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Bureau of Mines Information Circular/1978

Microfilming Maps of Abandoned Anthracite Mines

Mines in the Southern Anthracite Field

UNITED STATES DEPARTMENT OF THE INTERIOR

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Atlas of abandoned anthracite mine maps.
Microfilming mine maps for confidential record on 35 mm film for use by Federal agencies.

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Information Circular 8779

Microfilming Maps of Abandoned Anthracite Mines

Mines in the Southern Anthracite Field

By G. B. Gait

UNITED STATES DEPARTMENT OF THE INTERIOR
Cecil D. Andrus, Secretary

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MICROFILMING MAPS OF ABANDONED ANTHRACITE MINES

Mines in the Southern Anthracite Field

by

G. B. Gait[1]

ABSTRACT

This report is the fifth in a series concerning the Bureau of Mines program for microfilming maps of abandoned mines in the Pennsylvania anthracite region. A catalog of the microfilmed maps of 47 of 49 major mines and 18 independent mines in the Southern field is presented. Previous reports included catalogs of microfilmed maps of mines in the Eastern Middle field, the Wyoming and Lackawanna Basins of the Northern field, and the Western Middle anthracite field.

INTRODUCTION

The anthracite measures underlie about 484 square miles of northeastern Pennsylvania and are divided geologically into four separate fields: Northern, Eastern Middle, Western Middle, and Southern. Heavily populated metropolitan centers (including Carbondale, Scranton, Pittston, Wilkes-Barre, Nanticoke, Hazleton, Mahanoy City, Shenandoah, Mount Carmel, Shamokin, Tamaqua, and Pottsville) are located in this area (figs. 1-2).

Over 5 billion tons of prepared anthracite have been mined to date from deposits in northeastern Pennsylvania, and it is estimated that over 6 billion tons of anthracite recoverable by current methods of mining remain (2).[2] Because most of the mines are abandoned and flooded to various levels by enormous pools of water, the economically recoverable tonnage at current prices has not been determined; however, the annual value of anthracite produced has exceeded $100 million for many years, and the vast unmined reserve of high-grade carbon is still important to the economy and to the fuel requirements of the Northeastern United States.

As general decreasing demand for anthracite during the last 30 years has resulted in the closing and abandonment of most of the mines in the four fields, the mine maps and records have often been lost or destroyed.

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[1]Mining engineer technician, Division of Environment Field Office, Bureau of Mines, Wilkes-Barre, Pa. (now retired).

[2]Underlined numbers in parentheses refer to items in the list of references at the end of this report.

