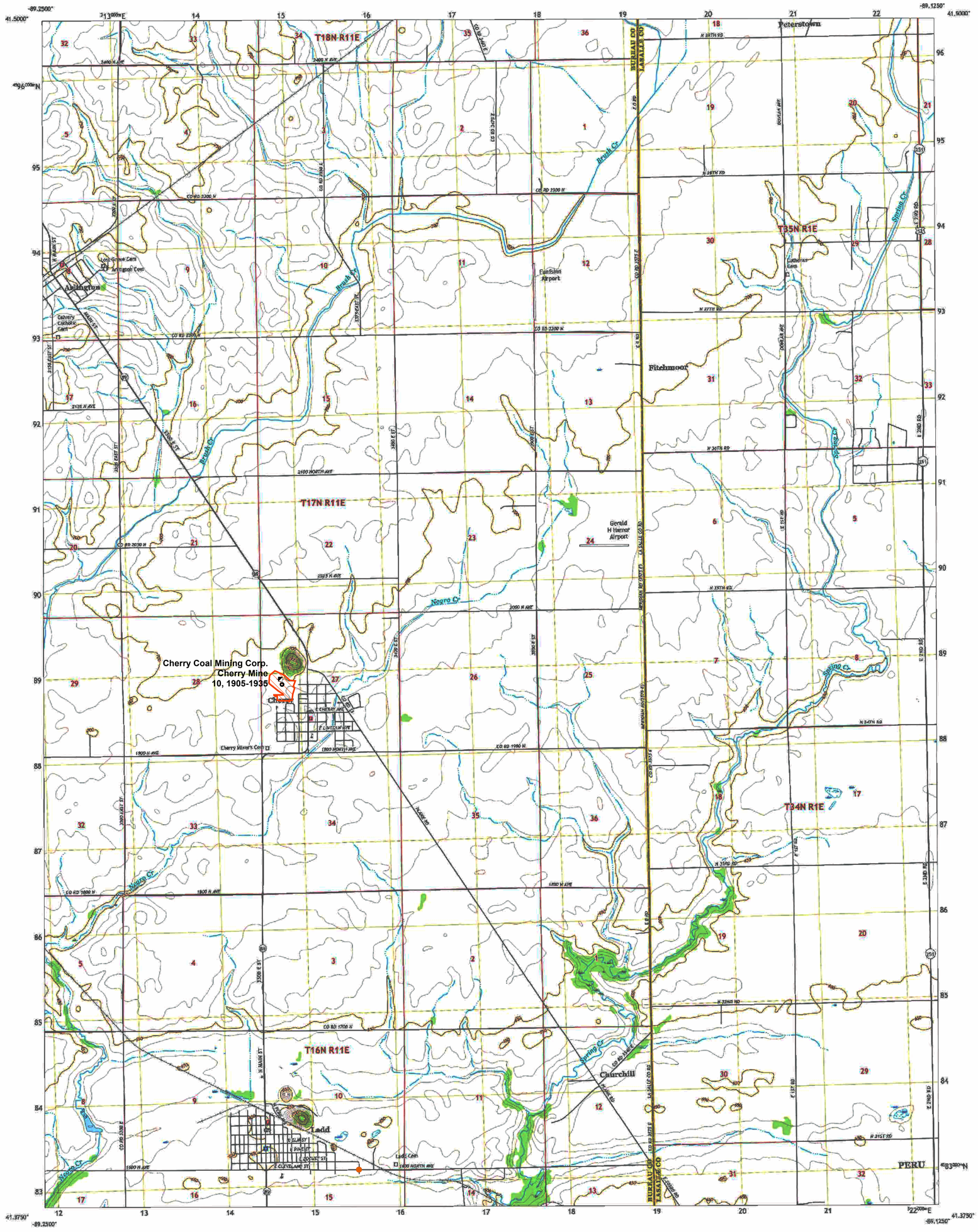
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

LADD QUADRANGLE
ILLINOIS
7.5-MINUTE SERIES




# Coal Mines in Illinois
# Ladd Quadrangle
# Bureau and LaSalle Counties, Illinois

## Danville Coal

This map accompanies the Coal Mines Directory for the Ladd Quadrangle and maps of mines in the Herrin and Colchester Coals, Ladd Quadrangle. Consult the directory for a complete explanation of the information shown on this map.

