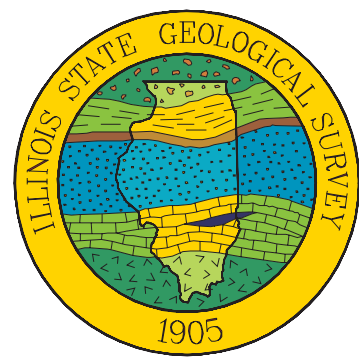


Potential Dolomite Resources of Carroll County, Illinois



Illinois State Geological Survey

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1997

State of Illinois
Department of Natural Resources

R2E

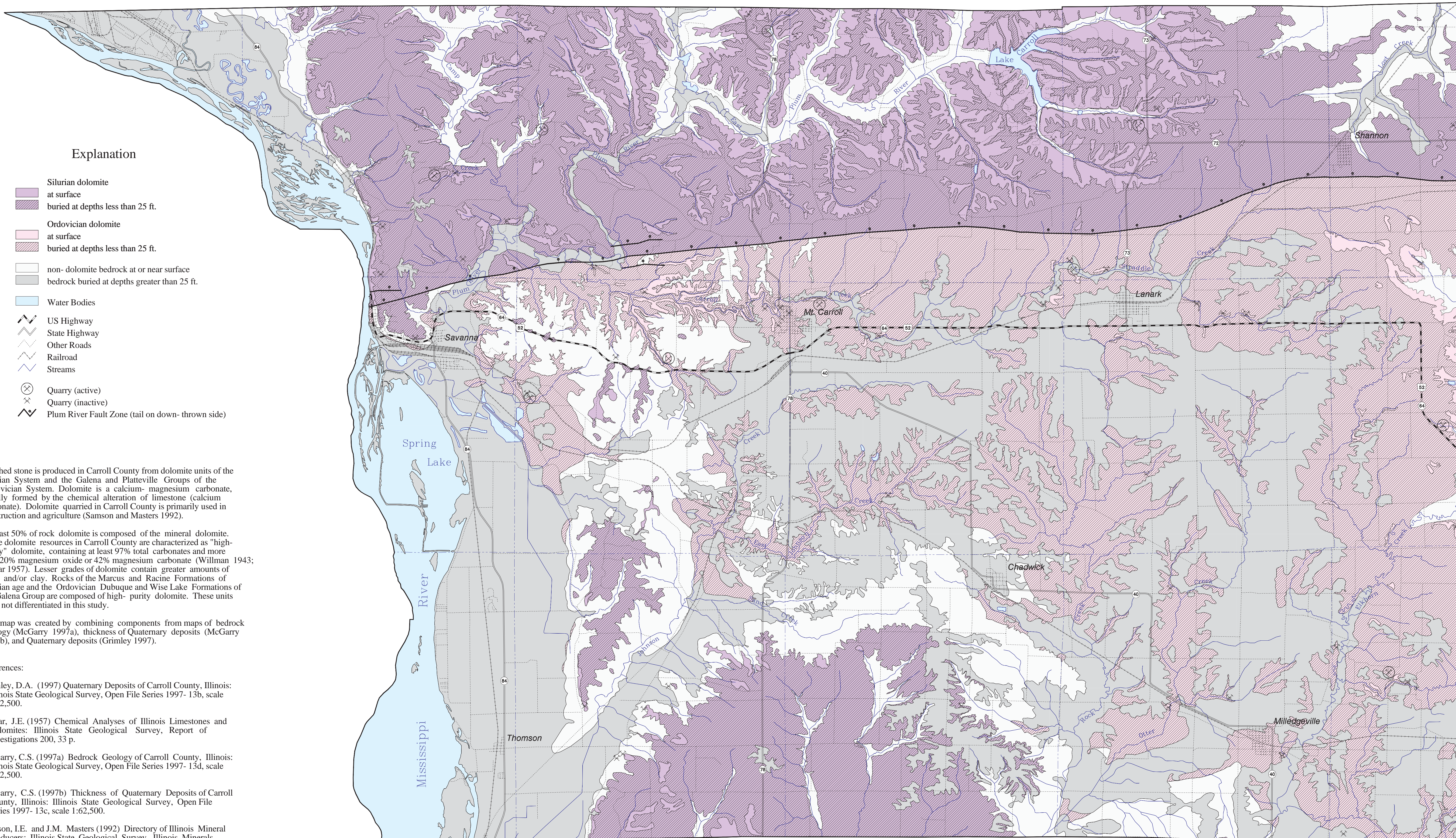
R3E

R4E

R5E

R6E

R7E



Explanation

- Silurian dolomite
 - at surface
 - buried at depths less than 25 ft.
- Ordovician dolomite
 - at surface
 - buried at depths less than 25 ft.
- non-dolomite bedrock at or near surface
- bedrock buried at depths greater than 25 ft.
- Water Bodies
- US Highway
- State Highway
- Other Roads
- Railroad
- Streams
- Quarry (active)
- Quarry (inactive)
- Plum River Fault Zone (tail on down- thrown side)

