Return
to
Contents

How Can We Avoid These Kinds of Problems?

Plan Future Development

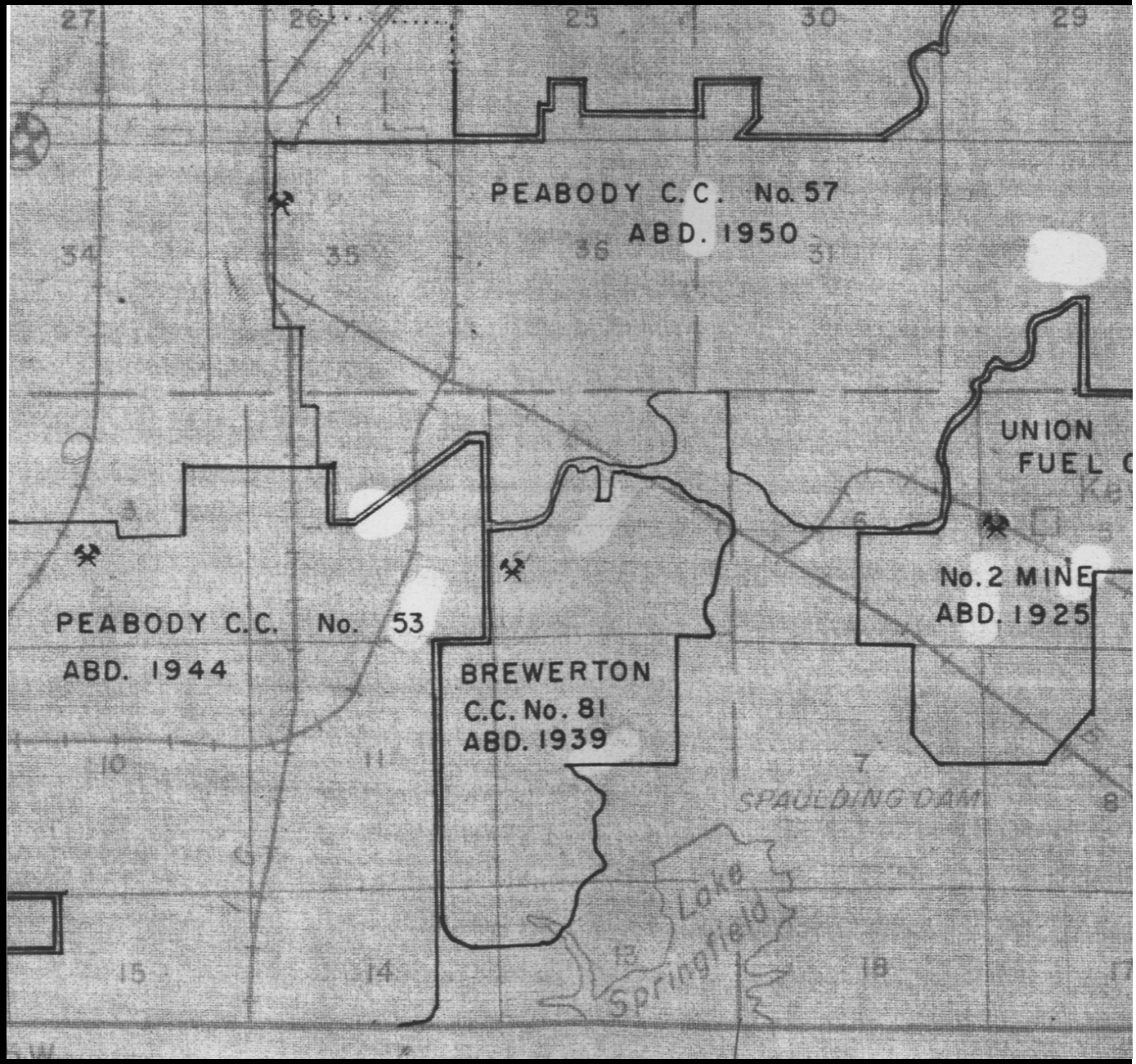
Assuming Mine Maps Are Available, One Solution Is To Avoid Mining Where Possible

Abandoned Mine Map Sources (pre 1980)

- ISGS - MOA's

1976 MOA

Scale 1:62,500



Abandoned Mine Map Sources (pre 1980)

ISGS - MOA's

- Made to show depletion of mineral resource

Abandoned Mine Map Sources (pre 1980)

ISGS - MOA's

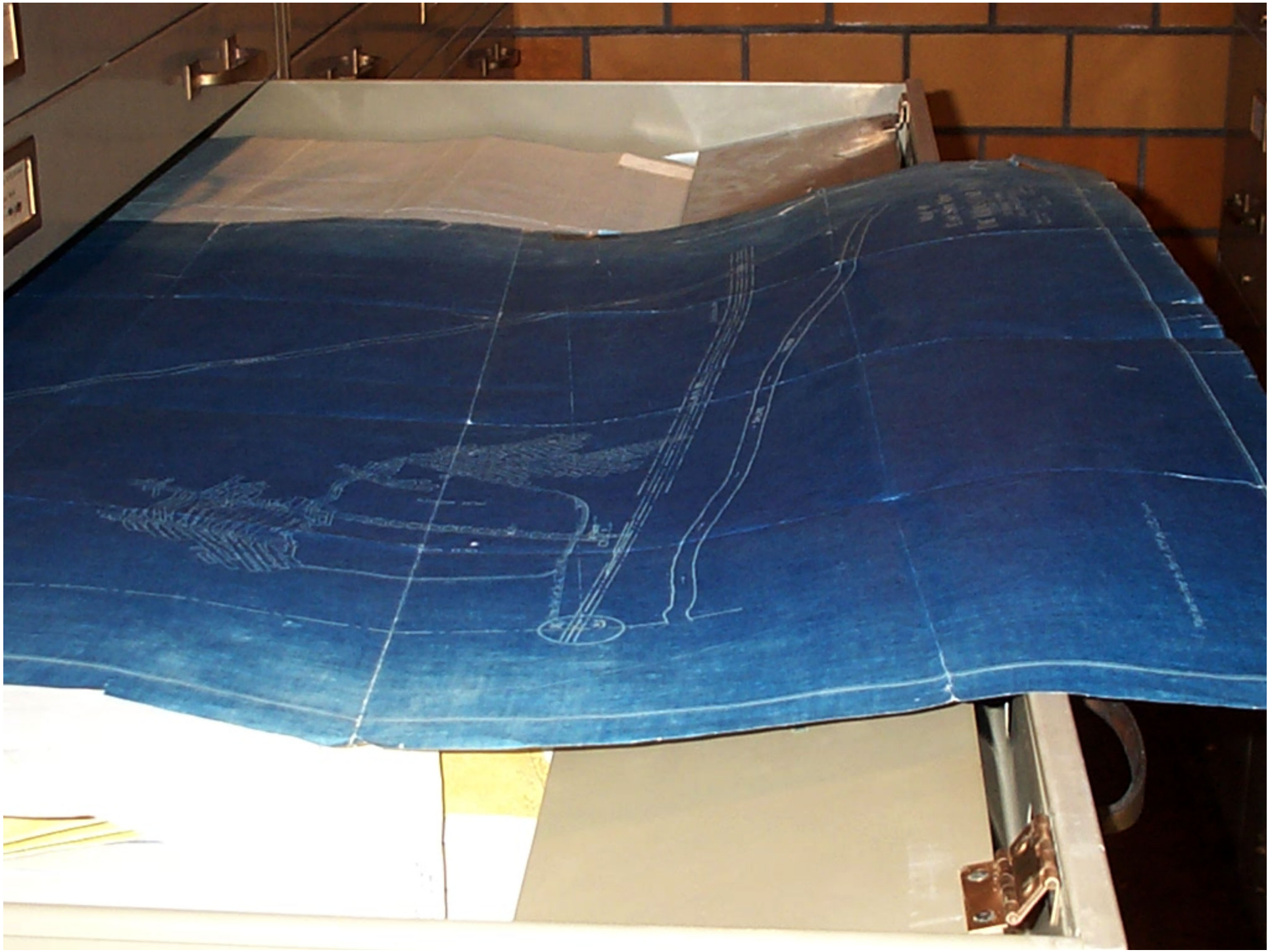
- Made to show depletion of mineral resource
- Intended Use - mineral management.

Abandoned Mine Map Sources (pre 1980)

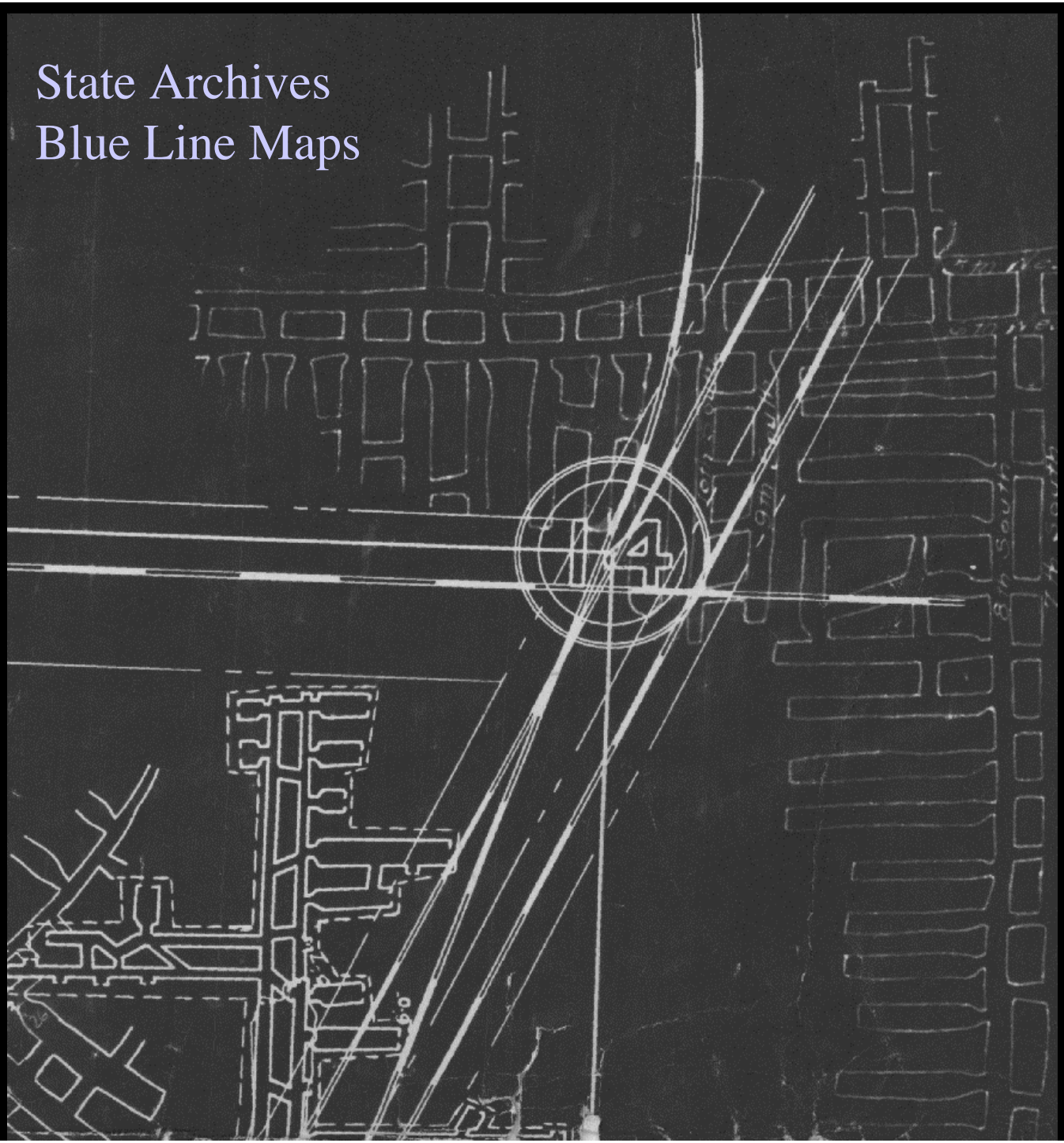
- ISGS - MOA's
- IDMM - Map Archives

State Archive Building
Springfield, Illinois

LEVEL 10
BAY 98



State Archives
Blue Line Maps



Abandoned Mine Map Sources (pre 1980)

IDMM - Map Archives

- Made to show detailed depletion of coal mineral resource relative to coal rights and surface features.

Abandoned Mine Map Sources (pre 1980)

IDMM - Map Archives

- Made to show detailed depletion of coal mineral resource relative to coal rights and surface features.
- Legal Authority and Responsibility for Map Storage (225 ILCS 705).

Abandoned Mine Map Sources (pre 1980)

IDMM - Map Archives

- Made to show detailed depletion of coal mineral resource relative to coal rights and surface features.
- Legal Authority and Responsibility for Map Storage.
- Intended Use - Public Document.

Abandoned Mine Map Sources (pre 1980)

- ISGS - MOA's
- **Department of Mines and Minerals archives**
- **USBOM** - microfiche of IDMM maps

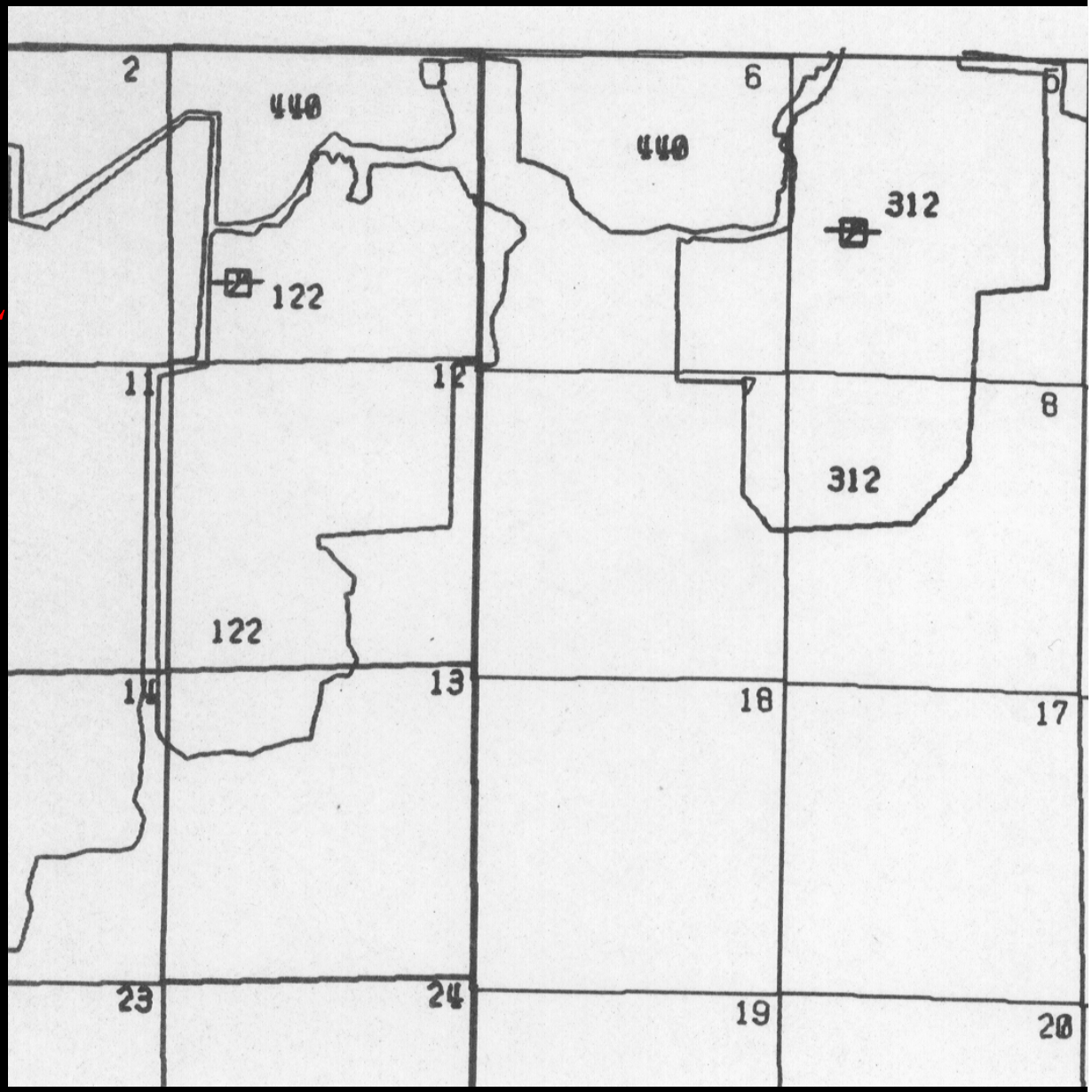
USBOM Microfiche

AMLRC - ISGS Cooperative Agreement

Provide Mined-Out Area Maps
To Each County Seat circa 1981.

