

U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Geologic Hazards Data-Base Catalog: Central United States

by

Arthur C. Tarr¹

Open-File Report 93-349

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¹Golden, Colorado

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ABSTRACT

The Geologic Hazards Data-Base (GHDB) catalog for the Central United States tabulates digital spatial data sets that are used in geographical information system (GIS) applications by scientists funded by the National Earthquake Hazards Reduction Program (NEHRP). Although vector, raster, and tabular data sets are stored in the GHDB, only ARC/INFO™ vector coverages in the GHDB, available as of April 1, 1993, are tabulated in this report.

INTRODUCTION

The Geologic Hazards Data Base (GHDB) contains digital spatial data sets that are available for use by geographic information system (GIS) applications in the following United States Geological Survey-funded programs:

- National Earthquake Hazards Reduction Program (NEHRP)
- Landslide Hazards Program (LHP)
- Global Change and Climate History Program

In addition, the data sets are available to other Federal agencies and bureaus, State agencies, and county and local governments. The GHDB is also a repository for commonly used tabular data sets (such as seismicity catalogs) that are used by other than GIS applications.

The geographical emphasis of the GHDB reflects several of the priority study areas of the NEHRP: Central United States, Pacific Northwest, and San Francisco Bay area. A large number of spatial data sets in the GHDB portray geographic themes (data layers) in the area of the central United States centered on the New Madrid seismic zone. This report is a catalog of available digital spatial data sets in the Central United States available as of April 1, 1993.

COMPUTER GRAPHICS LABORATORY

The GHDB is managed by the Branch of Earthquake and Landslide Hazards Computer Graphics Laboratory (CGL) located in Golden, Colo. GIS and scientific visualization services are provided to USGS personnel by the CGL. The computer resources of the CGL include:

- Two Sun Microsystems 4/75GX workstations

- 4.2 GB hard disk storage
- CD-ROM drive
- Altek AC40 digitizing table (36" by 48")
- ARC/INFO™ Rev. 6.1.1 GIS software (two primary licenses)
- ARC/INFO™ GRID and TIN software (one primary license each)
- Tektronix 4207 graphics terminal
- Macintosh IIfx microcomputer

Other computer resources available to CGL users are:

- Sun Microsystems 3/280 file server
- ARC/INFO™ Rev. 5.0.1 software (3 node-locked seats)
- 2.5 GB Exabyte (8 mm) tape drive
- 9-track 1600/6250 bpi tape drive
- 1/4" cartridge tape drive

The Sun workstations and server are networked to other workstations, minicomputers, and microcomputers by Ethernet LAN, and to external computers by the Internet.

DATA MANAGEMENT

Effective management of a large data base such as the GHDB requires balancing the format, type, and storage requirements of hundreds of data sets against the limitations of a particular configuration of computer resources. The principal advantages of a centralized data base are that the data-base manager generally has maximum control over the data sets and data access is usually faster and simpler for both local and remote users than from a widely distributed data base. In the case of the GHDB, centralized online storage in the CGL of all data sets of interest to the scientific programs was not possible because the computer resources at the CGL were limited. Fortunately, the advent of high-speed local area networks (LANs) and wide area networks (WANs) means that a less-centralized GHDB may still perform well.

The GHDB is managed as a distributed data base: data sets are stored on the file systems of several remote host computers in addition to the computers of the CGL. Shared data access and local data set maintenance are several of the advantages of a distributed data base although input/output (I/O) performance may be a problem over slower networks. Performance reasons dictate that certain large or frequently used data sets are located on hard disks at the CGL (I/O times are generally less on locally-mounted hard disks). Less-frequently used data sets or those data sets for which access time is not important may be stored on local optical disks or on remote hard disks.

Infrequently used, inactive, and archived data sets may be stored on magnetic tape or CD-ROM media. For example, hundreds of USGS digital line

graph (DLG) and digital elevation model (DEM) data sets originally purchased by the CGL on 9-track tapes now reside in two forms, as compressed disk files on the file systems of the USGS Central Region GIS Laboratory in Lakewood, Colorado and as uncompressed ASCII files on the original magnetic tapes stored in a vault at the same laboratory. The benefits of this arrangement are that all the disk files are accessible to numerous potential users, only those files actually needed for project use are stored on CGL computers, and the original data are safely archived.

