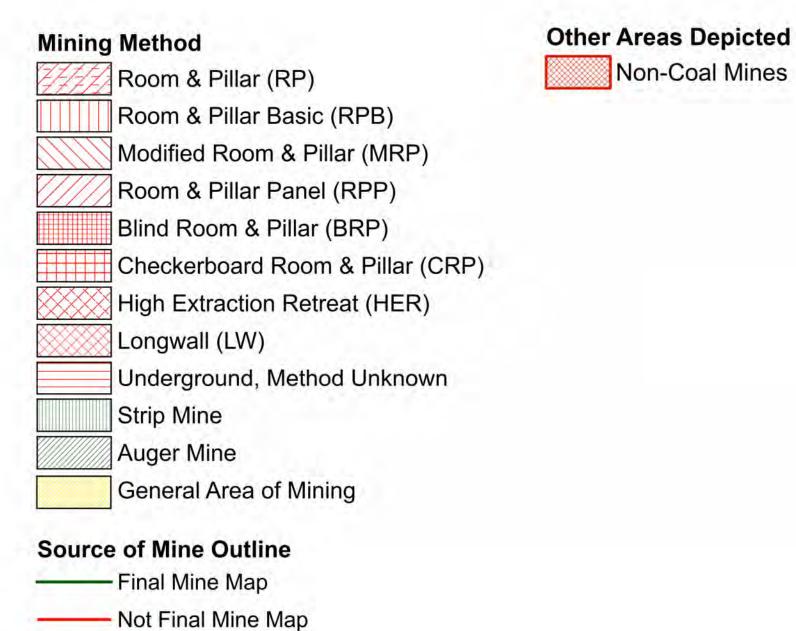


# Coal Mines in Illinois Ewing Quadrangle Franklin County, Illinois

This map accompanies the Coal Mines Directory for the Ewing Quadrangle. Consult the directory for a complete explanation of the information shown on this map.



### Tipple, Shaft, Slope, Drift Locations

\* Strip Mine Tipple - Active

Secondary Source Map

Undated Mine Map

----- Incomplete Mine Map

- Strip Mine Tipple Abandoned
- Mine Shaft Active
- Mine Shaft Abandoned
- Mine Slope Active
- Mine Slope Abandoned
- ✓ Mine Drift Active✓ Mine Drift Abandoned
- Air Shaft
- Uncertain Location
- Uncertain Type of Opening

### **Mine Annotation**

(space permitting)
Company
Mine Name
ISGS Index No., Years of Operation

Location

**Other Points Depicted** 

Non-Coal Mines



### isclaimer

Please check the Coal Section at the Illinois State Geological Survey's web site at https://www.isgs.illinois.edu for the most up-to-date version of these products.

Note that each quadrangle scale mined-out area map requires the use of the associated text directory for full explanation of map features and mine attributes. Also note that some quadrangles have multiple seams of mining and therefore more than one map may be available for a particular quadrangle. Please take care to check for multiple maps, as extensive mining may exist in the other seams.

The maps and digital files used for these studies were compiled from data obtained from a variety of public and private sources and have varying degrees of completeness and accuracy. This compilation map presents reasonable interpretation of the geology of the area and is based on available data. Locations of some mine features may be offset by 500 feet or more due to errors in the original source maps, the compilation process, digitizing, or a combination of these factors. These data are not intended for use in site-specific screening or decision-making. Use of these documents does not eliminate the need for detailed studies to fully understand the geology of a specific site. The Illinois State Geological Survey, Prairie Research Institute, or 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 basis of the information presented here.

These maps were designed for use at 1:24,000. Enlarging the map may reduce accuracy, as the original scale of the source maps used to compile the outlines shown varies from 1:400 to 1:150,000, and some mine locations are known only from text descriptions. See the accompanying mine directory for the original scale of the source map used for a specific mine to check accuracy of a given portion of the map. Areas with no mines shown may still be undermined; see the unlocated mines list at the back of each mine directory.

