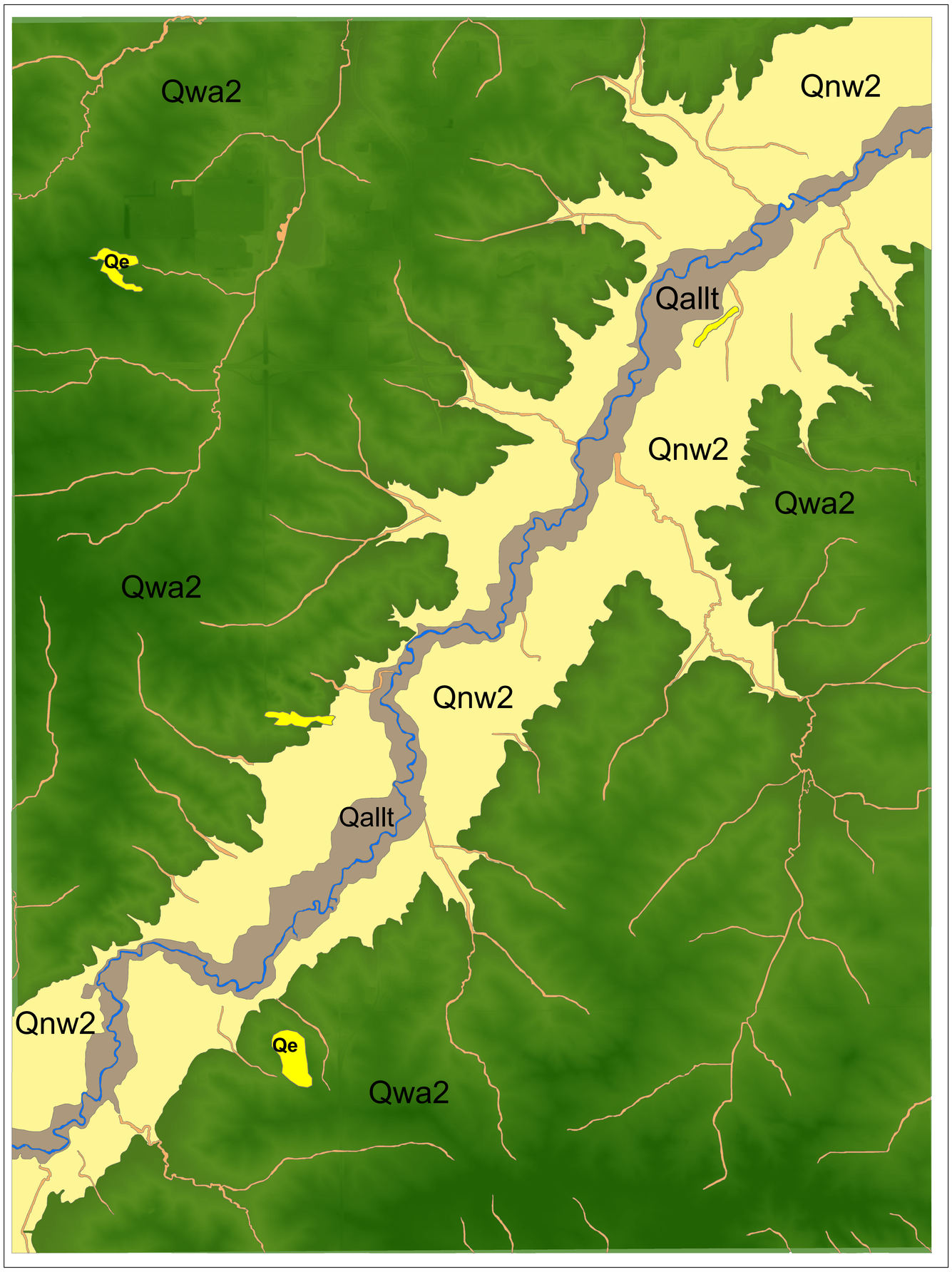
Surficial Geology of the Hudson (Iowa) 7.5' Quadrangle



