

2.3 Regional Energy Policy Program for the Northern Great Plains

REGIONAL ENERGY POLICY PROGRAM FOR THE NORTHERN GREAT PLAINS

Semiannual Technical Progress Report
for the Period January 1, 1992 - June 30, 1992

by

Daniel J. Daly, Geologist

Energy and Environmental Research Center
University of North Dakota
Box 8213, University Station
Grand Forks, ND 58202-8213

Contracting Officer's Representative: Dr. Madhav R. Ghate

for

U.S. Department of Energy
Morgantown Energy Technology Center
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880

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REGIONAL ENERGY POLICY PROGRAM FOR THE NORTHERN GREAT PLAINS

1.0 INTRODUCTION

The United States is the world's leading consumer of energy. The production and consumption of energy vary over the country as a function of climate, the availability of natural resources, economics, and culture. The northern Great Plains region (Montana, Wyoming, North Dakota, and South Dakota), an area characterized by many similarities in climate, culture, and physiography:

- Accounts for over 10 percent of domestic hydrocarbon production; a major share of low-rank, low-sulfur coal production; and a significant amount of steam-generated electricity.
- Contains significant oil shale, geothermal, nuclear, and conventional fossil fuel resources.
- Contains significant research capability, particularly with regard to coal-conversion and oil shale technologies, and, with respect to the environmental effects of fossil fuel production, conversion and utilization.
- Is a net exporter of energy and fossil fuel materials.
- Is a significant consumer of fuel and fossil fuel by-products in the agricultural sector.
- Receives significant revenues and economic support from fossil fuel exploration, production, conversion, and transportation industries, as well as from ancillary industries.

2.0 PROGRAM OBJECTIVES

Energy-related activities are significant in the economy at the regional, state, and local levels. Fluctuations in energy markets can have marked effects on government revenues and programs, as well as on the economy. Since the end of the World War II, the northern Great Plains has experienced economic "boom" cycles related to oil and gas, coal, oil shale, hydroelectric power, and uranium. Since the early 1970s, energy markets have reacted to an increase in environmental awareness and the growth and diversification of energy sources and suppliers on a global scale. For example, during that time, the region's coal sector was affected by the nature of regulatory actions with respect to air quality and waste management.

National Energy Strategy (NES) development is underway that is attempting to take into account the mix of environmental, fiscal, social, research, economic, national security, and resource issues that form the energy picture of the nation. Ensuring the optimal production and utilization of the region's energy resources, within the framework of the developing NES, could be enhanced by responses and initiatives both at the state and regional levels. Once the basic framework of the strategy is in place, periodic review of the policy with respect to the region would be augmented by ready access to

pertinent data on the regional level. To this end, the objectives of the Regional Energy Policy Program for the Northern Great Plains, as originally proposed, were to:

- Gather, develop, and disseminate information necessary for well-founded energy initiatives in the region.
- Promote and assist in the integration and coordination of the energy-planning efforts of individual states in the region.
- Foster communication between the public and private sector concerning energy-planning needs in the region.
- Achieve objectives and carry out activities in a manner consistent with the NES.

The mission of the Energy Policy Program for the Northern Great Plains can best be achieved through an information center which provides background on major issues, supporting materials, and a catalogue of information sources, including agencies, groups, database services, and pertinent activities. The program is proceeding in this direction with the development of the "Energy Policy Information Center" (EPIC) for the northern Great Plains.

3.0 YEAR 3--SECOND BIENNIAL PERIOD: GOALS/ACTIVITIES

The choice of a GIS[®] information management system during the reporting period for data management required a reevaluation of the approach and scope of work for the project. First, the use of the GIS[®] database, a fully relational data system, removed the need to develop Lotus[®] or other spreadsheet systems for the data as originally envisioned under Tasks C, D, and E.

Secondly, organization of the data for entry and manipulation proved most efficient in the following groups: production, facilities, consumption and markets, waste generation and management, resources and reserves, and taxation and revenue. Data entry and map development were initiated for "production" and "facilities" during this reporting period (Attachment A).

Third, GIS[®] systems require a geographic tie in order to store and manipulate data. The county was chosen as the appropriate level of portrayal for the information for the following reasons:

- It is a geographic entity common to geologic, political, regulatory and industry information.
- It allows the ready treatment both of variables with large populations, such as producing wells, as well as groups with lesser populations, such as Class II wells or mines.
- It provides an adequate number of data points, that is, individual counties, to portray information at the state, county, geologic province, or regional level.

With smaller data sets, the capability exists to post specific locations with accompanying information.

3.1 Task A. Development of an Information Management System

Objective The objective of Task A is to develop an integrated data management system for the storage, organization, and manipulation of data, as well as allowing for varied output including graphics, such as maps, tables, and reports. Activities under this task include identifying data types and desired product formats, surveying available software (including capabilities and potential for interaction), and obtaining software for testing and, if appropriate, use. In addition, activities include identification and acquisition of appropriate computer hardware.

Accomplishments Activities to January of 1992 focused on the acquisition and testing of hardware and software. Accomplishments included:

- Identification and acquisition of appropriate computer hardware for testing and eventual use with a range of software packages (9/89).
- Identification, acquisition, testing, and application of software packages, including the following:
 - Lotus 3.1 for numerical data (3/90)
 - Q&A, a flat file manager, for databases containing text and requiring sorting (i.e., annotated bibliography) (9/89)
 - Atlas GIS[®] system (acquisition, 12/90; partial evaluation, first quarter '91)
 - MapViewer by Golden Software (obtained, evaluated, and approved as the database shell and was subsequently purchased for approximately \$250)

During this reporting period the following occurred:

- A programmer was hired to supervise database design, data entry, data management and output design.
- A reevaluation of data management systems resulted in the selection of Atlas GIS[®] as the data management package (see the March monthly report).
- Atlas GIS[®] software was acquired. Computer hardware needed to accommodate the Atlas GIS[®] system, including upgraded hard drives and a desk jet printer, was identified and acquired.
- Atlas GIS[®] was tested using information from the natural gas test set. This was followed by the development of an overall database format, general data entry, and the production of map products as part of the development of a comprehensive database for energy-related information for the northern Great Plains (NGPCOMP; see Attachment A).

As outlined in the March monthly report, products for Tasks C, D, E, and F are now included as data sets with supporting documentation in the Atlas GIS[®] NGPCOMP database.

3.2 Task B. Information Acquisition

3.2.1 Subtask B.1 Annotated Bibliography of Energy-Related Sources

Objective The objective of this activity is to develop a computer-based annotated bibliography of key sources with respect to the various energy-related subject areas in the northern Great Plains. Information sources include trade and lobbying groups, company reports, and state and legislative agencies. Activities include the identification, acquisition, review, entry, and indexing of sources.

Accomplishments Activities to January 1992 included:

- Acquisition of Q&A software.
- Design of input and report formats.
- Identification and acquisition of energy-related sources for the northern Great Plains, including computerized databases, organizations, federal and state governments, and libraries.
- Input into the Q&A system, consisting of a bibliographic entry, key words, and, following an evaluation of the source, a review and any additional key words and information.
- Housing of reference materials. Discussions were initiated regarding the housing of these reference materials as a specific collection within the library system at the University of North Dakota.
- Identification of key references by sector (1/92)
 - Coal
 - Oil
 - Gas

During this reporting period, the following activities were undertaken:

- Identification of key references by sector
 - Electricity (1/92)
 - Nuclear (2/92)
 - Biofuels (2/92)
 - Geothermal (2/92)
 - Hydropower (2/92)
 - Oil shale (2/92)

3.2.2 Subtask B.8 Organizations Database

Objective The objective of Subtask B.8 is to develop a computerized database of key energy-related organizations for the northern Great Plains (ENERCON).

Accomplishments Prior to January 1991, selected energy-related groups at the national and regional levels were identified and contacted with respect to their activities on policy issues. The groups included environmental organizations, research organizations, government agencies, and industry trade groups. A list of organizations contacted was included as an attachment to the March 1991 monthly report. The database was completed as scheduled and included in the last semiannual report as Attachment D.

During this reporting period, **ENERCON** was maintained and updated as necessary.

3.3 Task C. Energy Resource Database

Objective The objective of this task is to develop a computerized database to provide information on current energy-related resources and determine the status of resource assessment.

Accomplishments Activities to January 1992 included:

- Identifying and acquiring data sources, mainly published reports.
- Designing and testing a Lotus® 3.1® database.
- Initiating a report dealing with the status of coal resource assessment in the region. A draft dealing with resource assessment in the Williston Basin (Fort Union Lignite Region) was submitted as an attachment to the June 1991 monthly report.

During this reporting period, the following occurred:

- Data continued to be acquired and organized for entry into the **NGPCOMP** database.
- The report on the status of resource assessment for coal, and oil/gas, and other energy sources were rescheduled for the next quarter.

3.4 Task D. Energy Production Database

Objective The objective of this task is to develop a computerized database to provide information on current energy-related production. Related databases will be prepared and will pertain to the storage, treatment, and conversion (i.e., mines, power facilities, refineries, gas processing facilities) of fuels.

Accomplishments Activities to January 1992 included:

- Identifying data sources.
- Designing and testing a production database at the state level using Lotus® 3.1.®
- Initiating a Q&A® database for coal mines in the region.
- Initiating a Q&A® database for coal conversion facilities. A sample entry was included in the April 1991 monthly report.

- Preparation of databases on coal
 - Mines (**MINE**)
 - Conversion facilities (**PLANT**)

During this reporting period, the **MINE** and **PLANT** databases were updated, QA/QC was performed, and a final product was included in the May monthly report. These databases served as the source of data in these subject areas for the Atlas GIS[®] **NGPCOMP** database.

3.5 Task E. Energy Consumption Database

Objective The objective of this task is to develop a computerized database to provide information on energy consumption in the region.

Accomplishments Activities to January 1992 focused on identifying data sources, acquiring data, and, in the second quarter of Year 2, designing and testing a database in Lotus[®] 3.1[®]. No activities were scheduled in this task during the last biannual period.

No activities were undertaken in this task during the current reporting period.

3.6 Task F. Energy Technology Database

Objective The objective of this task is to develop a computerized database to provide information on energy conversion and related technologies, focused on the northern Great Plains.

Accomplishments Activities to January 1992 focused on identifying data sources and acquiring data.

Activities to date have focused on the preparation of critiques dealing with low-rank coal conversion technologies based on published and in-house sources. A sample entry was included as an attachment to the April 1991 monthly report. The Q&A[®] **TECH** database was completed during the last biannual period.

During this reporting period information was updated.

3.7 Task G. Government Initiatives Database

Objective The objective of this task is to develop computerized databases and supporting documentation dealing with energy-related policy initiatives at the federal and state levels.

Accomplishments Activities to January 1992 focused on:

- The compilation of a concise history of energy-related events at the international, national, and regional levels.
- The identification and, where available, assessment of past federal and state policy actions in a historical context.
- Identification and tracking of current policy initiatives, and, where available, supporting documentation at the federal and state levels.

During this reporting period, tracking of federal policy developments continued and included:

- Regular contact with personnel of the congress, administration, industry associations, and research groups.
- Acquisition of published sources from USDOE, industry associations, environmental groups, and, notably, the Environmental and Energy Study Institute (Weekly Bulletin, Legislation Briefing Books, Special Reports).

During this reporting period, discussions were held with companies providing on-line policy-related information. These groups included **LEXIS/NEXIS** and **WESTLAW** (see Attachment C, January 1992 monthly).

Following an evaluation of the nature and availability of information in this area, it was decided that the products for Task G should be changed to the following:

- For Subtask G.1
 - A report entitled "History and Status of National Energy Policy" (now in draft form).
 - A database containing a concise review of federal policy initiatives during the period (currently in draft form).
- For Subtask G.2 the information would be included in Task B products as follows:
 - A summary of key published data sources to be included in **ENERBIB** (B.1)
 - A summary of other sources for inclusion in **ENERCON** (B.8).

3.8 Task H. Environmental Issues Database

Objective The objective of this task is to prepare summary reports dealing with energy-related environmental issues in the northern Great Plains region.

Accomplishments Activities to January 1992 focused on the identification and acquisition of sources and on the preparation of reports regarding:

- Surface mining of coal--the preparation of an assessment of the environmental effects of surface mining coals in the region based on published sources and current research programs.
- Lignite conversion wastes--the preparation of an assessment of the environmental effects, focused on groundwater, of the disposal of coal conversion wastes (e.g., fly ash, FGD waste, gasification waste) based on published sources and current research programs.

- Oil and gas exploration and production wastes--the preparation of an assessment of the environmental effects, particularly on the shallow subsurface, of exploration and production wastes based on published sources and current research programs. Efforts to date have focused on drilling wastes (see attachment to June 1991 monthly report).

During this reporting period, the products were rescheduled for completion during the next quarter.

4.0 TRIPS/PRESENTATIONS

No trips or presentations were made during this reporting period.

5.0 FUTURE ACTIVITIES

The revised completion date for the program is December 31, 1992. The revised program schedule will be included in the July 1992 Monthly Report.

The tasks have been revised to reflect the current focus on developing demonstration sets for the Atlas GIS[®] **NGPCOMP** database under Task A and the finalization of reports under Tasks C, G, and H. Revisions include:

- Database subtasks under Tasks C, D, and E; additional data gathered under H will be redirected to fulfill Subtask A.4.
- For Subtask G.1.
 - A report entitled "History and Status of National Energy Policy" (currently in draft form).
 - A database containing a concise review of federal policy initiatives during the period 1970-1980 (currently in draft form).
- For Subtask G.2-5. The product will consist of a summary of key published data sources in **ENERBIB** and other information sources in **ENERCON** as part of Task B.
- Reports under Tasks C and H have been rescheduled for the second quarter.

Section 5.0 provides a general review of future activities for the first half of Year 4.

5.1 Task A. Development of an Information Management System

Over the next biannual period, the schedule calls for the preparation of database demonstration sets as outlined in Section 3.1.

5.2 Task B. Information Acquisition

5.2.1 Subtask B.1 Annotated Bibliography of Energy-Related Sources

In the coming biannual period, work on the annotated bibliography will focus on the systematic review and rating of key sources outlined in this reporting period. Since this activity is relatively time-intensive, it will be undertaken as time allows.

5.2.2 Subtask B.2 Energy-Related Organizations Database

Activities will focus on the maintenance and enlargement of the database. A list of contacts for energy-related lobbying groups in the region, supplied by state governments, is an example of a key data set which continues to expand.

5.3 Task C. Energy Resource Database

In the coming biannual period, the schedule requires activity on determining the status of resource assessment in certain energy sectors and for developing resource databases.

The resource assessment reports will be completed in the second quarter.

Resource and reserve information will be prepared and entered into the **NGPCOMP** database.

5.4 Task D. Energy Production Database

Work in the coming biannual period will focus on the completion of the Q&A coal mine and coal conversion facility databases, particularly the information on waste generation and management.

Efforts will focus on the QA/QC of information for the **NGPCOMP** database.

5.5 Task E. Energy Consumption Database

Efforts will focus on the preparation of energy consumption data for entry into the **NGPCOMP** database.

5.6 Task F. Energy Technology Database

No work is scheduled in this task in the coming biannual period.

5.7 Task G. Government Initiatives Database

Work will focus on the following:

- Tracking policy developments at the national, regional, and state levels. Activities will include reviewing energy-related actions at the state level for the last legislative session, obtaining final bill status reports, and reviewing the changes to the state codes. At the federal level, activities will focus on tracking the various

congressional and administration energy initiatives as they move through committee and go before the Congress.

- For Subtask G.1.
 - A report entitled "History and Status of National Energy Policy" (currently in draft form).
 - A database containing a concise review of federal policy initiatives during the period 1970-1980 (currently in draft form).
- For Subtask G.2-5. Product will consist of a summary of key published data sources in **ENERBIB** and other information sources in **ENERCON** as part of Task B.

5.8 Task H. Environmental Issues Database

In the coming biannual period, work will focus on the following:

- The finalization of a summary report dealing with the status of knowledge concerning the environmental effects of coal mining in the region.
- The finalization of a summary report dealing with the status of knowledge concerning the environmental effects of coal-conversion waste management, particularly on groundwater.
- The finalization of a summary report concerning the status of knowledge of environmental effects of oil and gas exploration and production wastes in the region.
- The finalization of a draft summary report dealing with the ramifications of the 1990 Amendments to the Clean Air Act on the region, particularly with respect to coal.
- The finalization of a report dealing with issues related to leasing of federal lands.

ATTACHMENT A

STATUS OF THE NGPCOMP DATABASE

ATTACHMENT A

STATUS OF THE **NGPCOMP** DATABASE (6-30-92)

NGPCOMP (Northern Great Plains Comprehensive database) is a GIS (geographic information system) database developed under this project using Atlas GIS[®] software (see March '92 monthly report) which is designed to provide ready access to energy-related information for the northern Great Plains region. Information areas include resources/reserves, production, facilities, waste generation/waste management, markets and consumption, and revenue. These data reflect efforts under Tasks C through E.

The information is typically entered and displayed at the county level. In the case of data sets of less than 100 components, such as gas processing facilities or coal mines, data points are entered individually with detailed data sets, while in the case of larger data sets, such as oil or gas wells, county totals only are entered and the data are generalized.

Where possible information sources are nonproprietary and include published reports, government personnel and reports, and industry personnel, associations, and reports. Other databases developed under this project, including Mines and Plants, were used to expedite data entry.

The following contents of this attachment provide a picture of the status of **NGPCOMP** as of June 30, 1992:

- A.1--Information sources for the **NGPCOMP** database
- A.2--**NGPCOMP** database status (6-30-92)
- A.3--**NGPCOMP** database printout
- A.4--Draft maps from the **NGPCOMP** database

A.1

Information Sources for the NGPCOMP Database

	MT	ND	SD	WY
Oil				
# of Wells	3	4	2	21
Total Prod. & Yr	3	4	2	8
Gas				
# of Wells	5	4	2	5
Total Prod. & Yr	3,5	4	2	8
Water				
Total Prod. & Yr	3	4	2	21
Oil Associated	3	4	2	--
Gas Associated	3	4	2	--
Class II				
Total	5	4	2	5
EOR Wells	5	4	2	5
SWD Wells	5	4	2	5
Oil-Related Facilities				
Refineries	6	6	6	6
Pump Stations	--	--	--	--
Gas-Related Facilities				
Processing Plants	6	6	NA	6
Compress. Stations	7	7	7	7
Storage Facilities	1	NA	NA	1
Coal Mines				
Background	10,11,16	10,14,16,22	10,16,18	10,16,19,20
Production	*,11	*,14,22	NA	*,19,20
Customer Info.	*,11	*,14,22	NA	*,19
Geologic Setting	*,10,11	*,10,22	NA	*,10,19
Environmental	*,11	*,23	NA	*
Financial	*,10,11	*,10	NA	*,10,20
Generating Stations				
Background	9,10,13,15,1	9,10,12,13,1	9,10,13,17	9,10,13,17
Boiler Spec.	7	4,15,17	*,9,13,17	*,9,13,17
Average Load	*,9,13,15,17	*,9,13,15,17	*,17	*,17
Flue Gas Cleaning	*,15,17	*,15,17	*,9,13,17	*,9,13,17
Fuel Information	*,9,13,15,17	*,9,13,15,17	*,9,13,17	*,9,13,17
Waste Management	*,9,13,15,17	*,13,15,17	*	*
Customer Info.	*	*,23	*,13	*,13

NGPCOMP - SOURCE CODES
TRG - 7/21/92

Codes Sources

- * Industry Contact Person.
- 1 American Gas Association (AGA), 1988, Survey of Underground Gas Storage Facilities in the United States and Canada. Updated by Mr. James Hicks (7/92).
- 2 South Dakota Department of Environment and Natural Resources, 1991, Oil, Gas, and Water Production Second Half, 1991.
- 3 Montana Department of Natural Resources and Conservation, Oil and Gas Conservation Division, Annual Report 1990. Also Mr. Richard Jacobson, Statistician, with the above agency.
- 4 North Dakota Industrial Commission, Mr. Dave Hvinden, Analyst.
- 5 Petroleum information--Previous search.
- **6 PennWell Publishing, Oil and Gas Journal Energy Databases, 1991, Worldwide Gas Processing Survey and U.S. Refinery Survey.
- 7 PennWell Publishing, 1988, Natural Gas Pipelines of the United States and Canada, Third Edition, Map.
- 8 Wyoming Oil and Gas Conservation Commission, 1990, Oil & Gas Statistics 1990 and Wyoming Oil and Gas 1990.
- **9 Edison Electric Institute, 1989, Power Directory 1989, 405 p.
- **10 Keystone Coal Industry Manual, 1991, MacLean-Hunter Publications, 1004 p.
- 11 McCulloch, Robin, October 1991, Montana Mining Directory 1989-1990, MBMG Bulletin 129, 146 p.
- 12 Montana Department of Natural Resources and Conservation, Energy Division, December 1989, Montana Historical Energy Statistics, Sixth Edition, 88 p.
- **13 NUS Corporation, 1983, Commercial Coal Power Plants: Edition 5, 67 p.
- 14 North Dakota Public Service Commission, Siting Division, June 1985, Electric Transmission Facilities in North Dakota, Maps 1 & 2. Also, communication with NDPSC staff members.
- 15 Selle, S.J., Gronhovd, G.H., and Sondreal, E.A., 1986, Review of slagging and fouling from low-rank coals: Plant survey, bibliography, and discussion: U.S. Department of Energy, 227 p.
- 16 U.S. Department of Energy, Energy Information Administration, September 1991, Coal Production 1990, DOE/EIA-011&(90), 136p. (from Form: EIA-7A; Coal companies must complete a variety of forms and surveys in compliance with federal and state regulations.)

