

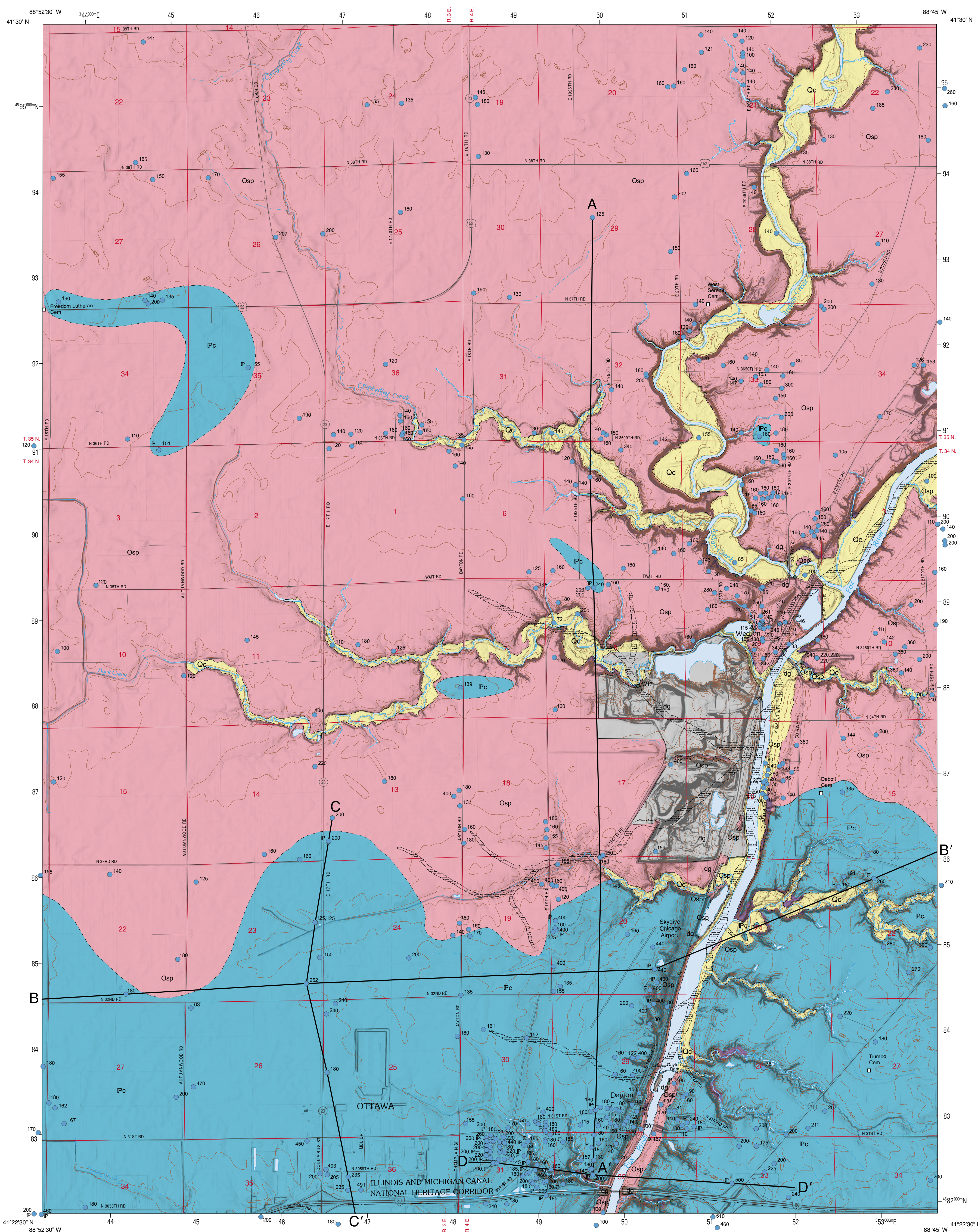
# BEDROCK GEOLOGY OF WEDRON QUADRANGLE

## LA SALLE COUNTY, ILLINOIS

Prairie Research Institute  