1:24,000

N

0 0.5 1 2 3 4

0 0.5 1 2 3 4 Kilometers

Miles

Alluvial and Outwash Deposits	Erosion Surface Sediments	Glacial Deposits	Bedrock		
Qal					
Qallt					
	Qe			Hudson	Holocene
Qnw2					
	Qwa2			Wisconsin	Pleistocene
				Pre-Illinois	

QUATERNARY

**COOPERATIVE MAPPING WITH THE IOWA GEOLOGIC AND WATER SURVEY (IGWS)
AND THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS)
SURFICIAL GEOLOGIC MAP OF THE HUDSON IOWA 1:24,000 QUADRANGLE**

Supported by the United States Geological Survey Cooperative Agreement
National Cooperative Geologic Mapping Program (EDMAP)

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Base map from USGS Hudson 7.5” Digital Raster Graphic
which was scanned from the Hudson 7.5” Topographic Quadrangle map
(N 4222.5-W9222.5/7.5), published by the United States Geological Survey in 1963

Topographic contours and land features based on 1958 aerial photography, field checked in 1963

Land elevation contours (10’ interval) based on NGVD1929

Map projection and coordinate system based on Universal Transverse Mercator (UTM) Zone 15, datum NAD27

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

CENOZOIC

QUATERNARY SYSTEM

HUDSON EPISODE

Water Water Present day surficial water concentrations including the Cedar River channel.

Qal Qal-Alluvium (DeForest Formation-Undifferentiated) Variable thickness of less than 1 to 5 m (3-16 ft) of very dark gray to brown, noncalcareous to calcareous, massive to stratified silty clay loam, clay loam, loam to sandy loam alluvium and colluvium in stream valleys, on hillslopes and in closed depressions. May overlie Noah creek formation, Wolf Creek or Alburnett formations or fractured Devonian or Silurian carbonate bedrock. Associated with low-relief modern floodplain, closed depressions, modern drainageways or toeslope postions on the landscape. Seasonal high watertable and potential for frequent flooding.

Qallt Qallt-Low Terrace (Deforest Formation-Camp Creek Mbr. And Roberts Creek Mbr.) Variable thickness of less than 1 to 5 m (3-16ft) of very dark gray to brown, noncalcareous, stratified silty clay loam, loam, or clay loam. Associated with the modern channel belt of the Cedar River valley. Overlies the Noah Creek Formation. Occupies lowest position on the floodplain, ie. modern channel belts. Seasonal highwater table and frequent flooding potential.

HUDSON and WISCONSIN EPISODE

Qe Qe-Sand dumes and Sand Sheets (Peoria Formation-sand facies) Generally less than 3 m (10ft) of yellowish brown, massive, calcareous loamy sand to fine sand. It may over lie yellowish-brown sand and gravel (Noah Creek formation) or reworked unnamed loamy sediments associated with the Iowa erosion Surface and/or it may overlie yellowish to grayish brown, often calcareous sand fractured clay loam to loam diamicton of the Wolf Creek and Alburnett formations.

Qnw2 Qnw2- Sand and Gravel (Noah Creek Formation) Generally 2 to 8 m (6-26 ft.) along Indian Creek, Poyner Creek and Elk Run- yellowish brown to gray, poorly to well-sorted, massive to well stratified, coarse to fine feld spathic quartz sand, pebbly sand and gravel with few intervening layers of silty clay. A think mantle of loess, reworked loess of fine-grained alluvium may be present. This unit includes silty colluvial deposits derived from the adjacent map units. In place this unit is mantled with 1 to 3 m (3-10 ft) of well sorted medium to fine sand derived from wind reworking of the alluvium. This unit encompassed deposits that accumulated in low-relief stream valleys during the Wisconsin and Hudson. Seasonal high water table and some potential for flooding.

WISCONSIN EPISODE

Qwa2 Qwa2-Loamy and Sandy Sediment Shallow to Glacial Till (Unnamed erosion surface sediment) Generally 2 to 8 m (6-26 ft) of yellowish brown to gray, massive to weakly stratified, well to poorly sorted loamy, sandy and silty lowan erosion surface sediment. Map unit includes some area mantled with less than 2 m (7 ft) of Peoria Formation materials loess and eolian sand) Overlies massive, fractured, firm glacial till of the Wolf Creek and Alburnett formations. Seasonally high water table may occur in this map unit.

Iowa's Landform Regions