**Mining Method**
- Room & Pillar (RP)
- Room & Pillar Basic (RPB)
- Modified Room & Pillar (MRP)
- Room & Pillar Panel (RPP)
- Blind Room & Pillar (BRP)
- Checkerboard Room & Pillar (CRP)
- High Extraction Retreat (HER)
- Longwall (LW)
- Underground, Method Unknown
- Strip Mine
- Auger Mine
- General Area of Mining

**Other Areas Depicted**
- Non-Coal Mines

**Source of Mine Outline**
- Final Mine Map
- Not Final Mine Map
- Undated Mine Map
- Incomplete Mine Map
- Secondary Source Map

**Tipple, Shaft, Slope, Drift Locations**
- Strip Mine Tipple - Active
- 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

**Other Points Depicted**
- Non-Coal Mines

**Location**

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

**Disclaimer**
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.


**Produced by the United States Geological Survey**
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 16T
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, August 2015 - October 2015
Roads.....U.S. Census Bureau, 2017
Names.....GNIS, 1980 - 2017
Hydrography.....National Hydrography Dataset, 2006 - 2017
Contours.....National Elevation Dataset, 2008
Boundaries.....multiple sources; see metadata file, 2014 - 2016
Public Land Survey System.....BLM, 2017
Wetlands.....FWS National Wetlands Inventory 1983

UTM GRID AND 2017 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
KILOMETERS 0 0.5 1 2
METERS 0 500 1000 2000
MILES 0 0.5 1
FEET 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.18

ROAD CLASSIFICATION
Expressway, Secondary Hwy, Ramp, Local Connector, Local Road, 4WD
Interstate Route, US Route, State Route

1 La Moille 2 Mendota West 3 Mendota East 4 Malden 5 Troy Grove 6 Depue 7 Spring Valley 8 La Salle
ADJOINING QUADRANGLES

LADD, IL
2018



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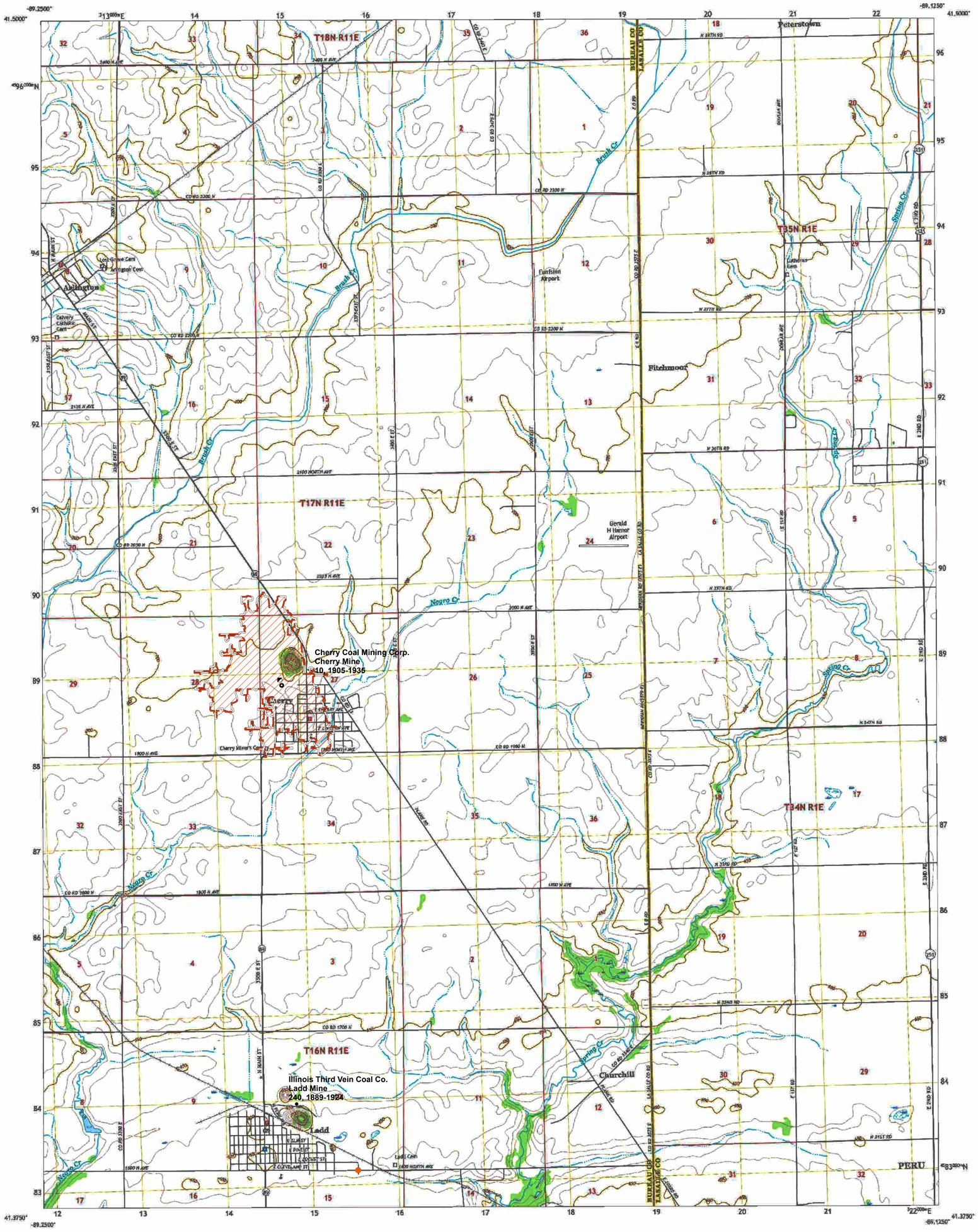
Illinois State Geological Survey
PRAIRIE RESEARCH INSTITUTE