ILLINOIS STATE GEOLOGICAL SURVEY

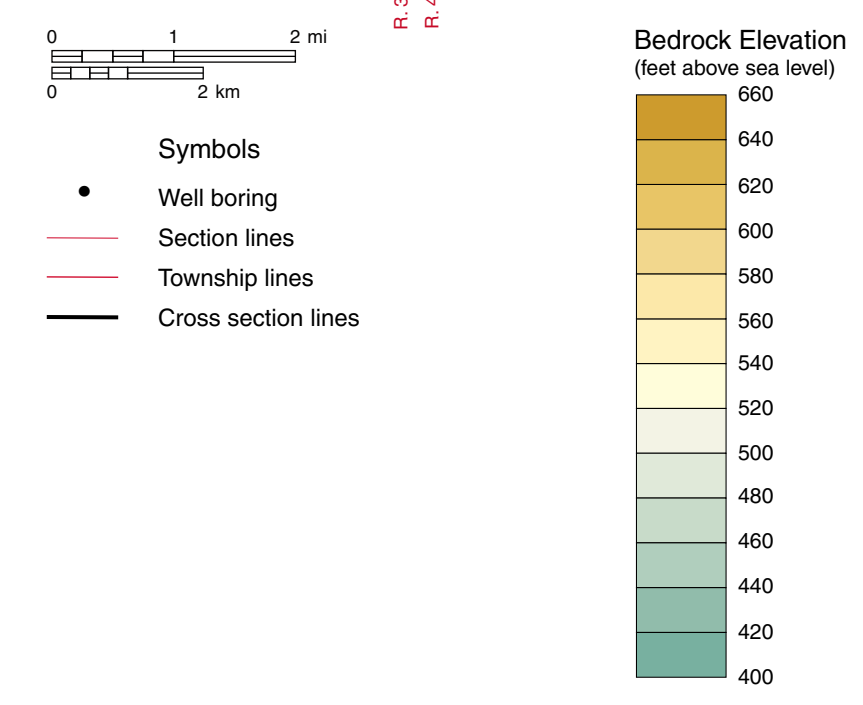
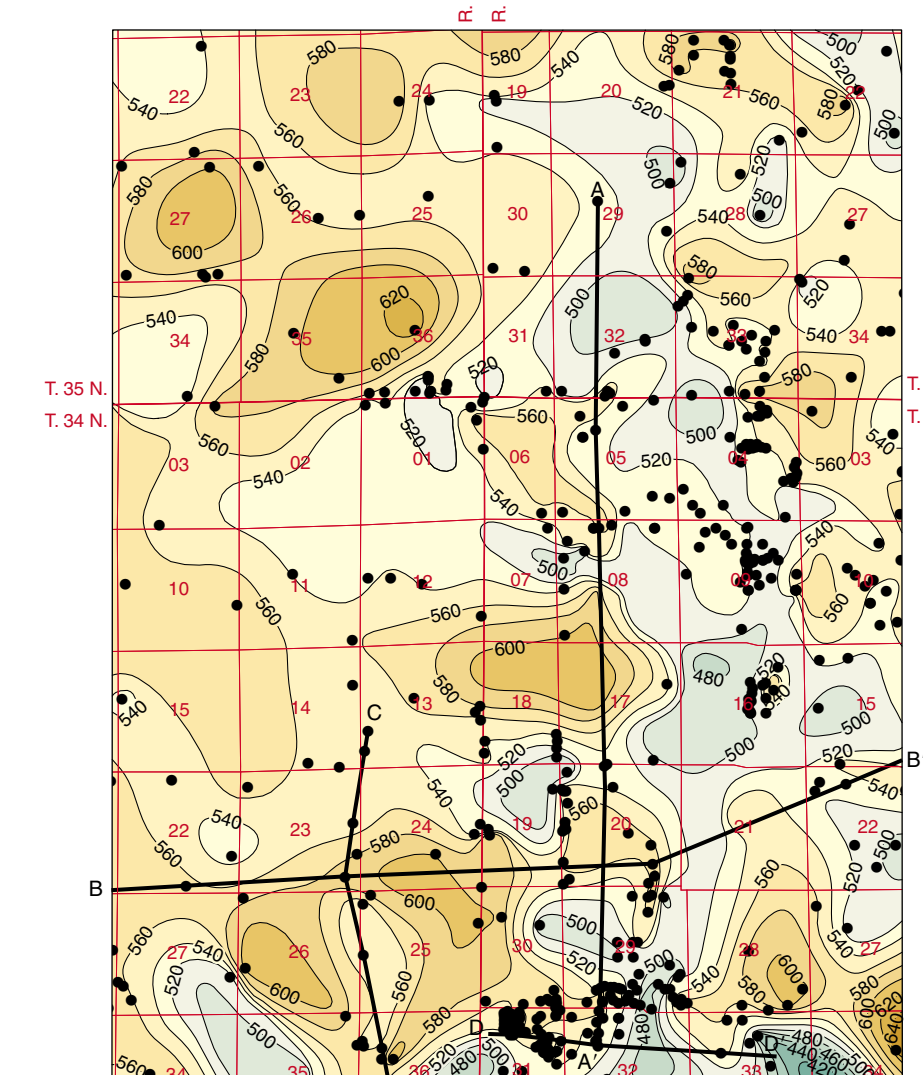
STATEMAP Wedron-BG