The image of the U.S.G.S. topographic base map was projected from the original UTM to Lambert Conformal Conic.

## **I**ILLINOIS

## Illinois State Geological Survey

PRAIRIE RESEARCH INSTITUTE

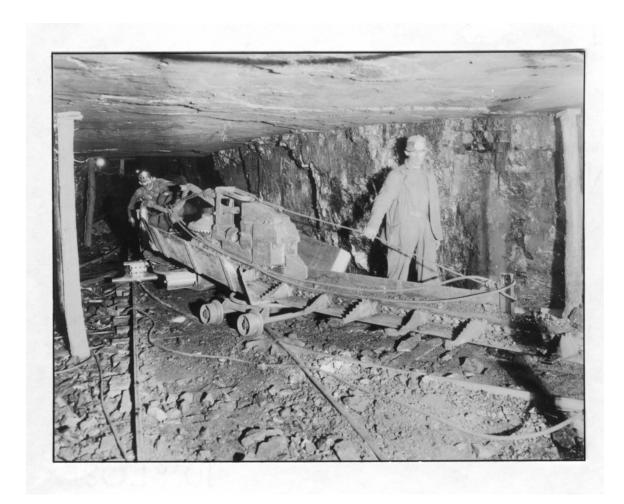
Prairie Research Institute Illinois State Geological Survey 615 E. Peabody Dr. Champaign, IL 61820

Mine Outlines Compiled by Alan R. Myers

Revised: 2012, 2016 Alan R. Myers 02-08-2024

# DIRECTORY OF COAL MINES IN ILLINOIS 7.5-MINUTE QUADRANGLE SERIES EWING QUADRANGLE FRANKLIN COUNTY

Alan R. Myers



Department of Natural Resources ILLINOIS STATE GEOLOGICAL SURVEY 2008 Updated 2024

## DIRECTORY OF COAL MINES IN ILLINOIS 7.5-MINUTE QUADRANGLE SERIES EWING QUADRANGLE FRANKLIN COUNTY

2008 Updated 2024

ILLINOIS STATE GEOLOGICAL SURVEY William Shilts, Chief

Natural Resources Building 615 East Peabody Drive Champaign, Illinois 61820

Phone 1-217-244-4610 Fax 1-217-333-2830

Cover photo Track-mounted duckbill loading machine at a Peabody Coal Company mine, ca. 1915.
DISCLAIMER: The accuracy and completeness of mine maps and directories vary with the availability of reliable information. Maps and other information used to compile this mine map and directory were obtained from a variety of sources and the accuracy of some of the original information cannot be verified. Consequently, the Illinois State Geological Survey (ISGS) cannot guarantee the mine maps are free of errors and disclaims any responsibility for damages that may result from actions or decisions based on them.
The ISGS updates the maps and directories periodically, and welcomes any new information or corrections. Please contact the Coal Section of the ISGS at the address shown on the title page of this directory, or telephone (217) 244-4610.
Printed by authority of the State of Illinois/2008

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#### INTRODUCTION

Coal has been mined in 76 counties of Illinois. More than 7,400 coal mines have operated since commercial mining began in Illinois about 1810; fewer than 30 are currently active. To detail the extent and location of coal mining in Illinois, the Illinois State Geological Survey (ISGS) has compiled maps and directories of known coal mines. The ISGS offers maps at a scale of 1:100,000 and accompanying directories for each county in which coal mining is known to have occurred. Maps at a scale of 1:24,000 and accompanying directories, such as this, are available for selected quadrangles. Contact the ISGS for a list of these quadrangles.

These larger scale maps show the approximate positions of mines in relation to surface features such as roads and water bodies, and indicate the mining method used and the accuracy of the mine boundaries. The maps are useful for locating mine boundaries relative to specific properties and for assessing the potential for subsidence in an area. Mine boundaries compiled from final mine surveys are generally shown within 200 feet of their true position. As a result of poor cartographic quality and inaccuracies in the original mine surveys, boundaries of some older mines may be mislocated on the map by 500 feet or more. Original mine maps should be consulted in situations that require precise delineation of mine boundaries or internal workings of mined areas.

