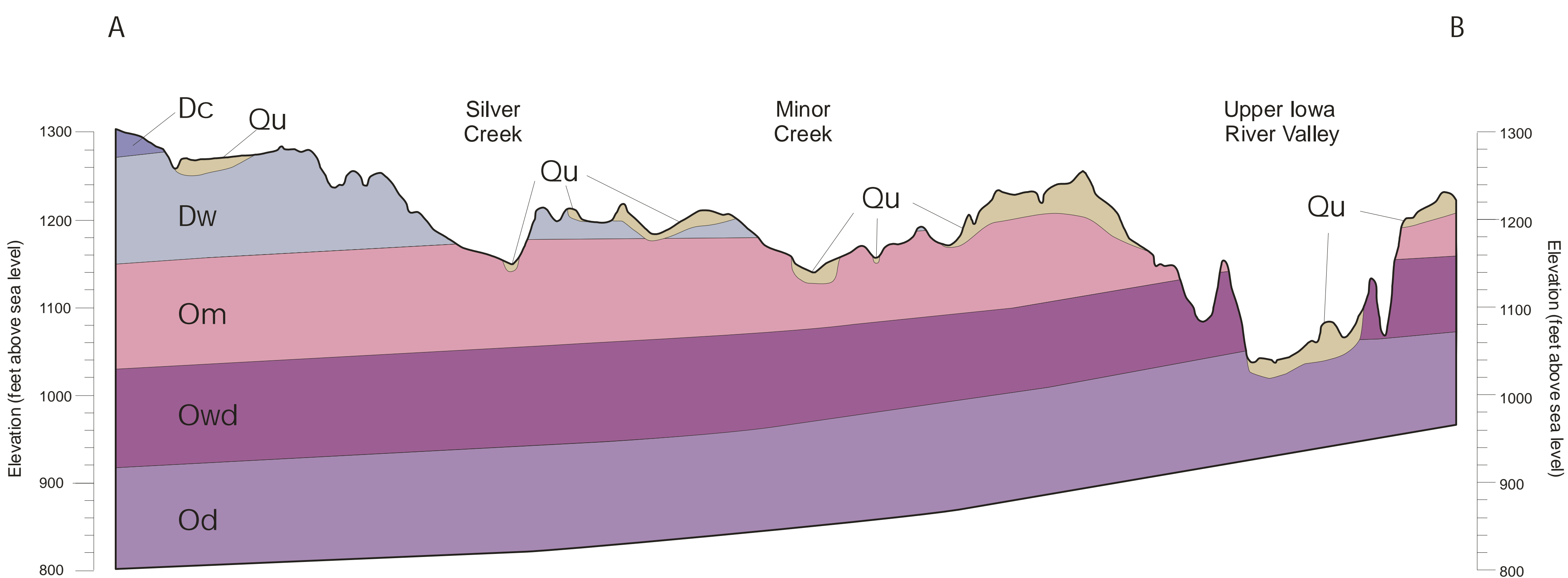


Bedrock Geology of the Cresco NE (Iowa) 7.5' Quadrangle



GEOLOGIC CROSS-SECTION A-B



LEGEND

CENOZOIC

QUATERNARY SYSTEM

Qu - **Undifferentiated unconsolidated sediment** Consists of loamy soils developed in loess and glacial till of variable thickness, and alluvial clay, silt, sand and gravel. Unit shown on cross-section only, and not on map.

PALEOZOIC

DEVONIAN SYSTEM

Dc - **Dolomite and Limestone** (Cedar Valley Group) The lowest subdivision of this map unit, the Little Cedar Formation, occurs in the southwest corner of the quad and attains a thickness up to 12 m (40 ft). It is dominated by slightly argillaceous to argillaceous dolomite and dolomitic limestone, commonly fossiliferous and vuggy, and partially laminated.

Dw - **Dolomite, Limestone, Shale, and minor Sandstone** (Wapsipicon Group) This map unit includes the Spillville Formation, up to 27 m (89 ft), overlain by the Pincon Ridge Formation, up to 11 m (36 ft), for a maximum total thickness up to 38 m (125 ft). The Spillville Formation is dominated by medium to thick bedded dolomite, with scattered to abundant fossil molds, and vugs commonly filled with calcite crystals; basal portion is sandy or silty; a distinctive stromatolitic limestone facies occurs locally in the upper part. The Spillville is quarried for local aggregate and also hosts numerous small springs. The Pincon Ridge Formation is dominated by shaly, laminated or brecciated, unfossiliferous limestone and dolomite.

