Coal Mines in Illinois
Centralia East Quadrangle
Marion County, Illinois

This map accompanies the Coal Mines Directory for the Centralia East 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

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

Tipples, Shafts, 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

Mine Annotation
(lease 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 http://www.igs.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 trend directories for full information on the characteristics and mine activities. Also, note that some quadrangles have multiple areas 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 counties.

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 information without regard to legal boundaries, jurisdictional lines, or land ownership. The data compiled for this map are based on multiple sources, and 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 standard studies to fully understand the geology of a specific site. The Illinois State Geological Survey, Institute of Natural Resources Sustainability, or the University of Illinois makes no warranty, expressed or implied, regarding the correctness of the interpretations presented in the data set and accepts 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 1:30,000. Entering the map may reduce accuracy, as the original scale of the source maps used to compile the outline shown varies from 1:400 to 1:150,000, and some mine locations are known only from 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 mined, see the undated mine map 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.
DIRECTORY OF COAL MINES IN ILLINOIS
7.5-MINUTE QUADRANGLE SERIES
CENTRALIA EAST QUADRANGLE
MARION COUNTY

Jennifer M. Obrad & C. Chenoweth
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.

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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 CENTRALIA EAST QUADRANGLE
Mines operated in the Centralia East Quadrangle from before 1882 until 1963. The earliest mine operated was the Chicago-Sandoval Mine (mine index 2847), and the most recent was the Glenridge Mine (mine index 207). Mining conditions were generally good, with Herrin Coal up to 7 feet thick, and a black shale roof that held up well for the most part. The mines in the area intercepted faults of the Centralia Fault Zone, with displacements up to 35 feet in one mine and 18 feet in another.
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
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.


**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**


PART II  DIRECTORY OF MINES IN THE CENTRALIA EAST QUADRANGLE

MINE SUMMARY SHEETS
A summary sheet on the geology and production history of each mine in the Centralia East 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 87
Odin Coal Company, Odin Mine

Type: Underground  Total mined-out acreage shown: 1,392  Production indicates an additional 87 acres were mined after the map date.

SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>County</th>
<th>Township-Range</th>
<th>Section</th>
<th>Quarters-Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main shaft</td>
<td>Marion</td>
<td>2N 1E</td>
<td>13</td>
<td>SE NW NW</td>
</tr>
<tr>
<td>Air shaft</td>
<td>Marion</td>
<td>2N 1E</td>
<td>13</td>
<td>NW NE NW</td>
</tr>
</tbody>
</table>

GEOLOGY

<table>
<thead>
<tr>
<th>Seam(s) Mined</th>
<th>Depth (ft)</th>
<th>Thickness (ft)</th>
<th>Mining Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herrin</td>
<td>708</td>
<td>6.0 8.0 6.3</td>
<td>MRP, some HER</td>
</tr>
</tbody>
</table>

Geologic Problems Reported: One normal fault with 12 inches of displacement in the western part of the mine was noted. That fault trended SE-NW, and was traced about 2,000 feet. A smaller E-W-trending fault was found in two rooms only. The roof immediately above the coal was a good black shale from 2 to 10 feet thick that generally held well. Top coal was left to support the roof locally. The source map labeled the western part of the mine “caved”, as well as the easternmost part. Pillars were drawn in the northeastern and southernmost parts of the mine. Calcareous clay veins up to 4 inches wide were noted. Gypsum was present throughout the seam. Pyrite was present as lenses or in stony or massive form. Much of this pyrite was removed prior to loading and left in the mine. The lowest part of the coal seam above the blue band had the highest sulphur content. The coal thickness varied more below the blue band than above it. Where the coal totaled 7 feet thick, the blue band was 8 inches above the roof. Where the coal was 6 feet thick, the blue band was 4 to 5 inches above the floor. The blue band was up to 2 inches thick, and consisted of bone coal that was often highly pyritic; perhaps 30 to 50 per cent of the blue band consisted of pyrite. The fire clay making the floor was 8 feet thick or more, and sometimes slacked and creeped.