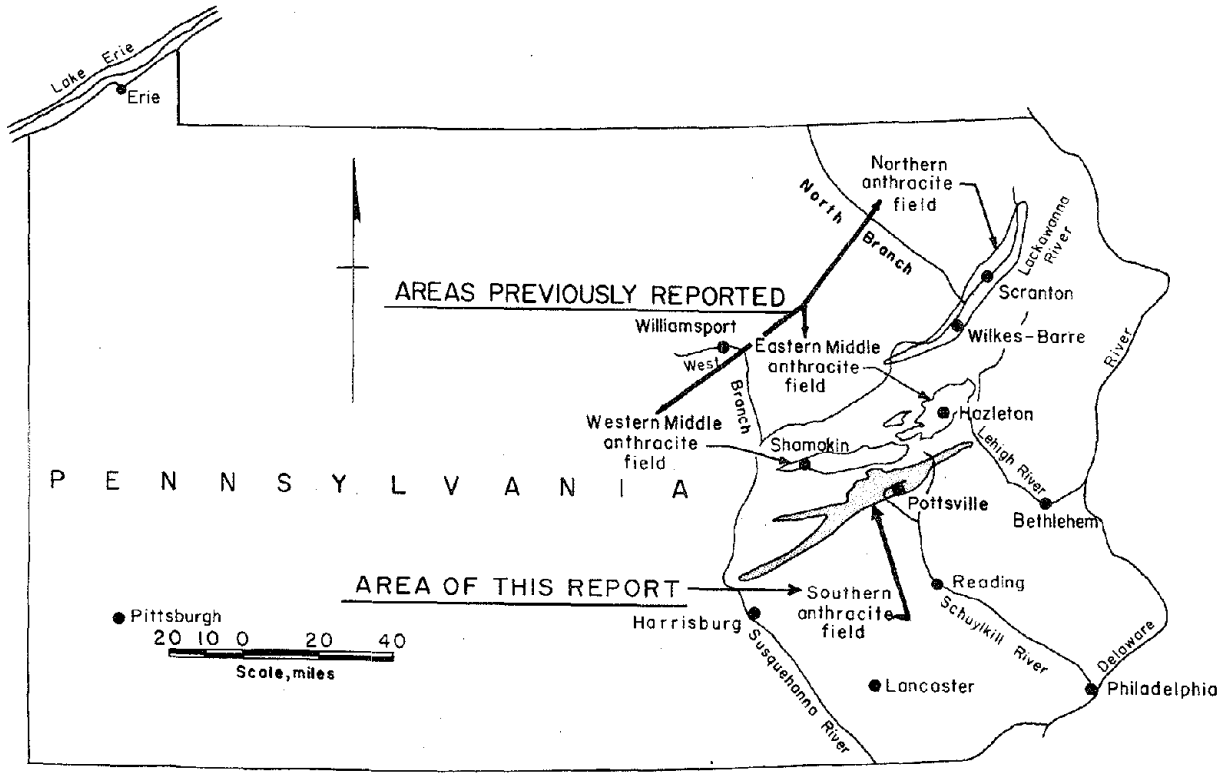


FIGURE 1. - General vicinity map.

Microfilming of the maps and cross sections as soon as possible preserves indispensable information for use in determining reserves and in the possible dewatering and reopening of the mines, should an urgent need arise for this energy source. The maps are also essential for studies of surface stability, particularly in urban areas, and for mine fire control work.

The Bureau of Mines program for microfilming maps of abandoned mines in the Pennsylvania anthracite region and for publishing catalogs of the films as work progresses was described in the first report in this series, which presented a catalog of microfilmed maps of mines in the Eastern Middle field (6). The second report presented a catalog of microfilmed maps of mines in the Wyoming Basin in the Northern anthracite field (3). The third report presented a catalog of microfilmed maps of mines in the Lackawanna Basin in the Northern anthracite field (4), and the fourth report presented a catalog of microfilmed maps of mines in the Western Middle field (5). The present report contains a catalog of films covering 47 of 49 major mines and 18 independent mines in the Southern anthracite field. As in previous reports, maps of active mines are not included in this report; however, when these mines are abandoned an effort will be made to obtain the maps for microfilming and cataloging in a supplementary report. The supplementary report may also include maps that were not available at the time of the initial inventory or maps that have been updated since the original tracings were obtained.