Data Formats

Most data sets reside on the GHDB in native (user-defined) and ARC/INFO™ formats. The most common native data formats are USGS DLG, USGS DEM, AutoCAD™ .dxf files, SPOT and ERDAS .lan image files, and Bureau of the Census TIGER/Line™ and statistical files. Other data sets in user-defined formats are also stored in the GHDB. However, virtually all GIS data sets are stored as ARC/INFO™ coverages and grids, having been converted from their native formats. Coverages are vector spatial (coordinate) data linked to data base files of associated attribute values and grids are regular arrays of spatially registered cells containing values of some thematic property (such as elevation or slope).

Data Types

The principal data types in the GHDB are *vector*, *raster* (or grid), and *tabular*. Vector data represent point, line, polygon, and annotation features by means of directed line segments, raster data employ a cell-based data representation like the pixels of a satellite image, and tabular data are structured in arrays of rows and columns (records and attributes). All three data types are supported by the ARC/INFO™ GIS software. In addition, some tabular data are supported by a SYBASE™ data base manager accessible over the LAN.

Data Storage Modes

The three modes of data storage are *online*, *nearline*, and *offline*. Online data reside on local hard disks attached directly to the workstations at the CGL. Nearline data reside on removable storage media such as CD-ROM and rewritable magneto-optical disks that are also attached to the workstations. Offline data storage is on 9-track and 8-mm magnetic tape. In general, online data are accessed most rapidly, nearline data are accessed less rapidly, and offline data are accessed least rapidly because the access method for online and nearline media is random (offline is sequential access), nearline drives are slower than online drives, and nearline and offline media must be physically mounted on their drives. Most active data sets are stored online while most native format and backup data sets are stored offline. Very large active data sets (such as

satellite images) are generally stored nearline. Inactive data sets are those that have not been accessed within a 6-month period.

Classification of Data

The data sets tabulated in this report are grouped by geographic area and are arranged alphabetically by data set name within the data group. Only the principal ARC/INFO™ coverages commonly used by workers at the CGL are listed. A geographic classification is implicit in the arrangement because the first characters of a file name, referring to a specific geographic region, also designate the data group to which the data set belongs. For example, the three characters 2x2 form a prefix designating a 2° by 2° area in the New Madrid region and the prefix *shelby* designates all data sets portraying spatial features in Shelby County, Tenn. Table 1 cross-references the geographic areas by data-group prefix and by descriptor to assist in locating the data set of interest. Figure 1 shows the geographic extent of the three largest data groups: 18x16 (central United States); 6x5 (Mississippi Embayment); and 2x2 (New Madrid Region). Figure 2 shows the locations of the ten 30' by 60' (1:100,000-scale) quadrangles for which there are data layers in the GHDB derived from DLG data files.

The figures that portray the data sets are arranged alphabetically by data set name. The figures and the data table complement each other; the graphical representation of the data layer shows the spatial extent of the data layer but does not indicate the compilation scale, for example, which is listed in the data table. A graticule also accompanies the data layer on each graphic. The intrinsic resolution of the data is frequently not evident in the figures, which were produced as Postscript files and printed on a 300-dpi printer.

AVAILABILITY OF DATA

Data from the GHDB are available to authorized GIS users, principally Federal, State, and local governmental agencies and USGS-supported projects. Data are provided on an "as is" basis and in no case should be sold or distributed further. All data sets are provisional and have not been subjected to strict USGS cartographic quality control standards. The USGS assumes no responsibility for accuracy of the data; verification of data accuracy is the responsibility of the user.

Because the CGL provides data to authorized users as a no-cost service, all data requests should be accompanied by a data tape (for example, 9-track 6250 bpi tape, 1/4" Sun cartridge, or 8-mm Exabyte-compatible tape) to defray costs. Anonymous FTP is available to users who have access to the Internet.