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


**Mine Outlines Compiled by**
**Alan R. Myers**

**November 13, 2009**

Revised:
Alan R. Myers 08-29-2024




# Coal Mines in Illinois
# Ladd Quadrangle
# Bureau and LaSalle Counties, Illinois

## Herrin Coal

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**Mining Method**
- Room & Pillar (RP)
- Room & Pillar Basic (RPB)
- Modified Room & Pillar (MRP)
- Room & Pillar Panel (RPP)
- Blind Room & Pillar (BRP)
- Checkerboard Room & Pillar (CRP)
- High Extraction Retreat (HER)
- Longwall (LW)
- Underground, Method Unknown
- Strip Mine
- Auger Mine
- General Area of Mining

**Other Areas Depicted**
- Non-Coal Mines

**Source of Mine Outline**
- Final Mine Map
- Not Final Mine Map
- Undated Mine Map
- Incomplete Mine Map
- Secondary Source Map

**Tipple, Shaft, Slope, Drift Locations**
- Strip Mine Tipple - Active
- 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

**Other Points Depicted**
- Non-Coal Mines

**Location**

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

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


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**
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**November 13, 2009**

Revised:
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U.S. GEOLOGICAL SURVEY

US Topo

LADD QUADRANGLE
ILLINOIS
7.5-MINUTE SERIES

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Boundaries ..... Multiple sources; see metadata file, 2014 - 2016
Public Land Survey System ..... BLM, 2017
Wetlands ..... FWS National Wetlands Inventory 1983

UTM GRID AND 2017 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

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ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1 La Moille
2 Hennepin West
3 Hennepin East
4 Malden
5 Troy Grove
6 Depue
7 Spring Valley
8 La Salle

LADD, IL
2018

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The National Map US Topo

LADD QUADRANGLE
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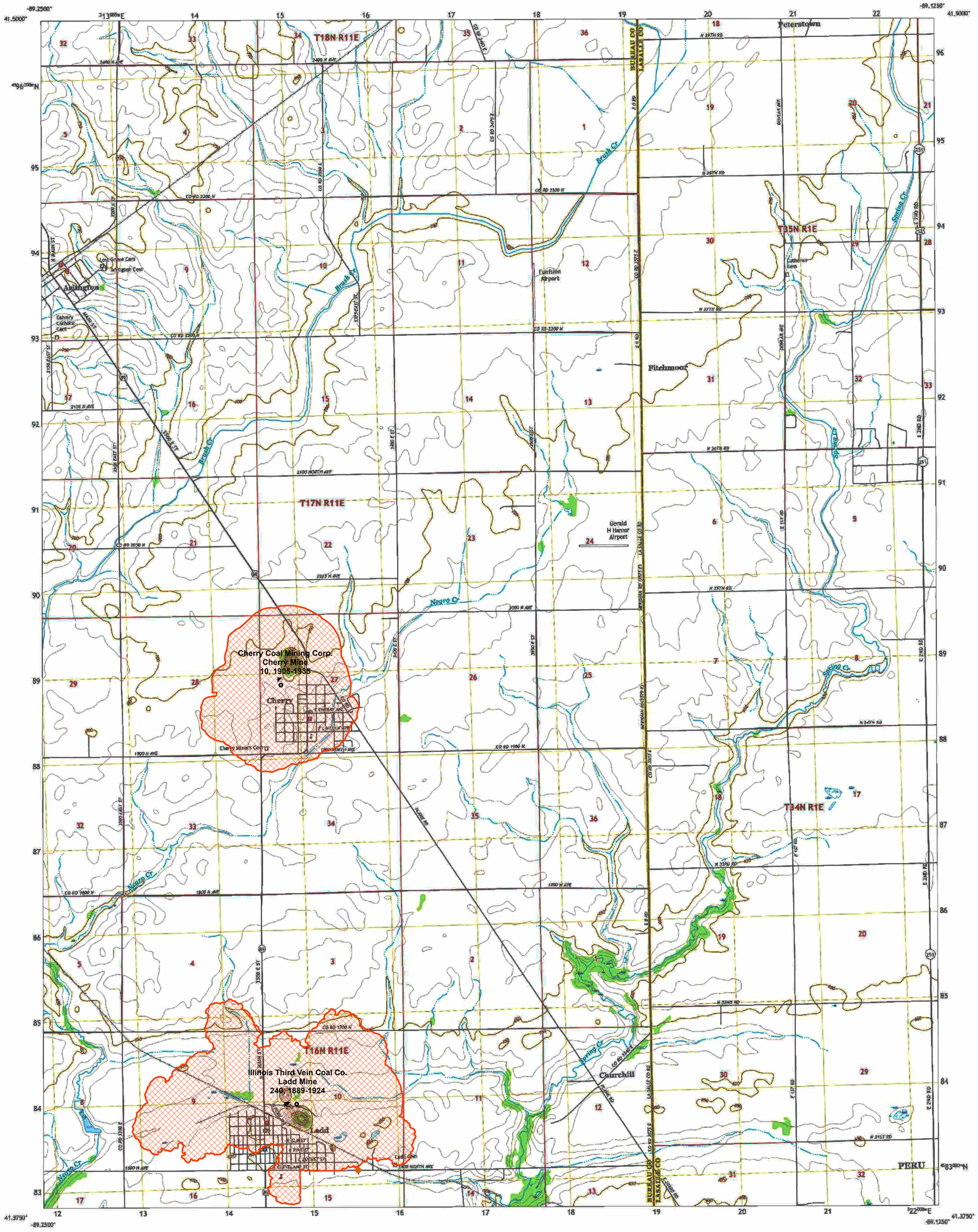
7.5-MINUTE SERIES