Joseph A. Devera and Joseph M. Krienert  
2021



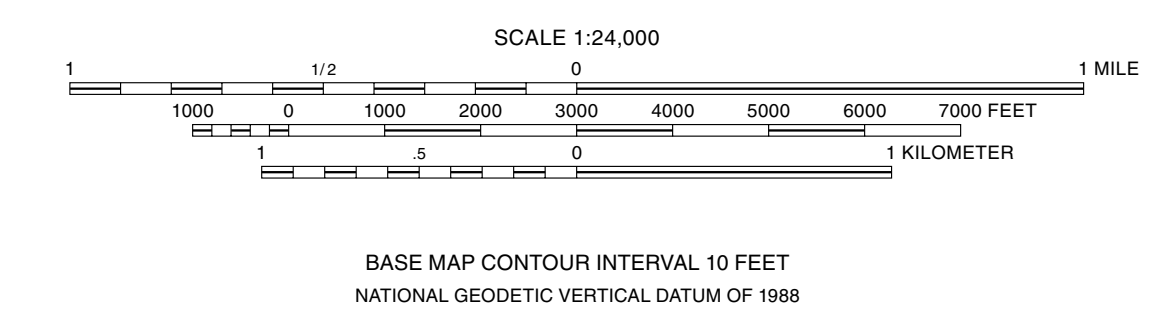
System	EXPLANATION	Series
	dg Mined Out Area	
Quaternary	Qc Cahokia Formation	Holocene
	Pc Carbondale Formation	
Pennsylvanian	Osp St. Peter Sandstone	Upper Ordovician
	Os Shakopee Dolomite	
Ordovician	Onr New Richmond Sandstone	

- Drill Holes**  
from which subsurface data were obtained
- Water well
  - Water well monitoring well
  - P-100 P labels indicate presence of coal. Numeric label indicates total depth of boring in feet.
- Symbols**
- Field Note
  - Contact accurate
  - Contact inferred
  - A—A' Line of cross section
  - Preglacial River Ticona drainage
  - Area of bedrock outcrop (label indicates unit observed)



**Figure M1** Map showing the intersection of bedrock topography and surface topography (derived from lidar) in the Wedron Quadrangle. Detailed contours show potential subcrops within 20 feet of the land surface. Map scale is 1:100,000.

Base map compiled by Illinois State Geological Survey from digital data (2018 US Topo) provided by the United States Geological Survey. Shaded relief and contours derived from LIDAR elevation data from the LaSalle County (2017) collection.



Geology based on field work by J.A. Devera, J.M. Krienert, 2020–2021.  
Digital cartography by E. Bunse, Illinois State Geological Survey.  
This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under StateMap award number G20AC00371, 2020. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

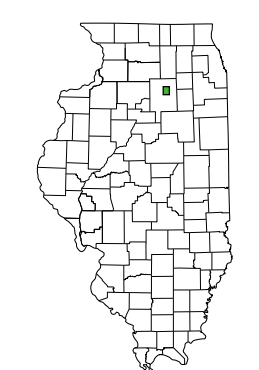
North American Datum of 1983 (NAD 83)  
Projection: Transverse Mercator  
1,000-meter ticks: Universal Transverse Mercator grid system, zone 16

This map has not undergone the formal Illinois Geologic Quadrangle map review process. Whether or when this map will be formally reviewed and published depends on the resources and priorities of the ISGS.  
The Illinois State Geological Survey and the University of Illinois make no guarantee, expressed or implied, regarding the correctness of the interpretations presented in this document and accept no liability for the consequences of decisions made by others on the basis of the information presented here. The geologic interpretations are based on data that may vary with respect to the accuracy of geographic location, the type and quantity of data available at each location, and the scientific and technical qualifications of the data sources. Maps or cross sections in this document are not meant to be enlarged.