NGPCOMP - Source Codes (continued)

Codes Sources

- 17 U.S. Department of Energy, Energy Information Administration, October 1991, Inventory of Power Plants in the United States 1990, U.S. Department of Energy, 405 p. (U.S. Department of Energy, Energy Information Administration Forms: EIA 759 and EIA 767. [Power plants of a specified size must complete a variety of forms and surveys in compliance with federal regulations.]
- 18 U.S. Geological Survey, July 1975, Mineral and Water Resources of South Dakota.
- 19 Wyoming State Mine Inspector's Office, 1990, Annual Report. Also, communication with Arnold Hannum, Mine Inspector.
- **20 Wyoming Mining Association, 1991, Statistical Information on the Powder River Basin Coal Mines 1991.
- 21 Michie, Troy W., 1988, 1986 Production and Injection Statistics for Continental United States Appendix D, Michie and Associates, Inc., New Orleans, 17 p.
- 22 North Dakota Lignite Council.
- 23 North Dakota State Health Department, Division of Waste Management.
- More Information is Needed.
- NA Not Applicable.
- ** Proprietary sources, used to confirm information in selected areas.

NGPCOMP Database Status (6-30-92)*

	MT	ND	SD	WY
Production				
AGV	X	X	X	X
AGW	X	X	X	X
CM	X	X	X	X
DM	X	X	X	X
MP	X	X	X	X
NAGV	X	X	X	X
NAGW	X	X	X	X
OW	X	X	X	*
TCP	X	X	X	X
TGP	X	X	X	X
TGPW	X	X	X	X
TOP	X	X	X	*
Facilities				
BCD	X	X	NA	X
BSD	X	X	NA	X
CS	X	X	X	X
GPP	X	X	NA	X
IO	X	NA	NA	X
MM	X	X	NA	X
OREF	X	X	NA	X
PIPEL	--	--	--	--
POWP	X	X	X	X
PPTC	X	X	NA	X
PPTTP	X	X	NA	X
PS	--	--	--	--
TGC	X	X	X	X
TWG	X	NA	NA	X
USF	X	NA	NA	X
USSF	X	NA	NA	X
Class II				
AWP	X	X	X	--
DC	--	--	--	--
EORW	X	X	X	X
NAWP	X	X	X	--
SMDW	X	X	X	X
TCII	X	X	X	X
TWP	X	X	X	X

* Resources/Reserves, waste generation and management, used in marketing/consumption and in progress.
 X 1990 data.
 -- Information requisition ongoing.
 NA Not applicable.

Abbreviation Key

Production Information

AGV	Associated Gas Production Volume (Mcf)
AGW	Associated Gas Wells
CM	Coal Mines
DM	Dedicated Mines (Where all production goes to one plant)
MP	Mixed Production (Where production is split with more than one plant, all of which are located "a few miles away")
NAGV	Non-Associated Gas Production Volume (Mcf)
NAGW	Non-Associated Gas Wells
OW	Oil Wells
TCP	Total Coal Production (Short Tons)
TGP	Total Gas Production (Mcf)
TGPW	Total Gas Producing Wells
TOP	Total Oil Production (Barrels)

Facility Information

BCD	Barrels per Calendar Day (Maximum number of barrels of input for a twenty-four hour period after making allowances for limitations, which include: environmental concerns, scheduled and unscheduled downtime, types and grades of input and expected output, and the capability of the downstream receiving facility)
BSD	Barrels per Stream Day (Amount of volume which can be processed at full capacity with optimum crude and product slate conditions)
CS	Compressor Stations
GPP	Gas Processing Plants
IO	Input and/or Output Well Total
MM	Mine-Mouth Generating Station
OREF	Oil Refineries
PIPEL	Oil, Gas and/or Product Pipelines
POWP	Power Plants (Generating Stations)
PPTC	Processing Plant Total Capacity (Mcf/d)
PPTTP	Processing Plant Total Through-Put (Mcf/d)
PS	Pump Stations
TGC	Total Gross Capacity (MW)
TWG	Total Working Gas (Mcf)
USF	Underground Gas Storage Facilities
USSF	Underground Gas Storage (Shared) Facilities (Reservoir is split between counties)

Class II Information

AWP	Produced Water Associated With Oil (Barrels)
DC	Direct Cost (Dollars/Barrel)
EORW	Enhanced Oil Recovery Wells
NAWP	Produced Water Associated With Gas (Non-Associated)
SWDW	SaltWater Disposal Wells
TCII	Total Class II Wells (SWDW + EORW)
TWP	Total Water Production
TOPQUAD	Total Oil Produced BTU. (In future BTU may be converted to quadrillion BTU.)

TGPQUAD Total Gas Produced BTU. (In future BTU may be converted to quadrillion BTU.)
TCPQUAD Total Coal Produced BTU. (In future BTU may be converted to quadrillion BTU.)
TQUAD Total Calculated BTU. (In future BTU may be converted to quadrillion BTU.)
C1 Code for determining dominant hydrocarbon: 0 = No Production, 1 = Gas dominant, 2 = Oil dominant.
C2 Code for determining dominant fossil fuel type, hydrocarbon or coal: 0 = No Production, 2 = Gas and Oil Dominant, 3 = Coal Dominant.
OIL + GAS Oil and Gas BTU Combined Total.

A.3

NGPCOMP Database Printout

ENERGY POLICY DATA BASE
 PRODUCTION INFORMATION
 PROVINCE TOTALS

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Big Horn</u>												
Big Horn	521	3708732.00	4784767	345	42	3358720	303	1426047	0	0		0
Park	983	16601764.00	15850325	65	64	4945785	1	10904540	0	0		0
Washakie	304	1893117.00	3887170	283	20	2744834	263	1142336	0	0		0
Hot Springs	1035	6245586.00	452833	7	6	202819	1	250014	1	0		101961
Carbon	75	725196.00	1537591	94	37	993914	57	543677	0			0
Sum	2918	29174395.00	26512686	794	169	12246072	625	14266614	1	0		101961
<u>Central Montana Uplift</u>												
Treasure	0	0.00			0				0			
Musselshell	118	555198.00			0				1	0		14307
Fergus	0	0.00			0				0			
Golden Valley	1	1774.00			0				0			
Rosebud	114	675191.00	0	0	0	0	0	0	2	1	1	16403749
Sweet Grass	0	0.00			0				0			
Wheatland	0	0.00			0				0			
Blaine	76	312115.00	3618900	208	208	3618900	0	0	0			0
Petroleum	50	80786.00	0	0	0	0	0	0	0			
Stillwater	0	0.00			0				0			
Yellowstone	36	45944.00			0				0			
Sum	395	1671008.00	3618900	208	208	3618900	0	0	3	1	1	16418056
<u>Central Western Overthrust</u>												
Lincoln	894	659387.00	43843105	343	343	54066658	0	0	2	1		4735548
Uinta	188	8307628.00	216148558	147	145	92739873	2	123408685	0	0		0
Sum	1082	8967015.00	259991663	490	488	146806531	2	123408685	2	1		4735548
<u>Chadron arch</u>												
Shannon									0			
Sum									0			0

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Denver</u>												
Goshen	7	7120.00	3230	0	0	0	0	0	0	0	0	0
Laramie	107	539924.00	246864	0	0	0	0	0	0	0	0	0
Platte		0.00	0	0	0	0	0	0	0	0	0	0
Sum	114	547044.00	250094	0	0	0	0	0	0	0	0	0
<u>Green River</u>												
Sublette	286	1020927.00	248522448	714	713	266710706	1	0	0	0	0	0
Carbon	472	2509905.00	50818622	387	275	43097359	112	7721263	4	0	0	4511202
Albany	37	92928.00	24190	2	2	24190	0	0	0	0	0	0
Sweetwater	790	8977924.00	174442546	8354	858	147490792	7496	26951754	4	2	1	11936525
Sum	1585	12601684.00	473807806	9457	1848	457323047	7609	34673017	8	2	1	16447727
<u>Montana Folded Belt Province</u>												
Silver Bow	0	0.00			0					0		
Ravalli	0	0.00			0					0		
Gallatin	0	0.00			0					0		
Lake	0	0.00			0					0		
Park	0	0.00			0					0		
Meagher	0	0.00			0					0		
Beaverhead										0		
Madison	0	0.00			0					0		
Mineral	0	0.00			0					0		
Missoula	0	0.00			0					0		
Broadwater	0	0.00								0		0
Deer Lodge	0	0.00			0					0		
Jefferson	0	0.00			0					0		
Powell	0	0.00			0					0		
Lincoln	0	0.00			0					0		
Sanders	0	0.00			0					0		
Granite	0	0.00			0					0		
Sum	0	0.00			0					0		0
<u>North Western Overthrust</u>												
Lewis and Clark	0	0.00			0					0		
Flathead	0	0.00			0					0		
Sum	0	0.00			0					0		

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Powder River</u>												
Big Horn	41	71402.00	0			0	0	0	3	0		20803203
Converse	1366	4229743.00	27064559	703	48	13616427	655	13448132	2	1		7890660
Sheridan	14	117389.00	17631	0	0	0	0	0	1	0		134104
Weston	1323	1597304.00	2275512	940	5	114195	935	2161317	0	0		0
Campbell	2304	26682965.00	22225586	1334	178	5557250	1156	16668336	17	1		154695691
Johnson	395	2616153.00	1488939	267	7	19429	260	1469510	0	0		0
Crook	574	5429359.00	101429	2	1	3662	1	97767	0	0		0
Niobrara	366	999493.00	1041866	127	4	27692	123	1014174	0	0		0
Custer	0	0.00	0			0	0	0	0	0		
Carter	0	0.00	0			0	0	0	0	0		
Powder River	79	485881.00	0	0	0	0	0	0	0	0		
Sum	6462	42229689.00	54215522	3373	243	19338655	3130	34859236	23	2		183523658

Sioux Uplift

Jerauld												0
Bennett												0
Turner												0
McCook												0
Brookings												0
Miner												0
Moody												0
Marshall												0
Lincoln												0
Lake												0
Hamlin												0
Faulk												0
Gregory												0
Davison												0
Brule												0
Tripp												0
Bon Homme												0
Spink												0
Lyman												0
Day												0
Jackson												0
Hanson												0
Clark												0
Beadle												0
Deuel												0
Clay												0
Mellette												0

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Sioux Uplift</u>												
Roberts												0
Todd												0
Sanborn												0
Codington												0
Buffalo												0
Union												0
Minnehaha												0
Yankton												0
Edmunds												0
Kingsbury												0
Hyde												0
Brown												0
Charles Mix												0
Douglas												0
Aurora												0
Grant												0
Hutchinson												0
Hand												0
Sum												0
<u>Sweetgrass Arch</u>												
Pondera	337	274685.00	0	0	0	0	0	0	0	0		0
Glacier	690	1035054.00	952764	360	272	658874	88	293890	0			0
Liberty	116	182030.00	1667629	250	164	1588629	86	79000	0			0
Teton	145	104823.00	0	0	0	0	0	0	0	0		0
Hill	4	1052.00	6225831	172	172	6225831	0	0	0	0		0
Chouteau	0	0.00	0	45	45	791847	0	0	0	0		0
Cascade	0	0.00	0			0	0	0	0	0		0
Toole	1192	600331.00	7195385	1748	656	6956935	1092	238450	0			0
Judith Basin	0	0.00	0	0	0	0	0	0	0	0		0
Sum	2484	2197975.00	16041609	2575	1309	16222116	1266	611340	0			0
<u>Williston Basin</u>												
Renville	320	1683244.00	525690		0	0		525690	0	0		0
Valley	48	275700.00	0	0	0	0	0	0	0	0		0
Ward	29	221722.00	98765		0	0		98765	0			0
Ziebach									0			
Hughes									0			
Perkins									0			
Mercer	0	0.00	0						4	2	2	16608927
Dunn	96	1797760.00	3640495	3	3	3640495	0		0			

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Williston Basin</u>												
Towner										0		
Rolette										0		
Sheridan										0		
Phillips	0	0.00	6484231	871	871	6484231	0	0	0			
Daniels	3	286833.00	0			0	0	0	0			0
Sheridan	214	2088558.00	1414665	212	0	0	212	1414665	0			
Barnes			0						0	0		
McKenzie	718	9957526.00	25898397	40	40	7404989	0	18493408	0			
Burleigh	0	0.00	0	0	0	0	0	0	0			0
Williams	393	4788557.00	11992363	13	13	11992363	0		1	1		10892
Slope	2	18106.00	22776			0		22776	0			
Garfield	17	47923.00	0	0	0	0	0	0	0			
Grant									0			
Steele									0			
Bottineau	563	2370365.00	261706		0				0			
Corson									0			
Richland	337	3390904.00	3558729	341	0	0	341	3558729	1			234010
Dewey	1	5456.00	0						0			0
Campbell									0			
Logan									0			
Dickey			0						0			
Golden Valley	38	494554.00	293106		0	0		293106	0			
Pembina									0			
Prairie	14	168072.00	0	0	0	0	0	0	0			
Kidder									0			
Foster									0			
Cavalier			0						0			
Oliver	0	0.00	0						1	1		4086938
Butte									0			
La Moure									0			
Meade									0			
Stark	59	827105.00	470080	1	1	470080	0		1	1		164813
McPherson									0			
Grand Forks									0			
Sioux									0			
Benson			0						0	0		
Lawrence									0			
Potter									0			
Wells									0			
Sully									0			
Billings	488	8510968.00	10685977	1			1	10685977	0			

COUNTY	OW	TOP	TGP	TGPW	NAGW	NAGV	AGW	AGV	CM	DM	MP	TCP
<u>Williston Basin</u>												
Walworth												0
Stanley												0
Fallon	411	5386037.00	1737991	484	86	275428	398	1462563				0
McCone	20	54438.00	0	0	0	0	0	0				0
McIntosh												0
Ramsey												0
Burke	323	787508.00	2748116					2748116				0
Hettinger	0	0.00	0									0
Emmons	0	0.00	0									0
Adams			0							1	0	
Wibaux	77	1026856.00	0	0	0	0	0	0				0
Mountrail	79	1389941.00	1330514		0	0		1330514				0
Stutsman												0
Griggs												0
Roosevelt	176	1395935.00	707666	78	1	13456	77	694210				0
Custer	1	6557.00	0									0
Bowman	103	1300373.00	1196574	62	62	1196574			1	1		2054823
McHenry	20	51350.00	531		0	0		531				0
Divide	78	1190506.00	3760675					3760675				0
Jones												0
Pierce												0
Sargent												0
Traill												0
Eddy												0
Dawson	39	300690.00	0	0	0	0	0	0				0
Cass			0									0
Richland												0
Morton	0	0.00	0									0
Haakon												0
Ransom												0
Walsh												0
Nelson												0
Fall River	24	224114.00	159596		0	0		159596				0
Harding	129	1426781.00	479232	54	54	479232	0	0				0
Pennington												0
McLean	25	505693.00	311199		0	0		311199	1	1		6668109
Sum	4845	51980132.00	77779074	2160	1131	31956848	1029	45560520	11	7	2	29828512

<u>COUNTY</u>	<u>OW</u>	<u>TOP</u>	<u>TGP</u>	<u>TGPW</u>	<u>NAGW</u>	<u>NAGV</u>	<u>AGW</u>	<u>AGV</u>	<u>CM</u>	<u>DM</u>	<u>MP</u>	<u>TCP</u>
<u>Wind River</u>												
Natrona	2269	7856613.00	16377988	2087	63	7679801	2024	8698137	0	0		0
Fremont	<u>887</u>	<u>3903670.00</u>	<u>54095254</u>	<u>310</u>	<u>234</u>	<u>53480484</u>	<u>76</u>	<u>614770</u>	<u>0</u>	<u>0</u>		<u>0</u>
Sum	3156	11760283.00	70473242	2397	297	61160285	2100	9312907	0	0		0
<u>Yellowstone Province</u>												
Teton		0.00	0						0	0		0
Yellowstone	<u>0</u>	<u>0.00</u>			<u>0</u>				<u>0</u>			
National Park												
Sum	0	0.00	0		0				0	0		0
<u>Totals:</u>												
Sum	23041	161129225.00	982690596	21454	5693	748672454	15761	262692319	48	13	4	251055462

ENERGY POLICY DATA BASE
 PRODUCED FOSSIL FUEL BTU INFORMATION
 PROVINCE TOTALS

<u>COUNTY</u>	<u>TOPOUAD</u>	<u>TGPOUAD</u>	<u>TCPOUAD</u>	<u>TQUAD</u>	<u>C1</u>	<u>C2</u>	<u>OIL + GAS</u>
<u>Big Horn</u>							
Big Horn	19140766	4784767	0	23925533	2	2	23925533
Park	85681704	15850325	0	101532029	2	2	101532029
Washakie	9770377	3887170	0	13657547	2	2	13657547
Hot Springs	32233469	452833	1784318	34470620	2	2	32686302
Carbon	3742737	1537591	0	5280328	2	2	5280328
Sum	150569053	26512686	1784318	178866057	10	10	177081739
<u>Central Montana Uplift</u>							
Treasure	0	0	0	0	0	0	0
Musselshell	2865377	0	250373	3115750	2	2	2865377
Fergus	0	0	0	0	0	0	0
Golden Valley	9156	0	0	9156	2	2	9156
Rosebud	3484661	0	287065608	290550269	2	3	3484661
Sweet Grass	0	0	0	0	0	0	0
Wheatland	0	0	0	0	0	0	0
Blaine	1610826	3618900	0	5229726	1	2	5229726
Petroleum	416937	0	0	416937	2	2	416937
Stillwater	0	0	0	0	0	0	0
Yellowstone	237117	0	0	237117	2	2	237117
Sum	8624074	3618900	287315981	299558955	11	13	12242974
<u>Central Western Overthrust</u>							
Lincoln	3403096	43843105	82872090	130118291	1	3	47246201
Uinta	42875668	216148558	0	259024226	1	2	259024226
Sum	46278764	259991663	82872090	389142517	2	5	306270427
<u>Chadron arch</u>							
Shannon			0		0	0	
Sum			0		0	0	

COUNTY	TOPOUAD	TGPOUAD	TCPQUAD	TOUAD	C1	C2	OIL + GAS
<u>Denver</u>							
Goshen	36746	3230	0	39976	2	2	39976
Laramie	2786548	246864	0	3033412	2	2	3033412
Platte	0	0	0	0	0	0	0
Sum	2823294	250094	0	3073388	4	4	3073388
<u>Green River</u>							
Sublette	5269004	248522448	0	253791452	1	2	253791452
Carbon	12953620	50818622	89806455	153578697	1	3	63772242
Albany	479601	24190	0	503791	2	2	503791
Sweetwater	46335066	174442546	210056605	430834217	1	2	220777612
Sum	65037291	473807806	299863060	838708157	5	9	538845097
<u>Montana Folded Belt Province</u>							
Silver Bow	0	0	0	0	0	0	0
Ravalli	0	0	0	0	0	0	0
Gallatin	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0
Park	0	0	0	0	0	0	0
Meagher	0	0	0	0	0	0	0
Beaverhead			0		0	0	
Madison	0	0	0	0	0	0	0
Mineral	0	0	0	0	0	0	0
Missoula	0	0	0	0	0	0	0
Broadwater	0	0	0	0	0	0	0
Deer Lodge	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0
Powell	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0
Sanders	0	0	0	0	0	0	0
Granite	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0
<u>North Western Overthrust</u>							
Lewis and Clark	0	0	0	0	0	0	0
Flathead	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0

COUNTY	TOPOUAD	TGPOUAD	TCPOUAD	TOUAD	C1	C2	OIL + GAS
<u>Powder River</u>							
Big Horn	368506	0	364056053	364424559	2	3	368506
Converse	21829704	27064559	138086550	186980813	1	3	48894263
Sheridan	605845	17631	2346820	2970296	2	3	623476
Weston	8243686	2275512	0	10519198	2	2	10519198
Campbell	137710782	22225586	2707174593	2867110961	2	3	159936368
Johnson	13501966	1488939	0	14990905	2	2	14990905
Crook	28020922	101429	0	28122351	2	2	28122351
Niobrara	5158383	1041866	0	6200249	2	2	6200249
Custer	0	0	0	0	0	0	0
Carter	0	0	0	0	0	0	0
Powder River	2507632	0	0	2507632	2	2	2507632
Sum	217947426	54215522	3211664016	3483826964	17	22	272162948

Sioux Uplift

Jerauld	0	0	0	0	0	0
Bennett	0	0	0	0	0	0
Turner	0	0	0	0	0	0
McCook	0	0	0	0	0	0
Brookings	0	0	0	0	0	0
Miner	0	0	0	0	0	0
Moody	0	0	0	0	0	0
Marshall	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0
Lake	0	0	0	0	0	0
Hamlin	0	0	0	0	0	0
Faulk	0	0	0	0	0	0
Gregory	0	0	0	0	0	0
Davison	0	0	0	0	0	0
Brule	0	0	0	0	0	0
Tripp	0	0	0	0	0	0
Bon Homme	0	0	0	0	0	0
Spink	0	0	0	0	0	0
Lyman	0	0	0	0	0	0
Day	0	0	0	0	0	0
Jackson	0	0	0	0	0	0
Hanson	0	0	0	0	0	0
Clark	0	0	0	0	0	0
Beadle	0	0	0	0	0	0
Deuel	0	0	0	0	0	0
Clay	0	0	0	0	0	0
Mellette	0	0	0	0	0	0

COUNTY	TOPOQUAD	TGPOQUAD	TCPOQUAD	TQUAD	C1	C2	OIL + GAS
<u>Sioux Uplift</u>							
Roberts				0	0	0	
Todd				0	0	0	
Sanborn				0	0	0	
Codington				0	0	0	
Buffalo				0	0	0	
Union				0	0	0	
Minnehaha				0	0	0	
Yankton				0	0	0	
Edmunds				0	0	0	
Kingsbury				0	0	0	
Hyde				0	0	0	
Brown				0	0	0	
Charles Mix				0	0	0	
Douglas				0	0	0	
Aurora				0	0	0	
Grant				0	0	0	
Hutchinson				0	0	0	
Hand				0	0	0	
Sum				0	0	0	
<u>Sweetgrass Arch</u>							
Pondera	1417649	498397		0	1916046	2 2	1916046
Glacier	5341914	952764		0	6294678	2 2	6294678
Liberty	939457	1667629		0	2607086	1 2	2607086
Teton	540992	0		0	540992	2 2	540992
Hill	5429	6225831		0	6231260	1 2	6231260
Chouteau	0	791847		0	791847	1 2	791847
Cascade	0	0		0	0	0 0	0
Toole	3098308	7195385		0	10293693	1 2	10293693
Judith Basin	0	0		0	0	0 0	0
Sum	11343749	17331853		0	28675602	10 14	28675602
<u>Williston Basin</u>							
Renville	8687222	525690		0	9212912	2 2	9212912
Valley	1422888	0		0	1422888	2 2	1422888
Ward	1144307	98765		0	1243072	2 2	1243072
Ziebach				0		0 0	
Hughes				0		0 0	
Perkins				0		0 0	
Mercer	0	0	209272480		209272480	0 3	0
Dunn	9278239	3640495		0	12918734	2 2	12918734