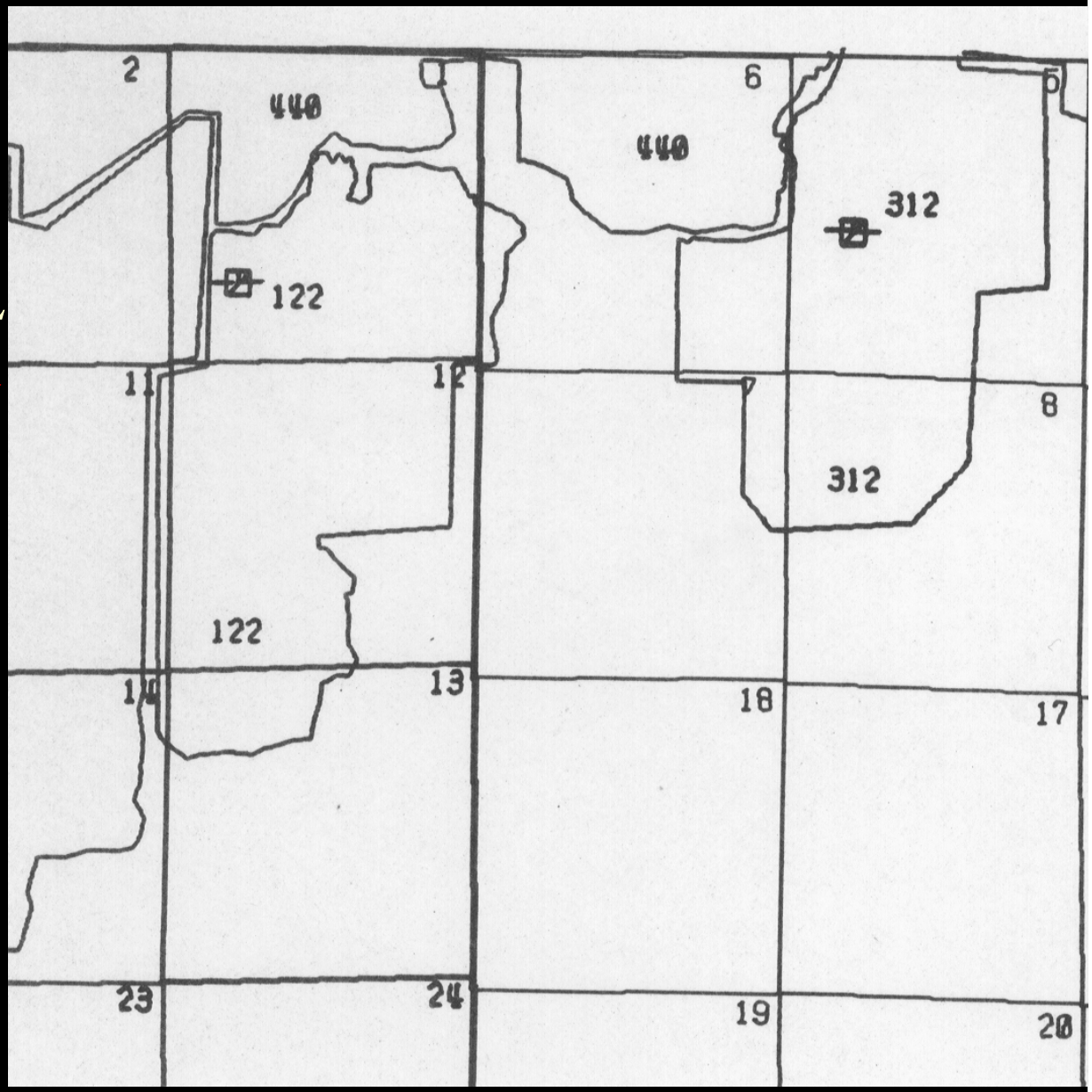
1983 MOA

- Cooperative agreement between ISGS and AML



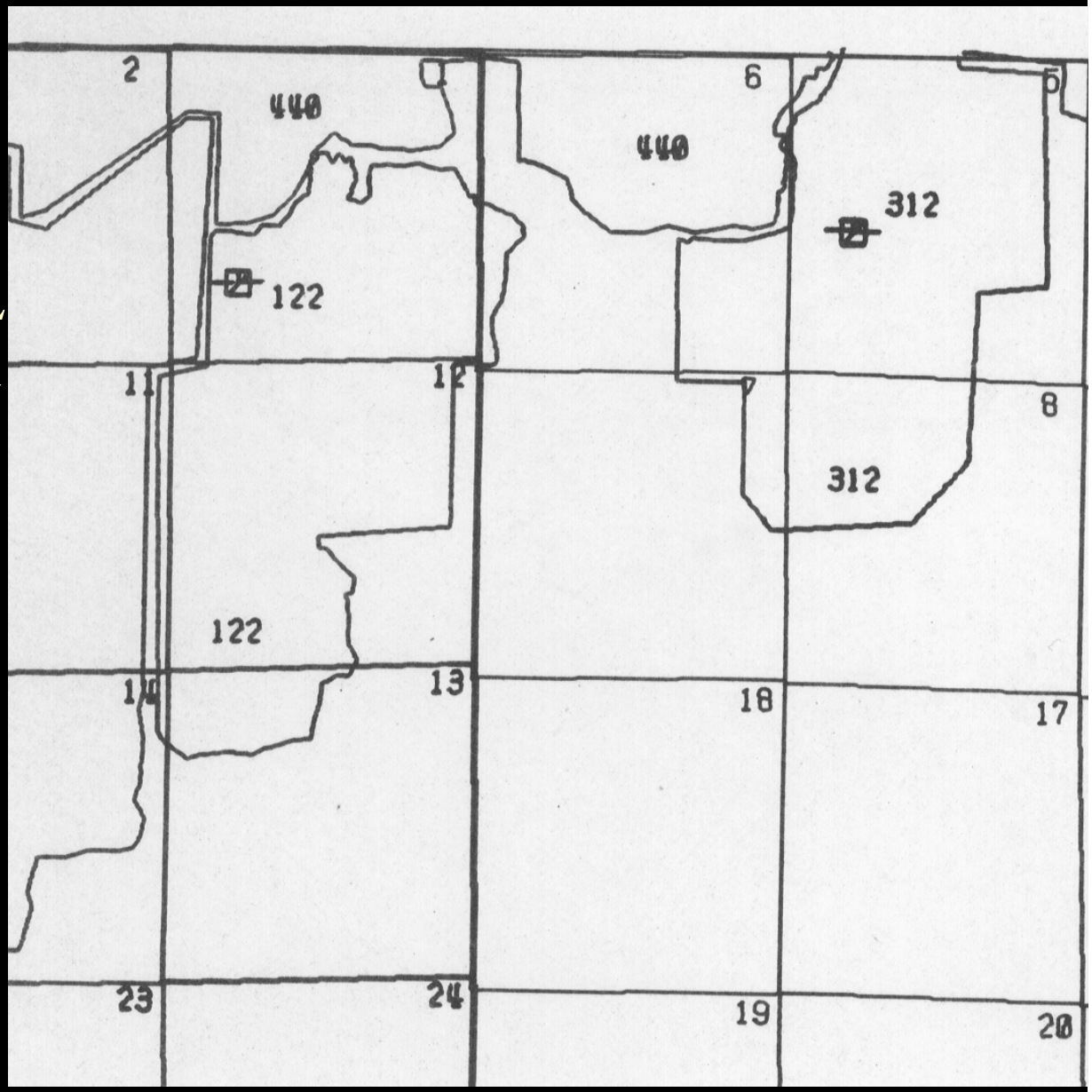
1983 MOA

- Cooperative agreement between ISGS and AML
- First computer generated map.



1983 MOA

- Cooperative agreement between ISGS and AML
- First computer generated map.
- Improved Accuracy of mine location.



1983 MOA

- Cooperative agreement between ISGS and AML
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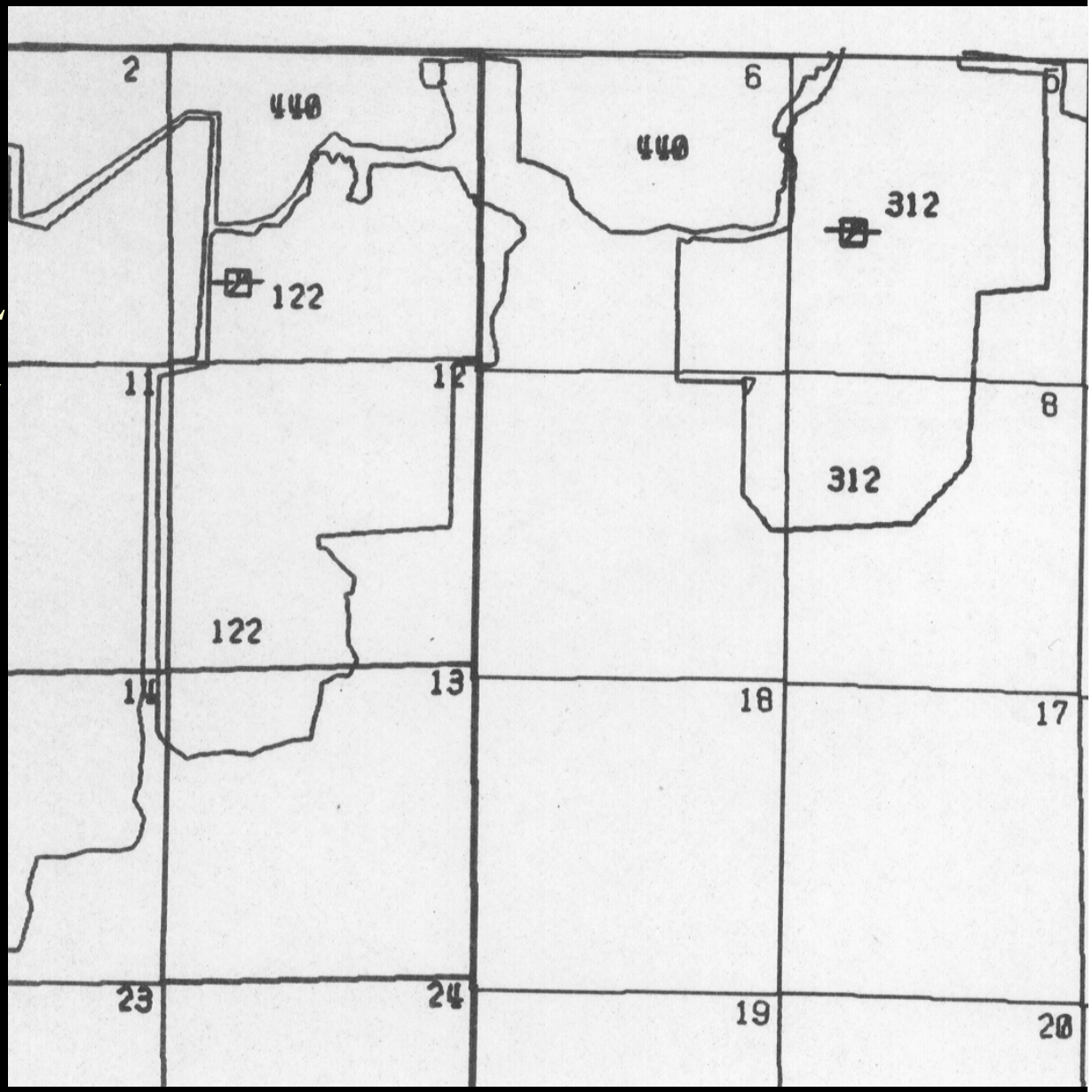
- Scale 1:62,500



1983 Mine Map Directory

Initial Computerized Data Base

DIRECTORY OF ILL. COAL MINES
with
MINE INDEX NUMBERS

Illinois State Ge[illegible] Survey
Septembe[illegible]