# Coal Mines in Illinois
# Ladd Quadrangle
# Bureau and LaSalle Counties, Illinois

## Colchester Coal

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**Mining Method**
- Room & Pillar (RP)
- Room & Pillar Basic (RPB)
- Modified Room & Pillar (MRP)
- Room & Pillar Panel (RPP)
- Blind Room & Pillar (BRP)
- Checkerboard Room & Pillar (CRP)
- High Extraction Retreat (HER)
- Longwall (LW)
- Underground, Method Unknown
- Strip Mine
- Auger Mine
- General Area of Mining

**Other Areas Depicted**
- Non-Coal Mines

**Source of Mine Outline**
- Final Mine Map
- Not Final Mine Map
- Undated Mine Map
- Incomplete Mine Map
- Secondary Source Map

**Tipple, Shaft, Slope, Drift Locations**
- Strip Mine Tipple - Active
- Strip Mine Tipple - Abandoned
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- Mine Shaft - Abandoned
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- Mine Slope - Abandoned
- Mine Drift - Active
- Mine Drift - Abandoned
- Air Shaft
- Uncertain Location
- Uncertain Type of Opening

**Other Points Depicted**
- Non-Coal Mines

**Location**

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

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SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
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ROAD CLASSIFICATION

ADJOINING QUADRANGLES
1 La Moille
2 Mendota West
3 Mendota East
4 Malden
5 Troy Grove
6 Depue
7 Spring Valley
8 La Salle

LADD, IL
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**Mine Outlines Compiled by**
**Alan R. Myers**

**November 13, 2009**

Revised:
Alan R. Myers 08-29-2024

# DIRECTORY OF COAL MINES IN ILLINOIS
# 7.5-MINUTE QUADRANGLE SERIES
## LADD QUADRANGLE
## BUREAU & LA SALLE COUNTIES

Alan R. Myers & C. Chenoweth

2009
Revised 2024

Institute of Natural Resource Sustainability
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ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

This material is based upon work supported by the Illinois Mine Subsidence Insurance Fund. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the Illinois Mine Subsidence Insurance Fund.

**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.

## CONTENTS

## 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 LADD QUADRANGLE

The fire at the Cherry Mine (mine index 10) caused the most fatalities of any single accident in the state. In 1909, a kerosene torch leaked oil onto a wagon of straw for the mine mules and caught fire. The wagon was eventually pushed down the sump, but not before the roof support timbers were smoldering. The coal was ignited from the burning timbers, and with the work force on two levels, the area near the exits became filled with smoke and heat before the men could all be evacuated. In all, 256 men died.

Mining took place in the Herrin and Colchester Coals. The Herrin Coal was much shallower and easier to access in both surface and underground mining. However, the coal contained many impurities, including pyrite, bone coal, and clay partings. In one Bureau County surface mine, the coal was mined in two benches to allow removal of a 2-inch pyrite-rich band by hand shovel. Pyrite was also present as nodules that adhered to the coal. In hand-mining, the nodules were removed at the face and left in the mine. In some mines, horsebacks and clay bands or veins were present in sufficient density to increase the ash content to such a degree that the coal was unsatisfactory. In such mines, the shaft was usually deepened to reach the Colchester Coal. The Colchester Coal had some pyrite present in a 4-inch band and as nodules, but the coal was higher quality in this part of the state than the Herrin Coal.