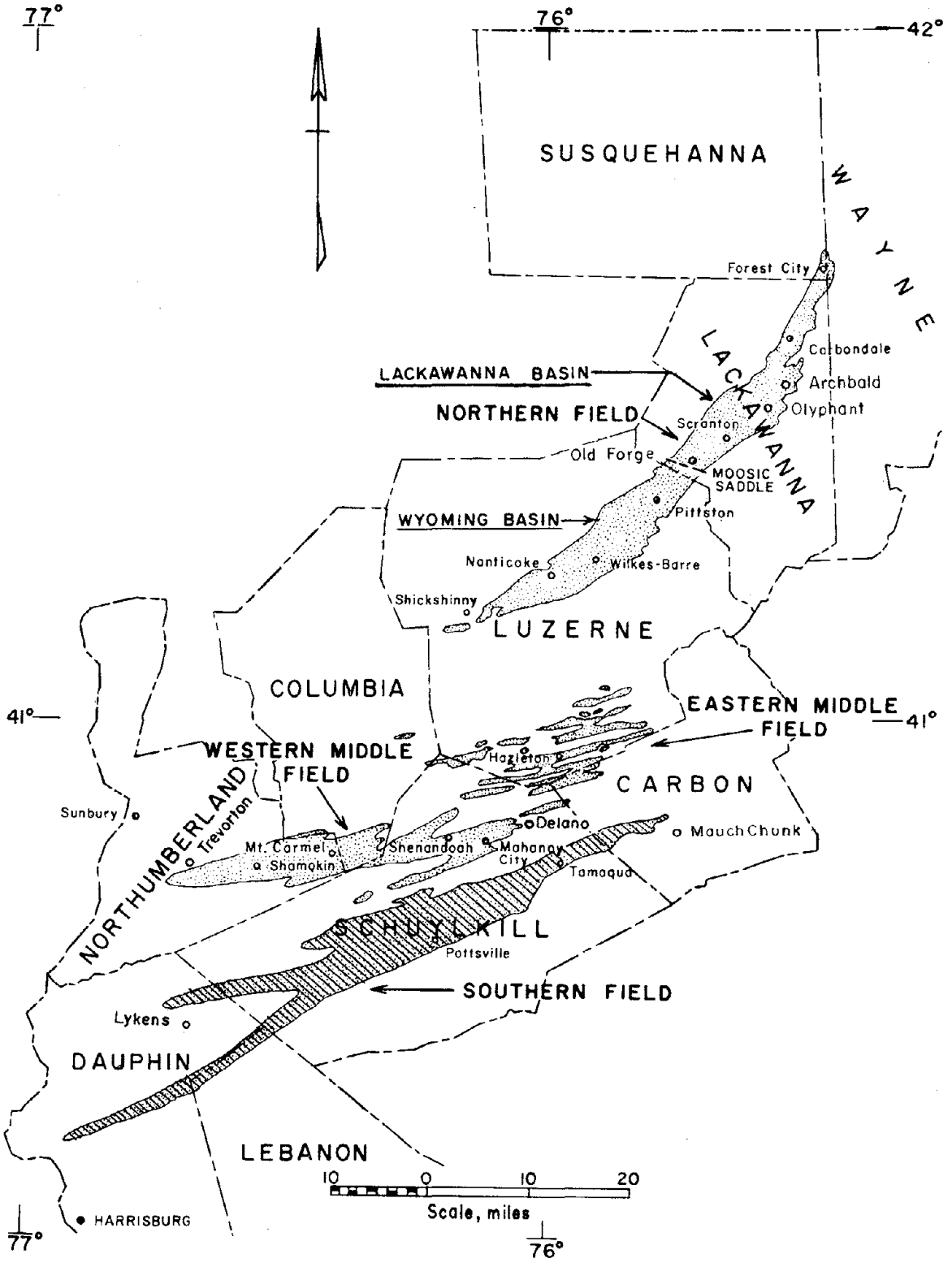


FIGURE 2. - The four anthracite fields shown in relation to counties of northeastern Pennsylvania.

The films will be stored at a central location and will be readily available when needed; however, the Bureau microfilm record of mine maps is confidential and for use only by Federal agencies for technical, economic, and statistical studies not related to taxation, investigation, regulation, or litigation purposes. The microfilm will be released to others by the Bureau of Mines only with the permission of the owners of record at the time the request is made. Information on the procedure for obtaining access to the files may be obtained by writing to the Chief, Division of Environment Field Office, Bureau of Mines, U.S. Department of the Interior, Room 3323, 20 North Pennsylvania Avenue, Wilkes-Barre, Pa. 18701.

ACKNOWLEDGMENT

The generous assistance and cooperation of mine operators and property owners in furnishing the maps and cross sections of the underground workings in their mines is gratefully acknowledged.

ANTHRACITE REGION

Location and Size

The Pennsylvania anthracite region contains about 95 percent of the known reserve of anthracite in the United States and is located in 10 counties in the northeastern part of the State: Carbon, Columbia, Dauphin, Lackawanna, Lebanon, Luzerne, Northumberland, Schuylkill, Susquehanna, and Wayne (fig. 2). The location of the anthracite region in relation to U.S. Geological Survey maps in northeastern Pennsylvania is shown in figure 3.

The anthracite formations, which underlie a surface area of 484 square miles, are divided by geologic conditions into four fields: Northern, 176 square miles; Eastern Middle, 32 square miles; Western Middle, 94 square miles; and Southern, 181 square miles (figs. 2-3). The anthracite fields lie in a series of parallel basins running northeast-southwest and conforming to the mountain ranges of the area.

Geology

Anthracite occurs as superimposed beds separated by varying thicknesses of rock strata. The beds may number as many as 26, with an aggregate thickness of about 100 feet. The rock strata separating the anthracite beds range in thickness from a few feet to as much as 200 feet. Minable thicknesses of the beds range from 2 to 100 feet. The altitude of the lowest mining in each of the four fields follows: Northern, 1,037 feet below sea level; Eastern Middle, 599 feet above sea level; Western Middle, 788 feet below sea level; and Southern, 1,292 feet below sea level. The coalbeds in the Northern and Southern fields, especially the Southern field, extend to much lower depths. The beds lie in synclinal troughs that are comparatively flat at the center, in the Northern field, and pitch moderately to steeply along the limbs. The beds in the Southern field, however, are characteristically steeply pitching in closely folded synclinoria.