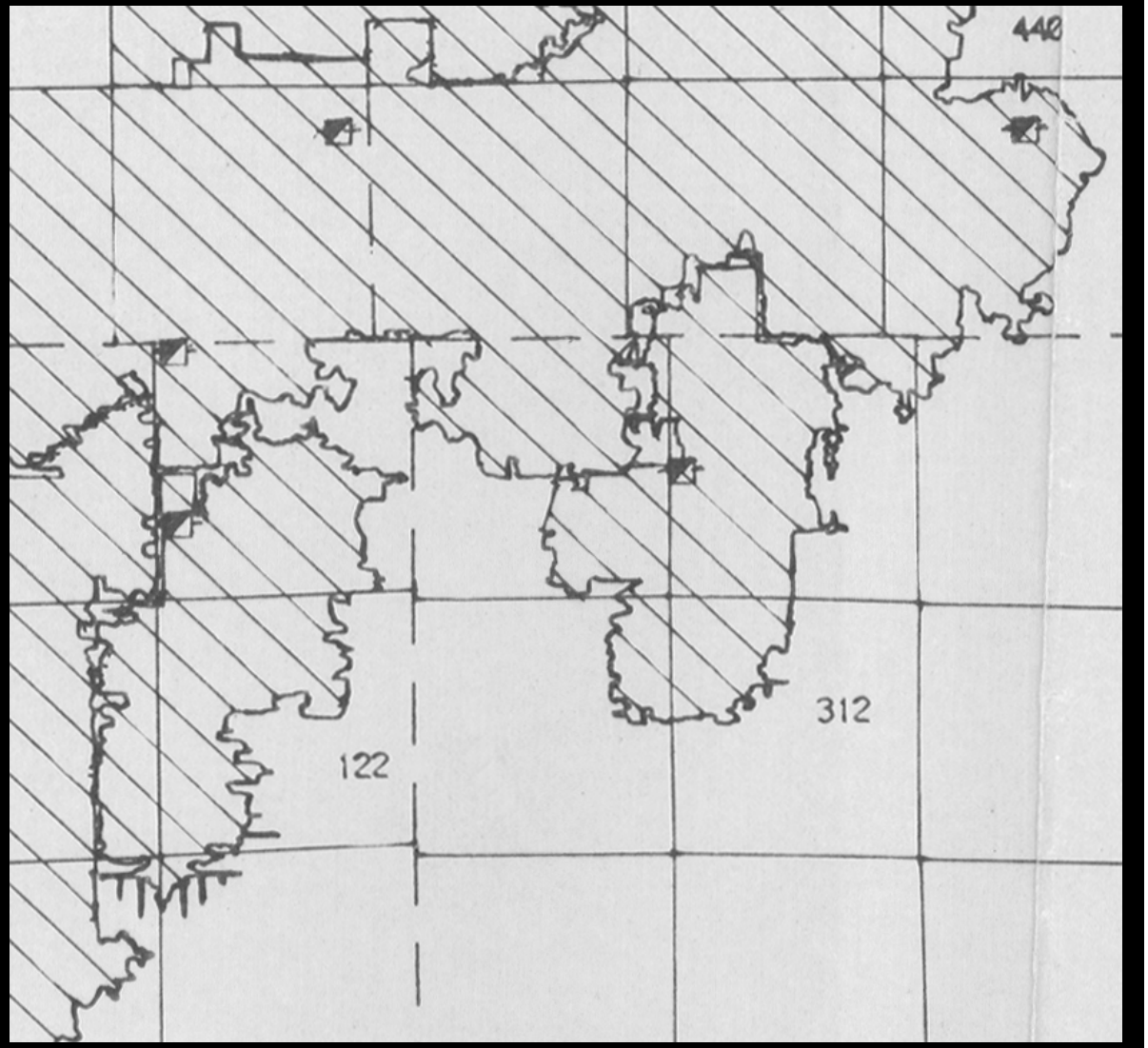
1983 Mine Map Directory

GREENE COUNTY

INDEX NO. ISSS	BM	DMM	CNTY	SEC PT	TWP	RNG	SEAM	COAL COMPANY	MINE NAME	NO	REF +	MINE YRS	*	CONF
2302			GREE					ALLEN,W.L.				4143	1	N
2302	L	16	GREE					HOLLY,CLEAT	HOLLY		SH	3538		N
2302			GREE					PITCHFORD,CLAUDE,OPER ABT 15	PITCHFORD					N
2303			GREE	30 A2	9N	11W		VARBLE,HARRY	VARBLE					N
2304	L	17	GREE	7 B7	10N	10W	2170	WALKER,O S. (SEC. 12 ?)	WALKER		SL	3442		N
2305	L	7	GREE	23 B2	10N	11W	2A180	ADKINS,J T	ADKINS		SD	1442	1	N
2305	L	7	GREE	23 B2	10N	11W	2A180	BOUNS,VERNIE O (SEE BOWNS)	BOUNS	4	SD	4247	2	N
6428			GREE	27 A6	11N	10W		COLLINS, A.Y.			SH	0408	2	N
329			GREE	27 C4	11N	10W	6220	GREENFIELD MNG C IDLE118-19	OLD POLI	749	SL	1721	1	N
329			GREE	27 C4	11N	10W	6220	POLI,A.N.('OLD POLI MINE')	GREENFIELD	749	SL	2323	2	N
347	L	1	GREE	27 C6	11N	10W	6220	GREENE CO C C SEC 28-C27	POLI	347	SH	3737	2	N
347	L	1	GREE	27 C6	11N	10W	6220	GREENFIELD C C	GREENFIELD	347	SH	3739	3	N
347	L	1	GREE	27 C6	11N	10W	6220	POLI,A.N.('NEW POLI MINE')	GREENFIELD	347	SL	2736	1	N
749			GREE	27 B6	11N	10W	6220	KINCAID - MITCHELL OR ARNOLD	KINCAID -		SH	0917	2	N
749			GREE	27 B6	11N	10W	6220	BURROUGHS E E CC			SH	0809	1	N
749			GREE	27 B6	11N	10W		BURROUGHS, E.E.				0809	1	N
6428			GREE	27 A6	11N	10W		SOLOMAN - STURMAN			SH	0304	1	N
6429			GREE	27 B3	11N	10W		COMMUNITY COAL CO.			SH	3639		N
6430			GREE	27 A4	11N	10W		GREENFIELD MNG CO. IDLE 1918			SH	1721		N
6431			GREE	27 B4	11N	10W								N
6432			GREE	27 C6	11N	10W		O'BRIEN, JAMES			SH	2728	2	N
6432			GREE	27 C6	11N	10W		O'BRIEN - MOORE (IDLE 1927)			SH	2627	1	N
6434			GREE	15 A4	12N	10W								N
6435			GREE	15 C8	12N	10W								N
6436			GREE	18 E6	12N	10W								N
6436			GREE	18 E7	12N	10W								N
2306	L	25	GREE	19 F6	12N	10W	2170	FERGUSON,O L	FERGUSON		SL	3540		N
2307	L	44	GREE	E8	12N	11W		TATE C C,SEC 20 OR I1	TATE			3842		N
2308	L	43	GREE	1	12N	11W		WALTZ,E M,OPER ABT 1938	WALTZ		SH			N
2309	L	27	GREE	7 B7	12N	11W	2170	SMITH,HARDIN	SMITH		SL	3744		N
2309	L	29	GREE	7 B7	12N	11W	2170	SMITH,WILLIS	MERHOFF		SL	3744		N
2309	L	29	GREE	7 B7	12N	11W	2170	WHITEHEAD,JOHN H	WHITEHEAD		SL	3744		N
2310	L	33	GREE	12 E4	12N	11W	2170	HOPPER,JESSE	HOPPER		SL	3841		N
2311	L	42	GREE	13 D1	12N	11W		STECKEL,FRED	STECKEL		SH	3943		N
2312	L	49	GREE	19 G6	12N	11W	2170	FERGUSON,O L	FERGUSON	2	SD	3943		N
6433			GREE	19 A6	12N	11W								N
6437			GREE	19 F3	12N	11W								N
2055			GREE	20	12N	11W								N
2313	L	5	GREE	20 F8	12N	11W		TATE,D W	TATE		SH	3538		N
6438			GREE	20 G1	12N	11W		TATE, D.W.	BLACK MINE		SH			N
6438			GREE	21 G8	12N	11W					SM			N
713	L	112	GREE	23 A1	12N	11W	2170	BIRCH CREEK C C	BIRCH CRK		ST	5167	2	N
713			GREE	23 A1	12N	11W	2170	PIPER,DONALD - SON C C	PIPER		ST	5051	1	N
2314	L	6	GREE	23	12N	11W	2170	LAWSON,CHAS.H.	BOUNS 2	2	DR	4040	2	N
2314	L	101	GREE	23	12N	11W	2170	LAWSON,CHAS.H.			DR	4042	1	N
2315	L	48	GREE	23 A2	12N	11W	1083	DOVE,A G C C,OPER ABT 1939	DOVE		SL			N
2316	L	20	GREE	23 B2	12N	11W	2170	BOUNS,JESSE	BOUNS		SD	3437	1	N

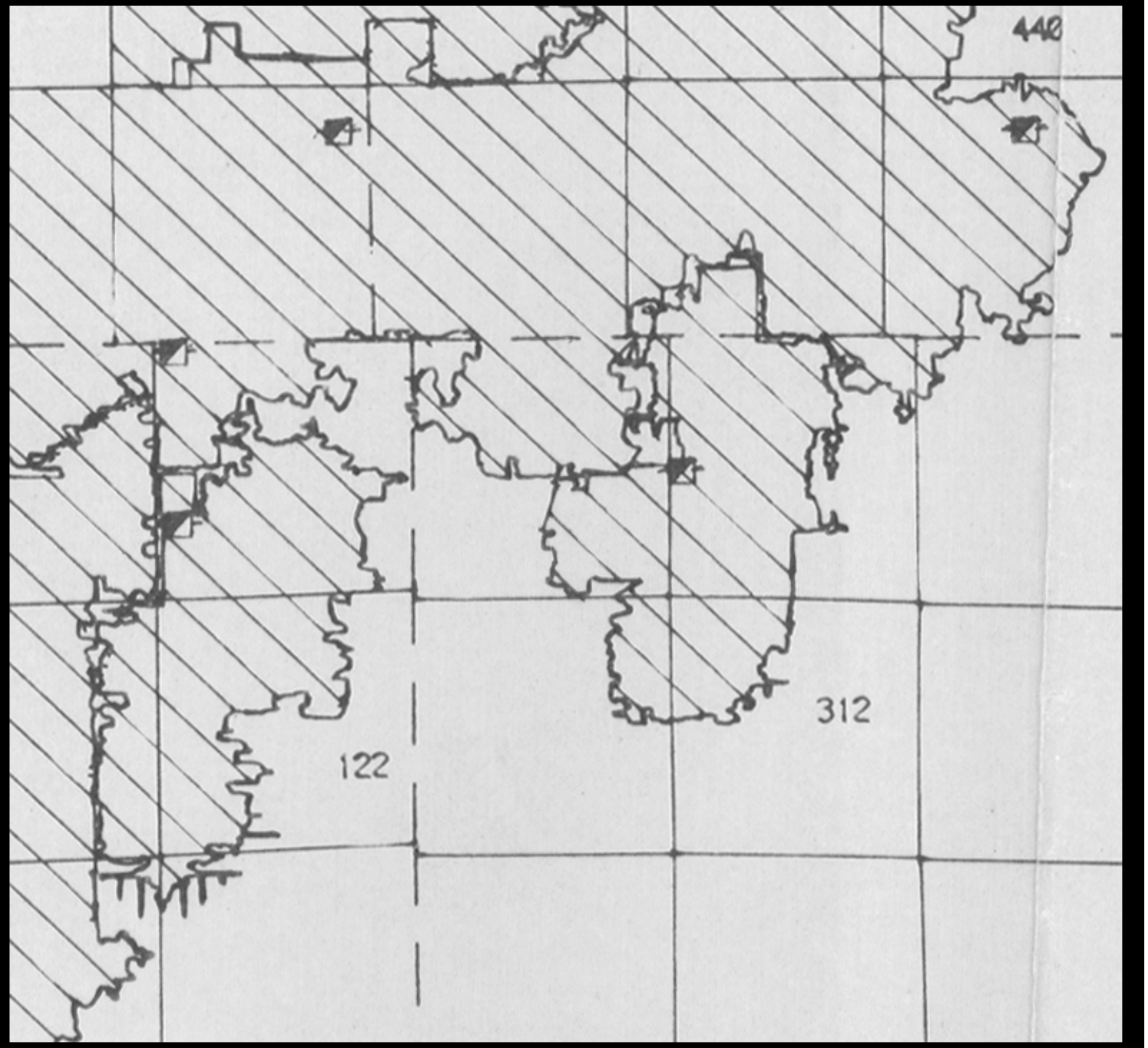
1989 MOA

- Detailed Boundaries



1989 MOA

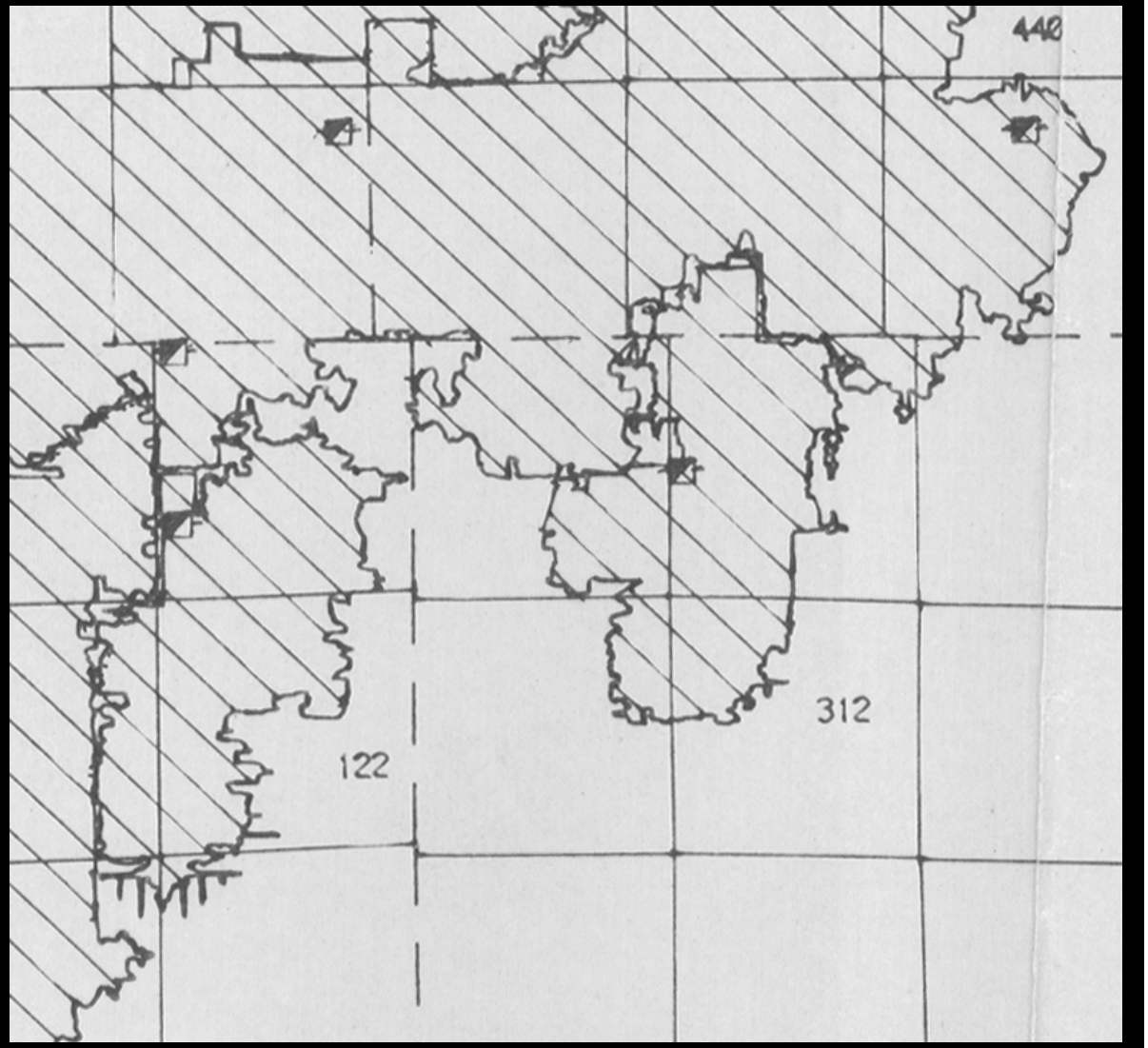
- Detailed Boundaries
- More Mine Features



1989 MOA

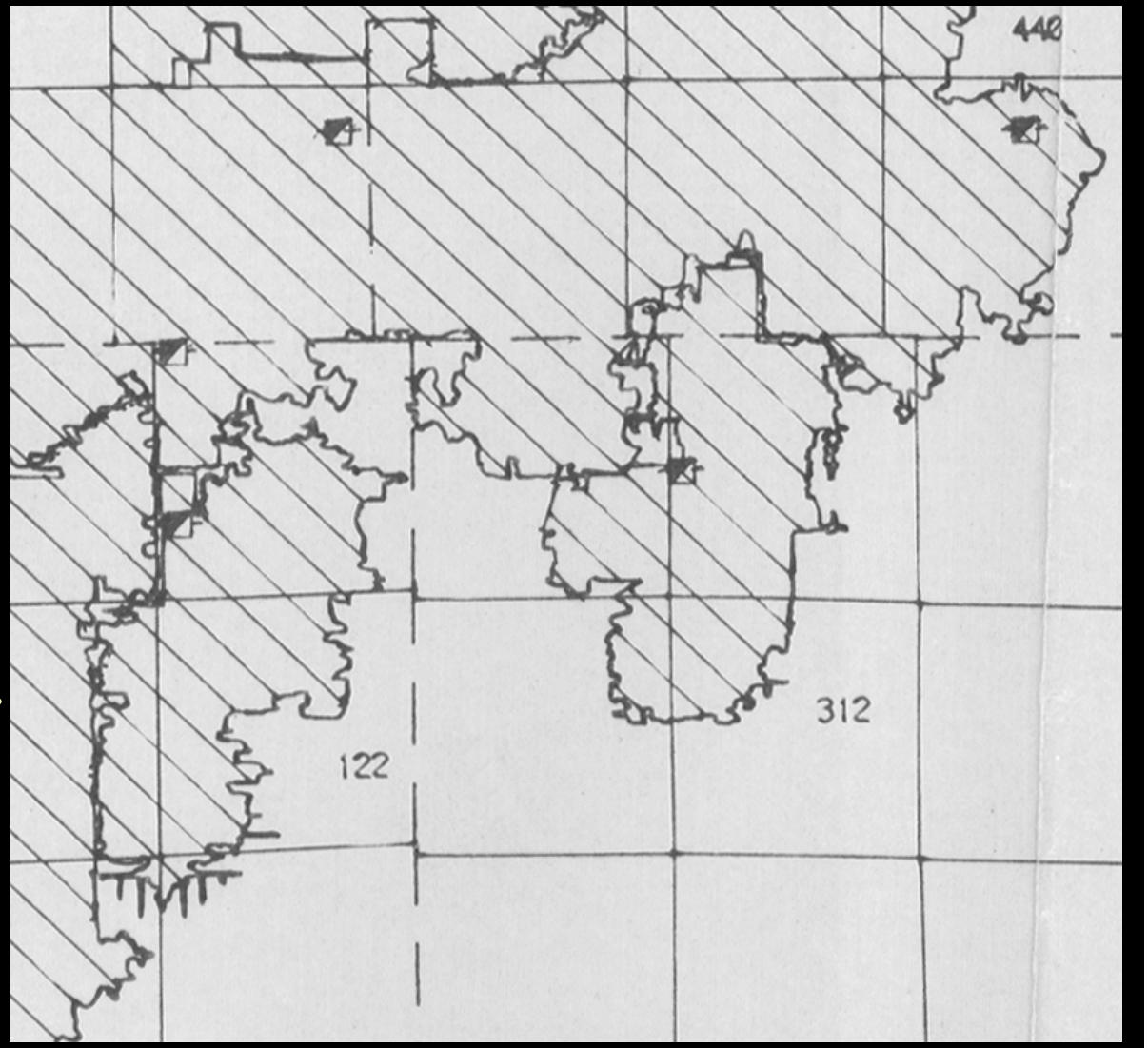
- Detailed Boundaries
- More Mine Features
- Includes:

  Underground Mines
  Surface Mines,
  Active Mines and
  Abandoned Mines.