# 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.

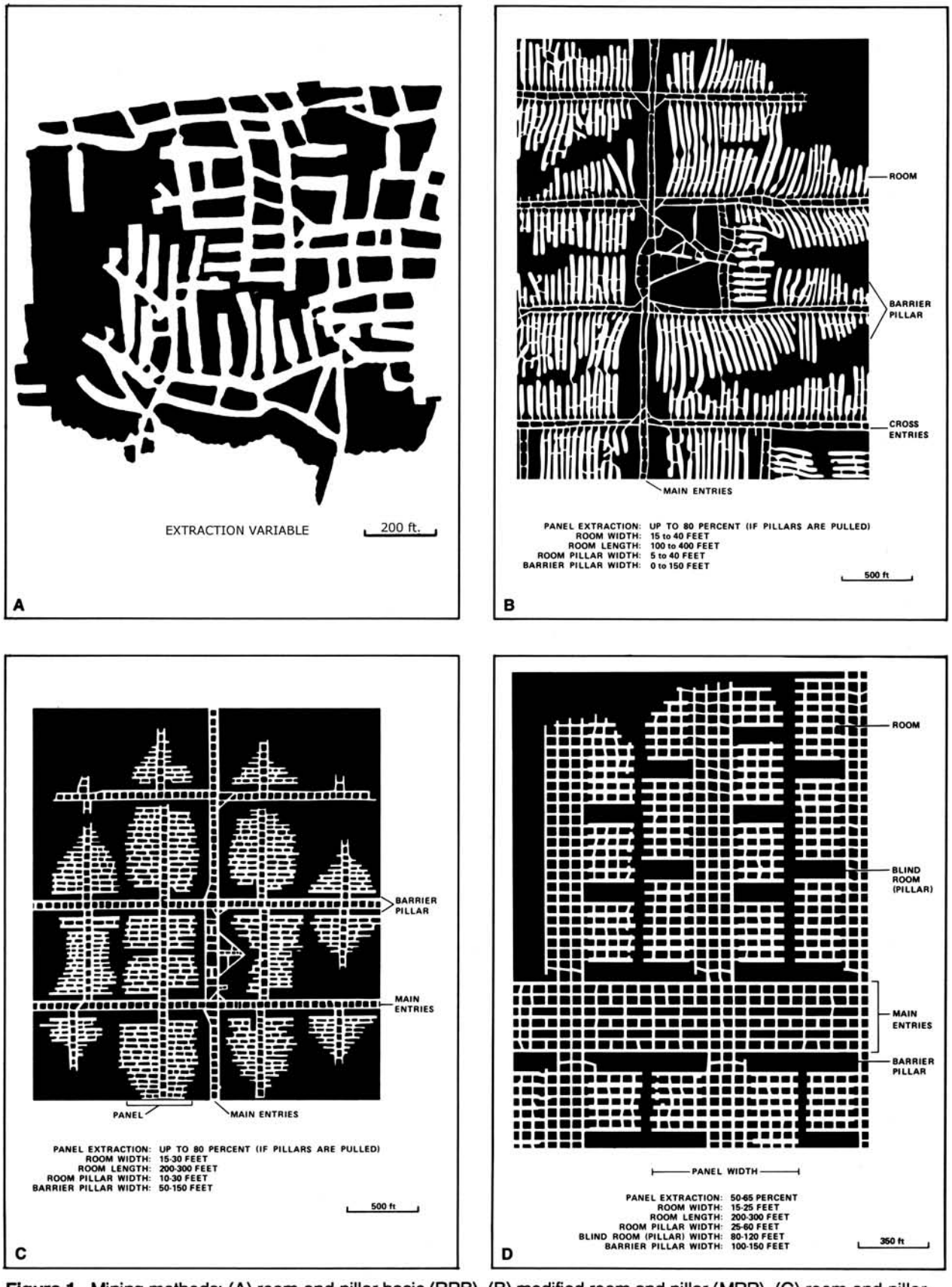
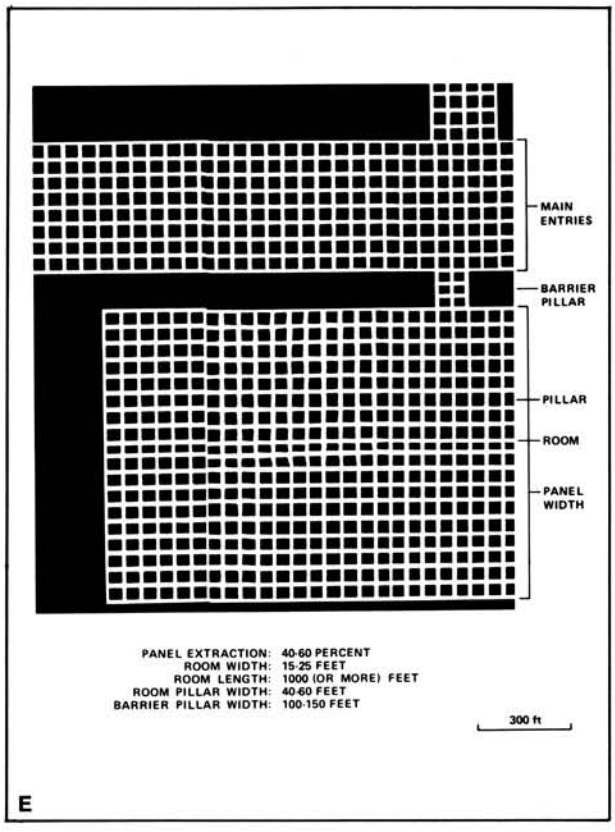
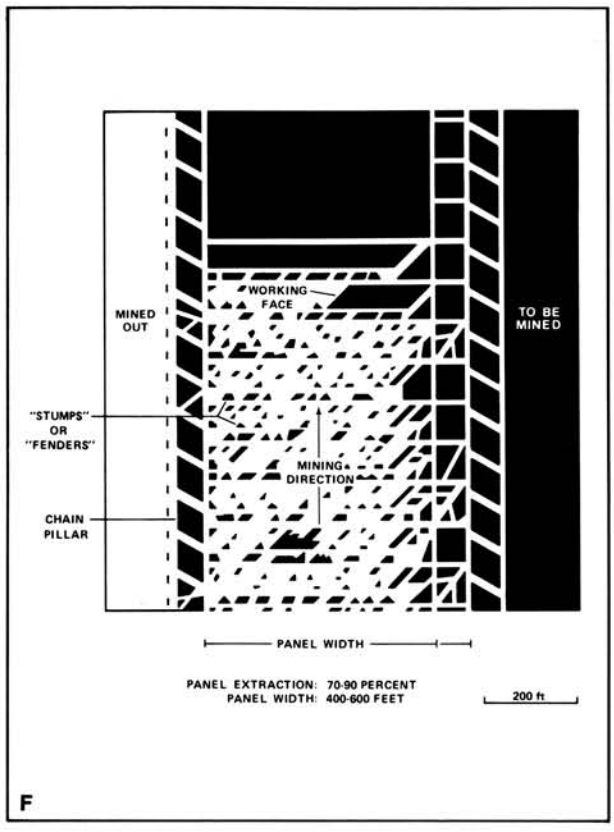
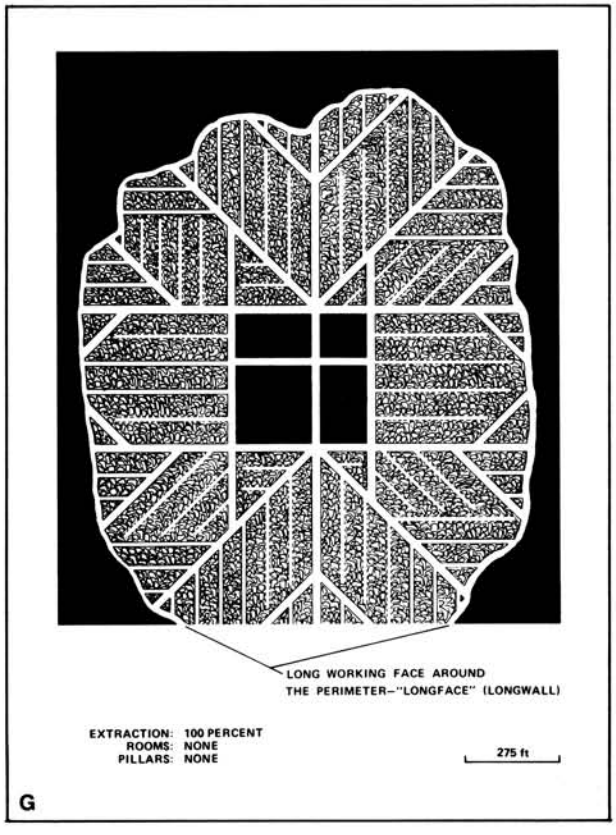