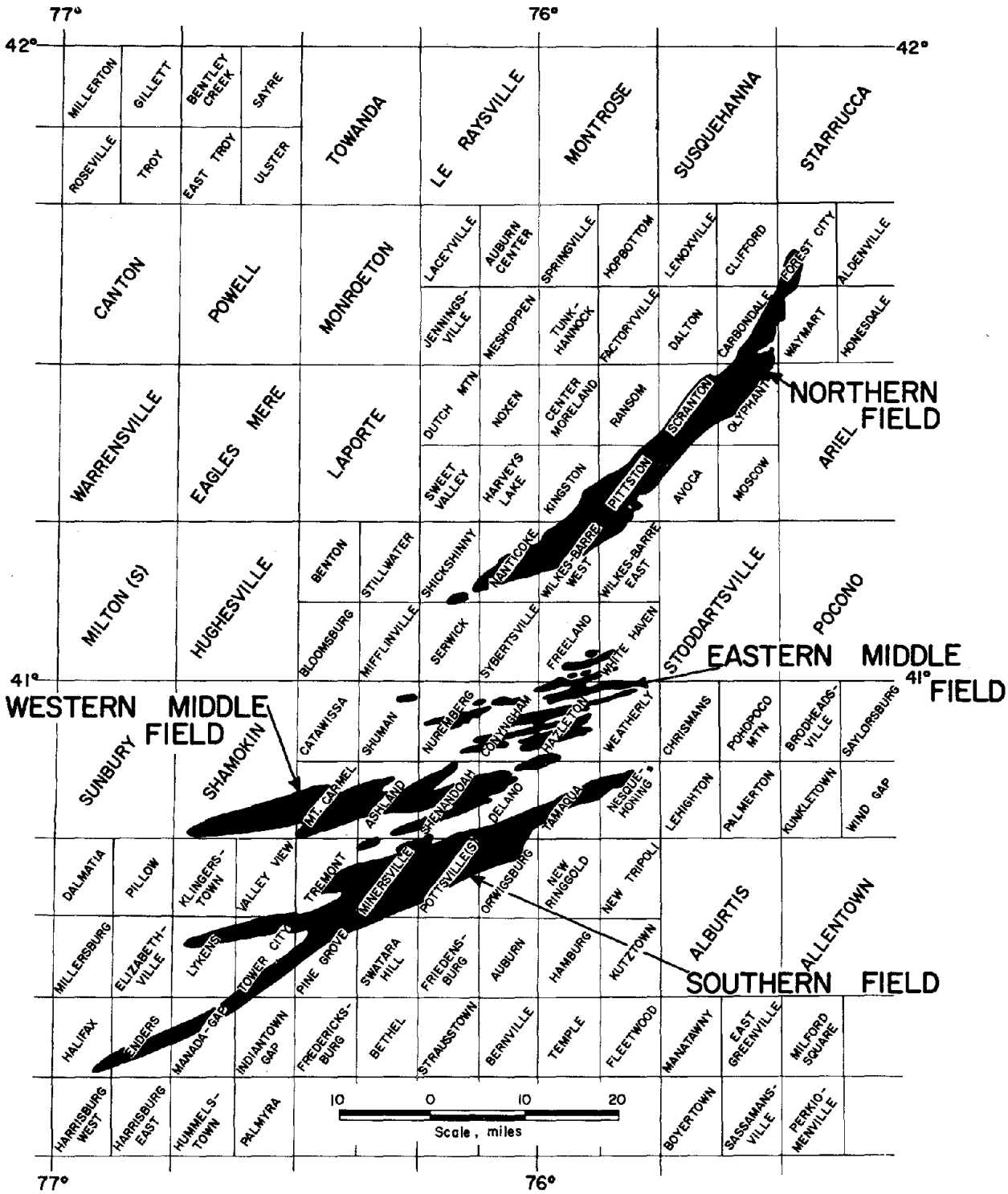


FIGURE 3. - The four anthracite fields shown in relation to index to U.S. Geological Survey quadrangle maps in northeastern Pennsylvania.