COUNTY	TOPOUAD	TGPOUAD	TCPOUAD	TOUAD	C1 C2	OIL + GAS
<u>Williston Basin</u>						
Towner				0	0 0	
Rolette				0	0 0	
Sheridan				0	0 0	
Phillips	0	6484231		0	6484231 1 2	6484231
Daniels	1480345	0		0	1480345 2 2	1480345
Sheridan	10779048	1414665		0	12193713 2 2	12193713
Barnes		0		0	0 0	
McKenzie	51390792	25898397		0	77289189 2 2	77289189
Burleigh	0	0		0	0 0 0	0
Williams	24713743	11992363	137239		36843345 2 2	36706106
Slope	93445	22776		0	116221 2 2	116221
Garfield	247331	0		0	247331 2 2	247331
Grant				0	0 0	
Steele				0	0 0	
Bottineau	12233454	261706		0	12495160 2 2	12495160
Corson				0	0 0	
Richland	17500456	3558729	2948526		24007711 2 2	21059185
Dewey	28158	0		0	28158 2 2	28158
Campbell				0	0 0	
Logan				0	0 0	
Dickey		0		0	0 0	
Golden Valley	2552393	293106		0	2845499 2 2	2845499
Pembina				0	0 0	
Prairie	867420	0		0	867420 2 2	867420
Kidder				0	0 0	
Foster				0	0 0	
Cavalier		0		0	0 0	
Oliver	0	0	51495419		51495419 0 3	0
Butte				0	0 0	
La Moure				0	0 0	
Meade				0	0 0	
Stark	4268689	470080	207664344		212403113 2 3	4738769
McPherson				0	0 0	
Grand Forks				0	0 0	
Sioux				0	0 0	
Benson		0		0	0 0	
Lawrence				0	0 0	
Potter				0	0 0	
Wells				0	0 0	
Sully				0	0 0	
Billings	43925106	10685977		0	54611083 2 2	54611083

COUNTY	TOPOUAD	TGPOUAD	TCPOUAD	TOUAD	C1 C2	OIL + GAS
<u>Williston Basin</u>						
Walworth				0	0 0	
Stanley				0	0 0	
Fallon	27797337	1737991		0	29535328 2 2	29535328
McCone	280955	0		0	280955 2 2	280955
McIntosh				0	0 0	
Ramsey				0	0 0	
Burke	4064329	2748116		0	6812445 2 2	6812445
Hettinger	0	0		0	0 0 0	0
Emmons	0	0		0	0 0 0	0
Adams		0		0	0 0	
Wibaux	5299604	0		0	5299604 2 2	5299604
Mountrail	7173486	1330514		0	8504000 2 2	8504000
Stutsman				0	0 0	
Griggs				0	0 0	
Roosevelt	7204421	707666		0	7912087 2 2	7912087
Custer	33841	0		0	33841 2 2	33841
Bowman	6711225	1196574	25890770		33798569 2 3	7907799
McHenry	265017	531		0	265548 2 2	265548
Divide	6144201	3760675		0	9904876 2 2	9904876
Jones				0	0 0	
Pierce				0	0 0	
Sargent				0	0 0	
Traill				0	0 0	
Eddy				0	0 0	
Dawson	1551861	87917		0	1639778 2 2	1639778
Cass		0		0	0 0	
Richland				0	0 0	
Morton	0	0		0	0 0 0	0
Haakon				0	0 0	
Ransom				0	0 0	
Walsh				0	0 0	
Nelson				0	0 0	
Fall River	1156652	159596		0	1316248 2 2	1316248
Harding	7363617	479232		0	7842849 2 2	7842849
Pennington				0	0 0	
McLean	2609882	311199	84018173		86939254 2 3	2921081
Sum	268269464	77866991	581426951		927563406 63 73	346136455

<u>COUNTY</u>	<u>TOPOUAD</u>	<u>TGPOUAD</u>	<u>TCPOUAD</u>	<u>TOUAD</u>	<u>C1</u>	<u>C2</u>	<u>OIL + GAS</u>
<u>Wind River</u>							
Natrona	40547980	16377988	0	56925968	2	2	56925968
Fremont	<u>20146841</u>	<u>54095254</u>	<u>0</u>	<u>74242095</u>	<u>1</u>	<u>2</u>	<u>74242095</u>
Sum	60694821	70473242	0	131168063	3	4	131168063
<u>Yellowstone Province</u>							
Teton	0	0	0	0	0	0	0
Yellowstone	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
National Park							
Sum	0	0	0	0	0	0	0
<u>Totals:</u>							
Sum	831587936	984068757	4464926416	6280583109	**	**	1815656693

ENERGY POLICY DATA BASE
FACILITY INFORMATION
PROVINCE TOTALS

COUNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTTP	CS	USF	USSF	IO	TWG	PIPEL
<u>PROVINCE: Big Horn</u>																
Big Horn				0				0			2	0				
Park				0				3	38500	20200	5	1		4	32235000	
Washakie				0				1	15000	12900	1	0				
Hot Springs				0				0			1	0				
Carbon								0				1		9	10567000	
Sum				0				4	53500	33100	9	2		13	42802000	
<u>PROVINCE: Central Montana Uplift</u>																
Treasure																
Musselshell																
Fergus																
Golden Valley																
Rosebud	2	2	2414													
Sweet Grass																
Wheatland																
Blaine				0				0			3	1 T		7	4423000	
Petroleum																
Stillwater											2					
Yellowstone	1	0	160	3	131900	138500										
Sum	3	2	2574	3	131900	138500		0			5	1		7	4423000	
<u>PROVINCE: Central Western Overthrust</u>																
Lincoln	1	1	700	0				3	1005000	801100	3	0				
Uinta				0				7	1375000	1192600	1	1		9	1109000	
Sum	1	1	700	0				10	2380000	1993700	4	1		9	1109000	
<u>PROVINCE: Chadron arch</u>																
Shannon																
Sum																

COUNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTTP	CS	USE	USSF	IO	TWG	PIPEL
<u>PROVINCE: Denver</u>																
Goshen												1				
Laramie				1	36100	38000		0				0	0			
Platte	1	0	1800	0				0	0			1	0			
Sum	1	0	1800	1	36100	38000		0	0			2	0			
<u>PROVINCE: Green River</u>																
Sublette				0				0				1	0			
Carbon				1	54000	55000		2	200500	216200		6	3	6	5107000	
Albany				0				0				1	0			
Sweetwater	1	1	2080	0				5	330000	204000		9	0			
Sum	1	1	2080	1	54000	55000		7	530500	420200		17	3	6	5107000	
<u>PROVINCE: Montana Folded Belt Province</u>																
Silver Bow												1				
Ravalli																
Gallatin																
Lake																
Park																
Meagher																
Beaverhead																
Madison																
Mineral																
Missoula																
Broadwater																
Deer Lodge																
Jefferson																1
Powell																1
Lincoln																
Sanders																
Granite																
Sum																3
<u>PROVINCE: North Western Overthrust</u>																
Lewis and Clark																1
Flathead																
Sum																1

COLNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTTP	CS	USF	USSF	IO	TWG	PIPEL
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PROVINCE: Powder River

Big Horn				0				0					0			
Converse	1	1	750	0				5	164000	90000	3	0				
Sheridan																
Weston	1	0	33	1	12500	13500		1	5000	3000	0	0				
Campbell	2	2	382	0				6	147500	57600	2	0				
Johnson				0				0			1	1		5	2180000	
Crook				0				0	0	0	0	0				
Niobrara				0				0			0	0				
Custer											2					
Carter				0				0				0				
Powder River																
Sum	4	3	1165	1	12500	13500		12	316500	150600	8	1		5	2180000	

PROVINCE: Sioux Uplift

Jerauld
 Bennett
 Turner
 McCook
 Crookings
 Miner
 Moody
 Marshall
 Lincoln
 Lake
 Hamlin
 Faulk
 Gregory
 Davison
 Brule
 Tripp
 Bon Homme
 Spink
 Lyman
 Day
 Jackson
 Hanson
 Clark
 Beadle
 Deuel
 Clay
 Mellette

COUNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTP	CS	USE	USSF	IO	TWG	PIPEL
--------	------	----	-----	------	-----	-----	----	-----	------	------	----	-----	------	----	-----	-------

PROVINCE: Sioux Uplift

Roberts																
Todd																
Sanborn																
Codington																
Buffalo																
Union																
Minnehaha																
Yankton																
Edmunds																
Kingsbury																
Hyde																
Brown																
Charles Mix																
Douglas																
Aurora																
Grant	1			440												
Hutchinson																
Hand																
Sum	1			440												

PROVINCE: Sweetgrass Arch

Pondera												1				
Glacier												1	1 T	16	8311000	
Liberty																
Teton												1				
Hill													1 T			
Chouteau												3				
Cascade				1	7000	7200										
Toole												2	2 T	3	1264000	
Judith Basin																
Sum				1	7000	7200						8	4	19	9575000	

PROVINCE: Williston Basin

Renville				0				0				0	0			
Valley												2				
Ward				0				0				0	0			
Ziebach																
Hughes																
Perkins																
Mercer	5	4	2257	0				0				0	0			
Dunn				0				1		16900		1	0			

COUNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTTP	CS	USF	USSE	IO	TWG	PIPEL
PROVINCE: Williston Basin																
Towner																
Rolette																
Sheridan																
Phillips																
Daniels																
Sheridan																
Barnes																
McKenzie				0				3	82000	55300		1	0			
Burleigh				0				0				1	0			
Williams				0				1	4000	2000		1	0			
Slope				0				0				0	0			
Garfield																
Grant																
Steele																
Bottineau				0				0				0	0			
Corson																
Richland	1	1		48				3	21000	6300						
Dewey				0				0				0	0			
Campbell																
Logan																
Dickey																
Golden Valley				0				0				0	0			
Pembina																
Prairie																
Kidder																
Foster																
Cavalier																
Oliver	1	1		734	0			0				0	0			
Butte																
La Moure																
Meade																
Stark				0				0				2	0			
McPherson																
Grand Forks																
Sioux																
Benson																
Lawrence	1			33												
Potter																
Wells																
Sully																
Billings				0				1	65000	27800		0	0			

COUNTY	POWP	MM	TGC	OREF	BCD	BSD	PS	GPP	PPTC	PPTTP	CS	USF	USSF	IO	TWG	PIPEL
<u>PROVINCE: Williston Basin</u>																
Walworth																
Stanley																
Fallon								3	4800	3600	3	1		182	195778000	
McCone											1					
McIntosh																
Ramsey																
Burke				0				1	11000	6300	0	0				
Hettinger				0				0			0	0				
Emmons				0				0			1	0				
Adams				0				0	0	0	0	0		0	0	
Wibaux								1								
Mountrail				0				0			0	0				
Stutsman																
Griggs																
Roosevelt																
Custer				0				0			0	0				
Bowman				0				1	3000	600	0	0				
McHenry				0				0			0	0				
Divide				0				0			0	0				
Jones																
Pierce																
Sargent																
Trails																
Eddy																
Dawson											1					
Cass																
Richland																
Morton	1		91	1	58000	60000		0			0	0				
Haakon																
Ransom																
Walsh																
Nelson																
Fall River				0				0			0	0				
Harding				0				0			1	0				
Pennington	1		22													
McLean	1	1	1130	0				0			0	0				
Sum	11	7	4315	1	58000	60000		15	190800	118800	15	1		182	195778000	

<u>COUNTY</u>	<u>POWP</u>	<u>MM</u>	<u>TGC</u>	<u>OREF</u>	<u>BCD</u>	<u>BSD</u>	<u>PS</u>	<u>GPP</u>	<u>PPTC</u>	<u>PPTTP</u>	<u>CS</u>	<u>USF</u>	<u>USSE</u>	<u>IO</u>	<u>TWG</u>	<u>PIPEL</u>
<u>PROVINCE: Wind River</u>																
Natrona				2	62000	65000		4	97000	56100	5	0				
Fremont				<u>0</u>				<u>3</u>	<u>109000</u>	<u>33300</u>	<u>6</u>	<u>1</u>		<u>1</u>	<u>494000</u>	
Sum				2	62000	65000		7	206000	89400	11	1		1	494000	
<u>PROVINCE: Yellowstone Province</u>																
Teton				0				0			0	0				
Yellowstone																
National Park																
Sum				0				0			0	0				
Totals:																
Sum	22	14	13074	10	361500	377200		55	3677300	2805800	83	14		242	261468000	

ENERGY POLICY DATA BASE
 CLASS II INFORMATION
 PROVINCE TOTALS

COUNTY	AWP	NWP	TWP	SWDW	EORW	TCII	DC
Big Horn							
Big Horn			161123014	9	32	41.00	
Park			476402301	19	178	197.00	
Washakie			10693666	7	14	21.00	
Hot Springs			205568115	8	334	342.00	
Carbon	4995197.00	0.00	4995197	0	13	13.00	
Sum	4995197.00	0.00	858782293	43	571	614.00	
Central Montana Uplift							
Treasure							
Musselshell	11590705.00	0.00	11590705	5	29	34.00	
Fergus							
Golden Valley	24271.00	0.00	24271				
Rosebud	164976.00	0.00	16400976	5	41	46.00	
Sweet Grass							
Wheatland							
Blaine	701331.00	0.00	701331	1	4	5.00	
Petroleum	2505985.00	0.00	2505985	1	9	10.00	
Stillwater				0	0	0.00	
Yellowstone	746050.00	0.00	746050	1	0	1.00	
Sum	15733318.00	0.00	31969318	13	83	96.00	
Central Western Overthrust							
Lincoln			869167	1	0	1.00	0.00
Uinta			5469154	12	5	17.00	0.00
Sum			6338321	13	5	18.00	0.00
Chadron arch							
Shannon							
Sum							

COUNTY	AWP	NAWP	TWP	SWDW	EORW	TCII	DC
Denver							
Goshen			1255	0	0	0.00	
Laramie			1340261	1	6	7.00	
Platte				0	0	0.00	
Sum			1341516	1	6	7.00	
Green River							
Sublette			7318964	15	23	38.00	0.00
Carbon			30472759	5	7	12.00	0.00
Albany			2589160	1	4	5.00	
Sweetwater			62525430	7	102	109.00	0.00
Sum			102906313	28	136	164.00	0.00
Montana Folded Belt Province							
Silver Bow				0	0	0.00	
Ravalli							
Gallatin							
Lake							
Park							
Meagher							
Beaverhead							
Madison							
Mineral							
Missoula							
Broadwater							
Deer Lodge							
Jefferson				0	0	0.00	
Powell				0	0	0.00	
Lincoln							
Sanders							
Granite							
Sum				0	0	0.00	

COUNTY	AWP	NWP	TWP	SWDW	EORW	TCII	DC
North Western Overthrust							
Lewis and Clark				0	0	0.00	
Flathead							
Sum				0	0	0.00	
Powder River							
Big Horn	805944.00	0.00	805944	0	0	0.00	
Converse			9092532	15	41	56.00	0.00
Sheridan			1337745	2	8	10.00	
Weston			7272650	5	252	257.00	1.00
Campbell			83810388	86	398	484.00	0.00
Johnson			27329948	4	57	61.00	0.00
Crook			23996381	34	104	138.00	
Niobrara			7616068	2	4	6.00	1.00
Custer				0	0	0.00	
Carter				1	0	1.00	
Powder River	<u>10932928.00</u>	<u>0.00</u>	<u>10932928</u>	<u>1</u>	<u>68</u>	<u>69.00</u>	
Sum	11738872.00	0.00	172194584	150	932	1082.00	2.00
Sioux Uplift							
Jerauld							
Bennett							
Turner							
McCook							
Brookings							
Miner							
Moody							
Marshall							
Lincoln							
Lake							
Hamlin							
Faulk							
Gregory							
Davison							
Brule							
Tripp							
Bon Homme							
Spink							
Lyman							
Day							
Jackson							

COUNTY	AWP	NWP	TWP	SWW	EORW	TCII	DC
Sioux Uplift							
Hanson							
Clark							
Beadle							
Deuel							
Clay							
Mellette							
Roberts							
Todd							
Sanborn							
Codington							
Buffalo							
Union							
Minnehaha							
Yankton							
Edmunds							
Kingsbury							
Hyde							
Brown							
Charles Mix							
Douglas							
Aurora							
Grant							
Hutchinson							
Hand							
Sum							
Sweetgrass Arch							
Pondera	3835831.00	0.00	3835831	25	0	25.00	
Glacier	7710101.00	0.00	7710101	23	120	143.00	
Liberty	383689.00	0.00	383689	0	18	18.00	
Teton	1260732.00	0.00	1260732	1	1	2.00	
Hill	0.00			0	0	0.00	
Chouteau				0	0	0.00	
Cascade	0.00	0.00	0	0	0	0.00	
Toole	3677155.00	0.00	3677155	6	12	18.00	0.00
Judith Basin							

COUNTY	AWP	NAWP	TWP	SWDW	EORW	TCII	DC
Sum	16867508.00	0.00	16867508	55	151	206.00	0.00
Williston Basin							
Renville	6620078.00	0.00	6620078	37	4	41.00	
Valley	1179235.00	0.00	1179235	6	0	6.00	
Ward	765060.00		765060	6	0	6.00	
Ziebach							
Hughes							
Perkins							
Mercer				0	0	0.00	
Dunn	1811100.00	0.00	1811100	13	0	13.00	
Towner							
Rolette							
Sheridan							
Phillips				0	0	0.00	
Daniels	117303.00	0.00	117303	0	0	0.00	
Sheridan	11952223.00	0.00	11952223	28	22	50.00	0.00
Barnes							
McKenzie	17483462.00	0.00	17483462	45	61	106.00	
Burleigh	0.00	0.00	0	0	0	0.00	
Williams	11775820.00	0.00	11775820	31	57	88.00	
Slope	27213.00	0.00	27213	0	2	2.00	
Garfield	187703.00	0.00	187703	1	3	4.00	
Grant							
Steele							
Bottineau	18971994.00	0.00	18971994	54	49	103.00	
Corson							
Richland	5155200.00	0.00	5155200	18	3	21.00	0.00
Dewey				0	0	0.00	
Campbell							
Logan							
Dickey							
Golden Valley			1449318	8	0	8.00	
Pembina							
Prairie	980017.00	0.00	980017	0	3	3.00	
Kidder							
Foster							
Cavalier							
Oliver				0	0	0.00	
Butte							
La Moure							

COUNTY	AWP	NAWP	TWP	SWDW	EORW	TCII	DC
Williston Basin							
Meade							
Stark	5105420.00	0.00	5105420	6	34	40.00	
McPherson							
Grand Forks							
Sioux							
Benson							
Lawrence							
Potter							
Wells							
Sully							
Billings	16981520.00	0.00	16981520	40	38	78.00	
Walworth							
Stanley							
Fallon	18715191.00	0.00	18715191	10	148	158.00	0.00
McCone	888037.00	0.00	888037	3	0	3.00	
McIntosh							
Ramsey							
Burke	2088541.00	0.00	2088541	18	0	18.00	
Hettinger	0.00	0.00	0	1	0	1.00	
Emmons	1449318.00	0.00		0	0	0.00	
Adams							
Wibaux	6915424.00	0.00	6915424	2	20	22.00	
Mountrail	1445654.00	0.00	1445654	8	5	13.00	
Stutsman							
Griggs							
Roosevelt	12654832.00	0.00	12654832	25	0	25.00	0.00
Custer	7682.00			1	0	1.00	
Bowman	3849803.00	0.00	3849803	6	30	36.00	
McHenry	459331.00	0.00	459331	2	0	2.00	
Divide	1282665.00	0.00	1282665	8	2	10.00	
Jones							
Pierce							
Sargent							
Traill							
Eddy							
Dawson	1179263.00	0.00	1179263	6	3	9.00	0.00
Cass							
Richland							
Morton				0	0	0.00	
Haakon							

COUNTY	AWP	NAWP	TWP	SWDW	EORW	TCII	DC
Williston Basin							
Ransom							
Walsh							
Nelson							
Fall River	1522811.00			0	2	2.00	
Harding	1080221.00	368.00	1080589	6	4	10.00	
Pennington							
McLean	<u>148217.00</u>	<u>0.00</u>	<u>148217</u>	<u>1</u>	<u>0</u>	<u>1.00</u>	
Sum	152800338.00	368.00	151270213	390	490	880.00	0.00
Wind River							
Natrona			443983308	18	1004	1022.00	
Fremont			<u>135159116</u>	<u>12</u>	<u>171</u>	<u>183.00</u>	
Sum			579142424	30	1175	1205.00	
Yellowstone Province							
Teton				0	0	0.00	
Yellowstone							
National Park							
Sum				0	0	0.00	
Totals:							
Sum	202135233.00	368.00	1920812490	723	3549	4272.00	2.00

