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RESOURCE EXTRACTION AND LANDFILL ACTIVITIES OF TAZEWELL COUNTY, ILLINOIS

Patrick D. Johnstone

This map displays the historic and modern mineral resource extraction and waste disposal activities in Tazewell County. There have been two main types of resources mined in the county: coal and industrial minerals.

All coal mining in Tazewell County has been done underground. This mining occurred only in the western part of the county, where the coal-bearing bedrock units are near the surface, and the overlying bedrock and surficial deposits are relatively thin. Although coal mining operations have ceased in Tazewell County, many shafts and underground workings remain. These workings are a concern for landuse planning for two reasons. First, mined-out areas may be structurally unstable and prone to subsidence. Second, open workings and shafts may act as subsurface conduits between aquifers, which could transmit water or contaminants.

Coal mining activity data were supplied by the Illinois State Geological Survey Coal Section (North 2000). Compiled in 1998, this is the most accurate and recent information available for the county. Given the long history and the variable nature of mining in the county, some coal extraction, shaft sinking and other mining-related activities may have gone unreported.

Industrial Minerals is a general term referring to the mining of bulk non-metallic earth materials for industrial and construction purposes. In Tazewell County the industrial minerals that have been mined include gravel, sand, and clay. These resources have been extracted from open-pit or surface mines. The resources occur predominantly in Quaternary deposits, although some shale bedrock has been mined for the brick industry. Because of the relatively low value per ton of these resources and their high cost of transport, the distance between the location of extraction and location of use is a critical consideration in identifying a resource for development. In areas where landuse patterns are evolving, it may be important to identify and protect potential industrial mineral resources before they are lost to urbanization or other land use changes.

524 2003 REFERENCES Industrial Mineral data were collected from several paper and digital maps. Historic data came from Hunter, R.E., 1966, Sand and Gravel Resources of Hunter (1966). This information was augmented by Tazewell County, Illinois: Illinois State mine sites indicated on the USGS 1:24,000 Digital Geological Survey Circular 399 (with map, Raster Graphics (DRG) files, and sites listed in scale: 1:62,500). Masters et al. (1999). These data were further refined by comparing locations to USGS Digital Johnstone, P.D., and McGarry, C.S., 2002, Surface Orthophoto Quarter-quadrangle (DOQ) maps. These Topography of Tazewell County, Illinois: 1-meter resolution photographs taken in 1998 and Illinois State Geological Survey Open File 1999, were used to refine location information, Series 2003-6g (map), scale 1:62,500. identify unreported or private extraction activities, and to differentiate active from non-active pits. Masters, J.M., Ipe, V.C., Smith, L.R., and Falter, M., 1999, Directory of Illinois Mineral This map also shows the locations of several Producers, and Maps of Extraction Sites: landfills in Tazewell County. As with any land use Illinois State Geological Survey Office of Mines and Minerals Illinois Minerals #117. plan, several factors may influence the suitability of a location for operation of a landfill. The cost of operation, and the long-term prevention of leachate North, D.L., 2000, Illinois Coal Mines, Tazewell migration, may be influenced by the natural County: Illinois State Geological Survey geologic and hydrologic conditions of a candidate Coal Section map, scale 1:62,500. site. The four landfills shown on this map were identified by the Tazewell County Health Board. Maps and diagrams of the landfills were compared to USGS DOQ maps, and digitized on-screen. The green-shaded areas shown on the map represent the maximum area of visible land disturbance at the time the DOQs were produced. All other data used in compiling this map were also used for from map "Surface Topography of Tazewell County, Illinois" (Johnstone and McGarry 2003). Worley Lake 29 **Powerton Lake** Mackinaw River Green Valley 0 \sim



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1:62,500 1 inch equals approximately 1 mile) 4 Miles 2 1 2 3 4 5 Kilometers 0 Lambert Conformal Conic Projection

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This document has been carefully reviewed and edited and meets the scientific/technical standards of the Illinois State Geological Survey. It is suited to the purposes and uses intended by its authors and presents reasonable interpretations based on the da ta then available. The interpretations are based on data that may vary with respect to accuracy of geographic location, the type and quantity of data available at each location, and the scientific/technical qualifications of the data sources. This map is not meant to be enlarged. Enlarging the scale of a published map or cross section, by whatever means, does not increase the inherent accuracy of the information and scientific interpretations it portrays.

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R2W

This document provides a conceptual model of the ge ology of the area on which further work can be based. This large-scale (1:62,500-scale) map shown herein may be used to screen the region for potentially suitable sites for a variety of purposes, but use of this document for such screening does not eliminate the need for detailed studies to fully understand the geology of a specific site. The Illinois State Geological Survey, the Illinois Department of Natural Resources, and the State of Illinois make no guarantee, expressed or implied, regarding the correc tness 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.