Crushed stone is produced in Carroll County from dolomite units of the Silurian System and the Galena and Platteville Groups of the Ordovician System. Dolomite is a calcium- magnesium carbonate, usually formed by the chemical alteration of limestone (calcium carbonate). Dolomite quarried in Carroll County is primarily used in construction and agriculture (Samson and Masters 1992).

At least 50% of rock dolomite is composed of the mineral dolomite. Some dolomite resources in Carroll County are characterized as "high-purity" dolomite, containing at least 97% total carbonates and more than 20% magnesium oxide or 42% magnesium carbonate (Willman 1943; Lamar 1957). Lesser grades of dolomite contain greater amounts of chert and/or clay. Rocks of the Marcus and Racine Formations of Silurian age and the Ordovician Dubuque and Wise Lake Formations of the Galena Group are composed of high- purity dolomite. These units were not differentiated in this study.

This map was created by combining components from maps of bedrock geology (McGarry 1997a), thickness of Quaternary deposits (McGarry 1997b), and Quaternary deposits (Grimley 1997).

References:

Grimley, D.A. (1997) Quaternary Deposits of Carroll County, Illinois: Illinois State Geological Survey, Open File Series 1997- 13b, scale 1:62,500.

Lamar, J.E. (1957) Chemical Analyses of Illinois Limestones and Dolomites: Illinois State Geological Survey, Report of Investigations 200, 33 p.

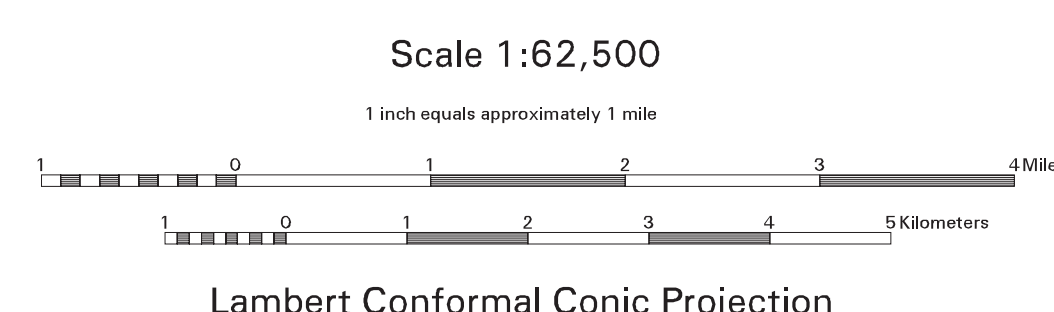
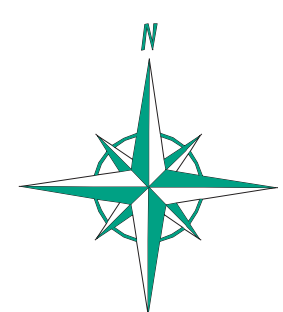
McGarry, C.S. (1997a) Bedrock Geology of Carroll County, Illinois: Illinois State Geological Survey, Open File Series 1997- 13d, scale 1:62,500.

McGarry, C.S. (1997b) Thickness of Quaternary Deposits of Carroll County, Illinois: Illinois State Geological Survey, Open File Series 1997- 13c, scale 1:62,500.

Samson, I.E. and J.M. Masters (1992) Directory of Illinois Mineral Producers: Illinois State Geological Survey, Illinois Minerals 109, 129 p.

Willman, H.B. (1943) High- Purity Dolomite in Illinois: Illinois State Geological Survey, Report of Investigations 90, 89 p.

This map was prepared by the Illinois State Geological Survey, in cooperation with the Illinois Department of Commerce and Community Affairs and the Carroll County Board. It is part of a suite of maps created to assist county officials in addressing geologic questions concerning capable sites for landfill development. Maps produced for this study are intended for regional land use planning purposes. More detailed mapping is needed for site specific considerations. This map has been reviewed for scientific accuracy and has been edited to meet the quality standards of maps in the ISGS Map Series.



T25N

T24N

T23N