Southern Field

The Southern anthracite field lies in eastern Pennsylvania within the counties of Carbon, Schuylkill, Dauphin, and Lebanon and extends from the town of Jim Thorpe on the east to the Susquehanna River on the west. The field is 70 miles long and extends 6 miles north and south at its widest point (near Pottsville). At a point 5 miles east of the Borough of Tower City and about 20 miles west of Pottsville, the coal measures comprising the Southern field separate and form what is known as the "Fish Tail" of the field. The south fork of the "Fish Tail" extends westerly to the Susquehanna River, and the north fork runs northwesterly to a point 3 miles west of the Borough of Lykens. The formations between these two forks are barren of coal measures and consist mainly of Mauch Chunk red shale.

The Southern field comprises many irregular basins having axes that parallel the strike of the anthracite beds. The four major basins are the Panther Creek, the Pottsville, the Heckscherville, and the Valley View. They are separated by major anticlines and faults.

In some localities the mine workins in two or more basins are connected. The dips of the beds range from 0° to 90° and in many places are reversed, particularly along the Sharp Mountain, which lies on the southern rim of the Southern field. West of Pottsville, the beds are believed to extend to a depth of approximately 3,000 feet below sea level, or approximately 4,000 feet below the surface of the ground. The lowest workings in the Southern field, at the Lykens colliery, are 1,292 feet below sea level.

The largest reserves of anthracite lie in the Southern field, where mining conditions are the most difficult. The workings of abandoned mines are generally confined to the limbs of the beds near the surface. Large reserves of anthracite remain in the deeper part of the basins (1).

All the major, deep mines in this field have been abandoned and contain mine-water pools. Some of the pools overflow to the surface in their immediate area, while others overflow through barrier pillars partially removed by surface mining or through barrier pillars penetrated by independent deep mine operations, to become a part of a large pool complex which overflows to the surface miles distant from the location of the individual mine pools. The levels of some pools are controlled by deep-well pumps, to facilitate strip mining, and some pools are used as a source of water for coal preparation plants. The Southern field lies within the drainage basins of the Lehigh, Schuylkill, and Susquehanna Rivers.

MICROFILMING MINE MAPS

The equipment and procedures used in microfilming were discussed previously (6) and are not repeated here except to note that besides providing a convenient method of storing maps and similar bulky records, microfilming also lends itself to high-speed information retrieval and reproduction methods. Microfilmed mine maps will be a distinct asset to anyone with the responsibility of dealing with mining-related problems, such as surface subsidence or

mine fires, at a time long after abandonment of the mine and probable loss or destruction of the original maps and records.

Confidentiality Statement

An important aspect of the microfilming program involves obtaining the consent of the mine owners for the Bureau to photograph the mine maps. A letter is sent to the mine owners, explaining the purpose of the project and requesting permission to microfilm their maps. The letter also explains that the microfilm record is confidential and for use only by Federal agencies in technical, economic, or statistical studies not related to taxation, investigation, regulation, or litigation purposes and that the film will be released to others only by permission of the owners of record at the time the request is made.

Enough statements of confidentiality are attached to each letter to cover all mines under the jurisdiction of the owner or company. Each statement is signed by the Chief, Division of Environment Field Office, Bureau of Mines; spaces are provided for the name of the mine, name of the company, signature and title of the presiding officer, and date. The signed statement of confidentiality represents the Bureau's authority to microfilm the maps, cross sections, etc., of the mine and is recorded on microfilm in the same roll with photographs of the maps.

Identification of Maps

Identifying each mine so that it can be located despite possible changes in the terrain in the interim between the microfilming and the subsequent use of the maps is of vital importance. Proper identification and indexing of each segment of a mine map that appears on a single microfilm photographic frame with the proper bed, mine, and field is necessary so that the maps of any one mine can be restored in their entirety. The Bureau uses the following system to insure accurate identification of the microfilmed maps: The outline of the four fields of the anthracite region is shown superimposed on the index map to the U.S. Geological Survey maps of northeastern Pennsylvania (fig. 3). From this map the location of any portion of any of the four fields can be oriented readily upon the proper U.S. Geological Survey map. The four fields occupy portions of 38 U.S. Geological Survey 7.5-minute sheets (1 inch equals 2,000 feet) and one 15-minute sheet (1 inch equals 5,208 feet). The geographic boundaries of each mine have been plotted on quadrangle maps (fig. 4). The mines in each field are numbered from west to east.