This directory serves as a key to the accompanying mine map and provides basic information on the coal mines in the quadrangle. The directory is composed of two parts. Part I explains the symbols and patterns used on the accompanying map and the summary data presented for each mine. Part II numerically lists the mines in the quadrangle and summarizes the geology and production history of each mine. Total production for the mine, not the portion in the quadrangle, is given.

#### MINING IN THE EWING QUADRANGLE

The oldest mining known to have taken place in the Ewing Quadrangle is a small area in the southwestern corner, extending from a large mine on the West Frankfort Quadrangle. The Middle Fork Mine (mine index 139) worked in the Herrin Coal, which was over 6 feet thick. Thick Herrin Coal extends over the remainder of the quadrangle, at a depth of 700 to 800 feet. The M-Class No. 1 Mine (mine index 1047) began operation as a longwall mine in 2010.

#### PART I EXPLANATION OF MAP AND MINE SUMMARY SHEET

#### INTERPRETING THE MAP

The map accompanying this directory shows the location of coal mines known to be present in the quadrangle. The map, corresponding to a U.S. Geological Survey (USGS) 7.5-minute quadrangle, covers an area bounded by lines of latitude and longitude 7.5-minutes apart. In Illinois, a quadrangle is approximately 6.5 miles east to west and 8.5 miles north to south, an area of about 56 square miles. The ISGS generally offers one map of mines per quadrangle. In some areas where extensive mining occurred in two or more overlapping seams, separate maps are compiled for mines in each seam to maintain readability of the map.

#### Mine Type and Mining Method

The mine type is indicated on the map by pattern color: green represents surface mines; red and yellow represent underground mines. The red patterns are used for areas of underground mining that are documented by a primary or secondary source map. A yellow pattern is used for cases where no map of the mine workings is available, but a general area of mining can be inferred from property maps or production figures. The patterns indicate the main mining methods used in underground mines. The methods are (1) room and pillar and (2) high extraction. The method used gives some indication of the amount and pattern of coal extraction within each mined area, and has some influence on the timing and type of subsidence that can occur over a mine.

The following discussion and illustrations of mining methods are based on Guither et al. (1984).

In room-and-pillar mines, coal is removed from haulage-ways (entries) and selected areas called rooms. Pillars of unmined coal are left between the rooms to support the roof. Depending on the size of rooms and pillars, the amount of coal removed from the production areas will range from 40% to 70%.

#### Room and Pillar - mining is divided into six categories:

- room-and-pillar basic (RPB, fig. 1A), an early method that did not follow a preset mining plan and therefore
  resulted in very irregular designs;
- modified room and pillar (MRP, fig. 1B);
- room-and-pillar panel (RPP, fig. 1C);
- · blind room and pillar (BRP, fig. 1D);
- checkerboard room and pillar (CRP, fig. 1E);
- room and pillar (RP), a classification used when the specific type of room-and-pillar mining is unknown.

Blind and checkerboard are the most common types of room-and-pillar mining used in Illinois today. The knowledge of room-and-pillar mining methods gives a trained engineer information on the nature of subsidence that may occur. A more extensive discussion of subsidence can be found in Bauer et al. (1993).

**High-extraction** These mining methods are subdivided into high-extraction retreat (HER, Fig 1F) and longwall (LW, Fig 1G, 1H). In these methods, much of the coal is removed within well defined areas of the mine. Subsidence of the surface above these areas occurs within weeks. Once the subsidence activity ceases, the potential for further movement over these areas is low; however, subsidence may continue for several years after mining.

High-extraction retreat mining is a form of room-and-pillar mining that extracts most of the coal. Rooms and pillars are developed in the panels, and the pillars are then systematically removed (fig. 1F).