PRODUCTION HISTORY

<table>
<thead>
<tr>
<th>Company</th>
<th>Mine Name</th>
<th>Years</th>
<th>Production (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odin Coal Company</td>
<td>Odin</td>
<td>1886-1932</td>
<td>6,953,057</td>
</tr>
<tr>
<td>Odin Coal Company</td>
<td>Odin</td>
<td>1932-1938</td>
<td>435,151 *</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7,388,208</td>
</tr>
</tbody>
</table>

* Production after map date

Last reported production: January 1938

SOURCES OF DATA

Source Map | Date | Original Scale | Digitized Scale | Map Type |
-----------|------|----------------|-----------------|----------|
Company, 4103.M36 i5.1-2 | 10-1932 | 1:3727 | 1:3727 | Not final |

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

Coal Reports - Production, ownership, years of operation, mining method.
Directory of Illinois Coal Mines (Marion County) - Mine names, mine index, ownership, years of operation.
Mine notes (Marion County) - Mine type, shaft location, seam, depth, thickness, geologic problems.
Company map, ISGS map library 4103.M36 i5.1-2 - Shaft locations, mine outline, mining method, geologic problems.
Mine Index 206
Franklin County Coal Company, Franklin No. 9 Mine

Type: Underground  Total mined-out acreage shown: 1,418, which includes the area for Sandoval No. 1 (mine index 2847). The boundary between the two mines could not be discerned. The area shown on the accompanying map is smaller than expected for the combined production. Production indicates an additional 1,750 acres were mined.

SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>County</th>
<th>Township-Range</th>
<th>Section</th>
<th>Quarters-Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main shaft *</td>
<td>Marion</td>
<td>2N 1E</td>
<td>17</td>
<td>SE NW SW</td>
</tr>
</tbody>
</table>

* Ventilation was likely provided by Sandoval No. 1 Mine (mine index 2847), with the shaft located in SW SW NE 17-T2N-R1E.

GEOLOGY

<table>
<thead>
<tr>
<th>Seam(s) Mined</th>
<th>Depth (ft)</th>
<th>Thickness (ft)</th>
<th>Mining Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herrin</td>
<td>636</td>
<td>5.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Geologic Problems Reported: A fault was noted in the southern part of the mine, with displacement (downthrown side to the east) ranging between 3 and 18 feet. The black shale making up the roof reached up to 2.5 feet thick in limited areas, and did not stay up well when the fissile zone was that thick. The remainder of the black shale was thin-bedded, hard, and brittle. The coal contained several small streaks of shale and pyrite. The blue band was usually 2 to 3 inches thick. The underclay floor creeped readily and ranged in thickness from 1 inch to 5 feet. Pyrite balls were common in the floor clay.

PRODUCTION HISTORY

<table>
<thead>
<tr>
<th>Company</th>
<th>Mine Name</th>
<th>Years</th>
<th>Production (tons)</th>
</tr>
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<tbody>
<tr>
<td>Sandoval Coal Company</td>
<td>Sandoval No. 2</td>
<td>1904-1907</td>
<td>141,804</td>
</tr>
<tr>
<td>Middleton &amp; Seidel</td>
<td>Sandoval No. 2</td>
<td>1907-1908</td>
<td>42,400</td>
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<tr>
<td>Dan Middleton</td>
<td>Sandoval No. 2</td>
<td>1908-1909</td>
<td>143,331</td>
</tr>
<tr>
<td>Chicago-Sandoval Coal Company</td>
<td>Chicago-Sandoval No. 2</td>
<td>1909-1923</td>
<td>3,289,064</td>
</tr>
<tr>
<td>Franklin County Coal Company</td>
<td>Franklin No. 9</td>
<td>1923-1925</td>
<td>94,932</td>
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</table>