Table 1.--Cross-reference to data groups
(April 1, 1993)

ALPHABETIC BY DATA GROUP

18x16	Central United States
2x2	New Madrid Region
6x5	Mississippi Embayment
by1	Blytheville 30' x 60' Quadrangle
by3	Memphis East 30' x 60' Quadrangle
dy1	Sikeston 30' x 60' Quadrangle
dy3	Dyersburg 30' x 60' Quadrangle
dy4	McKenzie 30' x 60' Quadrangle
hl2	Helena 30' x 60' Quadrangle
mm2	Jonesboro 30' x 60' Quadrangle
mm4	Memphis West 30' x 60' Quadrangle
pb2	Poplar Bluff 30' x 60' Quadrangle
pb4	Paragould 30' x 60' Quadrangle
shelby	Shelby County, Tennessee
tq1	Holly Springs 30' x 60' Quadrangle

ALPHABETIC BY DESCRIPTOR

Blytheville 30' x 60' Quadrangle	by1
Central United States	18x16
Dyersburg 30' x 60' Quadrangle	dy3
Helena 30' x 60' Quadrangle	hl2
Holly Springs 30' x 60' Quadrangle	tq1
Jonesboro 30' x 60' Quadrangle	mm2
McKenzie 30' x 60' Quadrangle	dy4
Memphis East 30' x 60' Quadrangle	by3
Memphis West 30' x 60' Quadrangle	mm4
Mississippi Embayment	6x5
New Madrid Region	2x2
Paragould 30' x 60' Quadrangle	pb4
Poplar Bluff 30' x 60' Quadrangle	pb2
Shelby County, Tennessee	shelby
Sikeston 30' x 60' Quadrangle	dy1