In early (pre-1960) longwall mines, mining advanced in multiple directions from a central shaft (fig. 1G). Large pillars of coal were left around the shaft, but all coal was removed beyond these pillars. Miners placed rock and wooden props and cribs in the mined-out areas to support the mine roof. The overlying rock gradually settled onto these supports, thus producing subsidence at the surface. In post-1959 longwall mines, room-and-pillar methods have been used to develop the main entries of the mine and panel areas. Modern longwall methods extract 100 percent of the coal in the panel areas (fig. 1H).

#### **SOURCE MAPS**

Mine outlines depicted on the map are, whenever possible, based on maps made from original mine surveys. The process of compiling and digitizing the quadrangle map may produce errors of less than 200 feet in the location of mine boundaries. Larger errors of 500 feet or more are possible for mines that have incomplete or inaccurate source maps.

Because of the extreme complexity of some mine maps, detailed features of mined areas have been omitted. The digitized mine boundary includes the exterior boundary of all rooms or entries that were at least 80 feet wide or protruded 500 feet from the main mining area. Unmined areas between mines are shown if they are at least 80 feet wide; unmined blocks of coal within mines are shown if they are at least 400 feet on each side. Original source maps should be consulted when precise information on mine boundaries or interior features is needed.

The mine summary sheet lists the source maps used to determine each mine outline. The completeness of map sources is indicated on the map by a line symbol at the mine boundary. Source maps are organized in five categories.

**Final mine map** The mine outline was digitized from an original map made from mine surveys conducted within a few months after production ceased. The date of the map and the last reported production are listed on the summary sheet.

**Not a final map** The mine is currently active or the mine outline was made from a map based on mine surveys conducted more than few months before production ceased. This implies the actual mined-out area is probably larger than the outline on the map. The mine summary sheet indicated the dates of source maps and the last reported production, as well as the approximate tonnage mined between these two dates (if the mine is abandoned). The summary sheet also lists the approximate acreage mined since the date of the map and, in some cases, indicates the area where additional mining may have taken place. This latter information is determined by locating on the map the active faces relative to probable boundaries of the mine property.

**Undated map** The source map was undated, so it may or may not be based on a final mine survey. When sufficient data are available, the probable acreage of the mined area is estimated from reported production, average seam thickness and a recovery rate comparable to other mines in the area. This information is listed in the summary sheet for the mine.

**Incomplete map** The source map did not show the entire mine. The summary sheet indicates the missing part of the mine map and the acreage of the unmapped area, which is estimated from the amount of coal known to have been produced from the mine.

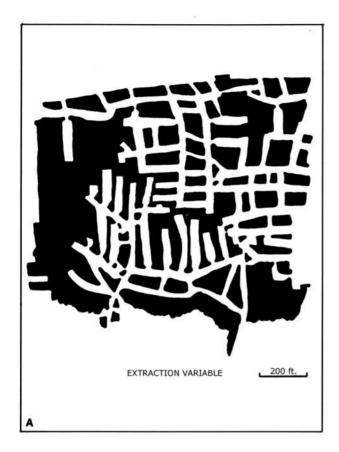
**Secondary source map** The original mine map was not found so the outline shown was determined from secondary sources (e.g., outlines from small-scale regional maps published in other reports). The summary sheet describes the secondary sources.

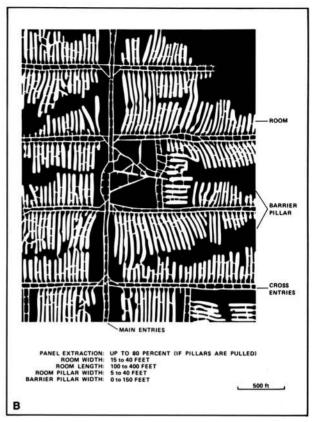
#### **POINTS AND LABELS**

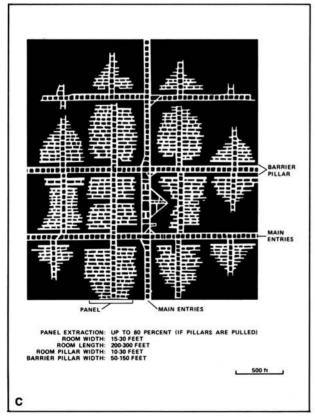
The locations of all known mine openings (shafts, slopes, and drifts) and surface mine tipples are plotted on the map. Tipples are areas where coal was cleaned, stockpiled, and loaded for shipping.