1989 MOA

- Detailed Boundaries
- More Mine Features
- Includes:
  Underground Mines
  Surface Mines,
  Active Mines
  and Abandoned Mines.
- **Scale 1:100,000**



1991 Mine Directory

- County Specific

DIRECTORY OF COAL MINES IN ILLINOIS

Sangamon County

This directory accompanies the Illinois Coal Mines map or maps for this county (January 1991 edition).

Illinois Department of Energy and Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY

January 1991

1991 Mine Directory

- County Specific
- **Companion to 1:100,000 MO□□A's**

DIRECTORY OF COAL MINES IN ILLINOIS

Sangamon County

This directory accompanies the Illinois Coal Mines map or maps for this county (January 1991 edition).

Illinois Department of Energy and Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY

January 1991

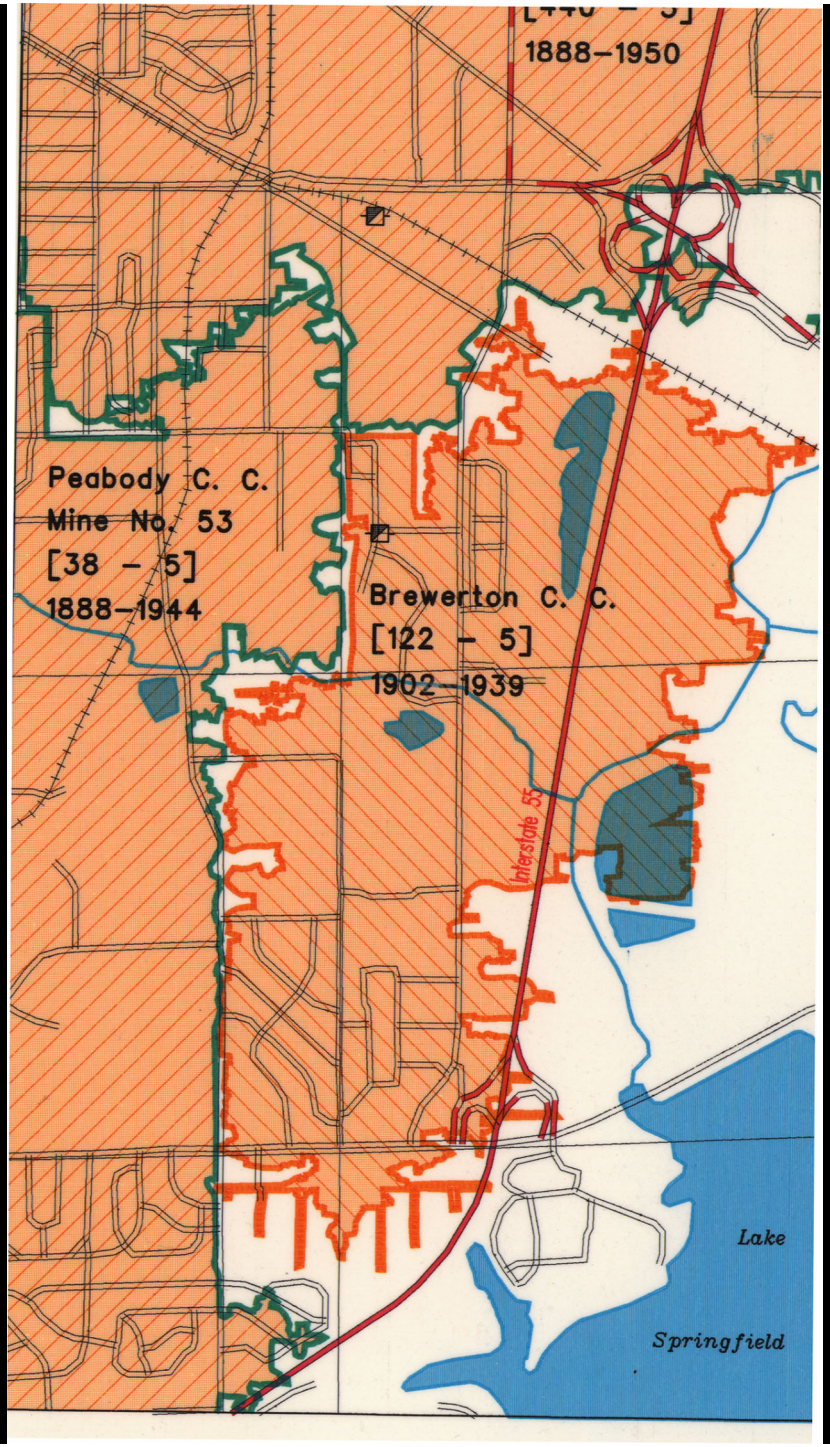
1991 Mine Directory

Table 3. Directory of coal mines sorted by location.

ISGS INDEX	COMPANY NAME (* = ACTIVE)	MINE NAME	MINE NUMBER	MINE TYPE	METHOD	YEARS OPERATED	COAL SEAM	COUNTY	LOCATION: TWP	RGE	SEC
3363	DAVIS & DABNEY			SHAFT		1918-23	SPRINGFIELD	SANGAMON	17N	6W	32
3363	BRANDT,H C C C	BRANDT		SHAFT		1912-15	SPRINGFIELD	SANGAMON	17N	6W	32
3363	CRONISTER & DAVIS	CRONISTER		SHAFT		1906-12	SPRINGFIELD	SANGAMON	17N	6W	32
3363	DABNEY & JACKSON	D & J		SHAFT		1915-17	SPRINGFIELD	SANGAMON	17N	6W	32
3363	DAVIS,SCOTT & CO	DAVIS		SHAFT		1927-34	SPRINGFIELD	SANGAMON	17N	6W	32
3362	ENDERS,TONY	ENDERS		SHAFT		1927-34	SPRINGFIELD	SANGAMON	17N	6W	32
3363	JONES & MEREDITH	J & M		SHAFT		1926-27	SPRINGFIELD	SANGAMON	17N	6W	32
3362	LINCOLN TRAIL C C	LINCOLN TRAIL		SHAFT		1940-48	SPRINGFIELD	SANGAMON	17N	6W	32
3363	SPRINGFIELD SALISBURY C C	S S		SHAFT		1934-41	SPRINGFIELD	SANGAMON	17N	6W	32
3363	SALISBURY C C	SALISBURY		SHAFT		1923-24	SPRINGFIELD	SANGAMON	17N	6W	32
3363	DITMER & HOLMBERG	SALISBURY		SHAFT		1924-25	SPRINGFIELD	SANGAMON	17N	6W	32
3363	SALISBURY COAL CO	SALISBURY		SHAFT		1941-44	SPRINGFIELD	SANGAMON	17N	6W	32
3363	SPRINGFIELD SALISBURY C C	SALISBURY		SHAFT		1944-48	SPRINGFIELD	SANGAMON	17N	6W	32
3363	WATKINS & DABNEY	W & D		SHAFT		1917-17	SPRINGFIELD	SANGAMON	17N	6W	32
4862					RPB			SANGAMON	17N	7W	25
3364	HARRIS,R	HARRIS				1860-75	SPRINGFIELD	SANGAMON	17N	7W	29
3365	SPRINGFIELD & PLEASANT PLAIN	S & P P		SHAFT		1888-01	SPRINGFIELD	SANGAMON	17N	7W	31
3365	TRUTTER C C	TRUTTER		SHAFT		1901-07	SPRINGFIELD	SANGAMON	17N	7W	31
4861	CITIZENS COAL CO			SHAFT		1900-26		SANGAMON	17N	7W	32
4861	KLINGBEIL COAL CO.					1926-29		SANGAMON	17N	7W	32
3366	GARDNER MINE	GARDNER				1875-95	SPRINGFIELD	SANGAMON	17N	7W	32
3367	HAPPY HOLLOW MNG CO	HAPPY HOLLOW		SHAFT	RPP	1939-40	SPRINGFIELD	SANGAMON	17N	7W	35
3367	HAPPY HOLLOW MNG CO	HAPPY HOLLOW		SHAFT		1942-49	SPRINGFIELD	SANGAMON	17N	7W	35
3367	MILLER,FRANK	MILLER		SHAFT		1941-41	SPRINGFIELD	SANGAMON	17N	7W	35
624	BETHEL C C	BETHEL		SHAFT	RP	1933-40	SPRINGFIELD	SANGAMON	17N	8W	25
624	LAWLESS & MILLER	L & M		SHAFT		1940-43	SPRINGFIELD	SANGAMON	17N	8W	25