A.4

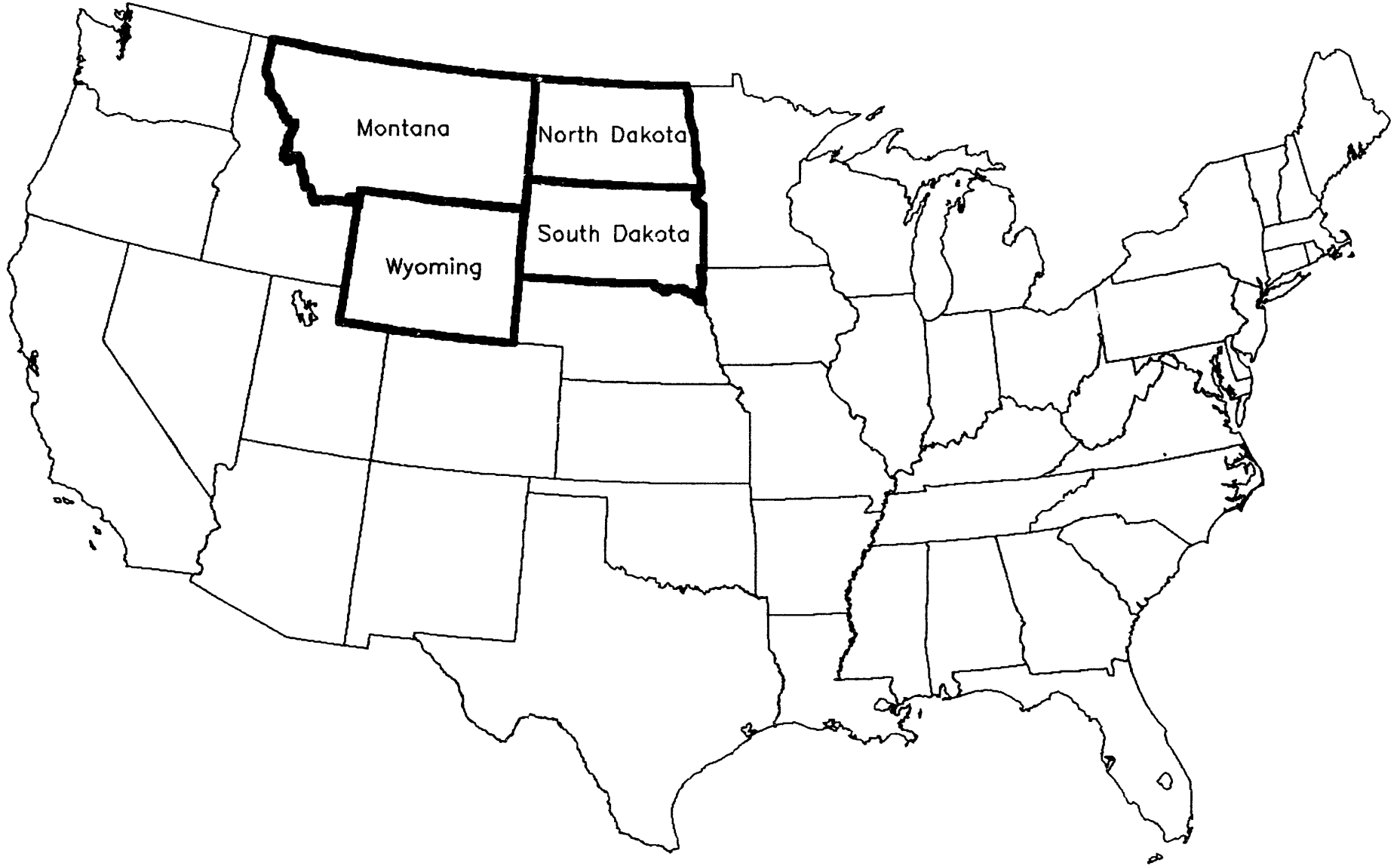
Draft Maps from the **NGPCOMP** Database

A.5

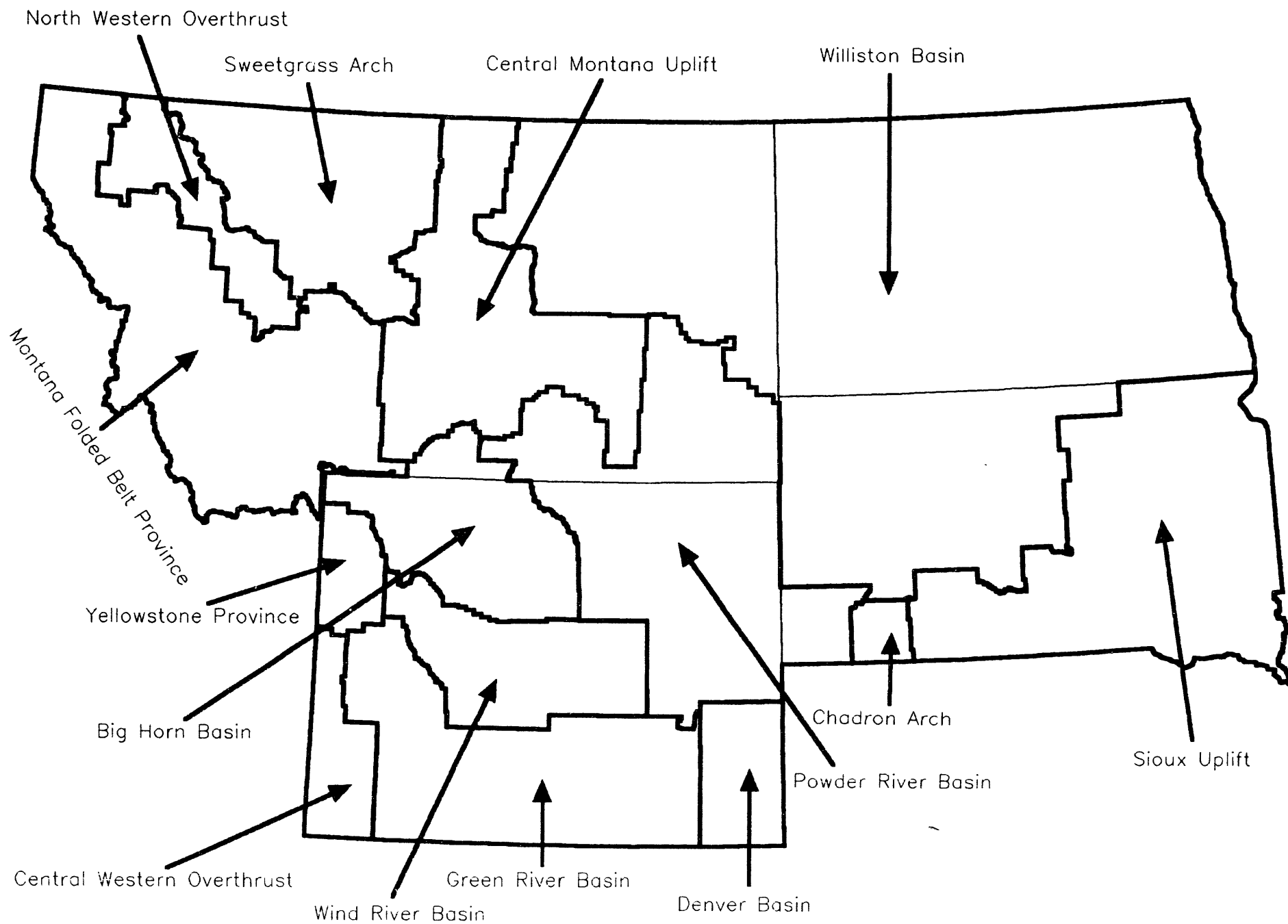
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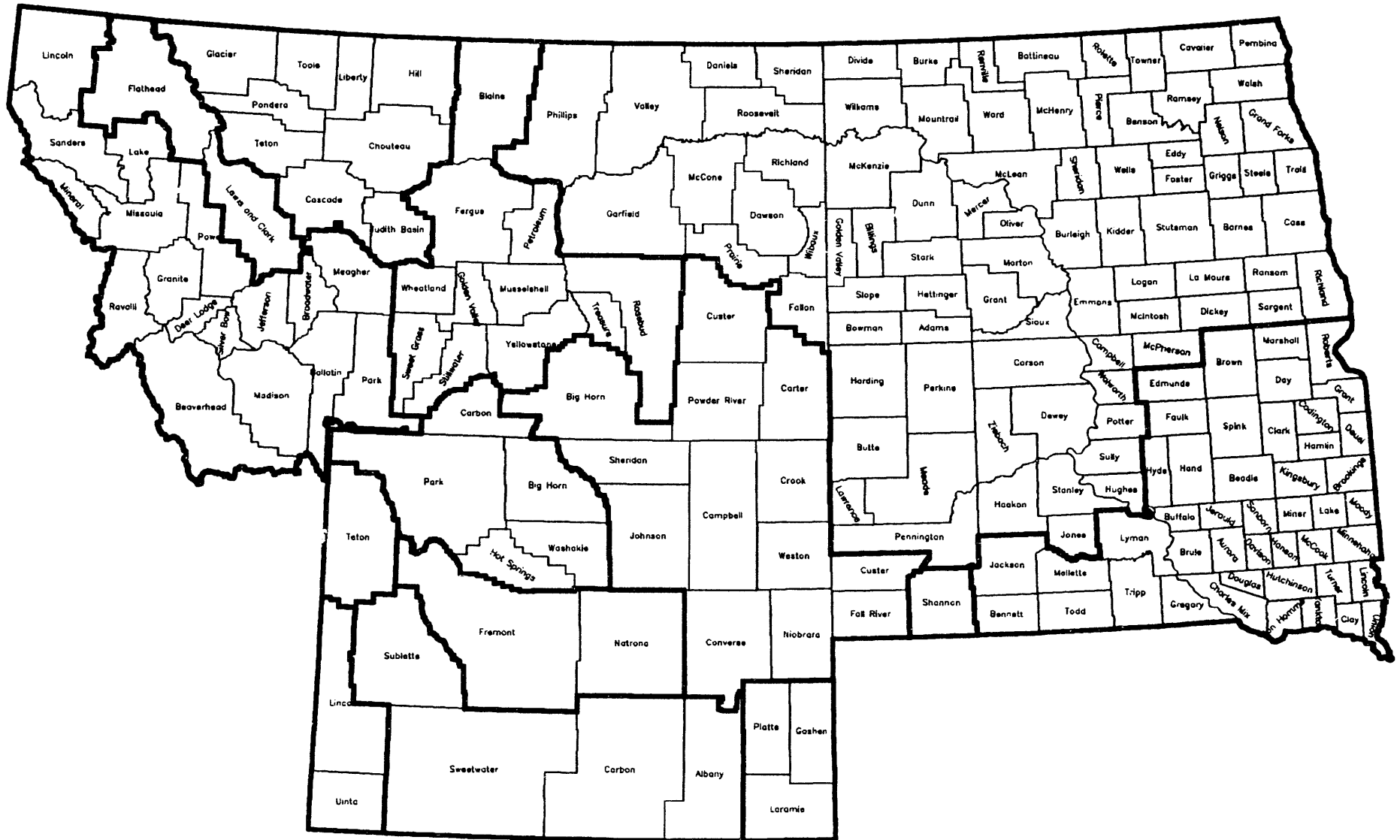
ENERGY POLICY STUDY AREA



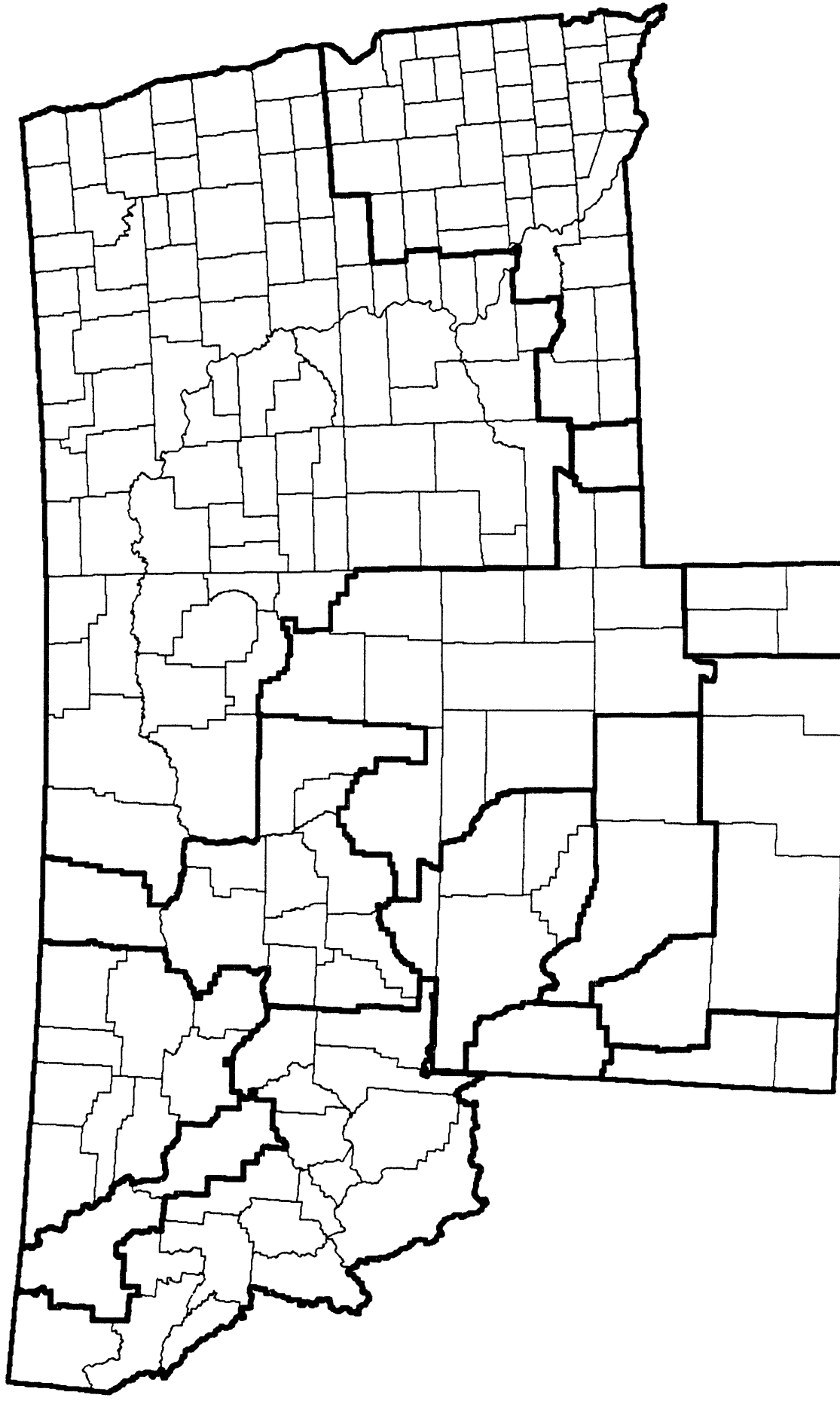
ENERGY POLICY STUDY AREA: GEOLOGIC PROVINCES