Only openings or tipples are plotted for mines without source maps. If the precise locations of these features are unknown, a special symbol is used to indicate the approximate location of the mine.

Each mine on the map is labeled with the names of the mine and operating company, ISGS mine index number, and years of operation (if known) if space permits. A seam designation is given on maps where more than one seam was mined. For a mine that operated under more than one name, only the most recent name is generally given. When a mine changed names or ownership shortly before closing, an earlier name is listed. All company and mine names are listed on the mine summary sheet in the directory, under the production history segment.







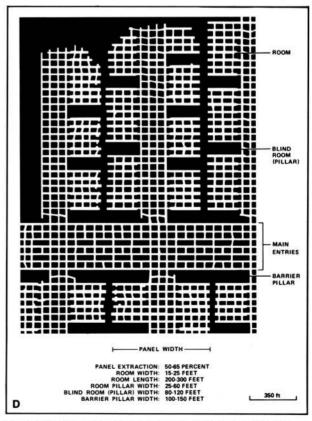
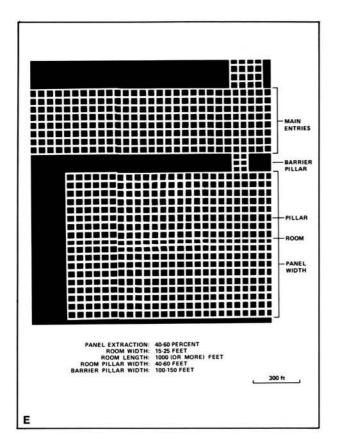
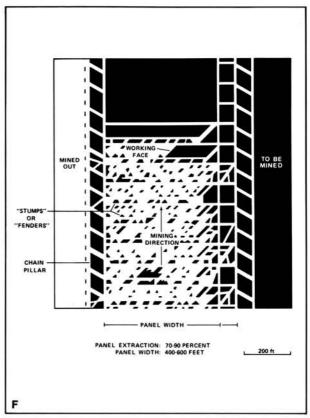
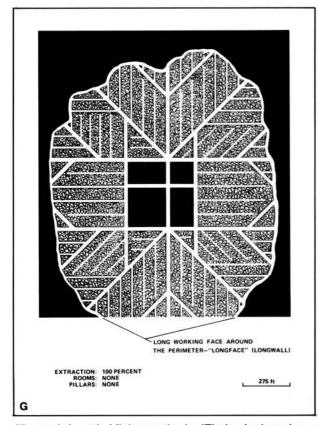


Figure 1 Mining methods: (A) room-and-pillar basic (RPB), (B) modified room and pillar (MRP), (C) room-and-pillar panel (RPP), (D) blind room and pillar (BRP).







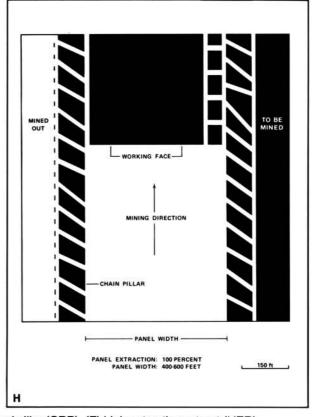
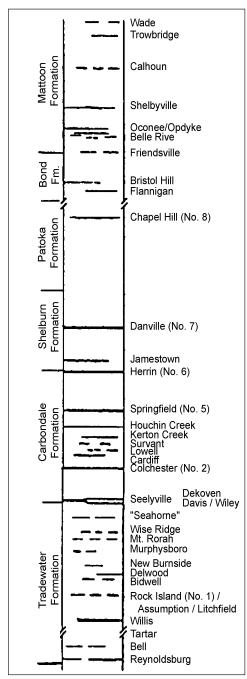