Last reported production: January 1925

SOURCES OF DATA

<table>
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<th>Source Map</th>
<th>Date</th>
<th>Original Scale</th>
<th>Digitized Scale</th>
<th>Map Type</th>
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<tr>
<td>Federal Land Bank Report</td>
<td>1-1936</td>
<td>1:63360</td>
<td>1:126720</td>
<td>Secondary source</td>
</tr>
<tr>
<td>USGS topographic map, Centralia</td>
<td>1914</td>
<td>1:62500</td>
<td>1:62500</td>
<td>Secondary source</td>
</tr>
</tbody>
</table>

Annotated Bibliography  (data source, brief description of information)

Coal Reports - Production, ownership, years of operation, mining method.
Directory of Illinois Coal Mines (Marion County) - Mine names, mine index, ownership, years of operation.
Mine notes (Marion County) - Mine type, shaft location, seam, depth, thickness, geologic problems.
Federal Land Bank Report (Marion County) - Mine outline.
ISGS map library, 4102 i5.1-13, map of Glenridge Mine (mine index 207) - Mine outline (southern part).
USGS 15-minute topographic map, Centralia, 1914 - Shaft location.
Mine Index 207
Marion County Coal Mining Corporation, Inc., Glenridge Mine

Type: Underground  Total mined-out acreage shown: 2,574  Production indicates an additional 4 acres were mined after the map date.

SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>County</th>
<th>Township-Range</th>
<th>Section</th>
<th>Quarters-Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main shaft (9 x 14 ft)</td>
<td>Marion</td>
<td>2N 1E</td>
<td>31</td>
<td>NW NE NE</td>
</tr>
<tr>
<td>Air shaft</td>
<td>Marion</td>
<td>2N 1E</td>
<td>31</td>
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<thead>
<tr>
<th>Seam(s) Mined</th>
<th>Thickness (ft)</th>
<th>Depth (ft)</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>Mining Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herrin</td>
<td>5.0</td>
<td>600</td>
<td>5.0</td>
<td>7.5</td>
<td>5.5-6.25</td>
<td>MRP</td>
</tr>
</tbody>
</table>

Geologic Problems Reported: A series of north-south faults were noted on the eastern half of the mine. In one case, 35 feet of displacement was seen. Faults were noted on the source map. The roof consisted of 1.5 to 5 feet of black shale that was very tightly bound to the coal below. The roof held up better when the entries were driven in the same direction as the jointing. The shale contained a large number of concretions, including coal balls. The coal contained pyrite in stringers and lenses, and calcite and gypsum in vein fillings. The blue band was 0.5 to 2 inches thick and 6 to 10 inches above the floor. Seepage of water and crude oil from oil wells caused some trouble. The underclay floor consisted of 4 inches to 5 feet of soft, light gray clay. Heaving occurred where the clay was thick and the mine was wet.

PRODUCTION HISTORY

<table>
<thead>
<tr>
<th>Company</th>
<th>Mine Name</th>
<th>Years</th>
<th>Production (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marion County Coal Company</td>
<td>Glenridge</td>
<td>1906-1940</td>
<td>10,543,305</td>
</tr>
<tr>
<td>Marion County Coal Mining Corp., Inc.</td>
<td>Glenridge</td>
<td>1940-1962</td>
<td>3,217,924</td>
</tr>
<tr>
<td>Marion County Coal Mining Corp., Inc.</td>
<td>Glenridge</td>
<td>1962-1963</td>
<td>20,643 *</td>
</tr>
</tbody>
</table>

* Production after map date

Last reported production: December 1963

SOURCES OF DATA

<table>
<thead>
<tr>
<th>Source Map</th>
<th>Date</th>
<th>Original Scale</th>
<th>Digitized Scale</th>
<th>Map Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microfilm, document 351397</td>
<td>2-2-1962</td>
<td>1:2400</td>
<td>1:4634</td>
<td>Not final</td>
</tr>
</tbody>
</table>

Annotated Bibliography  (data source, brief description of information)

Coal Reports - Production, ownership, years of operation.
Directory of Illinois Coal Mines (Marion County) - Mine names, mine index, ownership, years of operation.
Mine notes (Marion County) - Mine type, shaft location, seam, depth, thickness, geologic problems.
Microfilm map, document 351397, reel 03135, frames 485-490 - Shaft locations, mine outline, mining method, geologic problems.
Mine Index 2847  
Chicago-Sandoval Coal Company, Chicago-Sandoval No. 1 Mine

Type: Underground    Total mined-out acreage shown: 1,418, which includes the area for Sandoval No. 2 (mine index 206). The boundary between the two mines could not be discerned. The area shown on the accompanying map is smaller than expected for the combined production. Production indicates an additional 1,750 acres were mined.