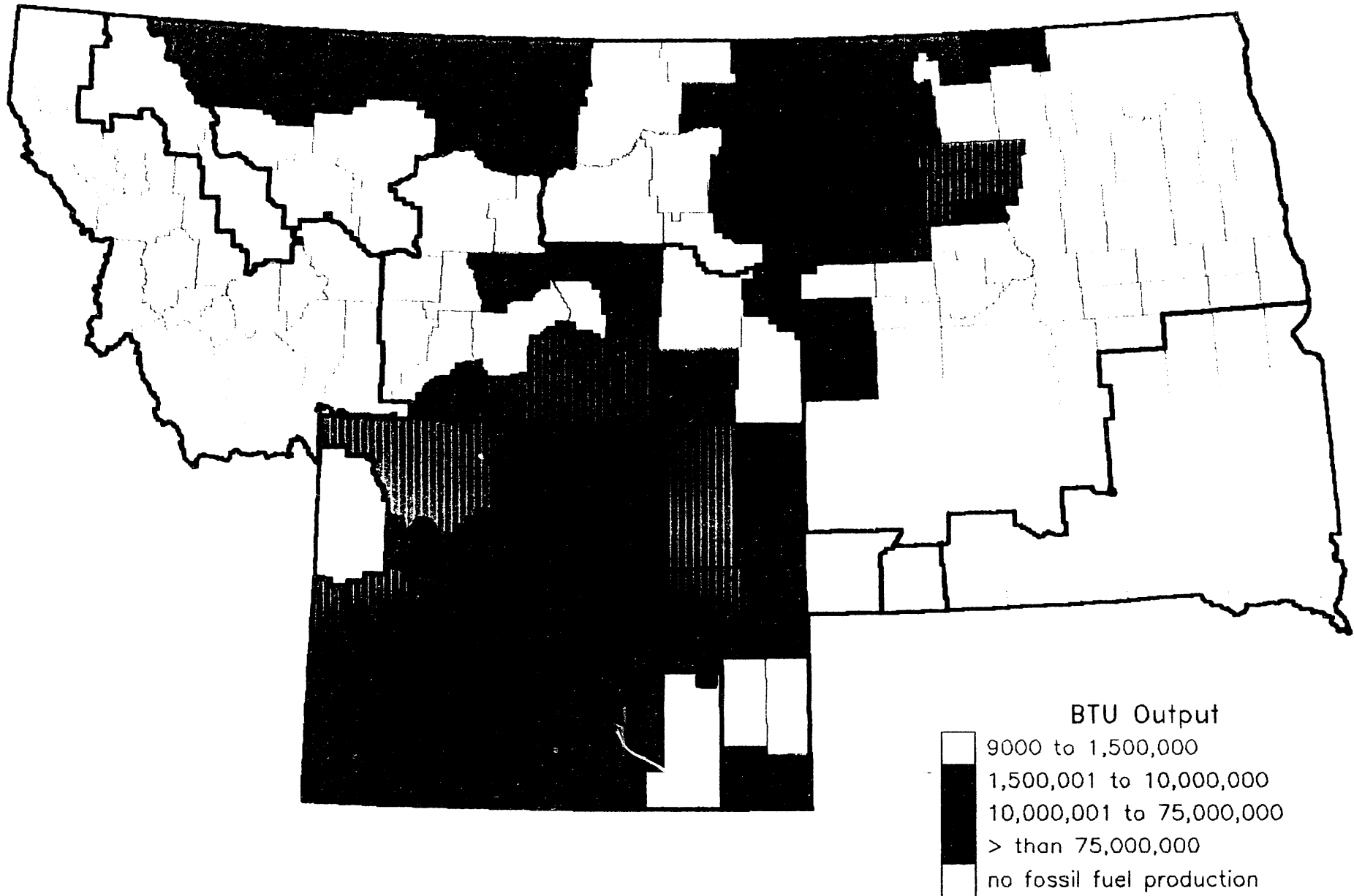
ENERGY POLICY STUDY AREA: COUNTIES



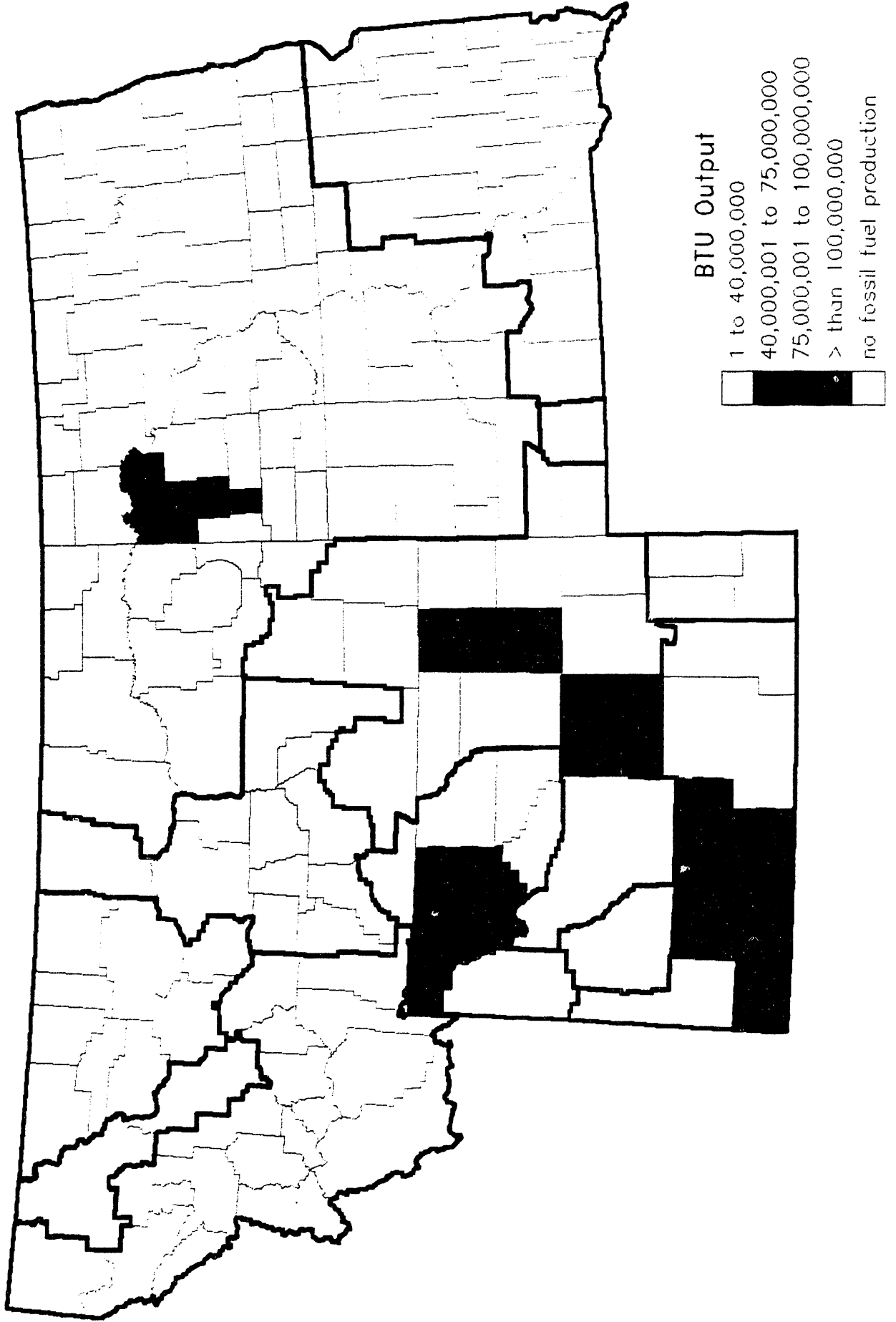
ENERGY POLICY STUDY AREA: GEOLOGIC PROVINCES & COUNTIES



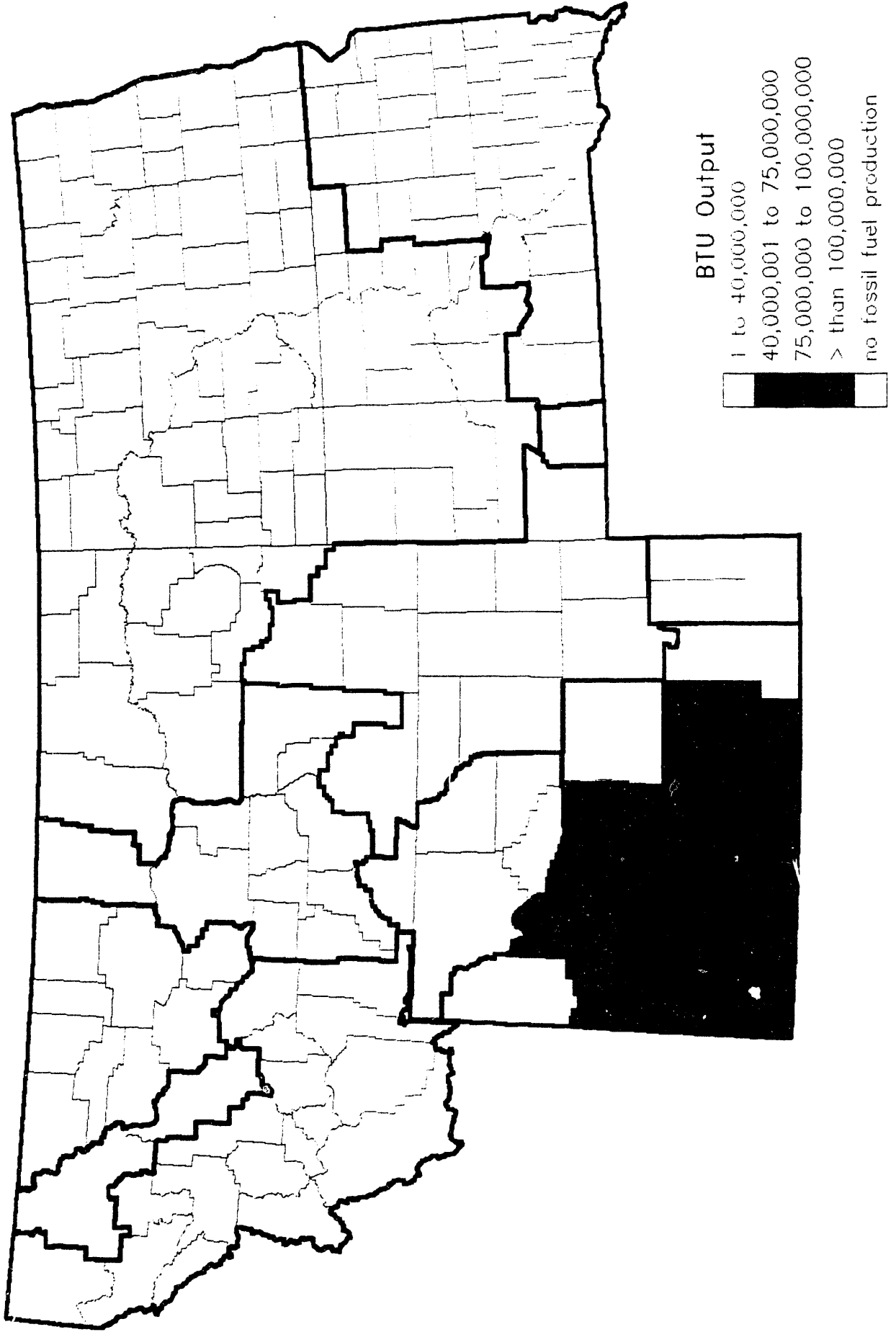
TOTAL FOSSIL FUEL BTU OUTPUT BY COUNTY



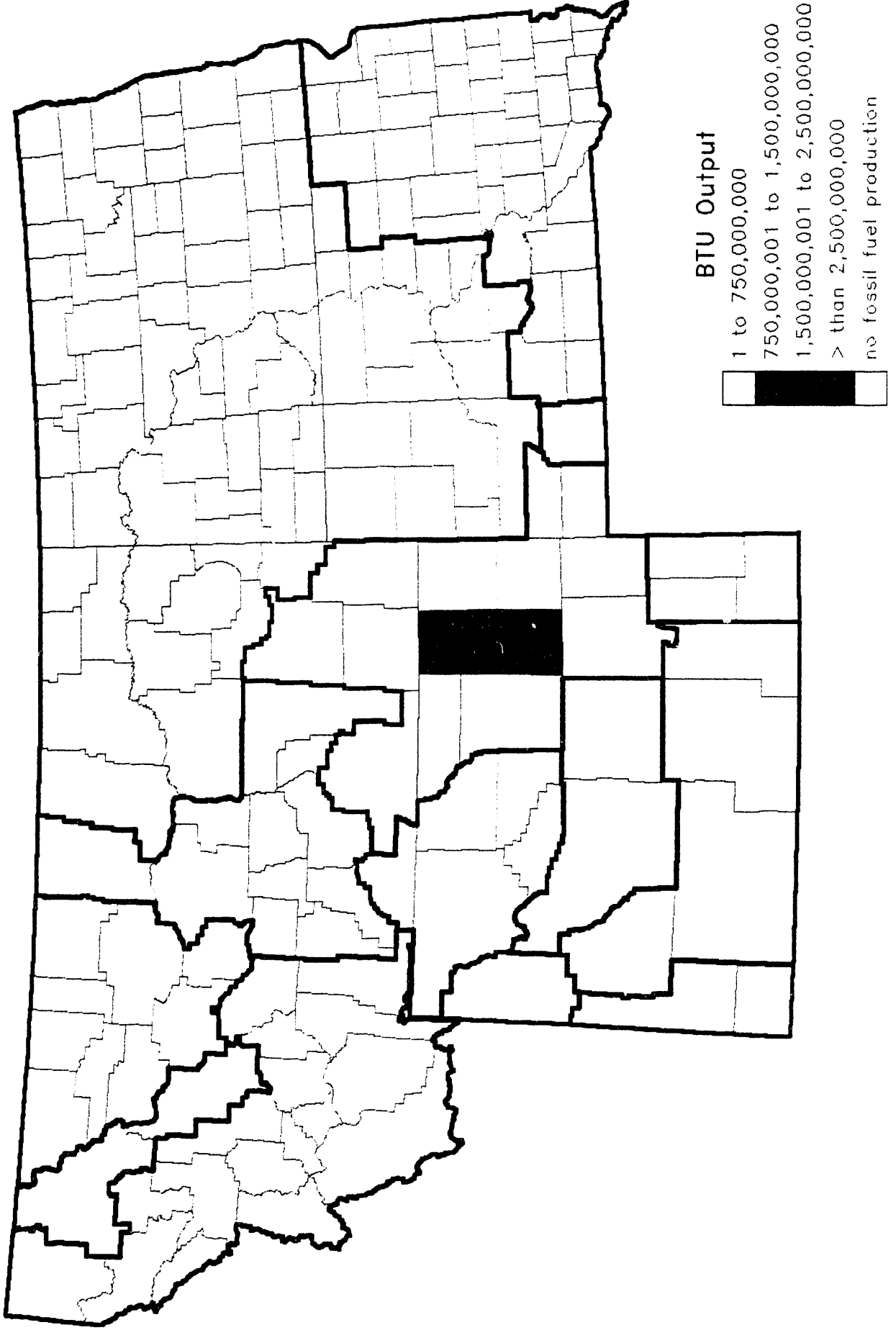
PRODUCED OIL BTU OUTPUT BY COUNTY



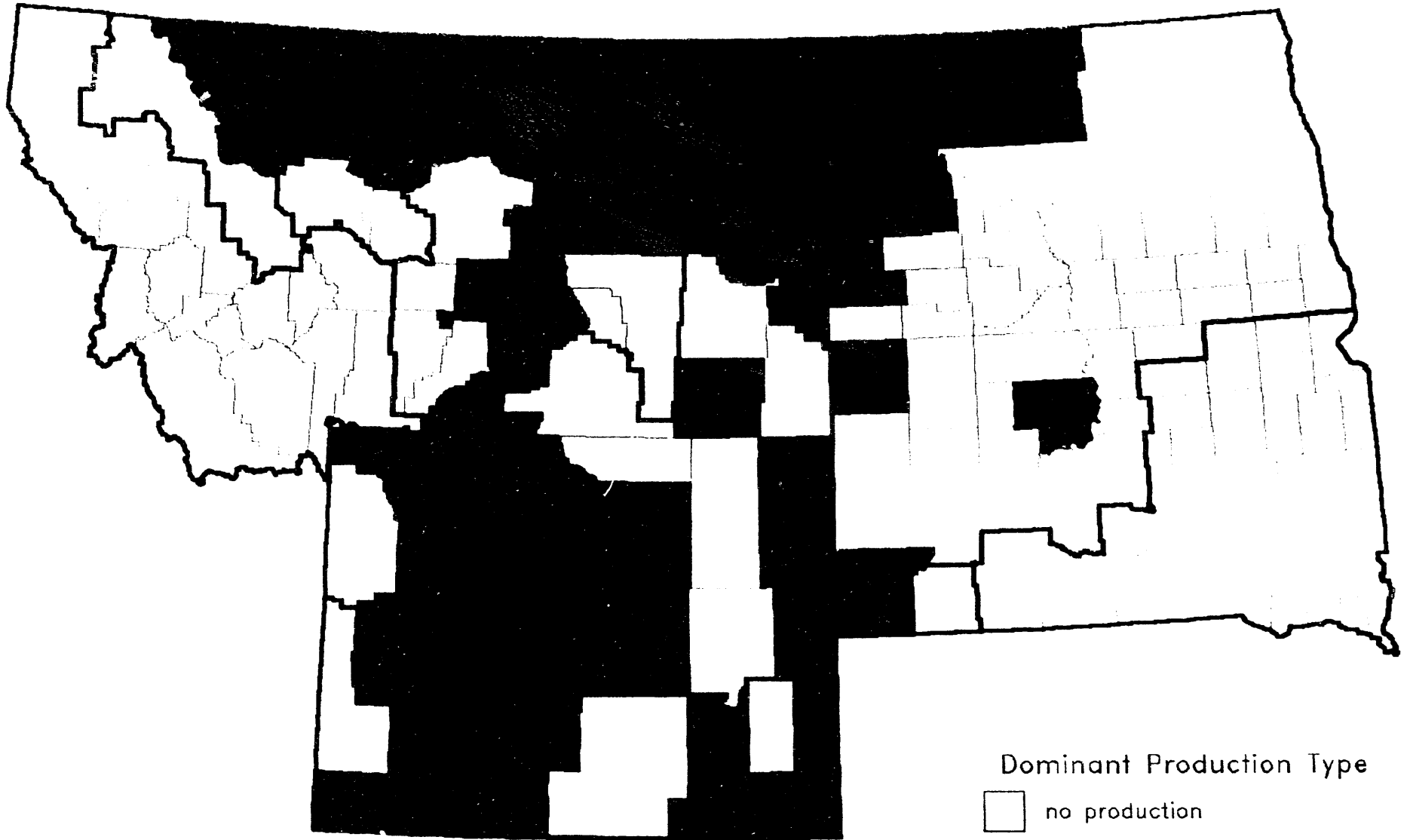
PRODUCED GAS BTU OUTPUT BY COUNTY



PRODUCED COAL BTU OUTPUT BY COUNTY



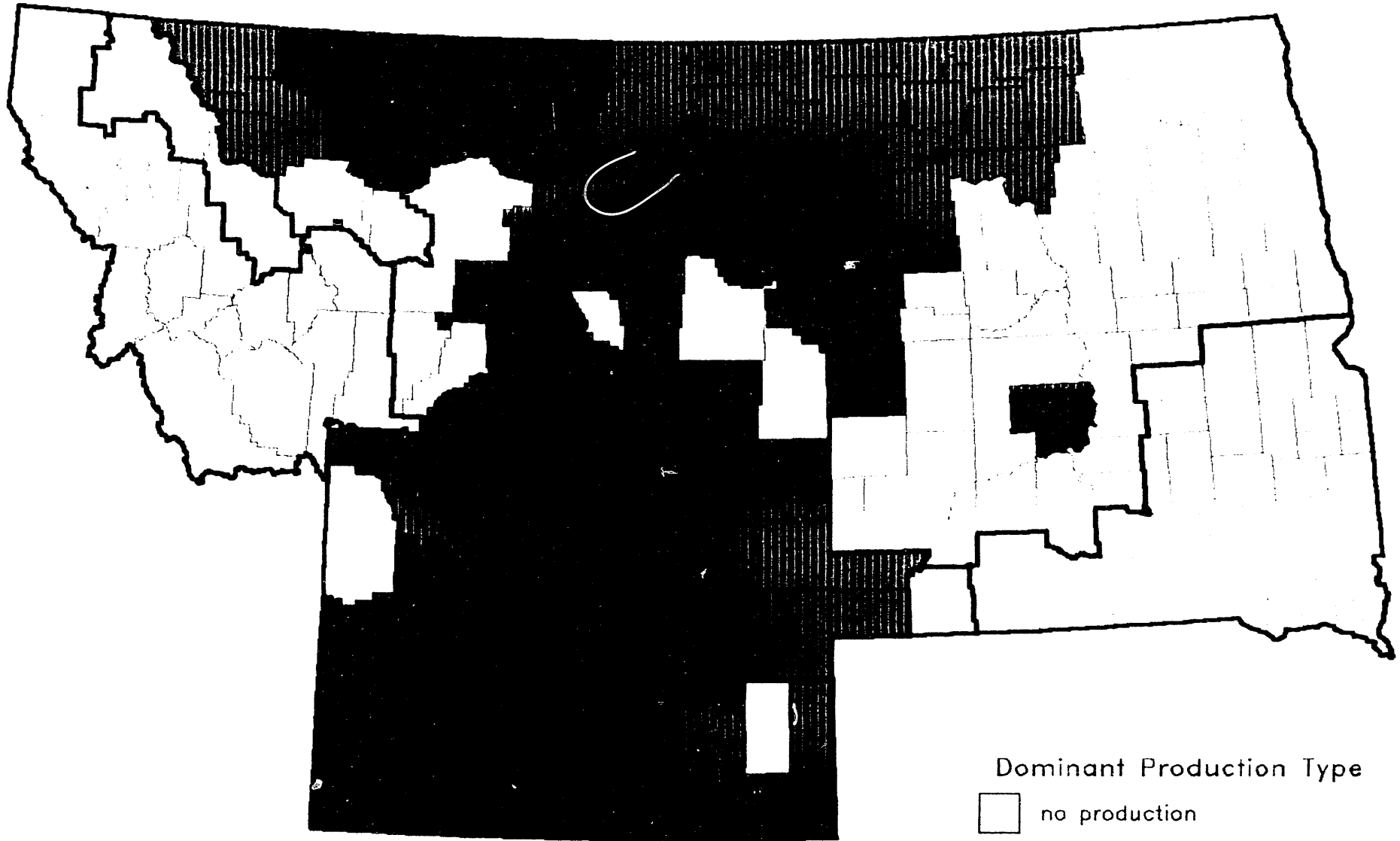
COAL VS GAS + OIL PRODUCTION



Dominant Production Type

- no production
- gas+oil production dominant
- coal production dominant

OIL VS GAS PRODUCTION BY COUNTY



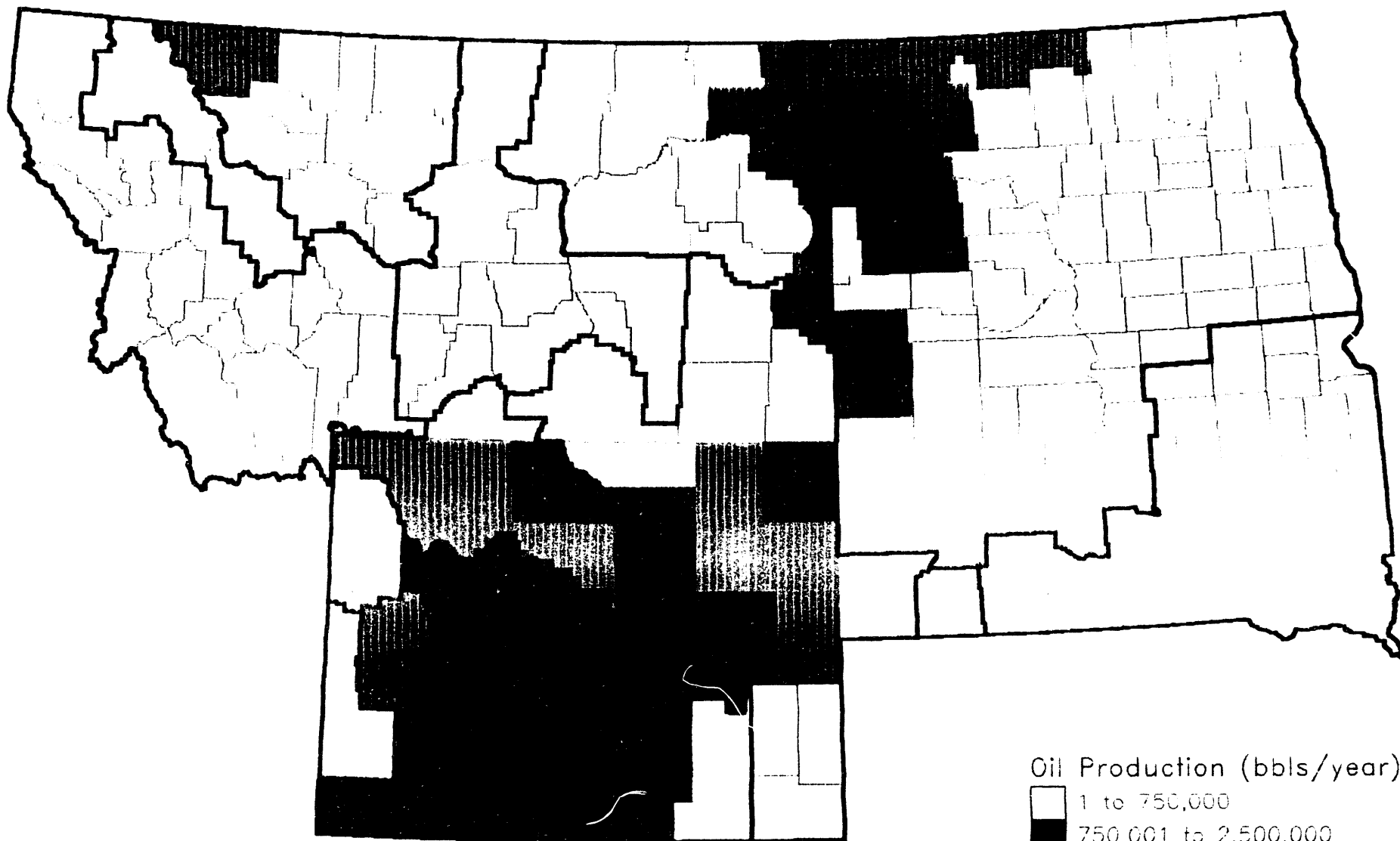
Dominant Production Type

no production