Figure 1 (cont.) Mining methods: (E) checkerboard room and pillar (CRP), (F) high extraction retreat (HER), (G) early (pre-1960) longwall, (H) post-1959 longwall



**Figure 2** Generalized stratigraphic section, showing approximate vertical relations of coals in Illinois.

#### INTERPRETING A MINE SUMMARY SHEET

The mine summary sheet is arranged numerically by mine index number. Index numbers are shown on the map and in the mine listing. The mine summary sheet provides the following information (if available).

**Company and mine name** The last company or owner of the mine is used, unless no production was recorded for the last owner. In that case, the penultimate owner is listed. Mines often have no specific name; in these cases, the company name is also used as the mine name.

**Type** Underground denotes a subsurface mine in which the coal was reached through a shaft, slope, or a drift entry. Surface denotes a surface, open pit or strip mine.

**Total mined-out acreage shown** The total acreage of the mined area mapped, including any acreage mined on adjacent quadrangles, is calculated from the digitized outline of the mine. The acreage of large barrier pillars depicted on the map is excluded from the mined-out acreage. Small pillars not digitized are included in the acreage calculation. If the mine outline is not based on a final mine map, the acreage is followed by an estimate of additional acres that may have been mined. The estimate is determined from reported mine production, approximate thickness of the coal, and recovery rates calculated from nearby mines that used similar mining methods.

#### SHAFT, SLOPE, DRIFT OR TIPPLE LOCATIONS

Shaft, slope, drift, or tipple locations Locations of all known former entry points to underground mines or the location of coal cleaning. tipple, and shipping equipment used by the mine's facility are listed. The location is described in terms of county, township and range (Twp-Rge), section, and location within the section by quarters. NE SW NW, for instance, would describe the location in the northeast quarter of the southwest quarter of the northwest quarter. When sections are irregular in size, the guarters remain the same size and are oriented (or "registered") from the southeast corner of the section. Approximate footage from the section lines (FEL = from east line, FNL = from north line, for example) is given when that information is known; this indicates a surveyed location and is not derived from maps. Entry points are also plotted on the map and coded for the type of entry or tipple. A mine opening may have had many purposes during the life of the mine. Old hoist shafts are often later used for air and escape shafts: this information is included in the directory when known. The tipple for underground mines was generally located near the main shaft or slope. At surface mines, coal was sometimes hauled to a central tipple several miles from the mine pit.

#### **GEOLOGY**

**Seam(s) mined** The name of the coal seam(s) mined is listed, if known. If multiple seams were mined, they are all listed, although the mined-out area for each seam may be shown on separate maps. Figure 2 shows the stratigraphic section of the coal-bearing interval in Illinois, and the vertical relations among the coals.

**Depth** The depth to the top of the seam in the vicinity of the shaft is listed, if known. The depth is determined from notes made by geologists who visited the mine during its operation or from drill hole data in ISGS files. Depth generally varies little over the extent of a mine; however, reported depths for an individual mine may vary. Depth for surface-mined coals varies, and is usually represented as a range.

**Thickness** The approximate thickness of the mined seam is shown, if known. Thickness also comes from notes of geologists who visited the mine during its operation or from borehole data in ISGS files. Minimum, maximum, and average thicknesses are given when this information is available.

**Mining method** The principal mining method used at the mine (figs. 1A-H) is listed. See the mining methods section at the beginning of this directory for a discussion of this parameter.

**Geologic problems reported** Any known geologic problems, such as faults, water seepage, floor heaving, and unstable roof, encountered in the mine are reported. This information is from notes made by ISGS geologists who visited the mine, or from reports by mine inspectors published by the Illinois Department of Mines and Minerals, or from the source map(s). Geologic problems are not reported for active mines.