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**ILLINOIS**  
Illinois State Geological Survey  
Prairie Research Institute  
Illinois State Geological Survey  
615 East Peabody Drive  
Champaign, Illinois 61820-6918  
(217) 244-2414  
http://www.isgs.illinois.edu



1	2	3
4	5	
6	7	8

ADJOINING QUADRANGLES  
1 Earville  
2 Leland  
3 Sheridan  
4 Prairie Center  
5 Serena  
6 Starved Rock  
7 Ottawa  
8 Marseilles

APPROXIMATE MEAN DECLINATION, 2021

Interstate Route	State Route
U.S. Route	Local road

SYSTEM	SERIES	FORMATION	MEMBER (BED)	GRAPHIC COLUMN	THICKNESS (FT.)	UNIT	ADDITIONAL FEATURES
QUATERNARY	HOLOCENE	Cahokia			0-80	A	<p><b>A Cahokia Formation</b> tan unconsolidated sand and gravels. It is dominantly composed of reworked St. Peter Sandstone, clay, silt and sand from the loess and glacial till. It also has pebbles, cobbles and boulders of igneous and metamorphic glacial erratics. In the southernmost part of the quadrangle Pennsylvanian rocks are locally found in this unit which includes: sandstone, shale and rare limestone clasts. The alluvium varies from 0 to 80 feet in the study area.</p> <p><b>B Wedron and Equality Formations</b> in this quadrangle is comprised of the <b>Tiskilwa Till Member of the Wedron Formation</b> which interfingers with the <b>Equality Formation, Peddicord Tongue</b>. These units were not mapped but were well exposed in a preglacial valley of the River Ticona in the silica pits at Wedron, Illinois. The Tiskilwa is a sandy diamicton, pink to reddish, tan-brown. In the paleovalleys the Peddicord occurs below the Tiskilwa and is a gray and pinkish tan laminated silts that is calcareous and contains fossil mollusks. This glacial section is unconformable with either St. Peter Sandstone or the Carbondale Formation.</p> <p><b>C Carbondale Formation</b> shale, claystone, siltstone, sandstone, limestone and coal. The interval of the formation that outcrops is in the lower part of the Carbondale; includes the Colchester Coal through the Excello Shale. The base of the formation is unconformable with the Ordovician St. Peter Sandstone. The lower part of the formation is a gray silty clay which grades into an underclay of a 1 to 2 foot thick coal (<b>Colchester</b>). Above the Colchester is a black fissile shale called <b>Mecca Quarry Shale</b>. This is followed by an overlying light gray siltstone that contains the trace fossil <i>Diplichnites</i> (a crawling trace). Green and dark gray claystone/shales with a thin, nodular, gray lime mudstone that contains phosphate nodules overlies the siltstone interval. Near the top of the exposures of this formation is a fissile, black shale that is the <b>Excello Shale</b>. This unit is unconformable with the St. Peter Sandstone below.</p> <p><b>D St. Peter Sandstone</b> white to tan and reddish iron stained, fine to medium grained, well sorted, well rounded, frosted quartz arenite. It can be hard or well cemented in places but mainly friable to weakly cemented. The thickness is variable from 50 to 160 feet as a result of preglacial erosion. The top of the formation can have a pyritic crust that also occurs</p> <p>downward in cracks. Forms bluffs along the Fox River. Bedding ranges from thin to thick and locally cross bedded. In the lower part of the unit there is a disconformable surface that contains a ferruginous surface seen in the Wedron quarries. The basal contact with the dolostone unit below is unconformable.</p> <p><b>E Shakopee Dolomite</b> pure to argillaceous, very finely crystalline, light gray to tan dolostone. The dolostone can contain thin beds of medium grained, cross bedded sandstone with green to light gray shale and siltstone. It can also contain nodular chert. Some beds are brecciated or conglomeratic. Primary sedimentary structures include ripple marks and mud cracks. Fossils are algal stromatolites as mats and domes up to 10 feet thick, straight cephalopods and gastropods. However, the mollusks are rare whereas the stromatolites are common. The basal contact is gradational with the sandstone unit below.</p> <p><b>F New Richmond Sandstone</b> much like the St. Peter Sandstone in that it is a white to light gray, fine to medium grained, sub-rounded to rounded, friable, moderately sorted quartz arenite. Sandy dolostones are interbedded with the sandstone similar to the overlying Shakopee. Darker mineral grains include tourmaline and garnets. The sandstone can be ripple marked and cross bedded. The dolostone beds can contain oolitic chert. The base of the New Richmond is unconformable.</p>
	PLEISTOCENE	Equality (Not Mapped)	Peddicord Tongue		0-120	B	
PENNSYLVANIAN	DESMONIESIAN	Carbondale	Excello Colchester Coal Member		0-110	C	
ORDOVICIAN	UPPER	St. Peter Sandstone			157	D	
	MIDDLE	Shakopee	(Subsurface only)		70-130	E	
	LOWER	New Richmond			90+	F	