gas production dominant

oil production dominant

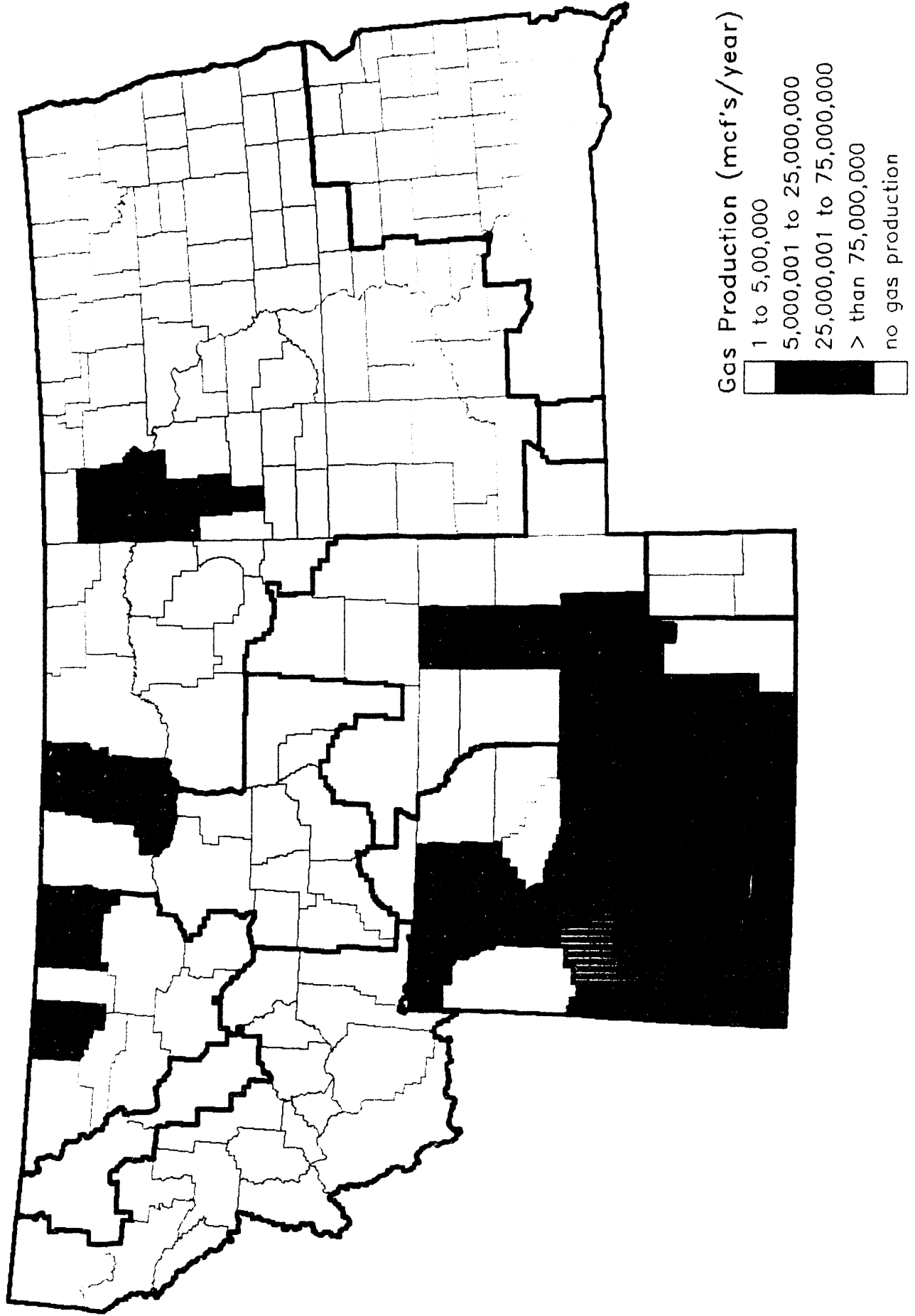
TOTAL OIL PRODUCTION BY COUNTY



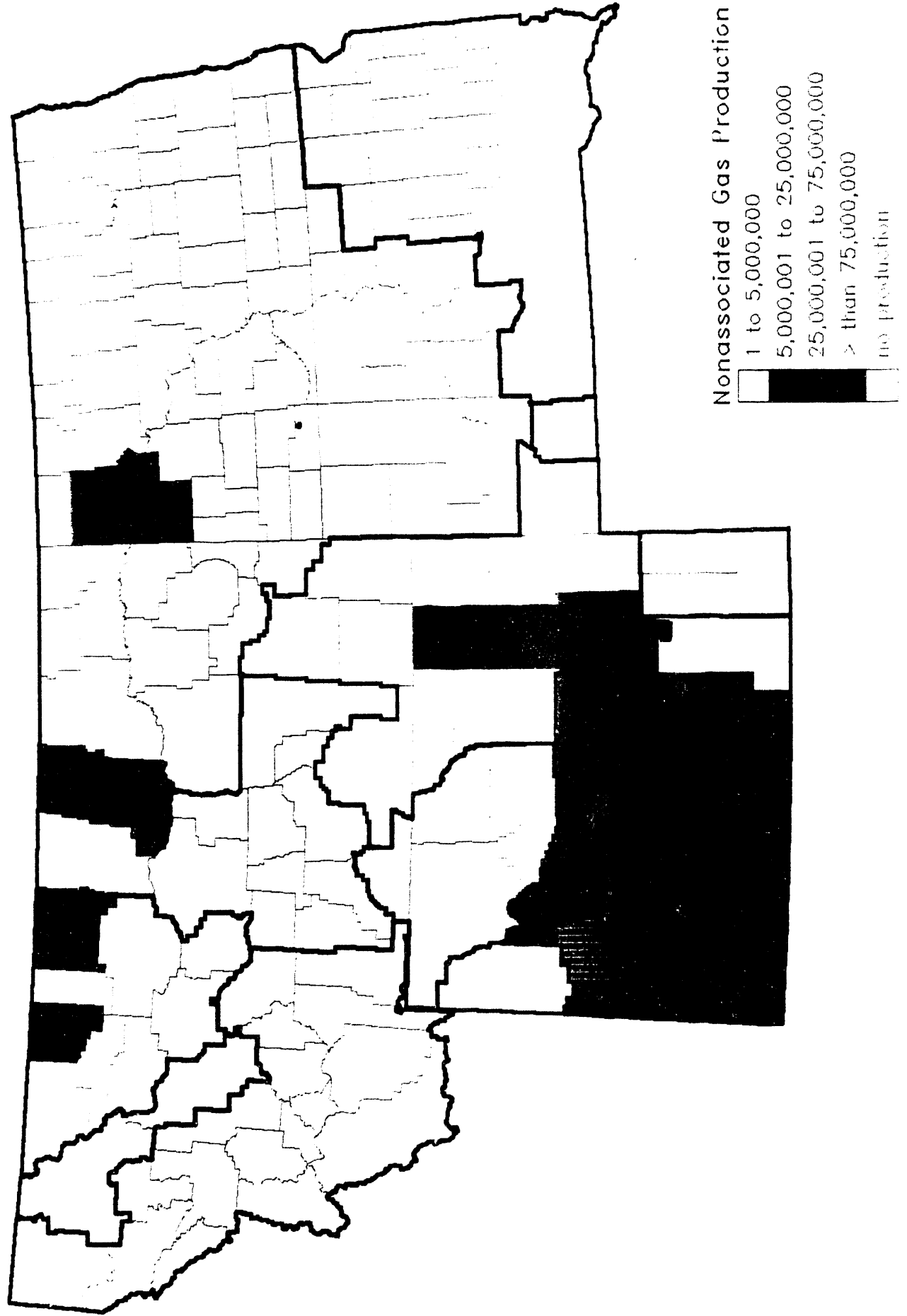
Oil Production (bbls/year)

White box	1 to 750,000
Black box	750,001 to 2,500,000
Dark Gray box	2,500,001 to 10,000,000
Stippled box	> than 10,000,000
White box	no oil production

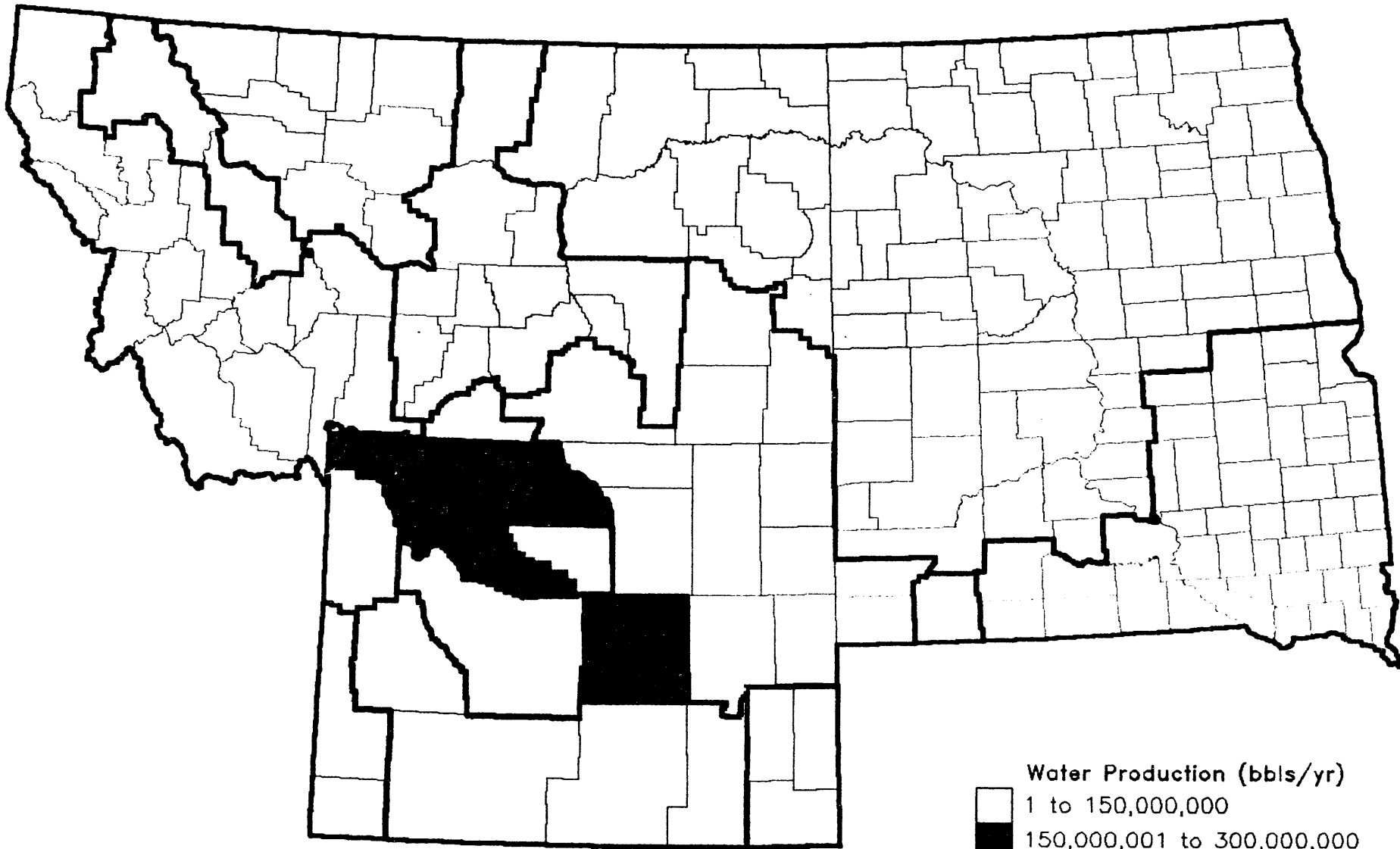
TOTAL GAS PRODUCTION BY COUNTY (ASSOCIATED AND NONASSOCIATED GAS)



NONASSOCIATED GAS PRODUCTION BY COUNTY



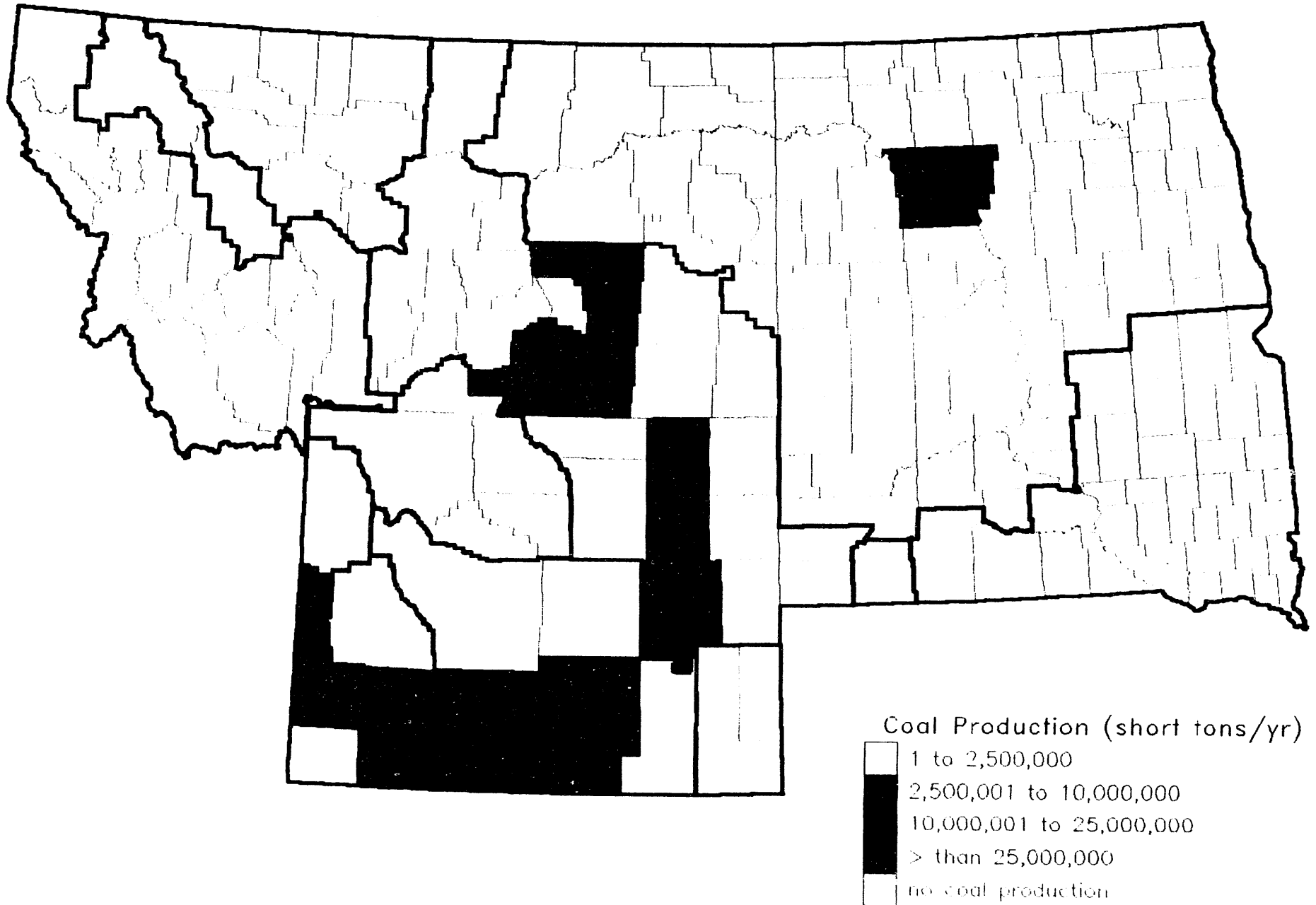
TOTAL PRODUCED WATER BY COUNTY



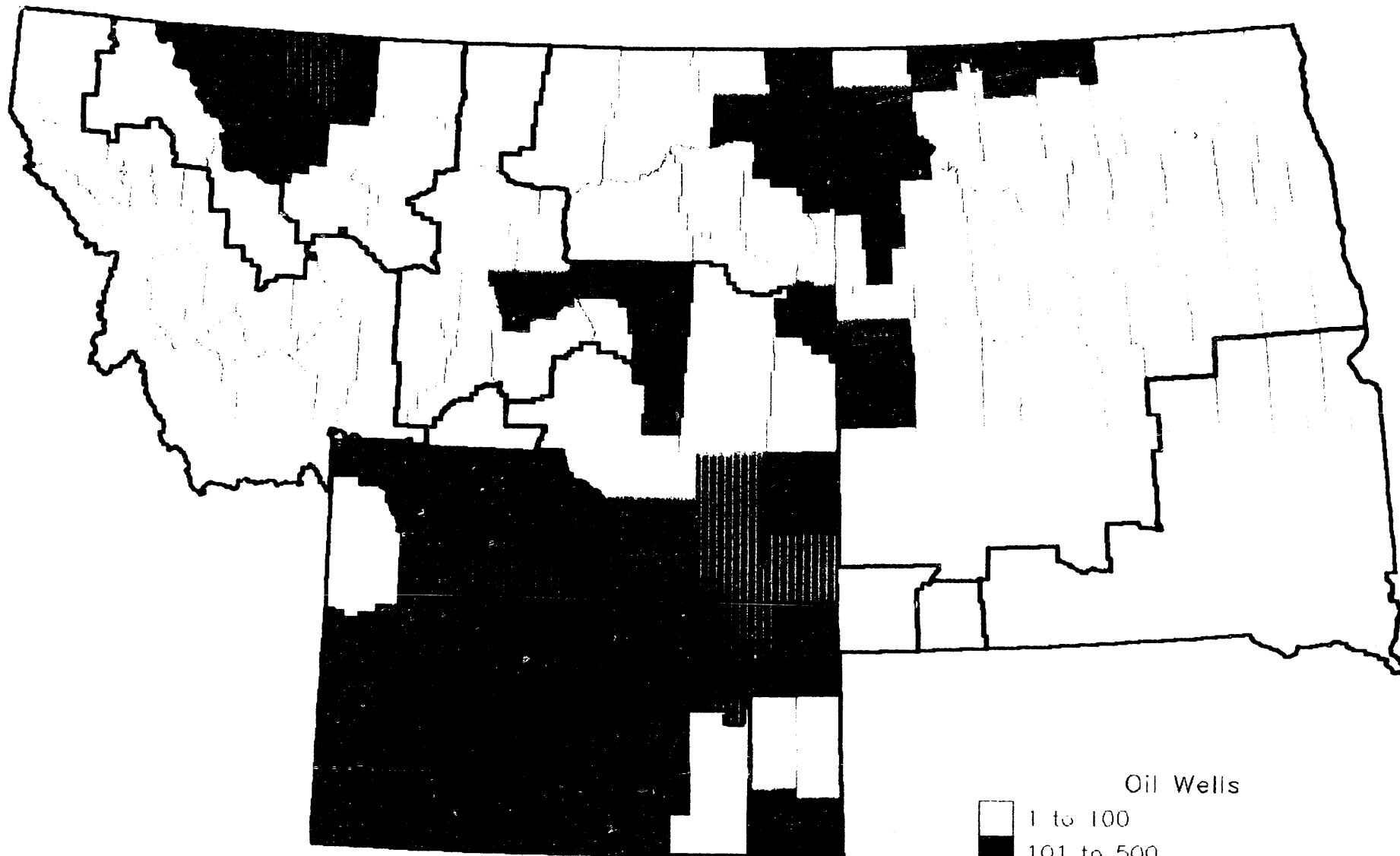
Water Production (bbls/yr)

1 to 150,000,000
150,000,001 to 300,000,000
300,000,001 to 450,000,000
> than 450,000,000
no produced water