#### **PRODUCTION HISTORY**

**Production history** Tons of coal produced from the mine by each mine owner are totaled. When the source map used for the mine outline is not a final mine map, the tonnage produced since the date of the map is identified. For mines that extend into adjacent quadrangles, the tonnage reported includes areas mined in adjacent quadrangles.

#### SOURCE OF DATA

**Source map** This section lists information about the map(s) used to compile the mine outline and the locations of tipples and mine openings. In some cases more than one source map was used. For example, a map drawn before the mine closed may provide better information on original areas of the mine than a later map. When more than one map was used, the bibliography section explains what information was taken from each source.

Date The date of the most recent mine survey listed on the source map is reported.

**Original scale** The original scale of the source map is listed. Many maps are photo-reductions and are no longer at their original scale. The original scale gives some indication of the level of detail of the mine outline and the accuracy of the mine boundary relative to surface features. Generally, the larger the scale, the greater the accuracy and detail of the mine map. Mine outlines taken from source maps at scales smaller than 1:24,000 may be highly generalized and may well be inaccurately located with respect to surface features.

**Digitized scale** The scale of the digitized map is reported. The scale may be different from that of the original source map. In many cases the digitized map was made from a photo-reduction of the original source map, or the source map was not in a condition suitable for digitizing and the mine boundaries were transferred to another base map.

**Map type** Source maps are classified into five categories to indicate the probable completeness of the map. See discussion of source maps in the previous section.

**Annotated bibliography** Sources that provide information about the mine are listed, with the data taken from each source. Some commonly used sources are described below. Full bibliographic references are given for all other sources. Unless otherwise noted, all sources are available for public inspection at the ISGS.

Coal Reports Published since 1881, these reports contain tabular data on mine ownership, production, employment, and accidents. Some volumes include short descriptions made by mine inspectors of physical features and conditions in selected mines.

Directory of Illinois Coal Mines This source is a compilation of basic data about Illinois coal mines, originally gathered by ISGS staff in the early 1950s. Sources used for this directory are undocumented, but they are primarily Illinois Department of Mines and Minerals annual reports, ISGS mine notes, and coal company officials.

*ENR Document 85/01*, Guither, H. D., J. K. Hines, and R. A. Bauer, 1985 The Economic Effect of Underground Mining Upon Land Used for Illinois Agriculture: Illinois Department of Energy and Natural Resources Document 85/01, 185 p.

*Microfilm map* The U.S. Bureau of Mines maintains a microfilm archive of mine maps. A microfilm file for Illinois is available for public viewing at the ISGS.

*Mine notes* ISGS geologists have visited mines or contacted mine officials throughout the state since the early 1900s. Notes made during these visits range from brief descriptions of the mine location to long narratives (including sketches) of mining conditions and geology.

Federal Land Bank of St. Louis, Preliminary Reports on Subsidence Investigations Mining engineers working for the Federal Land Bank of St. Louis mapped areas of subsidence due to coal mining in the early 1930s. These reports often include county maps of mine properties with mined-out areas including shaft locations, as well as subsidence areas.

#### **REFERENCES**

Bauer, R. A., B. A. Trent, and P. B. Dumontelle, 1993, Mine Subsidence in Illinois: Facts for the Homeowner Considering Insurance, Illinois State Geological Survey, Environmental Geology Note 144, 16p.

Guither, H. D., J. K. Hines, and R. A. Bauer, 1985, The Economic Effects of Underground Mining Upon Land Used for Illinois Agriculture, Illinois Department of Energy and Natural Resources Document 85/01, 185p.

#### PART II DIRECTORY OF MINES IN THE EWING QUADRANGLE

#### MINE SUMMARY SHEETS

A summary sheet on the geology and production history of each mine in the Ewing Quadrangle is provided. These summary sheets are arranged numerically by mine index number. Consult Part I for a complete explanation of the data listed in the summary sheet.