**Figure 1** Mining methods: (A) room-and-pillar basic (RPB), (B) modified room and pillar (MRP), (C) room-and-pillar panel (RPP), (D) blind room and pillar (BRP).



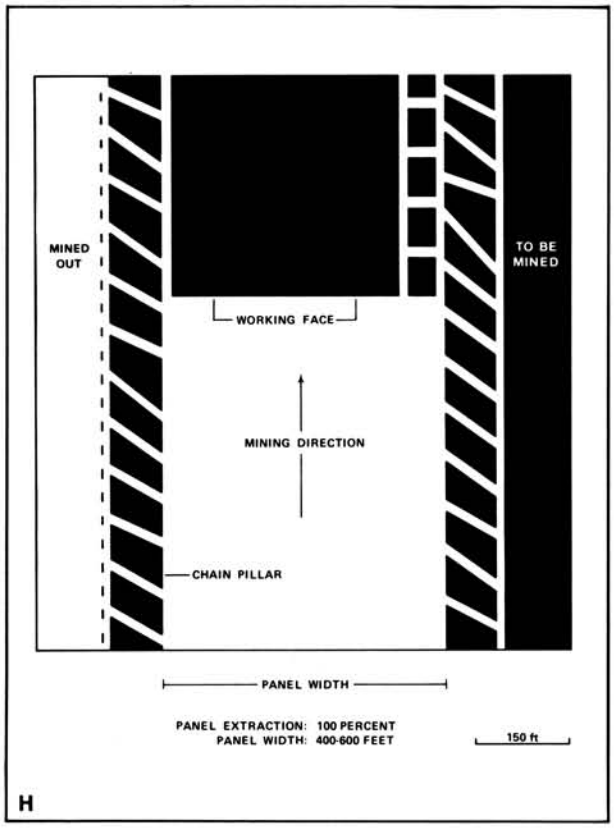




**Figure 1** *(cont.)* Mining methods: (E) checkerboard room and pillar (CRP), (F) high extraction retreat (HER), (G) early (pre-1960) longwall, (H) post-1959 longwall

