County Coal Map Series ILL LINOIS Colchester Coal Thickness Andrew Louchios, Scott Elrick, Chris Korose, David Morse Institute of Natural Resource Sustainability William W. Shilts, Executive Director Map construction: October 28, 2009 ILLINOIS STATE GEOLOGICAL SURVEY KNOX 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 This product is under review and may not meet the standards of the Illinois State Geological Survey. County (217) 333-4747 County coal maps and select quadrangle maps available as downloadable PDF files at: http://www.isgs.illinois.edu http://www.isgs.illinois.edu/maps-data-pub/coal-maps/county-index.shtml BUREAU HENRY 14N 2W 14N 1W 14N 2E 14N 3E 14N 5E 14N 4E 14N_6E **Burgess** MERCER 34 13N 2W-13N 1W 13N 2E Lafayette_ 13N 5E 13N 4E 13N 6E Henderson STARK 12N 2W 12N 1W 12N 1E 12N 3E 12N 4E 12N 6E KNOX. Galesburg Galesburg_ 11N 1W 11N 4E 11N 5E 11N 6E WARREN 10N 1W 10N-3E 10N 5E 10N 6E PEORIA 9N 1W <u> 9N 4E</u> 8N 1E/ 8N 6E **FULTON MCDONOUGH** 7N 2W 7N 5E 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 the Mecca Quarry Shale are part of the Carbondale formadepositional environments of the and 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. marker 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) 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 Greenbush Coal Wiley Coal may not be accurately portrayed or resolved. This data set provides a large-scale the Croweburg Coal of Missouri and Kansas, the Schultztown ally ranges from 1 to 2 feet thick. The conceptual model of the geology of the area on which to base further work. of western Kentucky, the Broken Arrow (or Croweburg) of Oklahoma, the Whitebreast of Iowa, the Colchester Mecca Quarry is a transgressive marine 221.1 12.5 These data are not intended for use in site-specific screening or decision-making. Coal Member (Illa) of Indiana, the Lower Kittanning Coal of Ohio, the Princess No. 6 of eastern Kentucky, and deposit that is even more widespread 28 to 42 inches evations that resulted from structural uplift and its effect on the paleoenvironment of the local than the Colchester, present through-Data included in this map are suitable for use at a scale of 1:100,000. 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 basin and adjacent Colches 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 42 to 66 inches strong relationship to geologic struc- higher, dryer anticlinal crests. because of its distinctive low resistivity signature on electric logs and very high gamma-ray log readings. Disclaimer tures thinning to 1 to 2 feet along the 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 >66 inches 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 been mined. Approximately 5% of the original resources, 0.5 billion tons, were considered available for mining 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 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" data set and accept no liability for the consequences of decisions made by others on the Channel (All text modified from ISGS Pub. IM 127, Korose, et.al) top of the anticlinal crests versus that the basin. It is best known for the famous Mazon Creek basis of the information presented here. found in the troughs. The flora varia- sideritic concretions found in the northeastern part References: - Christopher P. Korose, Scott D. Elrick, and Russell J. Jacobson, 2003, Availability of the Colchester Coal for mining in tion is interpreted as drier conditions of the basin and in Fulton County. These concretions Split Coal © 2009 Board of Trustees of the University of Illinois. All rights reserved. stemming from higher topographic el- have yielded a remarkably well preserved fossil fauna Northern and Western Illinois: Illinois State Geological Survey Illinois Minerals 127, 21 p. North-south cross section of the Pennsylvanian System in Illinois