SHAFT, SLOPE, DRIFT or TIPPLE LOCATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>County</th>
<th>Township-Range</th>
<th>Section</th>
<th>Quarters-Footage</th>
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</thead>
<tbody>
<tr>
<td>Main shaft</td>
<td>Marion</td>
<td>2N 1E</td>
<td>17</td>
<td>SW SW NE</td>
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</tbody>
</table>

GEOLOGY

<table>
<thead>
<tr>
<th>Seam(s) Mined</th>
<th>Thickness (ft)</th>
<th>Mining Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herrin</td>
<td>5.5-6.0</td>
<td>RP</td>
</tr>
</tbody>
</table>

Geologic Problems Reported:

PRODUCTION HISTORY

<table>
<thead>
<tr>
<th>Company</th>
<th>Mine Name</th>
<th>Years</th>
<th>Production (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandoval Coal &amp; Mining Company</td>
<td>Sandoval No. 1</td>
<td>pre1882-1908 *</td>
<td>2,468,197</td>
</tr>
<tr>
<td>Dan Middleton</td>
<td>Sandoval No. 1</td>
<td>1908-1909</td>
<td>31,920</td>
</tr>
<tr>
<td>Chicago-Sandoval Coal Company</td>
<td>Chicago-Sandoval No. 1</td>
<td>1909-1917</td>
<td>393,891</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,894,008</td>
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</tbody>
</table>

* Production and years of operation before July 1881 are not known. The 1882 Coal Report indicates 9 acres were mined. The mine was idle in 1908.

Last reported production: September 1917

SOURCES OF DATA

<table>
<thead>
<tr>
<th>Source Map</th>
<th>Date</th>
<th>Original Scale</th>
<th>Digitized Scale</th>
<th>Map Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Land Bank Report</td>
<td>1-1936</td>
<td>1:63360</td>
<td>1:126720</td>
<td>Secondary source</td>
</tr>
<tr>
<td>USGS topographic map, Centralia</td>
<td>1914</td>
<td>1:62500</td>
<td>1:62500</td>
<td>Secondary source</td>
</tr>
</tbody>
</table>

Annotated Bibliography (data source, brief description of information)

Coal Reports - Production, ownership, years of operation, mine type, seam, depth, thickness, mining method.
Directory of Illinois Coal Mines (Marion County) - Mine names, mine index, ownership, years of operation.
Mine notes (Marion County) - Shaft location.
Federal Land Bank (Marion County) - Mine outline.
USGS 15-minute topographic map, Centralia, 1914 - Shaft location.
### INDEX OF MINES IN THE CENTRALIA EAST QUADRANGLE

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Mine Number</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago-Sandoval Coal Company, No. 1 Mine</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Chicago-Sandoval Coal Company, No. 2 Mine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Franklin County Coal Company, No. 9 Mine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Glenridge Mine</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Marion County Coal Company</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Marion County Coal Mining Corp., Inc.</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Middleton (Dan), Sandoval No. 1 Mine</td>
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<td>12</td>
</tr>
<tr>
<td>Middleton (Dan), Sandoval No. 2 Mine</td>
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<td>10</td>
</tr>
<tr>
<td>Middleton &amp; Seidel</td>
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<td>10</td>
</tr>
<tr>
<td>Odin Coal Company</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Sandoval Coal &amp; Mining Company, No. 1 Mine</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Sandoval Coal Company, No. 2 Mine</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Seidel (Middleton &amp; Seidel)</td>
<td></td>
<td>10</td>
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</tbody>
</table>