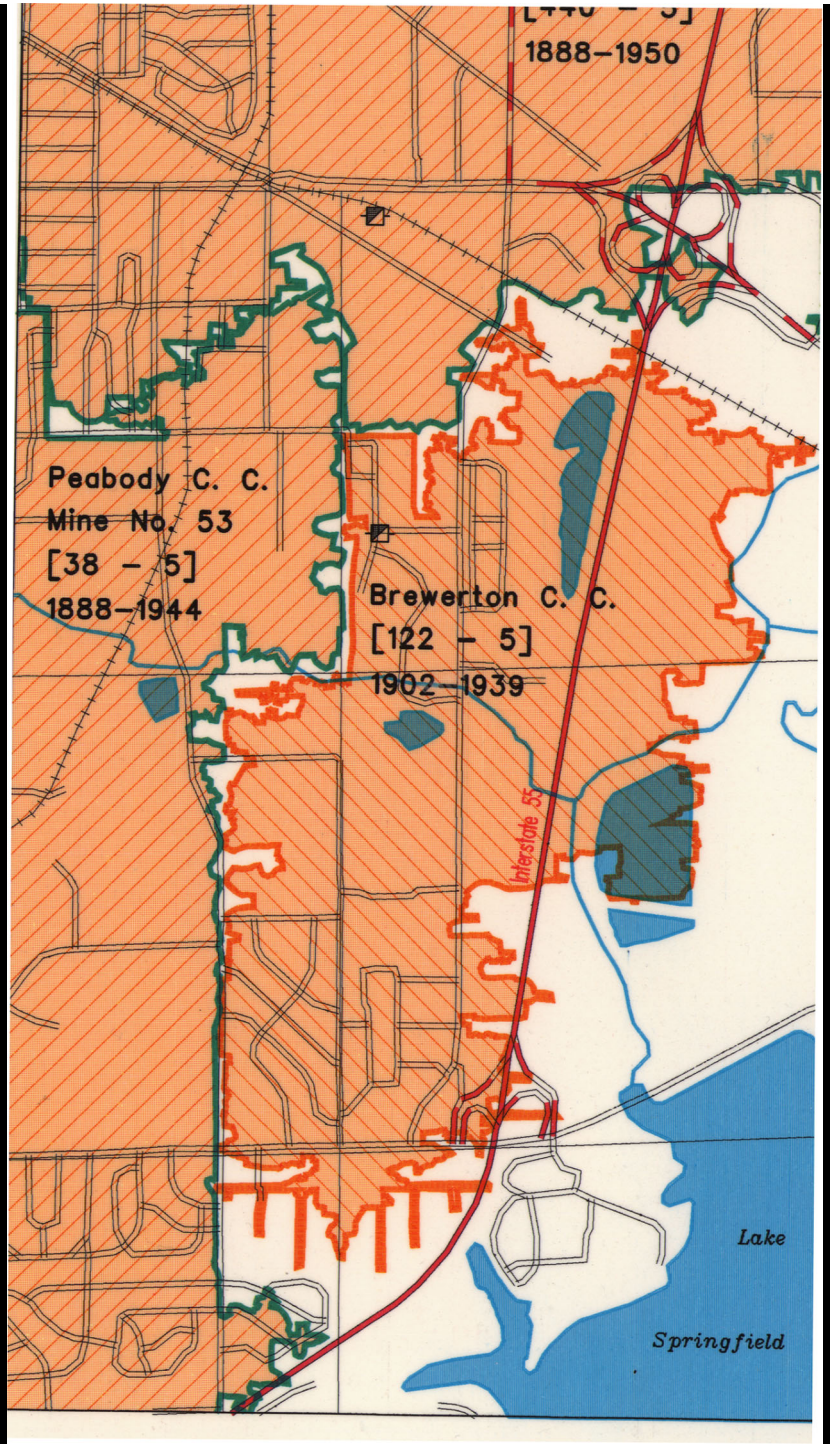
1992 ISGS MOA

- Topographic Sheet Based 1:24,000



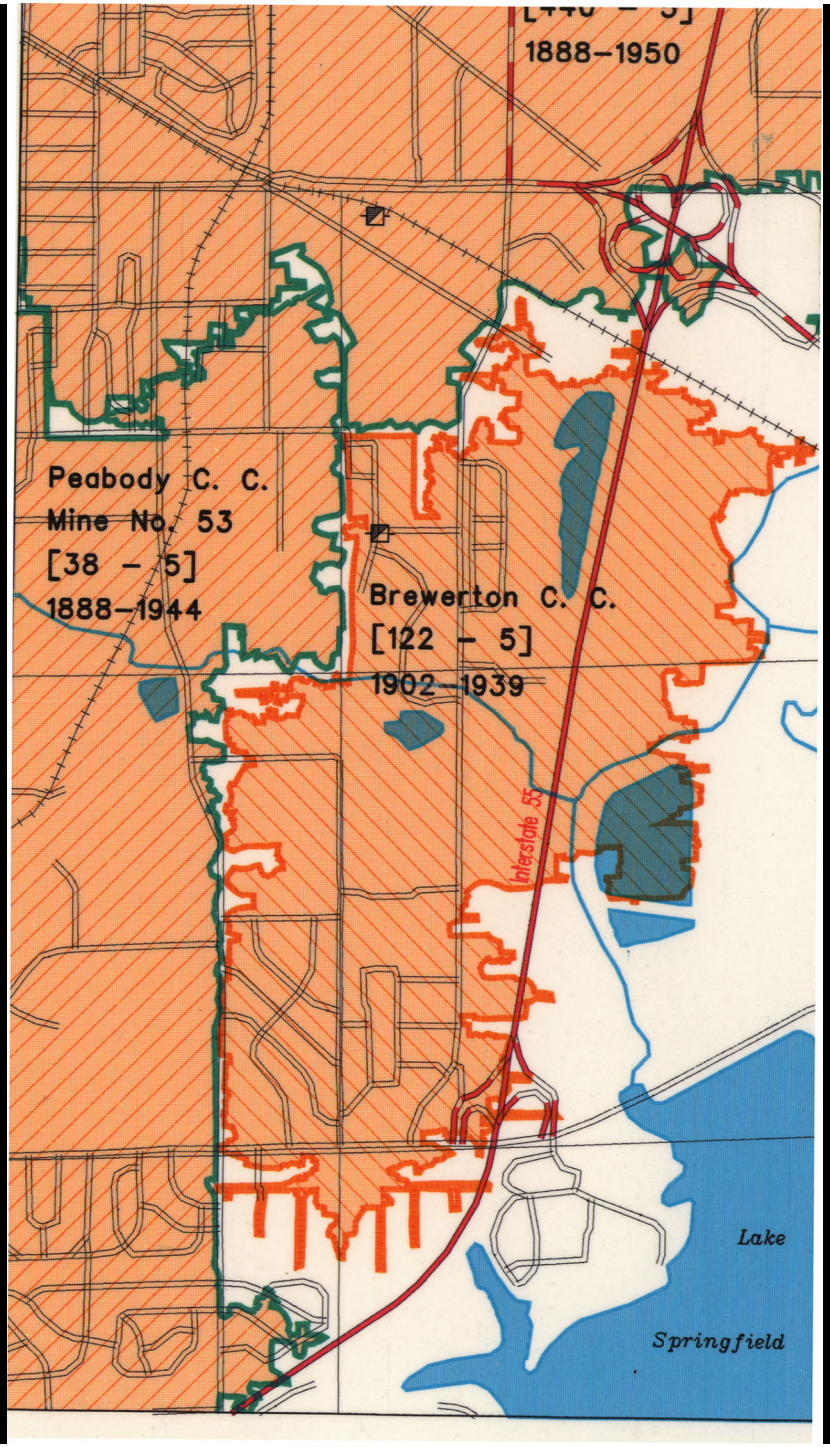
1992 ISGS MOA

- Topographic Sheet Based 1:24,000
- **Mining Method Information**



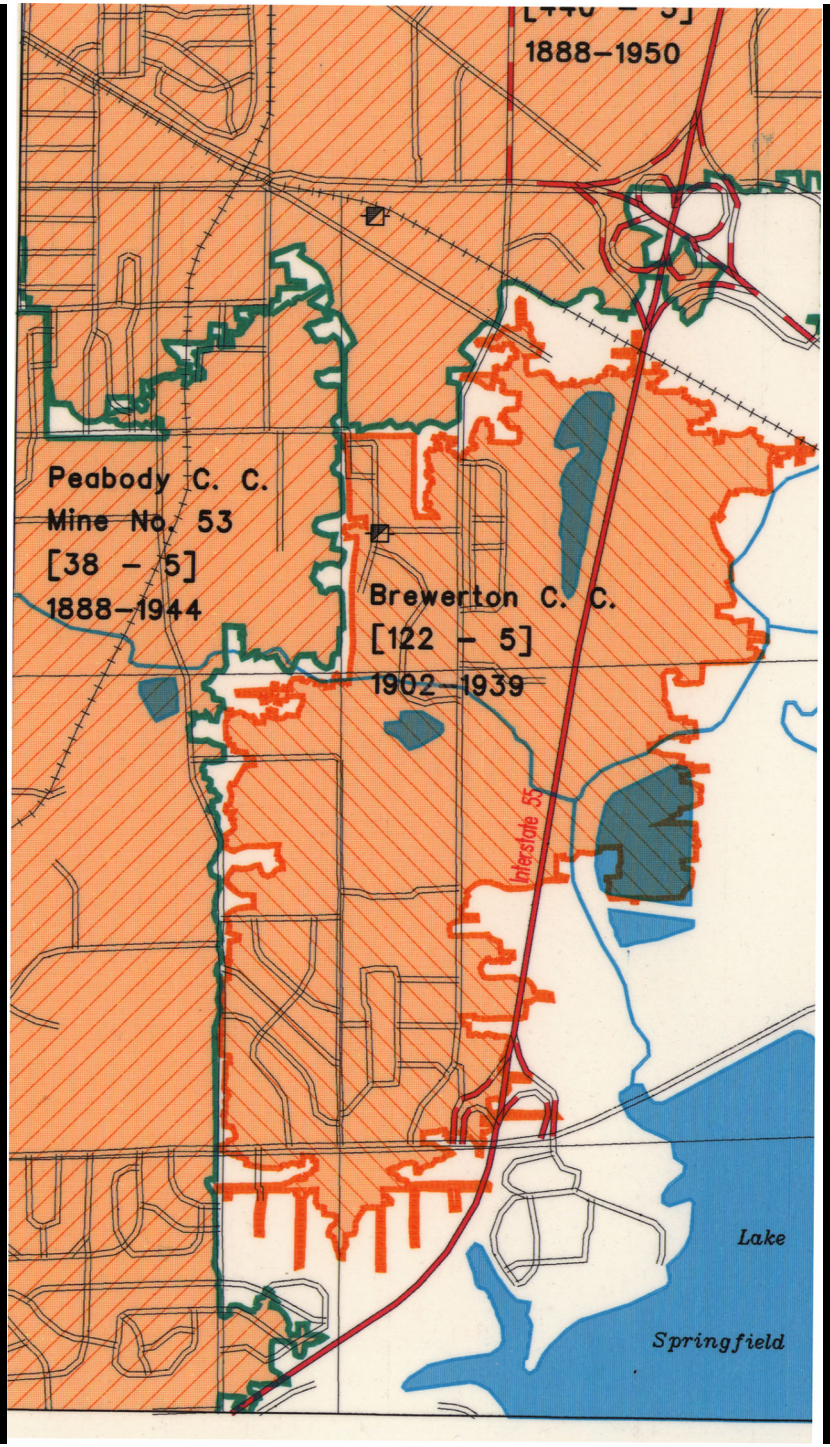
1992 ISGS MOA

- Topographic Sheet Based 1:24,000
- Mining Method Information
- **Detailed Surface Information**



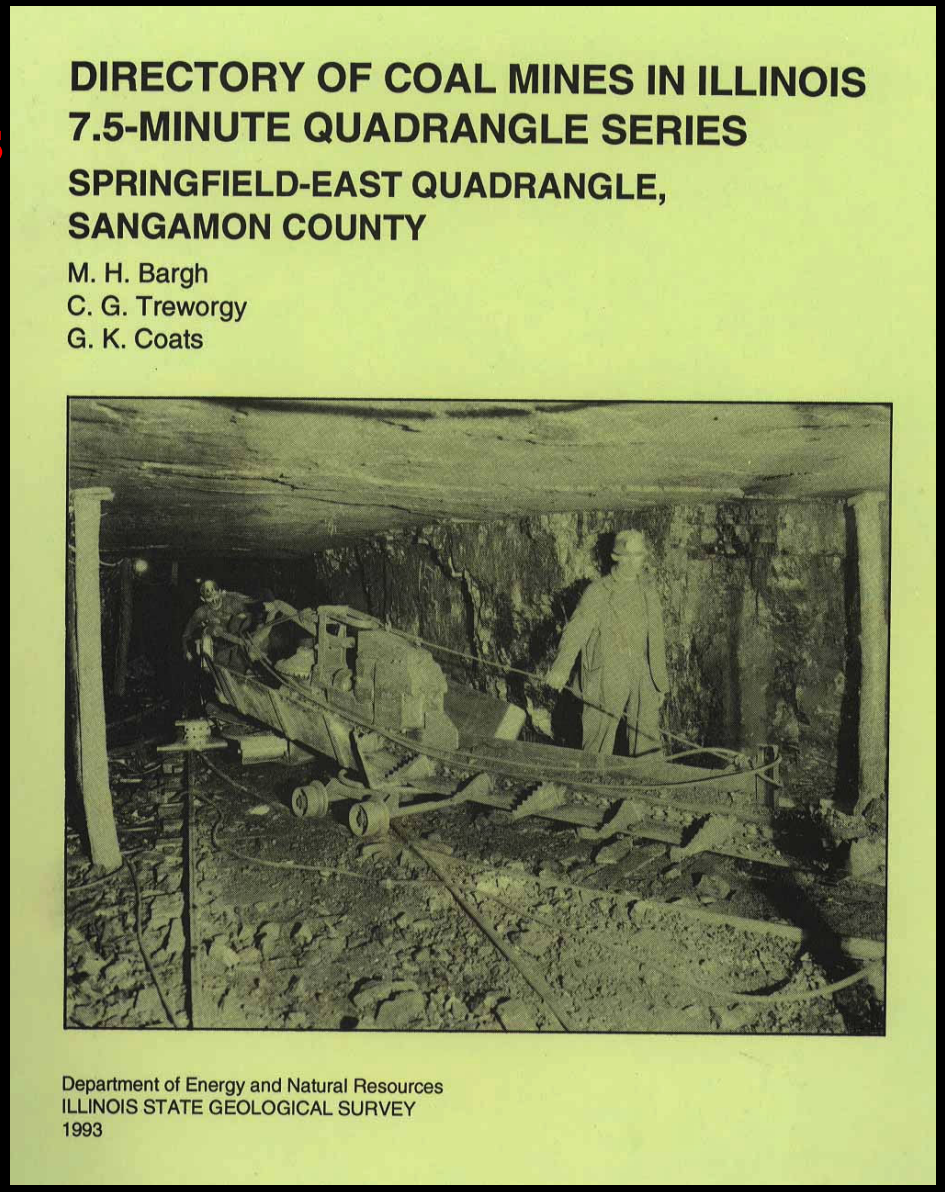
1992 ISGS MOA

- Topographic Sheet Based 1:24,000
- Shows Mining Method Information
- Detailed Surface Information
- **Easy Map Interpretation**



1993 ISGS Mine Directory

- Companion with 1:24,000 MOA's



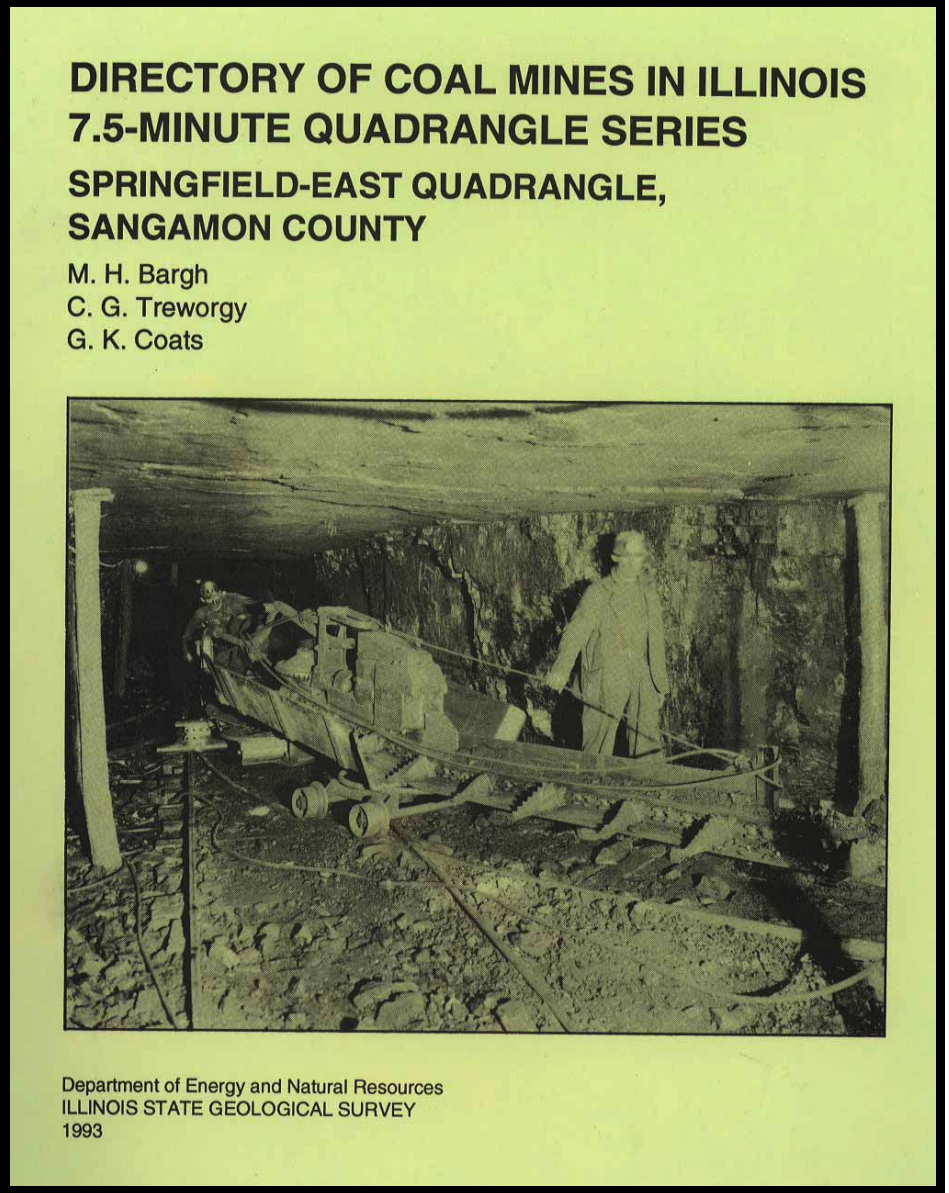
DIRECTORY OF COAL MINES IN ILLINOIS
7.5-MINUTE QUADRANGLE SERIES
SPRINGFIELD-EAST QUADRANGLE,
SANGAMON COUNTY

M. H. Bargh
C. G. Treworgy
G. K. Coats

Department of Energy and Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
1993

1993 ISGS Mine Directory

- Companion with 1:24,000 MOA's
- **Includes History of Mining**



DIRECTORY OF COAL MINES IN ILLINOIS
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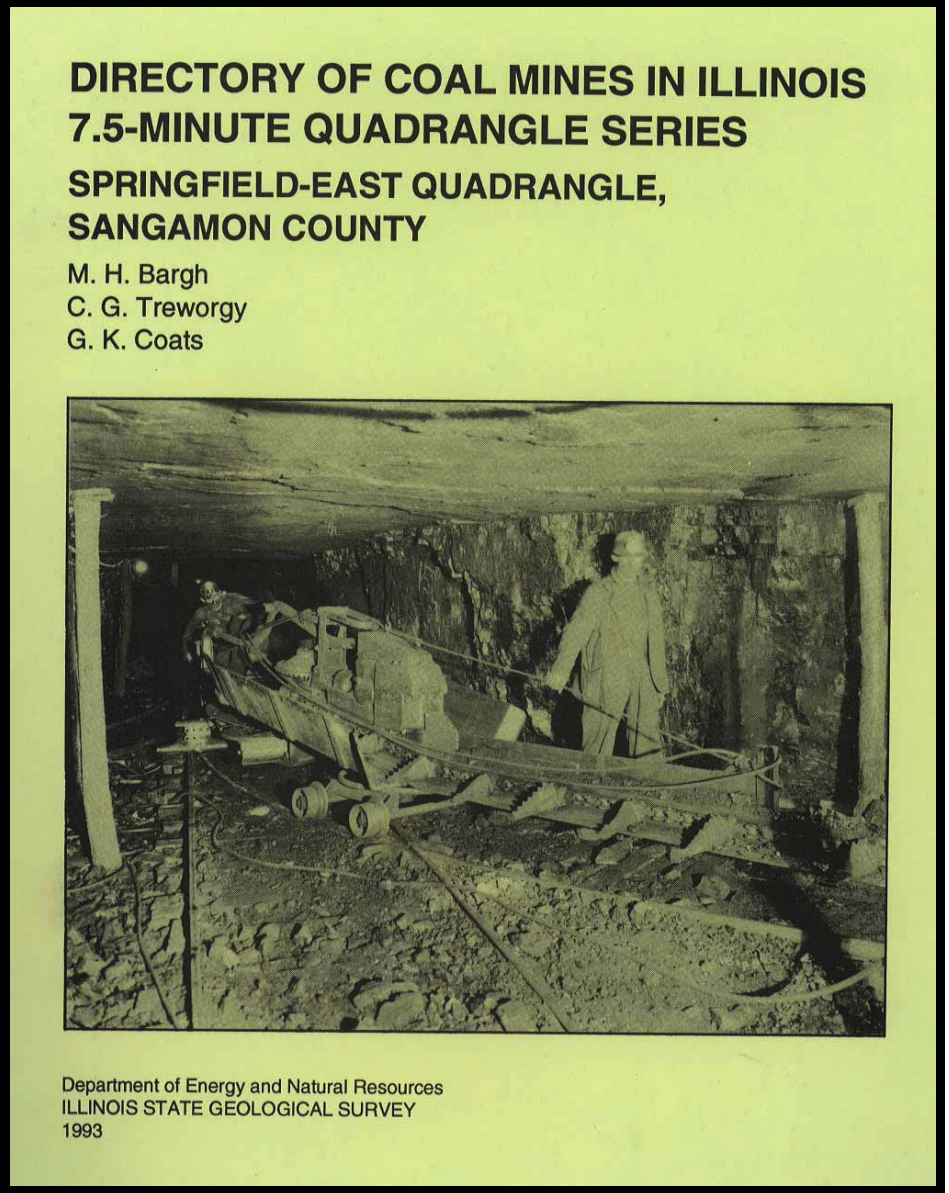
Department of Energy and Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
1993