#### Mine Index 139 United States Fuel Company, Middle Fork Mine

Type: Underground Total mined-out acreage shown: 838

#### SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

Туре	County	Township-Range	Section	Quarters-Footage
Main shaft (12'x17')	Franklin	6S 3E	21	NE NE NE
Air shaft (12'x15')	Franklin	6S 3E	21	NW NE NE
GEOLOGY				

		Thic	ckness (f	t)	Mining	
Seam(s) Mined	Depth (ft)	Min	Max	Avg	Method	
Herrin	602-609	5.0	11.5	6.0-7.67	RPP	

Geologic Problems Reported: The roof in the northern part of the mine was light gray shale (white top) and came down readily. "Several feet" of top coal had to be left to support this roof. Other areas had 6 inches to 6 feet of black shale as roof, which drew in some places, or limestone roof. The mine manager noted that the roof in east-west entries held, while the roof in north-south entries fell in a very short time. The coal rolled considerably in the eastern and southern parts of the mine, making it difficult to maintain easy grades on the haulage roads. The roadbeds had many hills and valleys. Rolls and slips were present in the seam, but not of sufficient density to have a detrimental affect on mining. Pyrite lenses and calcite veinlets were also present in the coal. The underclay was 4 to 5 feet thick and heaved when wet.

#### **PRODUCTION HISTORY**

			Production	
Company	Mine Name	Years	(tons)	
Middle Fork Mining Company	Middle Fork	1915-1916	51,115	
United States Fuel Company	Middle Fork	1916-1924	4,016,768	
			4 067 883	

Last reported production: July 1924

#### **SOURCES OF DATA**

		Original	Digitized		
Source Map	Date	Scale	Scale	Map Type	
Microfilm, document 351418	7-3-1924	1:3600	1:7696	Final	

#### Annotated Bibliography (data source, brief description of information)

Coal Reports - Production, ownership, years of operation, shaft sizes, depth, thickness.

Directory of Illinois Coal Mines (Franklin County) - Mine names, mine index, ownership, years of operation. ENR Document 85/01 - Mining method.

Mine notes (Franklin County) - Mine type, shaft locations, seam, depth, thickness, geologic problems. Microfilm map, document 351418, reel 03136, frame 53 - Shaft locations, mine outline, mining method.

#### Mine Index 1047 M-Class Mining, M-Class No. 1 Mine

Type: Underground Total mined-out acreage shown: 12,378

#### SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

Туре	County	Township-Range	Section	Quarters-Footage
Main slope	Franklin	6S 4E	4	NE SE SE
Viking portal (shaft)	Frankin	5S 4E	28	NE NE SE

#### **GEOLOGY**

		Thickness (ft)		Mining		
Seam(s) Mined	Depth (ft)	Min	Max	Avg	Method	
Herrin	730			6.0	LW	

Geologic Problems Reported:

#### **PRODUCTION HISTORY**

			Production
Company	Mine Name	Years	(tons)
M-Class Mining *	M-Class No. 1	2010- **	104,188,603 ** 104,188,603

<sup>\*</sup> M-Class Mining is a subsidiary of Sugar Camp Energy, LLC.

Last reported production:

#### **SOURCES OF DATA**

		Original	Digitized	
Source Map	Date	Scale	Scale	Мар Туре
Company, 6-465L	3-24-2022	1:8400	1:8400	Not final

#### Annotated Bibliography (data source, brief description of information)

Coal Reports - Production, ownership, years of operation, seam, depth, thickness. Directory of Illinois Coal Mines (Franklin County) - Mine names, mine index, ownership, years of operation. Company map, Coal Section files, 6-465L - Slope and shaft locations, mine outline, mining method.

<sup>\*\*</sup> Production includes tonnage through 2022, the latest available Coal Report.

#### INDEX OF MINES IN THE EWING QUADRANGLE

M-Class Mining	10
Middle Fork Mining Company	
Sugar Camp Energy, LLC	10
United States Fuel Company	
Viking portal	10