ORDOVICIAN SYSTEM

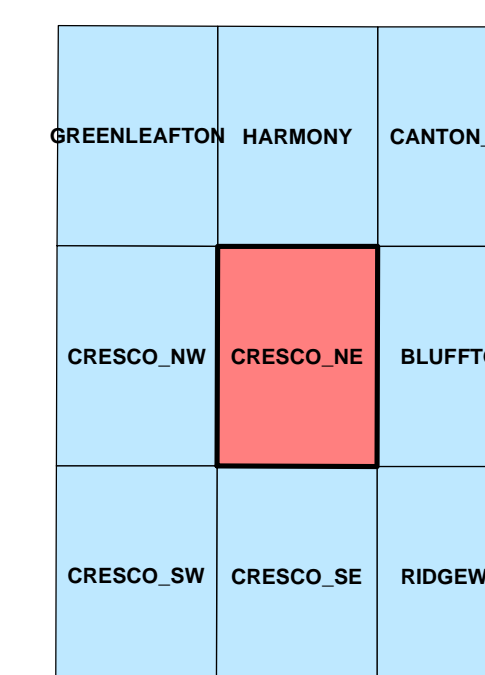
Om - **Shale, Limestone, and Dolomite** (Maquoketa Formation) A nonresistant slope-forming map unit up to 40 m (131 ft) composed of variably cherty, interbedded argillaceous limestone, dolomite and grey and brown shale. Fragmentary trilobite and graptolite fossils are common in the basal Elgin Limestone Member, and chert nodules are notable in the middle Fort Atkinson Member. It forms an upper confining unit that bounds the karst system in the underlying Wise Lake and Dunleith Formations, and may host sinkholes in its lower portion.

Owd - **Limestone and minor Shale** (Wise Lake Formation and overlying Dubuque Formation) A prominent ledge and cliff-forming unit of up to 31 m (102 ft) of limestone with notable thin interbedded shale in the upper 6 m. This map unit is the upper of two successive major cavern and karst-forming bedrock units in the area. The Wise Lake Formation consists of 21 m (67 ft) of medium to thick-bedded relatively chert-free limestone, portions of which exhibit a distinctive botryoidal fabric; serves as a quarried aggregate source. The Dubuque Formation consists of 10 m (34 ft) of crinoidal limestones and thin interbedded shale. Sinkholes are common to abundant within this map unit. Often mantled by 0 m to 2 m (0 - 6 ft) of loess-derived and weathered bedrock-derived colluvium.

Od - **Limestone** (Dunleith Formation) A prominent ledge and cliff-forming unit of up to 42 m (137 ft) of limestone with minor thin interbedded shale. This is the lower of two successive major cavern and karst-forming bedrock units in the area. The formation consists of fossiliferous limestone and argillaceous limestone with common chert nodules; it is commonly quarried for aggregate. Major springs occur near the base, and sinkholes and karst features are common. Frequently mantled by 0 m to 2 m (0 - 6 ft) of loess-derived and weathered bedrock-derived colluvium.

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

Adjacent 7.5' Quadrangles



Quadrangle Location



Base map from USGS Cresco NE 7.5' Digital Raster Graphic (IGS GIS file DRG838.TIF) which was scanned from the Cresco NE 7.5' Topographic Quadrangle map, published by US Geological Survey in 1981. Topographic contours and land features based on 1975 aerial photography, field checked in 1977. Lane elevation contours (2' interval) based on NAVD 1929.

Iowa Geological Survey digital cartographic file Cresco_NEQuadr08.bedrock.mxd, version 8/18/08 (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.

GEOLOGIC MAPPING OF THE UPPER IOWA RIVER WATERSHED: PHASE 4: Cresco NE 7.5' Quadrangle

Iowa Geological Survey
Open File Map OFM-08-1
August 2008

prepared by

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