1993 ISGS Mine Directory

- Companion with 1:24,000 MOA's
- Includes History of Mining
- **Map Interpretation Instructions**



DIRECTORY OF COAL MINES IN ILLINOIS
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SANGAMON COUNTY

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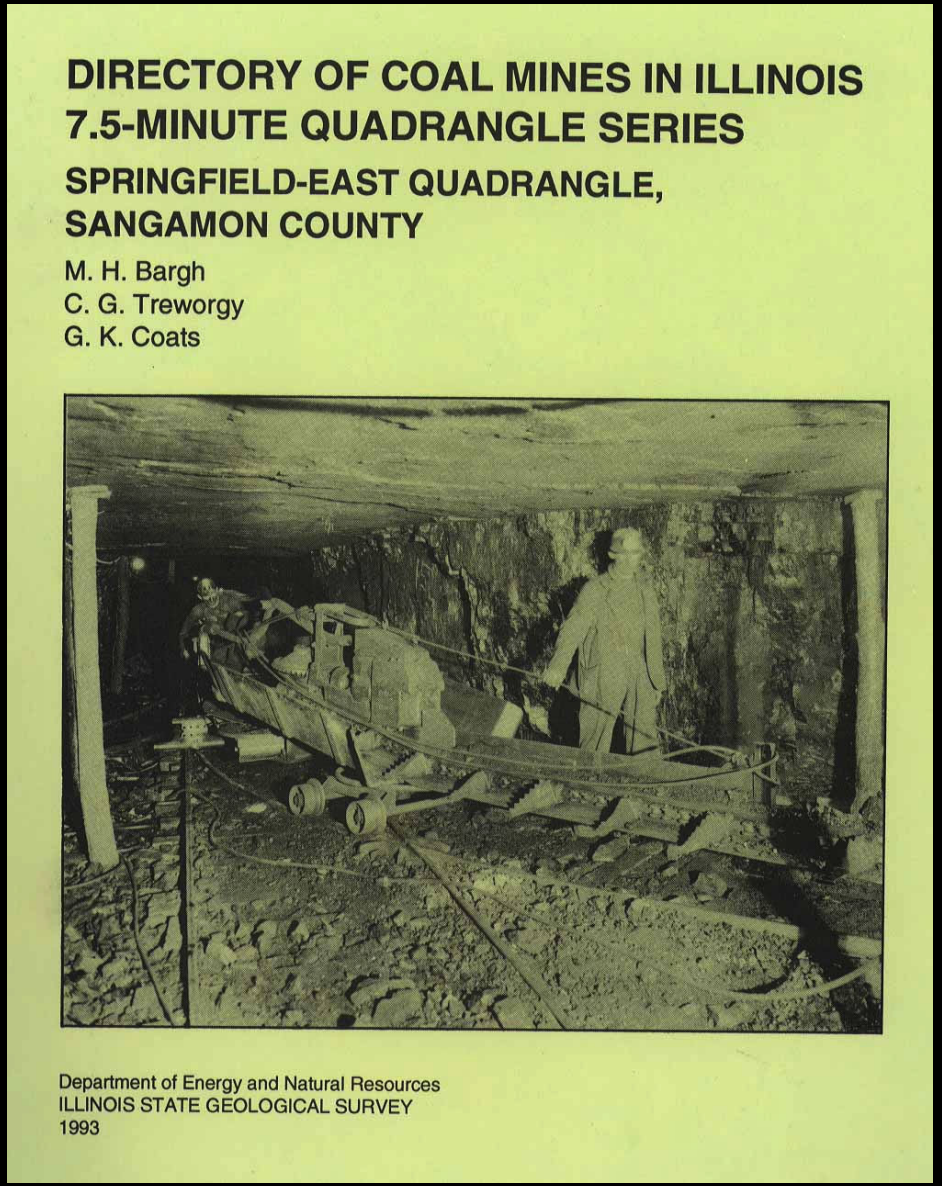
ILLINOIS STATE GEOLOGICAL SURVEY
1993

1993 ISGS Mine Directory

- Companion with 1:24,000 MOA's
- Includes History of Mining
- Map Interpretation Instructions.
- **Detail Mine information:**
  - **Shaft Information**
  - **Geology**
  - **Production History**
  - **Source of Data**



DIRECTORY OF COAL MINES IN ILLINOIS
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SPRINGFIELD-EAST QUADRANGLE,
SANGAMON COUNTY

M. H. Bargh
C. G. Treworgy
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Department of Energy and Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
1993

From 1993 ISGS Mine Directory

INTRODUCTION

Coal has been mined in 73 counties of Illinois (appendix A). More than 4,500 coal mines have operated since commercial mining began in Illinois about 1810; fewer than 50 are still 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.

The directory serves as a key to the accompanying mine map and provides basic information on the coal mines. 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 alphabetically lists the mines in the quadrangle and summarizes the geology and production history of each mine.

MINING IN SPRINGFIELD-EAST QUADRANGLE

The Springfield-East Quadrangle covers the east half of the city. The Springfield Coal (formerly referred to as the No. 5 Coal) is the only seam known to have been mined in this quadrangle. Mining began in this quadrangle in 1881 and, by the turn of the century, nine mines were operating. Fourteen mines, all underground, have operated in the Springfield East-Quadrangle. Most mines closed prior to 1940; the last was abandoned in 1964. The nearest active mine today is east of Elkhart in Logan County, about 10 miles north of the quadrangle.

The Springfield Coal is 200 to 260 feet deep and about 6 feet thick in this quadrangle. No major mining problems were reported in the mines, although clay dikes may have been abundant. Several companies avoided mining below the Sangamon River valley, an area that could have unstable roof conditions and water seepage.

From 1993
ISGS Mine Directory

Mine Index 310
Spaulding Coal Company

Type: Underground
Total mined-out acreage shown: 433

Shaft, Slope, Drift, or Tipple Locations

Type	County	Twp	Section	Footage	
Main shaft	Sangamon	16N 4W	4	475 NL	555 EL

Geology

Seam(s) mined	Depth (ft)	Thickness (ft) Min	Max	Ave	Mining method
Springfield	238			6.1	RP

Geologic problems reported:

Production History

Company	Mine name	Years	Production (tons)
Riverton Coal Co.	Riverton	1884-1885	4,100
Sangamon Coal & Mng. Co.		1885-1887	44,650
Illinois Fuel Co.		1887-1894	599,723
Phoenix Coal Co.	Spaulding	1894-1895	83,793
Rutledge, William	Spaulding	1896-1897	32,100
Spaulding Coal Co.	Spaulding No. 1	1897-1906	767,853
Standard Washed Coal Co.	Spaulding No. 1	1906-1911	394,344
Idle		1911-1912	
Spaulding Coal Co.	Spaulding No. 1	1912-1914	25,214
			1,951,759

Last reported production: February 1913

Sources of Data

Source map	Date	Original scale	Digitized scale	Map type
Microfilm reel 03134	5-20-1932	1:2400	1:4800	Incomplete

The main entries of this mine are shown on the map for Peabody No. 52. The mine appears to be connected to the Peabody mine. No rooms or panels are shown. The digitized outline is based on the main entries and possible extent of rooms and panels not shown. This outline is considered incomplete though it is large enough to account for all of the reported production.

Annotated Bibliography (data source, brief description of information)

Annual reports of the Illinois Department of Mines and Minerals - Production

Directory of Illinois Coal Mines (Sangamon) - Mine names, years of operation, mine index

ENR Document 85/01 - Mining method

Microfilm map of Peabody No. 52 (mine index 36) - Shaft location, mine outline

Mine notes (Sangamon County) - Mine type, thickness, depth, seam, shaft location

IDNR-ISGS

Provides Online Mined-Out Area Maps

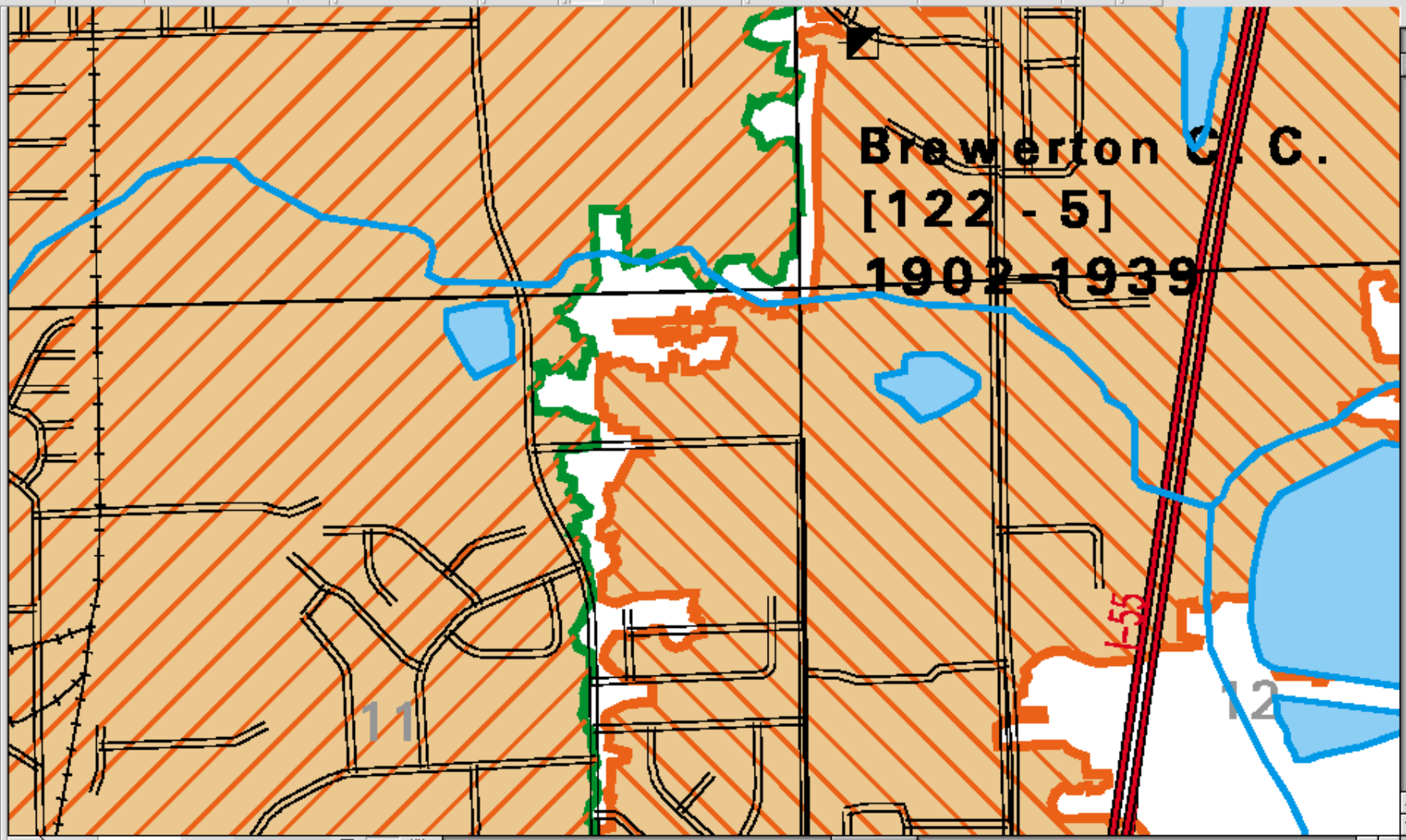
springfield-mines.pdf

Back Forward Stop Refresh Home AutoFill Print Mail

Address: http://www.isgs.uiuc.edu/servs/pubs/pdf-pubs/springfield-mines.pdf go

Favorites Bookmarks History Thumbnails Search Scrapbook Page Holder

300%



1 of 51 8.5 x 11 in

Internet zone

3 Key Advances in MOA Development

1) Enhanced MOA availability.

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1) Enhanced MOA availability.

2) Make MOA's more complete and accurate.

3 Key Advances in MOA Development

1) Enhanced MOA availability.
2) Make MOA's more complete and accurate.
3) Make MOA's easier to understand and interpret.

What If Mining Can’t Be Avoided?

Then ….

- MOA’s are not adequate.

Then ….

- MOA’s are not adequate.
- Detailed Mine Maps Are Necessary

Detailed Mine Map Advantages

- **Contain Valuable Information**
  - coal thickness and depth
  - mine problems such as falls, squeezes and water.

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  - mine problems such as falls, squeezes and water.

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  Such as:
  - locating sensitive structures over reserved coal areas
  - estimate cost /benefit of backfilling.
  - selection of area to minimize backfill volume.