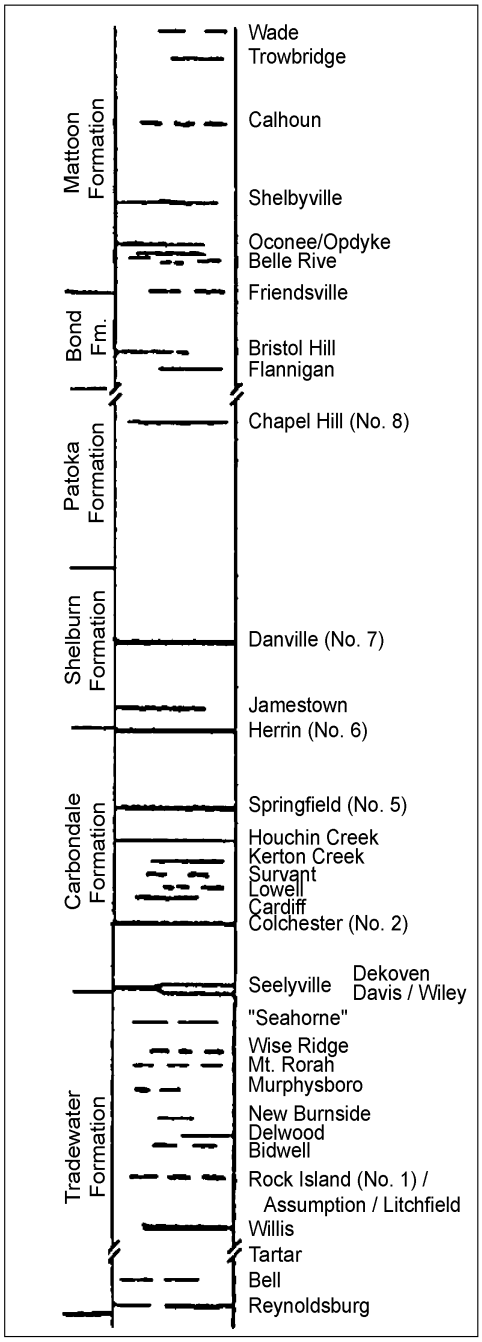



**Figure 2** Generalized stratigraphic section, showing approximate vertical relations of coals in Illinois.

## 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 quarters 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 LADD QUADRANGLE

## MINE SUMMARY SHEETS

A summary sheet on the geology and production history of each mine in the Ladd 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 10
### Cherry Coal Mining Corporation, Cherry Mine

Type: Underground Total mined-out acreage shown: 979 (17 acres in the Danville Coal, 332 acres in the Herrin Coal, and 630 acres in the Colchester Coal). The area mined after the map date can not be estimated. Production was never reported by seam, and the area mined cannot be compared to the reported production.

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

| Type | County | Township-Range | Section | Quarters-Footage |
|---|---|---|---|---|
| Main shaft | Bureau | 17N 11E | 27 | SE SW NW |
| Air shaft | Bureau | 17N 11E | 27 | NE NW SW |

#### GEOLOGY

| | | Thickness (ft) | | | Mining |
|---|---|---|---|---|---|
| Seam(s) Mined | Depth (ft) | Min | Max | Avg | Method |
| Danville * | 280 | | | 1.0-3.0 | RP |
| Herrin | 317-321 | 4.4 | 6.5 | 5.0 | RP |
| Colchester | 485 | 2.0 | | 3.5 | LW |

* A map (State archive, IL_1043_01) shows room and pillar mining near the shaft from March 1933 to May 1934. The seam is not designated on the map source. Because the map shows the workings in the last two years of operation, the room and pillar mining may actually be mining of the large block of unmined coal surrounding the shaft bottom in the longwall part of the mine (in the lowest seam, Colchester Coal). However, the configuration shown does not precisely match the un-mined block. The map may show operations in what was termed the "1st Vein", or Danville Coal. Because of the uncertainty, the accompanying map for the Danville Coal may not accurately depict the mining that took place.

Geologic Problems Reported: This mine was the site of the Cherry Mine disaster in 1909, when 256 men lost their lives in a fire. The fire started on a hay wagon near the stables, and the fire spread to the timbers and thence to the coal. A further 8 fatalities were caused by falls of the roof, which was unusual for Bureau County (the other mines having two or fewer such deaths). In at least 5 of the falls, the failure was because a portion of the roof separated from the layers above, along a parting that was about 2 feet thick in most cases, and tapered to a feather edge. The mine notes also indicated the roof was bad, with many slips and rolls. (Note: The seam that the roof failures occurred in was not specified, but the descriptions tend to indicate that most of the roof failures were in the Herrin Coal. However, one large roof failure did take place at the shaft bottom in the Colchester Coal, although that may have happened only because of weakening due to the fire.)

