ILLINOIS AT URBANA-CHAMPAIGN Institute of Natural Resource Sustainability William W. Shilts, Executive Director **ILLINOIS STATE GEOLOGICAL SURVEY** E. Donald McKay III, Interim Director For more information contact: Institute of Natural Resource Sustainablity Illinois State Geological Survey 615 East Peabody Drive Champaign, Illinois 61820-6964 (217) 333-4747

Colchester Coal Thickness CHRISTIAN

County Coal Map Series Andrew Louchios, Scott Elrick, Chris Korose, David Morse

Map construction: October 28, 2009

This product is under review and may not meet the standards of the Illinois State Geological Survey.

County coal maps and select quadrangle maps available as downloadable PDF files at:

may not be accurately portrayed or resolved. This data set provides a large-scale

These data are not intended for use in site-specific screening or decision-making.

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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

data set and accept no liability for the consequences of decisions made by others on the

conceptual model of the geology of the area on which to base further work.

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Data included in this map are suitable for use at a scale of 1:100,000.

basis of the information presented here.

County http://www.isgs.illinois.edu http://www.isgs.illinois.edu/maps-data-pub/coal-maps/county-index.shtml LOGAN 17N¹2E 17N 1E 17N 1W 17N 2W 16N 3W 16N 2W 16N 1W MACON 15N 2E 15N 3E 15N 1E 15N 4W 15N 1W 14N 2W 14N 1E 14N 4W 14N 3W₀ 14N 1W 14N 3E CHRISTIAN 13N 2W 13N 1W 13N 1E __13N__4W 13N 3E 13N 2E 12N 2W 12N 3W 12N 1E 112N 2<u>E</u> 11N 2W 11N 3E 11N 1W 11N 3W 11N 1W 11N 5W 11N 2E SHELBY Lakewood 10N 3E 10N 2W 10N 3W 10N 2E MONTGOMERY and flora (including many soft bodied organisms that are rarely preserved rarely preserved Pennsylvanian Stratigraphic Column The Colchester Coal underlies much of Illinois as well as **Coal Thickness Map Explanation** Original Mined Remaining Available portions of western Indiana and western Kentucky. The coal crops out along the margins of the Illinois Basin and reaches and known nowhere else, such as the maximum depth in Illinois of about 1,500 feet. (See Fig 1 Illinois State Fossil, the "Tully Monster", see below left) that give clues to the Surface Mine and Fig 2) The Colchester Coal and its overlying black shale, The maps and digital files of this study were compiled from data from a variety of public depositional environments of the the Mecca Quarry Shale are part of the Carbondale formaand private sources and have varying degrees of completeness and accuracy. They tion of the Desmoninesian Series (See Fig 4) and are key Francis Creek. present interpretations of the geology of the area and are based on available data. narker beds that have been traced throughout the basin. **Underground Mine** However, these interpretations are based on data that may vary with respect to accuracy n southern, central, and eastern Illinois, the Colchester is The Mecca Quarry Shale (see Fig 4) 0.5 of geographic location, type, quantity, and reliability, as they were supplied to the Illinois generally thin, ranging from less than one inch to 18 inches overlies the Francis Creek Shale and State Geological Survey. Consequently, the accuracy of the interpreted features shown thick. Throughout most of its northern and western extent, rests directly on the Colchester Coal Insufficient data in these files is subject to the limitations of the data and varies from place to place. where the Francis Creek is absent. It is the Colchester is 2 to 3.5 feet thick (locally 4 feet) where it has Avail. w/ potential restr. een mined. The Colchester Coal is perhaps the most widea hard, fissile, black shale that locally ■ Restricted or mined Contoured features less than 7 million square feet (about 1/2 mile square) in area reaches 4 feet in thickness but generpread minable seam in North America and is correlated with <28 inches

the Croweburg Coal of Missouri and Kansas, the Schultztown

tures thinning to 1 to 2 feet along the

strong relationship to geologic struc- higher, dryer anticlinal crests.

top of the anticlinal crests versus that the basin. It is best known for the famous Mazon Creek

found in the troughs. The flora varia- sideritic concretions found in the northeastern part

tion is interpreted as drier conditions of the basin and in Fulton County. These concretions

stemming from higher topographic el- have yielded a remarkably well preserved fossil fauna

of western Kentucky, the Broken Arrow (or Croweburg) of Oklahoma, the Whitebreast of Iowa, the Colchester

Coal Member (Illa) of Indiana, the Lower Kittanning Coal of Ohio, the Princess No. 6 of eastern Kentucky, and

North-south cross section of the Pennsylvanian System in Illinois

Greenbush Coal Wiley Coal

28 to 42 inches

42 to 66 inches

>66 inches

Channel

Split Coal

ally ranges from 1 to 2 feet thick. The

Mecca Quarry is a transgressive marine

deposit that is even more widespread

References:

(All text modified from ISGS Pub. IM 127, Korose, et.al)

because of its distinctive low resistivity signature on electric logs and very high gamma-ray log readings.

been mined. Approximately 5% of the original resources, 0.5 billion tons, were considered available for mining

- Christopher P. Korose, Scott D. Elrick, and Russell J. Jacobson, 2003, Availability of the Colchester Coal for mining in

Northern and Western Illinois: Illinois State Geological Survey Illinois Minerals 127, 21 p.

221.1 12.5

patterns of the Colchester show a peat formation and that the deeper, wetter synclinal troughs accumulated more peat than the states and is a stratigraphic marker

ening to as much as 3 or 4 feet in basinal Francis Creek Shale, a medium gray, silty shale that locally exceeds 80 feet thick. The Francis

troughs. There is significant variation Creek forms a large clastic wedge that extends across the northern part of the coalfield in the flora of the Colchester Coal on and thins out to the west and south in the western part of Illinois State Fossil - "Tully Monster"

evations that resulted from structural uplift and its effect on the paleoenvironment of the local than the Colchester, present through-In much of northern Illinois, thickness Colchester swamp. This finding implies that these geologic structures were developing during out most of the basin and adjacent Colchester shows a contract of the Colchester shows a contract of the colchester shows a contract of the basin and adjacent Colchester shows a contrac

LaSalle Anticlinorium crests and thick- Directly overlying the Colchester Coal in many parts of western and northern Illinois is the The original resource of the Colchester coal in the State of Illinois totals 19 billion tons, 0.5 billion of which has