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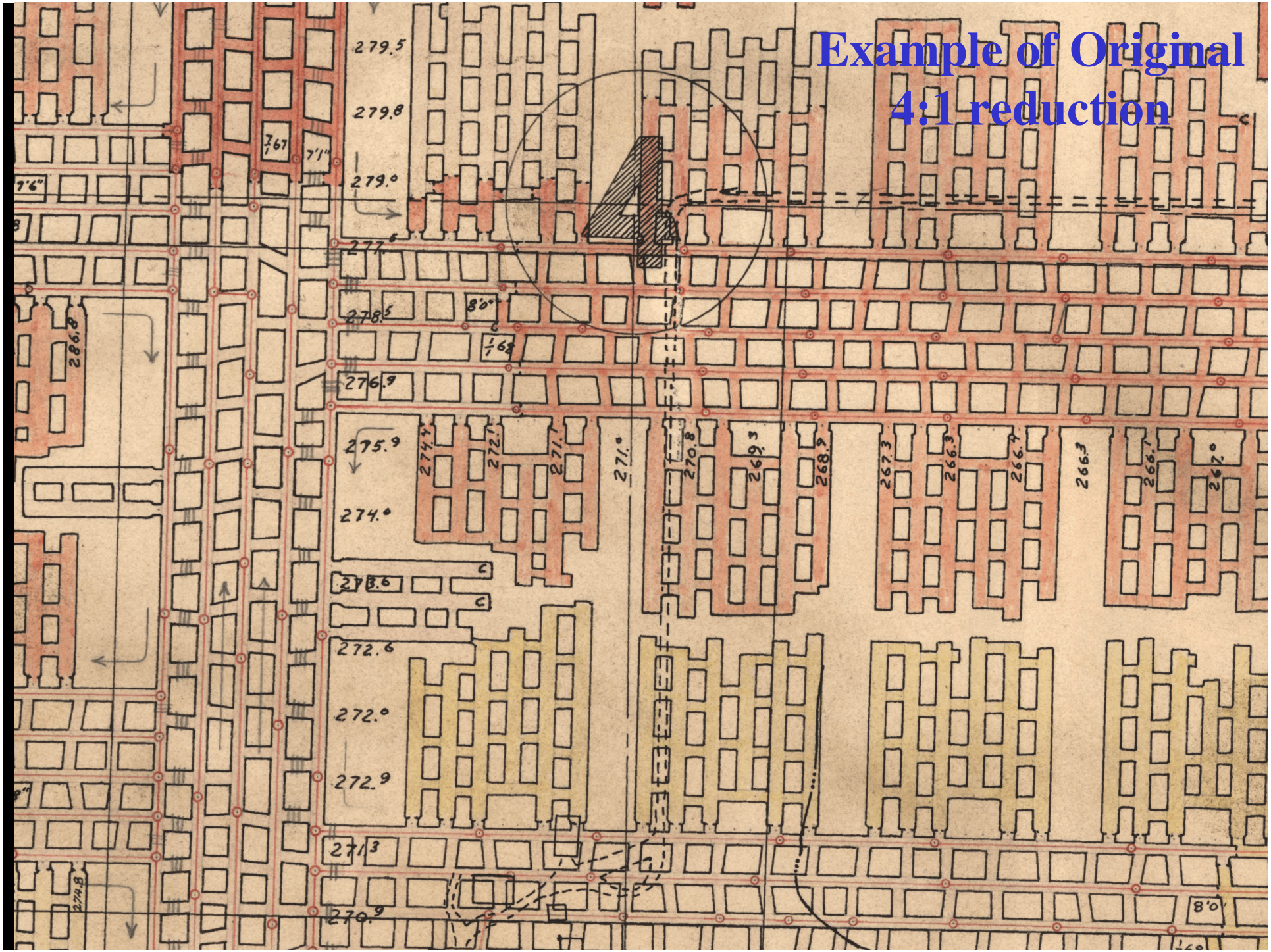
- Facilitate Coal Companies.
  - 'one stop shopping' to accurately locate abandoned mines.
- **Avoid dangerous gas accumulations venting through**
  - **boreholes**
  - **shafts**

Map Making Background

- Original Mine Map


Example of Original
4:1 reduction
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272.0
272.9
271.3
270.9
286.8
274.8
7'6"
7'1"
8'0"
274.4
272.1
271.1
271.0
270.8
269.3
268.9
267.3
266.3
266.4
266.3
266.1
267.0

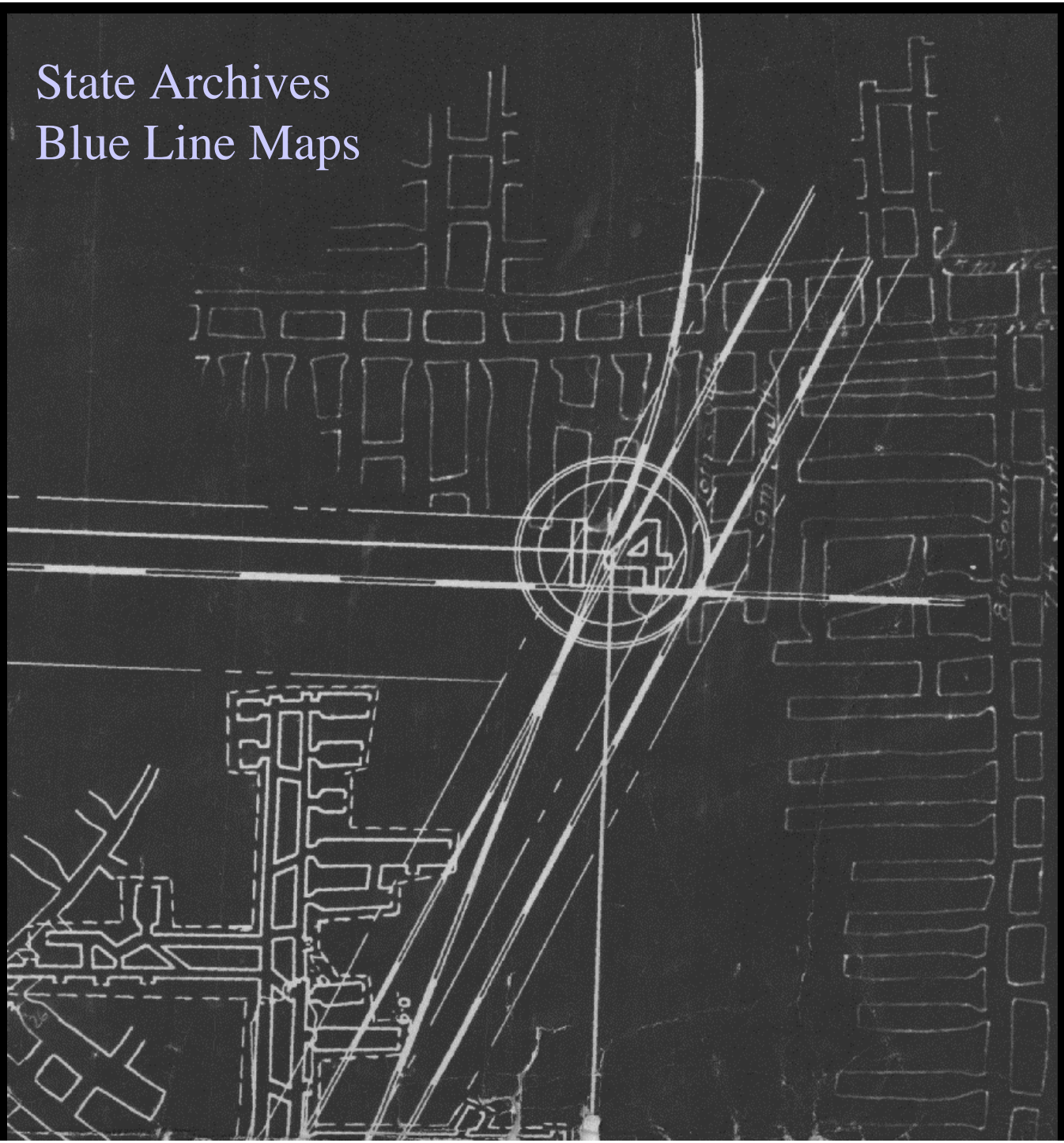
Map Making Background

- Original Mine Map
- Acetate photographic proofs used to make ‘blue-line copies.

Making Background

- Original Mine Map
- Acetate photographic proofs used to make ‘blue-line copies.
- ‘Blue-line copy used by Department. Copy stored in State Archives when mine closed.

State Archives
Blue Line Maps



Map Making Background

- Original Mine Map
- Acetate photographic proofs used to make ‘blue-line copies.
- ‘Blue-line copy used by Department. Copy stored in State Archives when mine
- 1970’s and 1980’s. USBOM photographed State’s blue-line copies and converted to Microfiche.

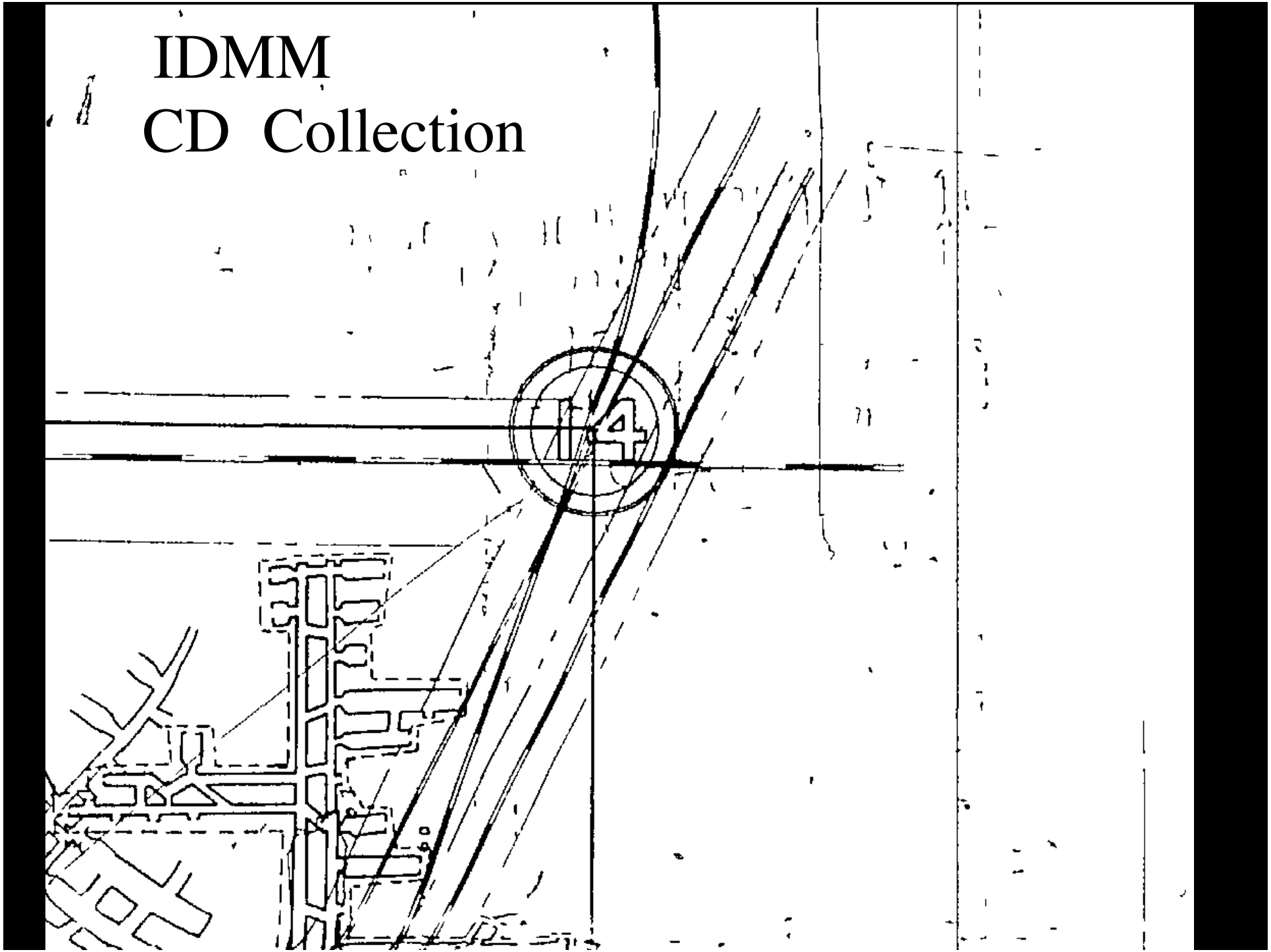
USBOM Microfiche

Map Making Background

- During the 1990's technology allows the creation of digital images.

Map Making Background

- During the 1990's technology allows the creation of digital images.
- Microfiche images are scanned and Raster images are stored on CD's.


IDMM
CD Collection
I-4

Map Making Background

- In general, each successive generation of mine map imaging enhances map availability and facilitates reproduction. However, degradation of image also increases with each generation.