The immediate roof for the Herrin Coal was a sandy gray shale. Some slips were seen that extended down into the blue band. "The percent of impurities at those places will often exceed 50%, rendering the coal absolutely worthless". Large round concretions were also present immediately above the coal. Pyrite lenses from ½ to 2 inches thick were present, and these were difficult to remove. The most persistent bedded impurity was the 3 inch blue band of bone coal that was 7 inches above the floor. Two more bedded layers occurred 20 and 29 inches above the floor. These consisted of stony pyrite, and they thickened and thinned laterally, but were present as far as observers followed them. Two more lenses of bone coal appeared at 37 and 57 inches above the floor and pyrite nodules were common at those horizons. The nodules adhered to the coal, and were discarded at the face while mining. Fracture facings of calcite and gypsum were noted at the face, but they were not conspicuous or plentiful. Bone coal was present in quantity sufficient to add considerable ash. At least one horseback was seen.

The roof of the Colchester Coal was 0 to 12 inches of gray shale (averaging 5 inches thick), with 20 inches of black shale above. The Colchester Coal had a 4 inch layer of pyrite-rich coal that would spontaneously combust when exposed to air on the mine dump pile.

**PRODUCTION HISTORY**

| Company | Mine Name | Years | Production (tons) |
|---|---|---|---|
| St. Paul Coal Company | St. Paul No. 2 | 1905-1928 ** | 5,288,204 |
| Cherry Coal Company | Cherry | 1929-1935 | 53,500 |
| Cherry Coal Mining Corporation | Cherry | 1935-1935 | 800 *** |
| | | | 5,342,504 |

** Idle or temporarily abandoned 1928
*** Production after map date

Last reported production: 1935

**SOURCES OF DATA**

| Source Map | Date | Original Scale | Digitized Scale | Map Type |
|---|---|---|---|---|
| State archive, IL_1050_01 | 1-1924 | 1:2400 | 1:2400 | Not final |
| State archive, IL_1051_01 | after 3-1909 | 1:2400 | 1:2400 | Undated |
| State archive, IL_1043_01 | 5-2-1934 | 1:2400 | 1:2400 | Not final |

Annotated Bibliography (data source, brief description of information)
Coal Reports - Production, ownership, years of operation, seams, depths, mining methods.
Directory of Illinois Coal Mines (Bureau County) - Mine names, mine index, ownership, years of operation.
Mine notes (Bureau County) - Mine type, shaft location, thickness, geologic problems.
State archive, IL_1050_01 - Shaft location, mine outline (Colchester Coal), mining method.
State archive, IL_1051_01 - Mine outline (Herrin Coal, “middle vein”), mining method.
State archive, IL_1043_01 - Mine outline (Danville Coal or un-mined block at the shaft bottom in the Colchester Coal), mining method.

**Mine Index 240**
**Illinois Third Vein Coal Company, Ladd Mine**

Type: Underground Total mined-out acreage shown: 1,112 Production indicates approximately 10 acres were mined after the map date. The production and area mined in the Herrin Coal is not known.

**SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS**

| Type | County | Township-Range | Section | Quarters-Footage |
|---|---|---|---|---|
| Main shaft (B shaft) | Bureau | 16N 11E | 10 | NE NW SW |
| Air shaft (A shaft) | Bureau | 16N 11E | 10 | NE NW SW |
| Air / escape shaft | Bureau | 16N 11E | 10 | NE NW SW |

**GEOLOGY**

| Seam(s) Mined | Depth (ft) | Thickness (ft) Min | Max | Avg | Mining Method |
|---|---|---|---|---|---|
| Herrin | 167 | | | 5.0 | RP |
| Colchester | 463 | | | 3.25-3.5 | LW |

Geologic Problems Reported: The top vein (Herrin Coal) was abandoned in 1890 because the quality was unsatisfactory. The roof was a hard gray shale with 4 inches of draw slate on the bottom (adjacent to the coal). Some horsebacks were observed. The Colchester Coal had a pyrite band and scattered pyrite lenses up to 1 inch thick.

**PRODUCTION HISTORY**

| Company | Mine Name | Years | Production (tons) |
|---|---|---|---|
| Whitebreast Fuel Company | A | 1889-1890 | 4,583 |
| Whitebreast Fuel Company | B | 1890-1901 | 1,561,020 |
| Illinois Third Vein Coal Company | Ladd | 1901-1924 | 4,574,432 |
| Illinois Third Vein Coal Company | Ladd | 1924-1924 | 58,679 * |
| | | | 6,198,714 |

* Production after map date

Last reported production: December 1924

**SOURCES OF DATA**

| Source Map | Date | Original Scale | Digitized Scale | Map Type |
|---|---|---|---|---|
| State archive, IL_1054_03 | 5-10-1924 | 1:2400 | 1:2400 | Not final |

Annotated Bibliography (data source, brief description of information)

Coal Reports - Production, ownership, years of operation, geologic problems, depth & thickness (upper seam).
Directory of Illinois Coal Mines (Bureau County) - Mine names, mine index, ownership, years of operation.
Mine notes (Bureau County) - Mine type, shaft location, seam, depth, thickness, geologic problems.
State archive, IL_1054_03 - Shaft locations, mine outline, mining method.

**INDEX OF MINES IN THE LADD QUADRANGLE**