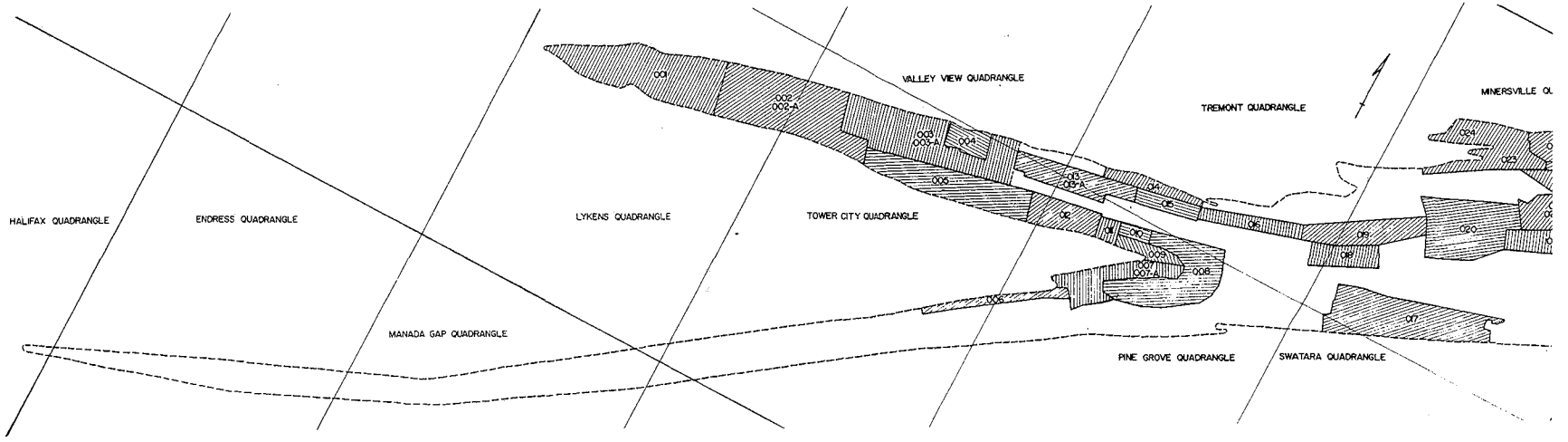
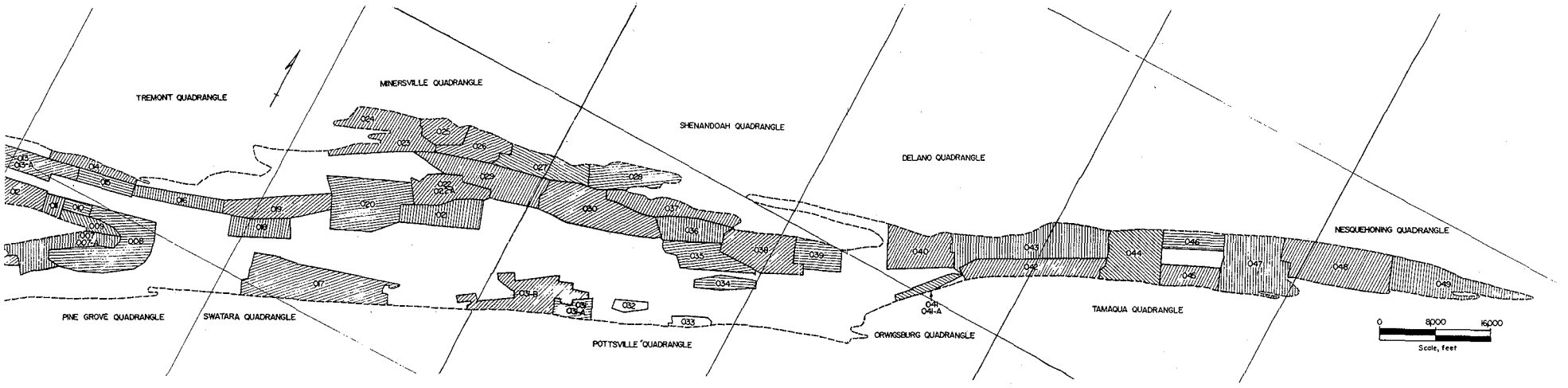


FIGURE 4. - Map of Southern anthracite field showing location of mines and microfilm index numbers of



te field showing location of mines and microfilm index numbers of mines in relation to U.S. Geological Survey quadrangle maps.