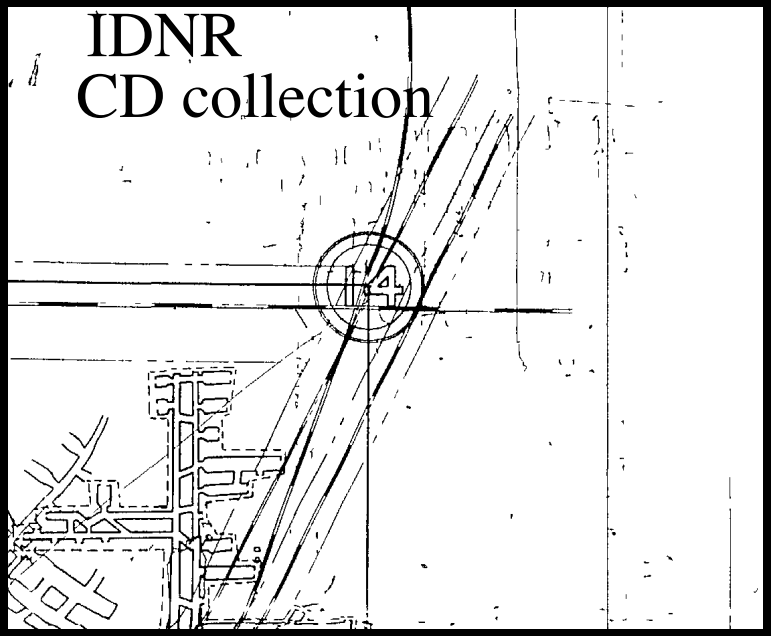
1

Scanned Blue Line

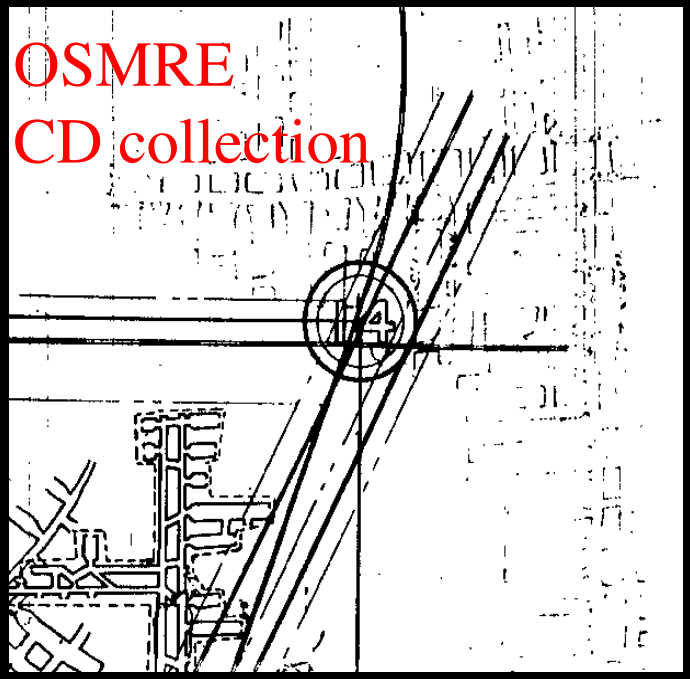
2

Original
Microfiche

3


IDNR
CD collection

4


OSMRE
CD collection

IDMM		OSMRE
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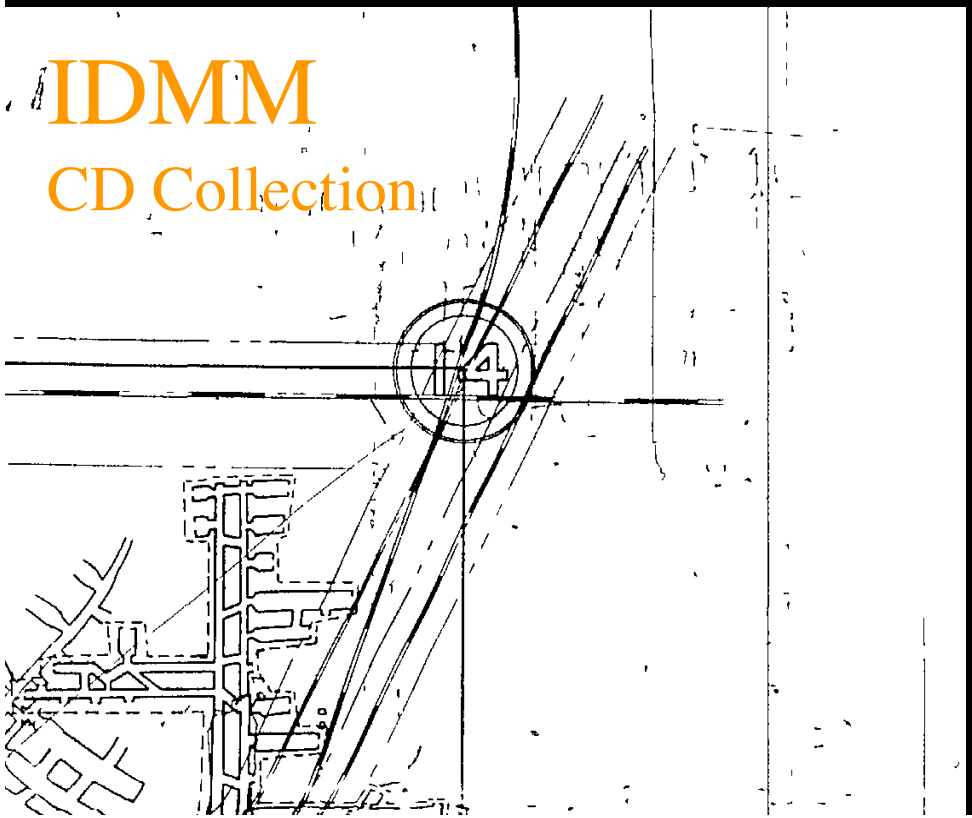
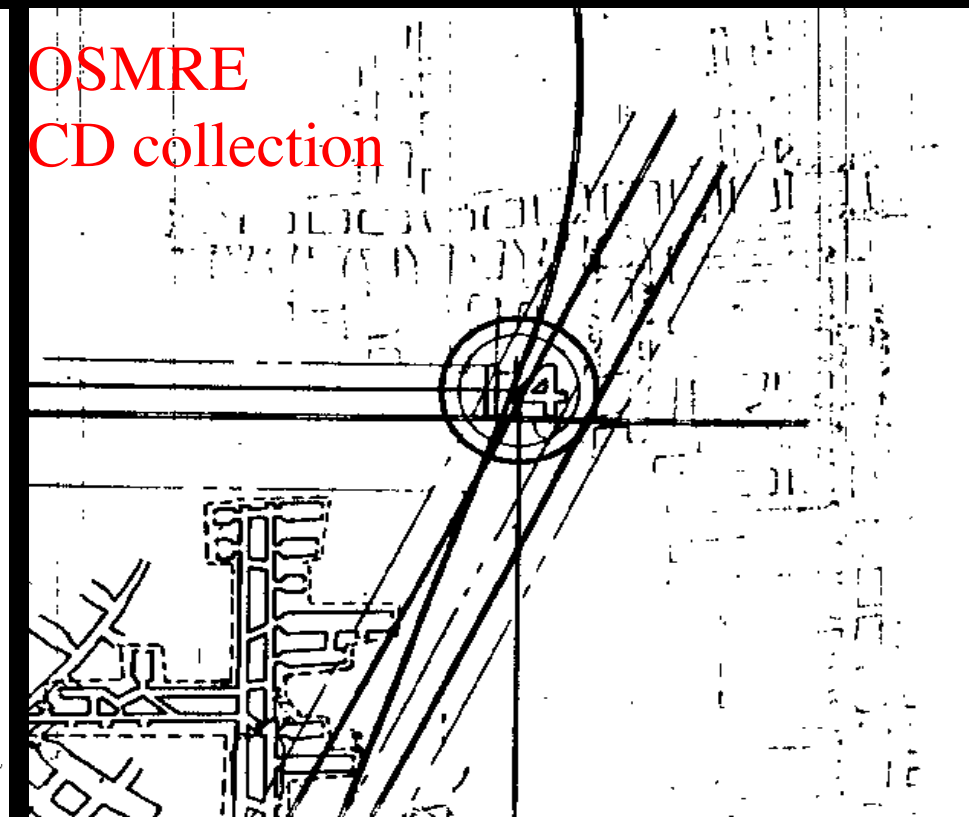
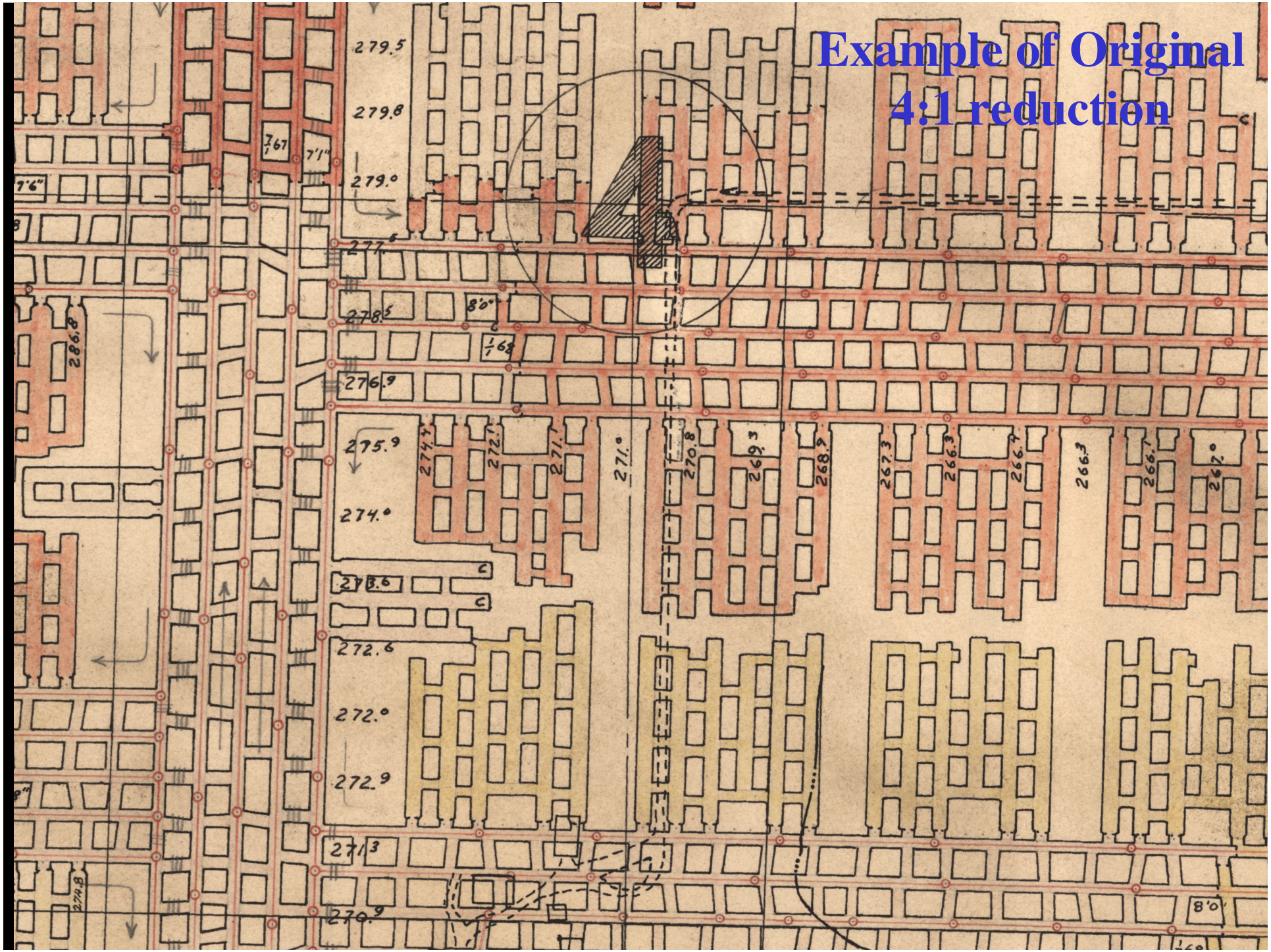
200 x 200 ppi	Resolution:	400 x 400 ppi
B/W 1bit	Color:	B/W 1bit
5.5 MB	Memory:	1.9 MB
1:1	Compression:	1:1
‘X’ of microfiche	Generation:	1 of microfiche





Mine Map Preservation Project

- Create high resolution scanned images


Example of Original
4:1 reduction
279.5
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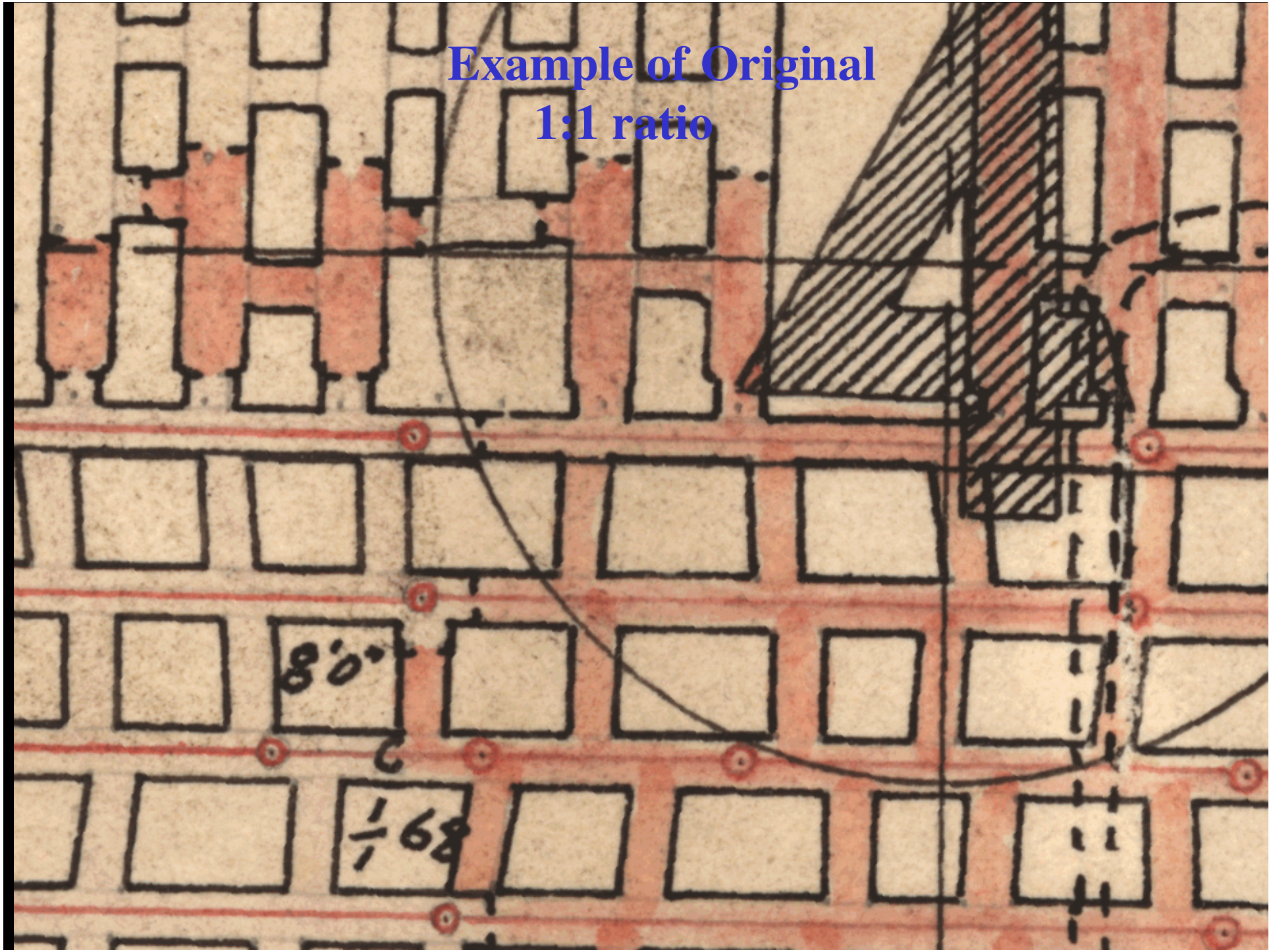

Example of Original
1:1 ratio
80'
1/1 68

Map Preservation

- Create high resolution scanned images
- **Attach reference information to scanned image.**

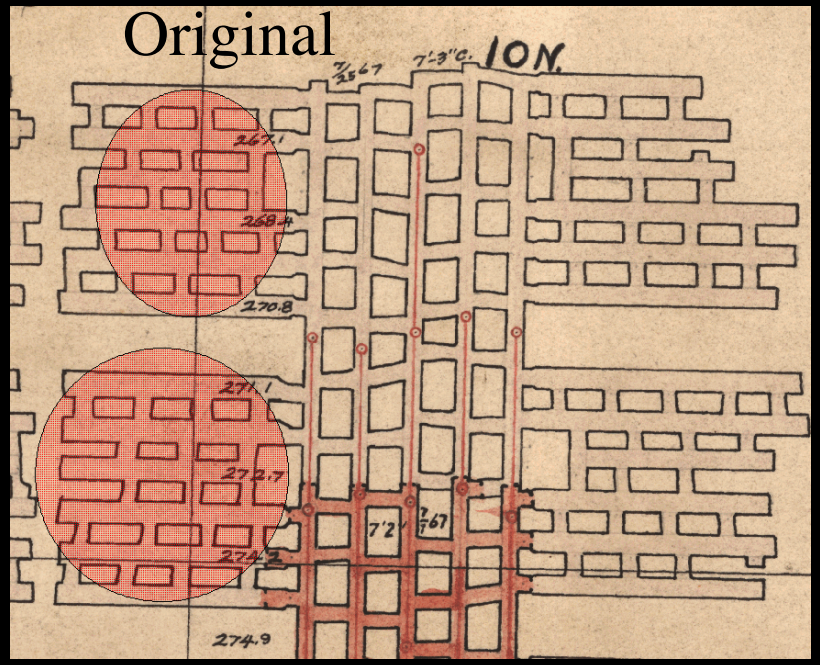
Mine Map Preservation Project

- Create high resolution scanned images
- Attach reference information to scanned image.
- Convert Raster image to Vector image.

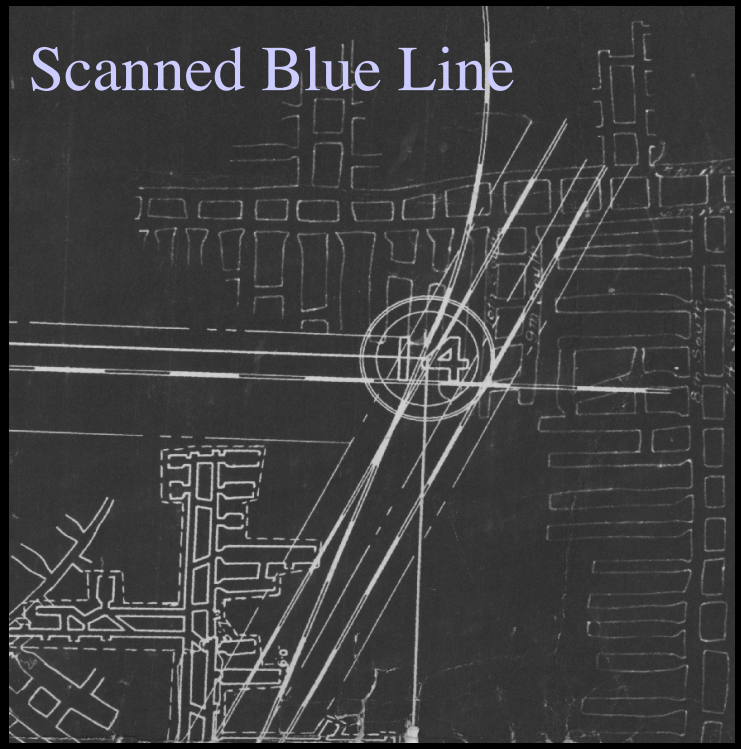
Mine Map Preservation Project

- Create high resolution scanned images
- Attach reference information to scanned image.
- Convert Raster image to Vector image
- Develop Web Site ?

1


Original
10N.
267.1
268.4
270.8
271.1
272.7
274.2
274.9

2


Scanned Blue Line

3

Microfiche

4

CD collection