TOTAL COAL PRODUCTION BY COUNTY



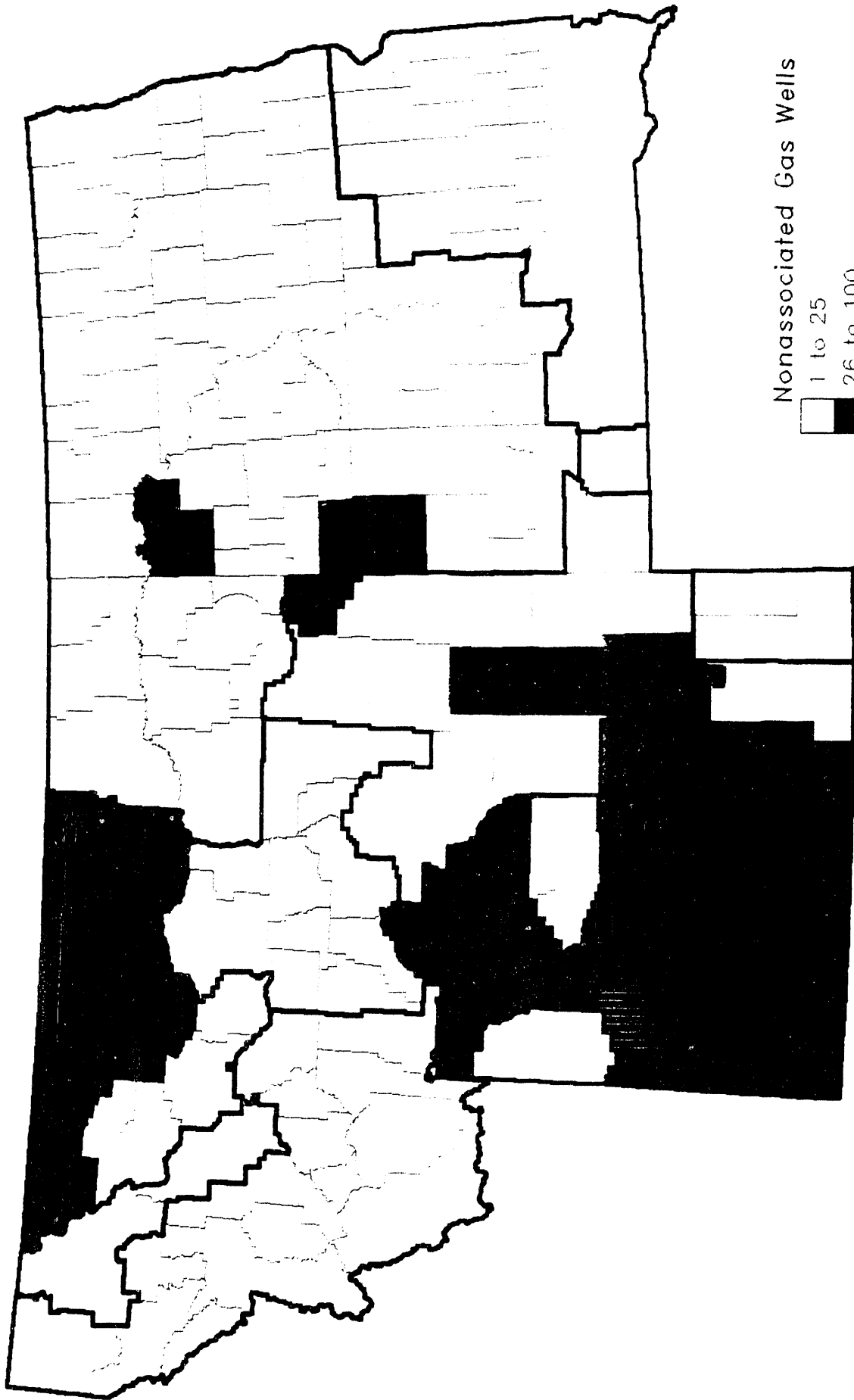
OIL WELLS BY COUNTY



Oil Wells

- 1 to 100
- 101 to 500
- 501 to 1,000
- > than 1,000
- no oil wells

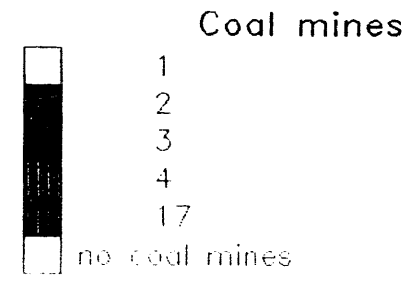
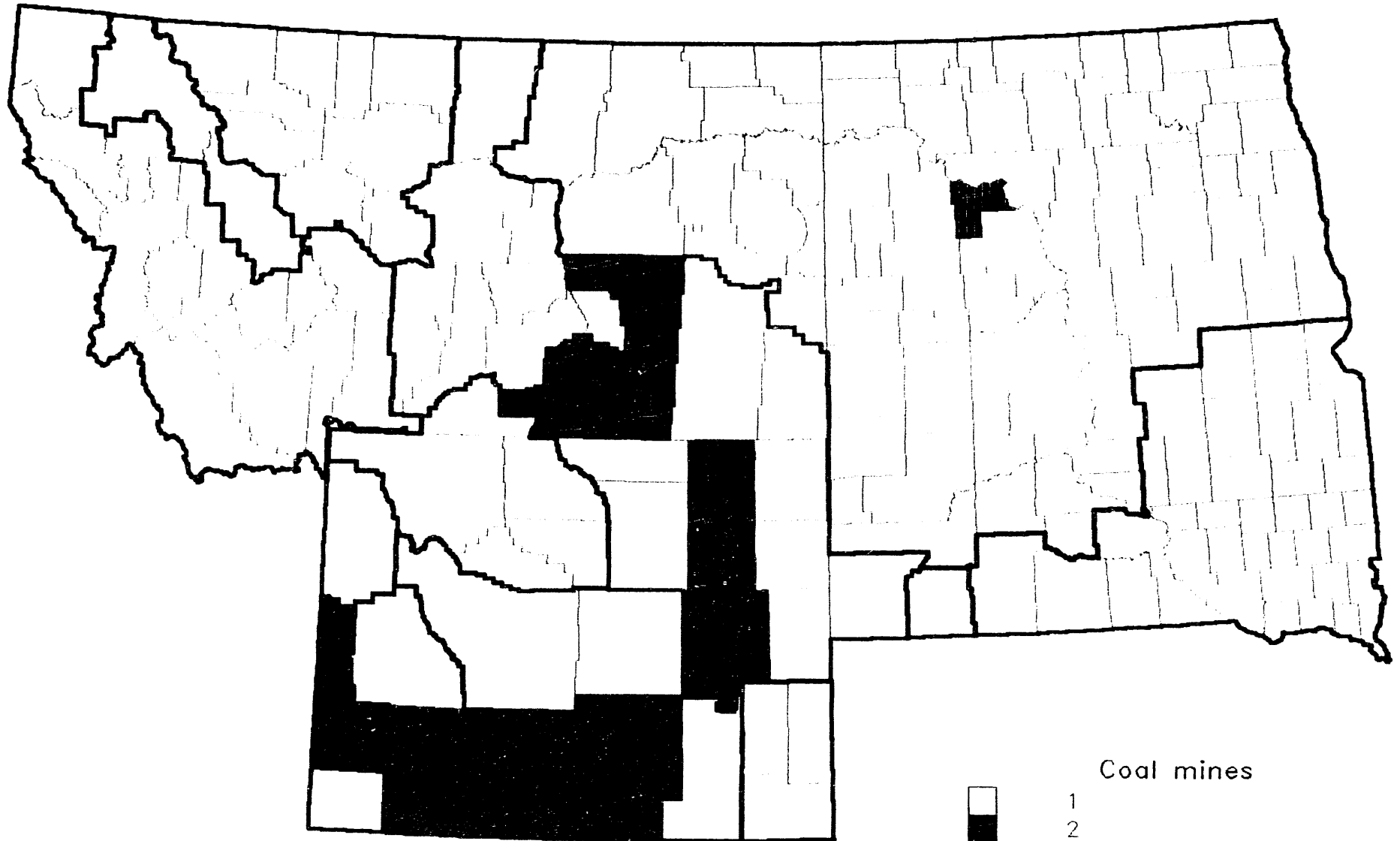
NONASSOCIATED GAS WELLS BY COUNTY



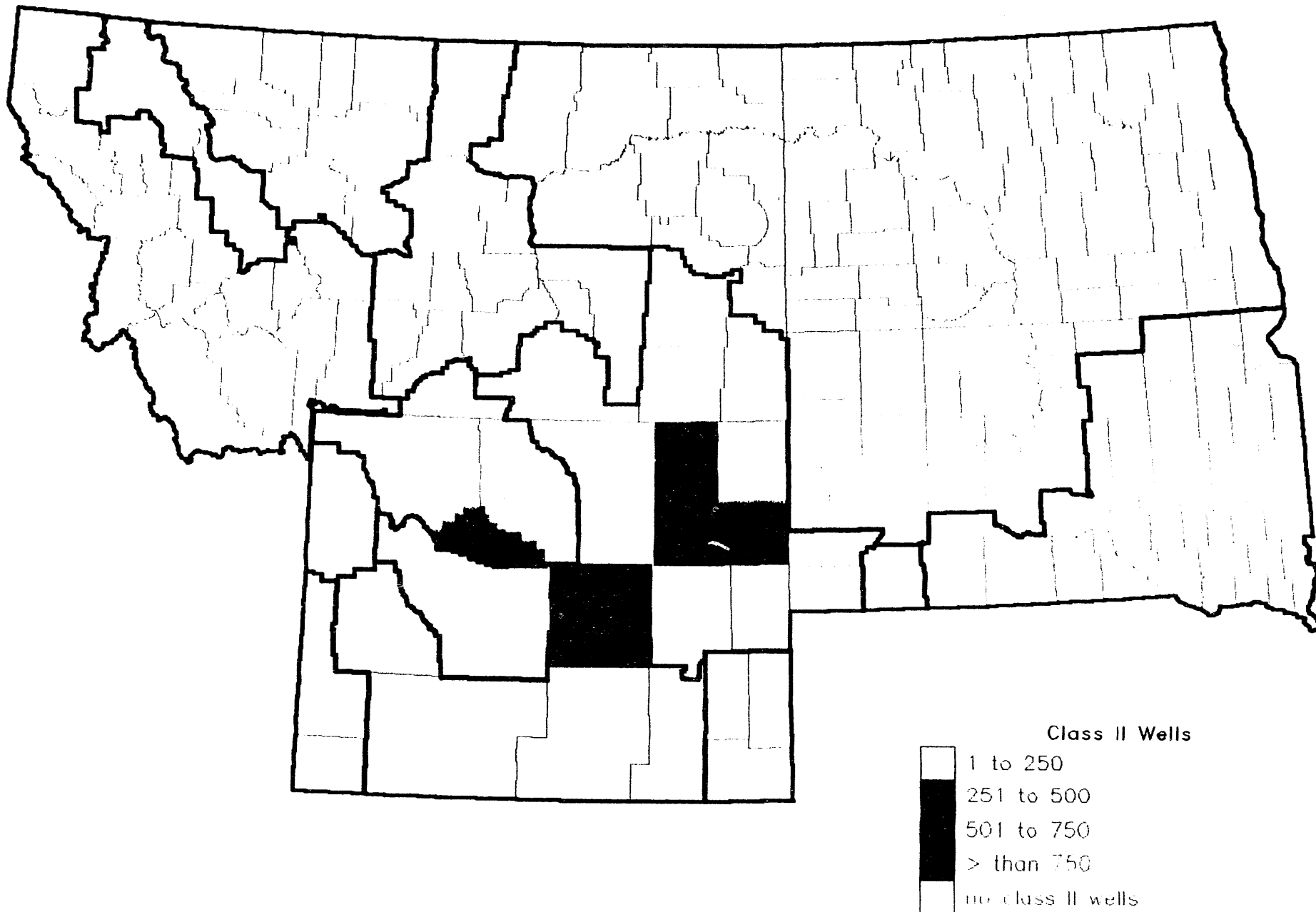
Nonassociated Gas Wells

1 to 25
26 to 100
101 to 500
> greater than 500
no producing wells

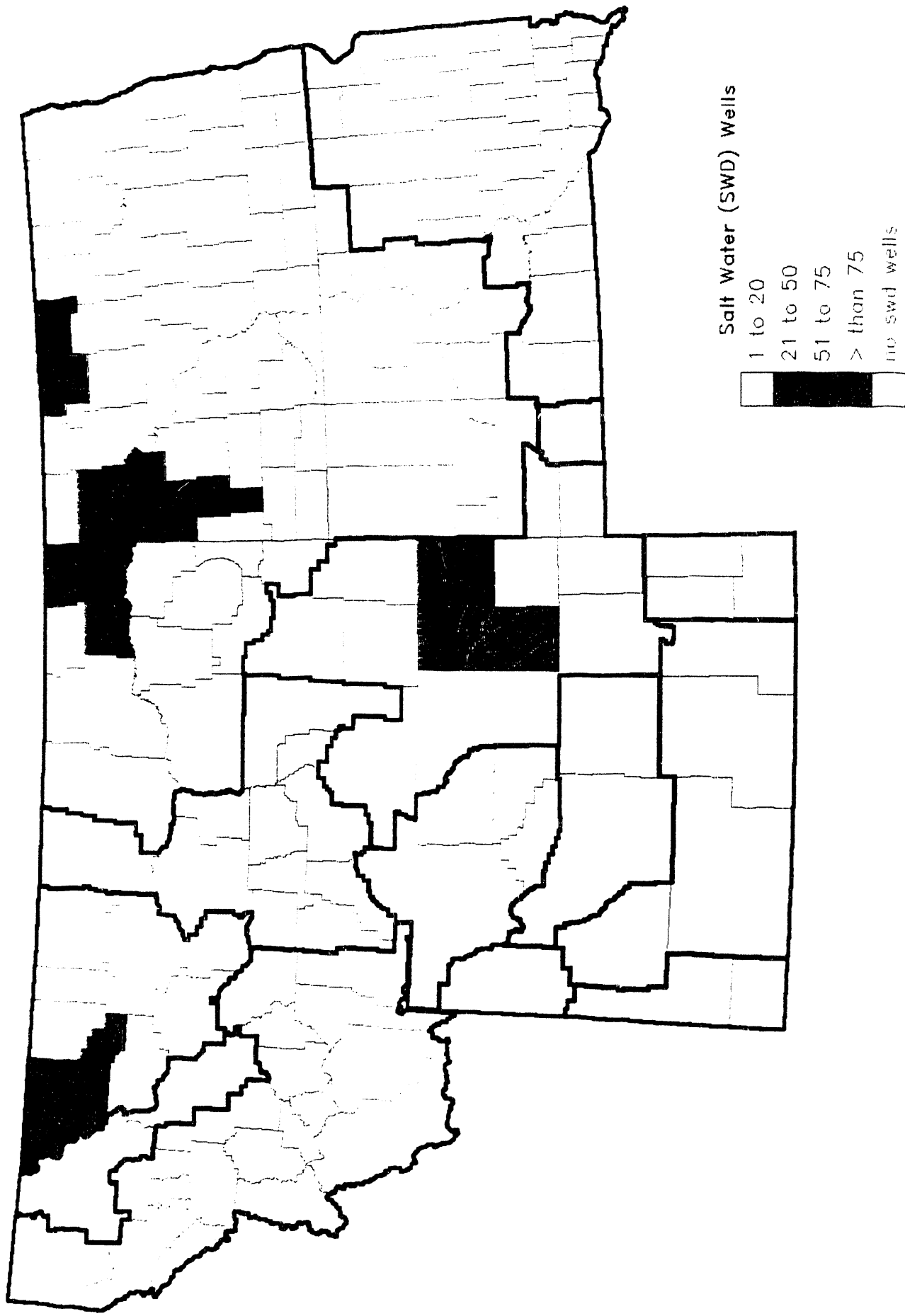
COAL MINES BY COUNTY



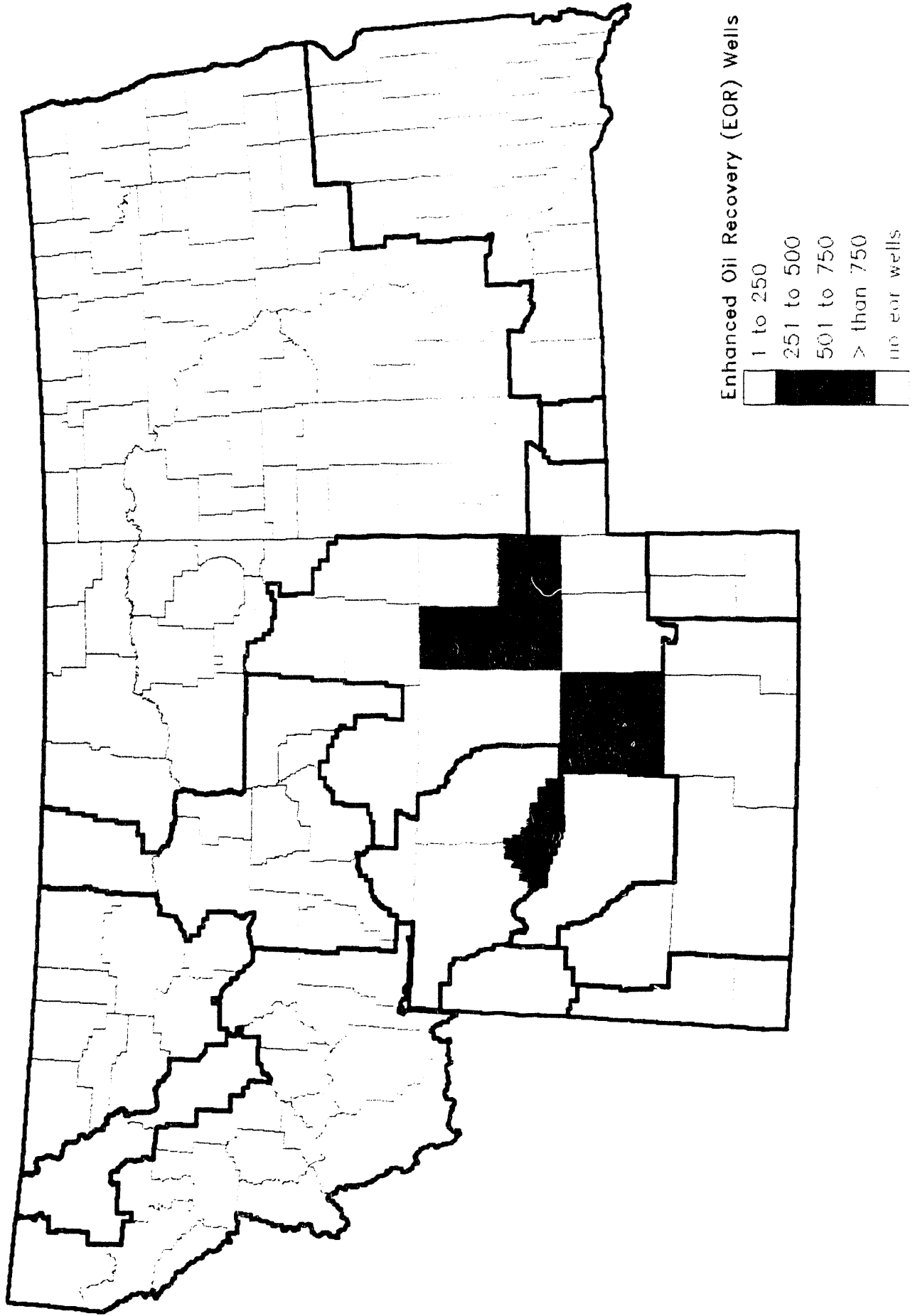
TOTAL CLASS II WELLS (EOR + SWD) BY COUNTY



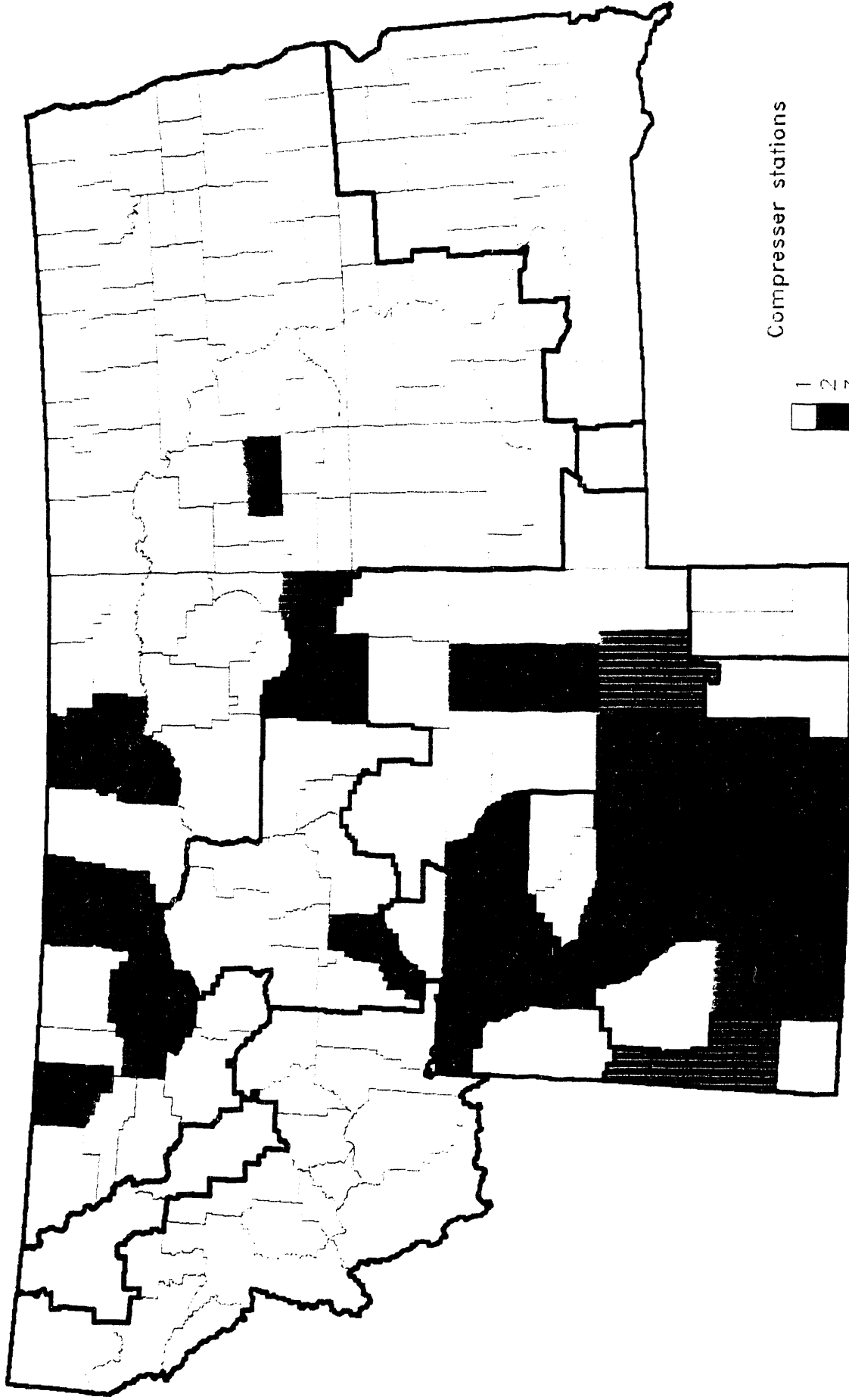
SALT WATER DISPOSAL (SWD) WELLS BY COUNTY



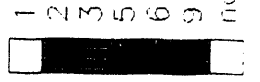
ENHANCED OIL RECOVERY (EOR) WELLS BY COUNTY