CATALOG OF MAPS AND CROSS SECTIONS

Microfilming of mine maps started in June 1963. To date, maps of 303 major mines and 20 independent mines in the four anthracite fields have been microfilmed, requiring the handling of 8,615 maps and 21,188 frames. Microfilming of maps of major mine properties for various fields, exclusive of abandoned independent mines, is approximately 97 percent completed. Abandoned independent mines will be microfilmed if maps become available.

Catalogs covering the microfilm records of each field or portion thereof have been published as the work progressed (3-6). This publication catalogs the microfilm records of maps of mines in the Southern anthracite field as listed in table 1. Figure 4 is a map of the Southern anthracite field, plotted on the U.S. Geological Survey maps, showing the location of mines and the microfilm index number of the mines.

TABLE 1. - Catalog of microfilmed maps of mines in the Southern anthracite field

Mine	Mine index number	Location of mine[1]	Maps microfilmed	Number of frames	Roll
Lykens	S001	Lykens	12	69	47
Williamstown	S002	Lykens-Tower City	11	60	32
Do	S002-A	.....do	89	300	46
Valley View	S003	Tower City	9	66	36
Do	S003-A	.....do	5	7	47
Markson	S004	.....do	10	47	45
Brookside	S005	.....do	12	51	35
Kalmia	S006	Tower City-Pine Grove	7	12	36
Lincoln	S007	Pine Grove	19	72	36
Do	S007-A	.....do	5	6	47
Rausch Creek	S008	.....do	9	21	37
Franklin					
New Lincoln	S009	.....do	7	12	37
Westwood	S010	.....do	13	34	40
Joliett	S011	.....do	5	8	45
Tower City	S012	Pine Grove-Tower City	16	59	35
Good Spring No. 1	S013	Valley View-Tremont	26	71	37
Do	S013-A	.....do	1	5	47
Penag	S014	Tremont	7	15	45
Good Spring No. 3	S015	.....do	10	28	37
Colket[2]	S016	.....do	-	-	37
Blackwood	S017	Swatara-Minersville	11	39	6
Indian Head	S018	Tremont-Minersville	12	38	45
Middle Creek	S019	.....do	31	109	37
Otto	S020	Minersville	53	183	36
Phoenix Park	S021	.....do	45	124	37
Lytle	S022	.....do	10	16	32
Do	S022-A	.....do	16	69	37

See footnotes at end of table.

TABLE 1. - Catalog of microfilmed maps of mines in the Southern anthracite field--Continued

Mine	Mine index number	Location of mine[1]	Maps microfilmed	Number of frames	Roll
Buck Run	S023	Minersville	17	47	38
Glendower	S024	.....do	42	120	38
Richardson[3]	S025	.....do	-	-	37
Thomaston	S026	.....do	33	89	37
Pine Knot	S027	Minersville-Pottsville	50	146	38
Repplier	S028	Pottsville	12	34	38
Oak Hill Pine Hill	S029	Pottsville-Minersville	59	170	38
Wadesville	S030	Pottsville	42	155	40
Sherman	S031	.....do	5	7	45
Do	S031-A	.....do	5	8	49
York Farm	S031-B	.....do	2	9	51
Salem Hill[4]	S032	.....do	-	-	-
Randolph[4]	S033	.....do	-	-	-
Palmer	S034	Pottsville-Orwigsburg	6	16	21
Eagle Hill	S035	Pottsville	37	156	39
Saint Clair Pine Forest	S036	.....do	9	31	40
Saint Clair	S037	.....do	38	95	40
Silver Creek	S038	Pottsville-Orwigsburg	43	129	39
Kaska	S039	Orwigsburg	9	17	20
Mary D	S040	Delano	20	61	21
Bell	S041	Delano-Orwigsburg	5	10	21
Do	S041-A	.....do	19	40	39
Newkirk	S042	Tamaqua-Delano	9	37	39
Tamaqua Lands	S043	.....do	50	126	39
Tamaqua	S044	Tamaqua	71	199	20
Rahn	S045	.....do	27	95	20
Greenwood	S046	.....do	29	79	20
Coaldale	S047	Tamaqua-Nesquehoning	36	115	20
Lansford	S048	.....do	34	144	19
Nesquehoning	S049	Nesquehoning	42	156	19

[1]Names in this column refer to U.S. Geological Survey quadrangle maps.
[2]Included in Middle Creek (S019).
[3]Included in Thomaston (S026).
[4]Maps not available.

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