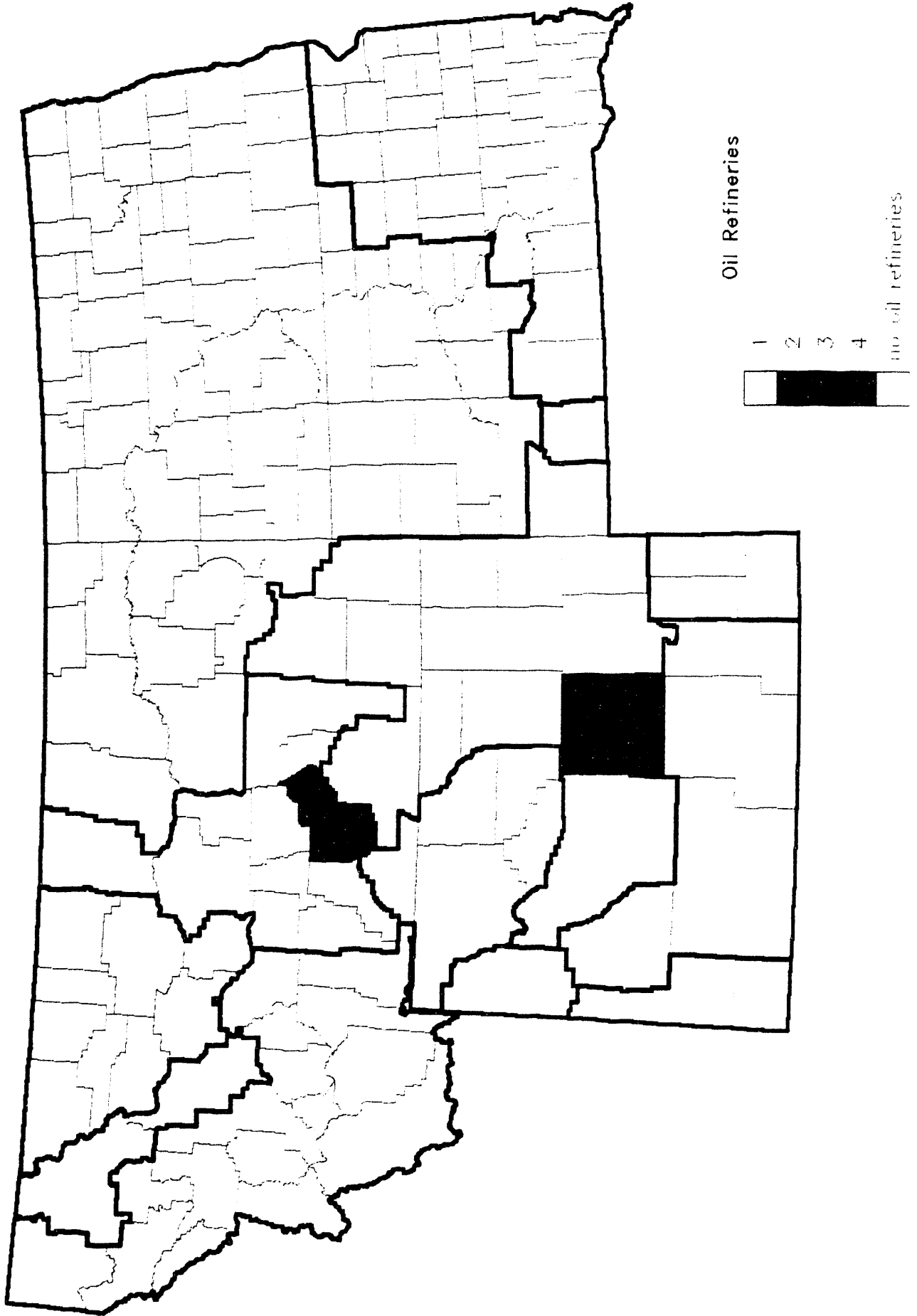
COMPRESSOR STATIONS BY COUNTY



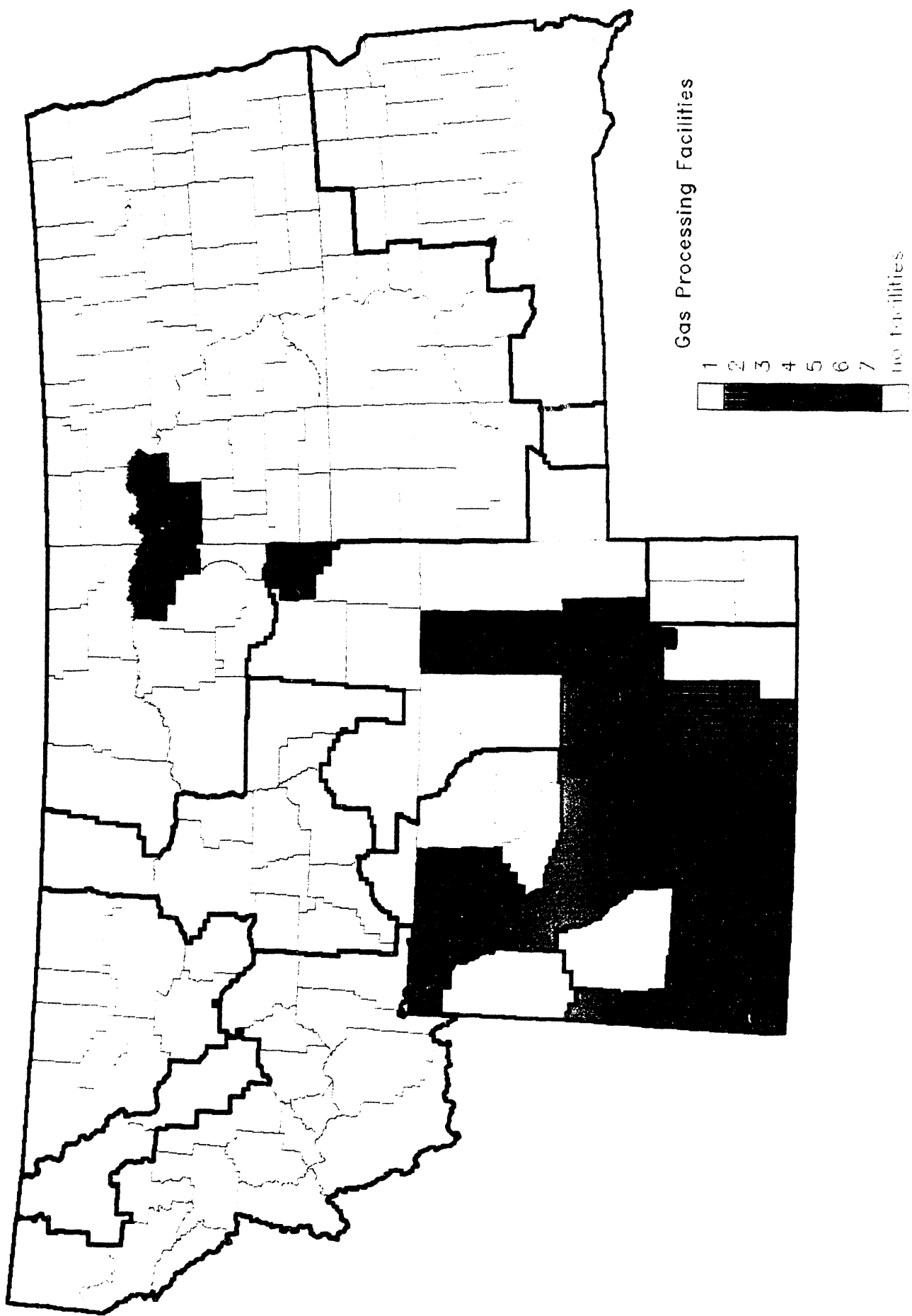
Compressor stations



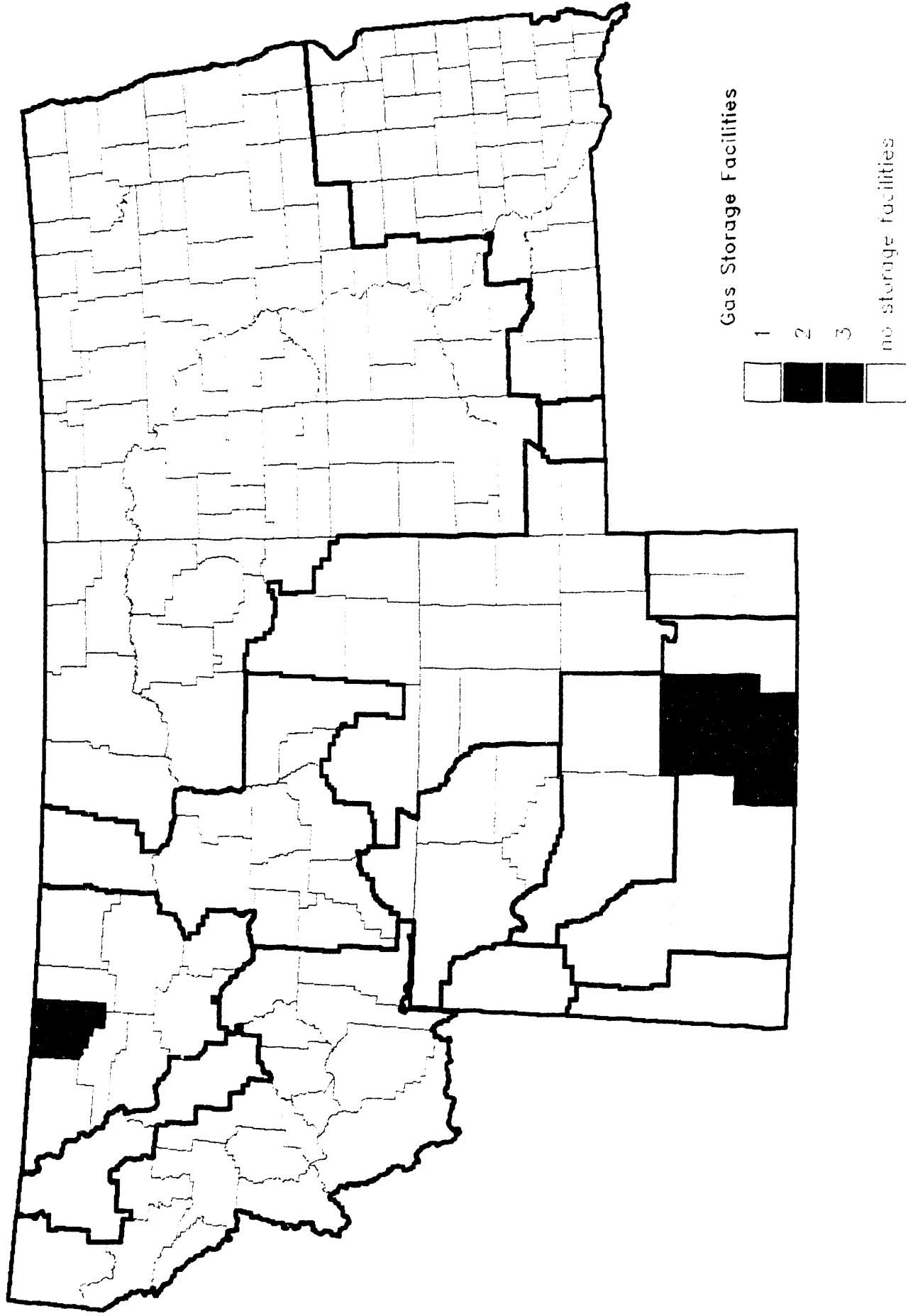
OIL REFINERIES BY COUNTY



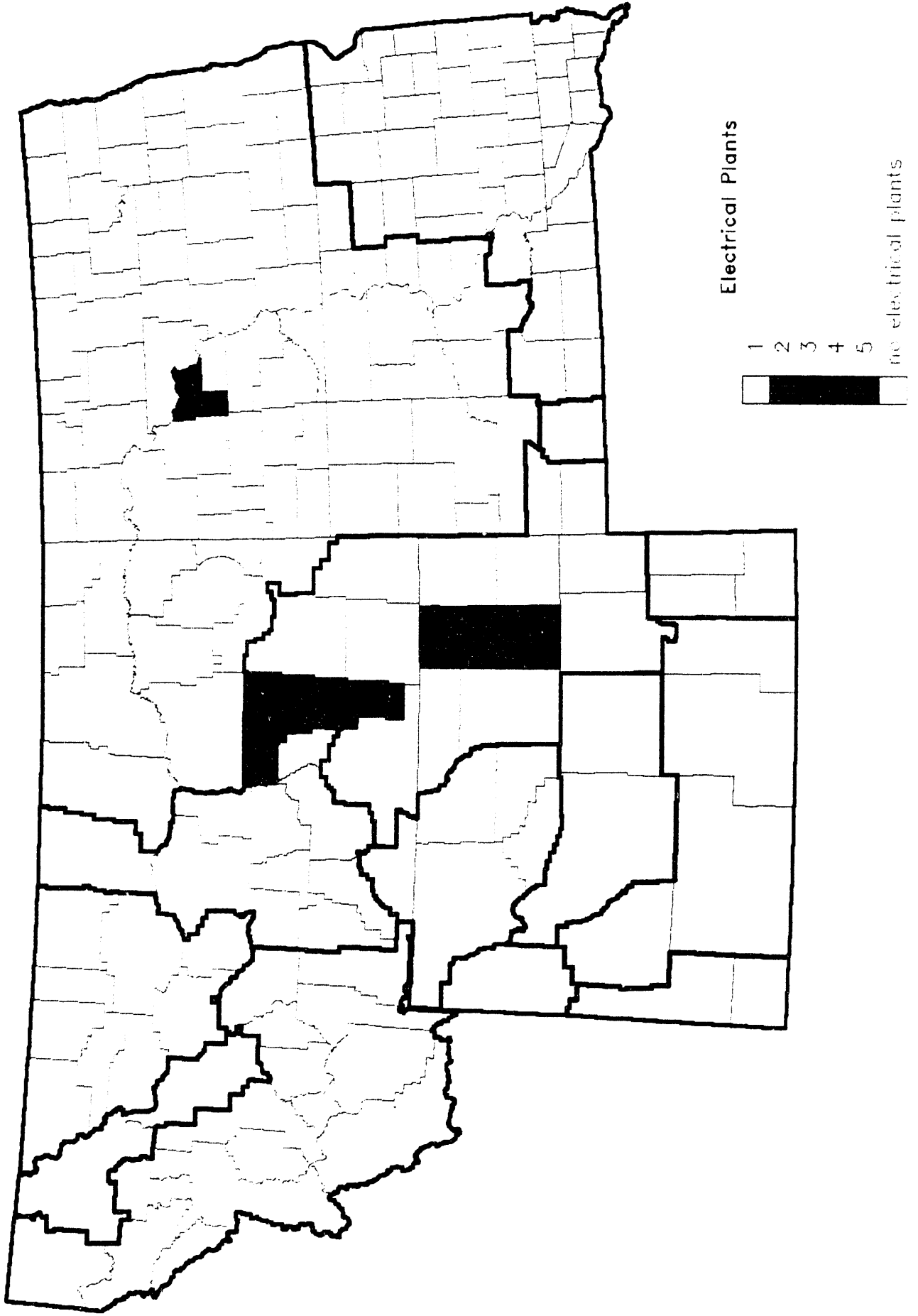
GAS PROCESSING FACILITIES BY COUNTY



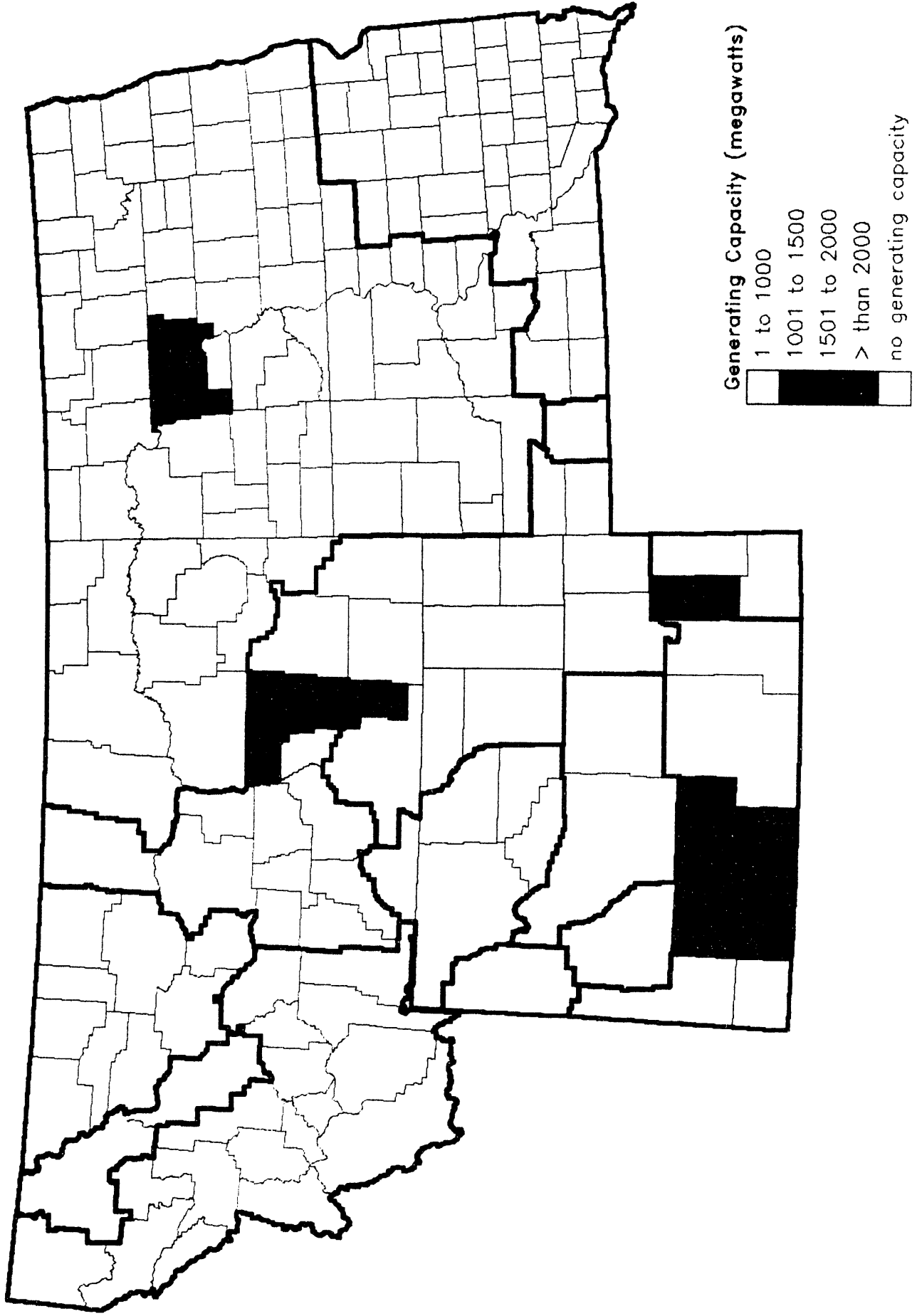
NATURAL GAS UNDERGROUND STORAGE FACILITIES BY COUNTY



COAL-FIRED ELECTRICAL PLANTS BY COUNTY



TOTAL ELECTRICAL GENERATING CAPACITY BY COUNTY



U.S. DEPARTMENT OF ENERGY
FEDERAL ASSISTANCE MANAGEMENT SUMMARY REPORT

1. Program/Project Identification No. DE-FC21-86MC10837	2. Program/Project Title Regional Energy Policy Program for the Northern Great Plains (2.3)	3. Reporting Period 4-1-92 through 6-30-92
4. Name and Address Energy and Environmental Research Center University of North Dakota Box 8213, University Station, Grand Forks, ND 58202 (701) 777-5000		5. Program/Project Start Date 4-1-86
		6. Completion Date 9-30-92

7. FY 91/92	8. Months or Quarters					1991						1992																																																																																																							
	Quarters					JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN																																																																																																		
9. Cost Status	a. Dollars Expressed in Thousands					b. Dollar Scale																																																																																																													
10. Cost Chart																																																																																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Fund Source</th> <th rowspan="2"></th> <th colspan="4">Quarter</th> <th rowspan="2">Cum. to Date</th> <th rowspan="2">Tot. Plan</th> </tr> <tr> <th>1st</th><th>2nd</th><th>3rd</th><th>4th</th> </tr> </thead> <tbody> <tr> <td rowspan="2">DOE</td> <td>P</td> <td>15</td><td>15</td><td>15</td><td>18</td> <td>150</td> <td>150</td> </tr> <tr> <td>A</td> <td>11</td><td>10</td><td>17</td><td>10</td> <td>137</td> <td></td> </tr> <tr> <td></td> <td>P</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>A</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>P</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>A</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>P</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>A</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Total P</td> <td>15</td><td>15</td><td>15</td><td>18</td> <td>150</td> <td>150</td> </tr> <tr> <td colspan="2">Total A</td> <td>11</td><td>10</td><td>17</td><td>10</td> <td>137</td> <td></td> </tr> <tr> <td colspan="2">Variance</td> <td>4</td><td>5</td><td>(2)</td><td>8</td> <td>13</td> <td></td> </tr> </tbody> </table>																	Fund Source		Quarter				Cum. to Date	Tot. Plan	1st	2nd	3rd	4th	DOE	P	15	15	15	18	150	150	A	11	10	17	10	137			P								A								P								A								P								A							Total P		15	15	15	18	150	150	Total A		11	10	17	10	137		Variance		4	5	(2)	8	13	
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					Actual			101			110			127		137																																																																																																			
					Variance			3			9			7		13																																																																																																			

11. Major Milestone Status	Units Planned																	
	P	C																
A. Information Management System	P	C												1▲	2▲	2◆	3▲	4▲
B. Information Acquisition, Evaluation, and Organization	P	C																
C. Energy Resources	P	C																
D. Production/Transportation	P	C																
E. Energy Consumption	P	C																
F. Technology	P	C																
G. Government Policy	P	C																
H. Environmental Status Reports	P	C																

12. Remarks
Due to EERC fiscal year end, the June books do not close until July 25, 1992. Costs posted through July 8 have been included.

13. Signature of Recipient and Date
Wendy Day 7-10-92

14. Signature of DOE Reviewing Representative and Date

U.S. DEPARTMENT OF ENERGY
FEDERAL ASSISTANCE MANAGEMENT SUMMARY REPORT

1. Program/Project Identification No. DE-FC21-86MC10637		2. Program/Project Title Regional Energy Policy Program for the Northern Great Plains (2.3)		3. Reporting Period 4-1-92 through 6-30-92	
4. Name and Address Energy and Environmental Research Center University of North Dakota Box 8213, University Station Grand Forks, ND 58202 (701) 777-6000				5. Program/Project Start Date 4-1-86	
				6. Completion Date 6-30-92	
Milestone ID. No.	Description	Planned Completion Date	Actual Completion Date	Comments	
Task A	Information Management System ¹				
a.1	Design of data management shell	12-91	12-91		
a.2	Obtain/link software	1-92	3-92	Begin 3-92	
a.3	Relating data sets	5-92			
a.4	Demonstration data base shell	6-92			
Task B	Information Acquisition, Evaluation, and Organization Annotated Bibliography Data Base				
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b.2	Coal	10-91	10-91		
b.3	Oil	11-91	11-91		
b.4	Gas	12-91	12-91		
b.5	Electricity	1-92	1-92		
b.6	Nonfossil energy	2-92	2-92		
b.7	Other	3-92	3-92		
b.8	Organizations Data Base	12-91	12-91		
Task C	Energy Resources Status of Resource Assessment ²				
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c.2	Oil and gas	1-92			
c.3	Nonfossil energy Resource Data Base ³	2-92			
c.4	Coal	3-92			
c.5	Oil and gas	4-92			
c.6	Nonfossil energy	5-92			
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d.1	Coal Mines	11-91	12-91		
d.2	Conversion facilities Oil	12-91	12-91		
d.3	Refineries Gas	4-92			
d.4	Processing and transportation	4-92			

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				6. Completion Date 6-30-92	
Milestone ID. No.	Description	Planned Completion Date	Actual Completion Date	Comments	
	Production Data Base ³				
d.5	Coal	3-92			
d.6	Oil and gas	4-92			
d.7	Nonfossil energy	5-92			
Task E	Energy Consumption ³				
e.1	Consumption data base	4-92			
Task F	Technology				
f.1	Low-rank coal conversion technologies data base	12-91	12-91		
Task G	Government Policy ²				
g.1	Federal policy data base	2-92			
	State energy-related legislation data base				
g.2	North Dakota	3-92			
g.3	Montana	--			
g.4	Wyoming	--			
g.5	South Dakota	--			
Task H	Environmental Status Reports ²				
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h.2	Clean Air Act	1-92			
h.3	Coal conversion waste management	2-92			
h.4	Surface mining and reclamation	3-92			
h.5	Leasing on federal lands	3-92			

¹ Hardware acquisition for Atlas[®] GIS was completed in May 1992; current focus on data entry and report and map output.

² In progress.

³ In progress as part of attribute file development for the GIS system under Task A (a.3).