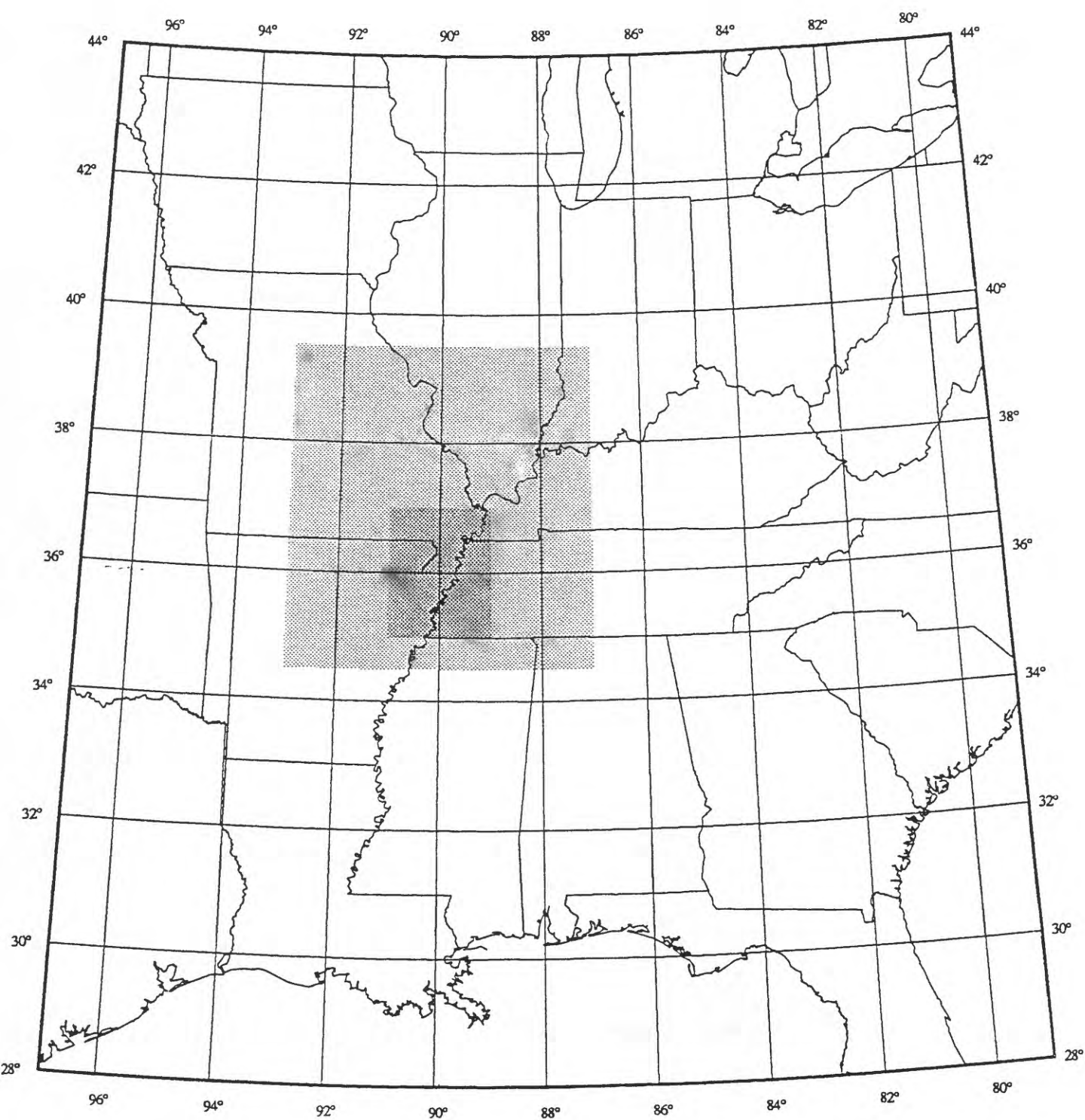


Figure 1. Geographic extent of 18x16 data group (entire map), 6x5 (light gray area), and 2x2 (medium gray area).

Requests for data should be sent to:

Computer Graphics Laboratory
USGS, MS 966
Denver Federal Center, Box 25046
Denver, CO 80225

Attn: Arthur C. Tarr

If there are any questions regarding the GHDB, please contact us at:

Commercial and FTS
(303) 273-8569
(303) 273-8600 (FAX)
E-Mail
atarr@gldrtv.cr.usgs.gov

ACKNOWLEDGEMENTS

The contributions of digital spatial data sets to the GHDB by R. L. Dart, M. A. Ellis, R. B. Herrmann, T. G. Hildenbrand, H. H. M. Hwang, V. E. Langenheim, L. Liu, S. Rhea, E. S. Schweig, III, R. A. Snay, W. D. Stanley, S. Stein, and R. L. Wheeler are gratefully acknowledged.

NOTES ON THE USE OF THE DATA TABLE

The data table is intended for quick reference and is not intended as comprehensive documentation of the data sets. Consequently, the entries may sometimes seem cryptic. The most commonly used abbreviations and naming conventions are cited here for clarification.

Data Group

The group of data sets with the same prefix are in the same projection. The data group name and projection information are contained in the header text centered above each group.

Data Set Name

The data set name consists of a prefix (e.g., 18x16) that designates a geographical area and a postfix (e.g., dams) that designates the thematic content of the data set. Most postfixes are obvious but several that need clarification are:

- pol** Political boundaries, usually at the county and State levels
- wb** Water bodies, such as oceans, seas, bays, gulfs, lakes, estuaries, wide rivers, ponds, and swamps

Description of Data Set

A short, descriptive title of the ARC/INFO coverage.

Data Type

The data type column indicates the ARC/INFO feature type (arc, polygon, point, and annotation) by the abbreviations LINE, POLY, POINT, and ANNO, respectively. A POLY data type may include both arc and polygon attributes whereas a LINE data type may contain only arc attributes.

Compilation Scale

The scale of the compilation or source material is listed in this column. The abbreviations K and M stand for 1,000 and 1,000,000, respectively. Leaders (—) mean that either the compilation scale is unknown (e.g., data digitized from a map having no documented scale) or that a scale is not applicable (e.g., coordinate data generated by a computer program).

Source

This column indicates the source of the original data before conversion into an ARC/INFO coverage. The meanings of several of the terms are:

Generated	Coordinates were calculated by computer programs
Digitized table	Coordinates were acquired through the use of a digitizer
DLG	USGS digital line graph data files
DEM	USGS digital elevation model data files

Remarks

Additional, possibly useful information. Names of persons or organizations and dates acknowledge data sources external to the CGL but are *not* bibliographic citations.

Table 2
**CATALOG OF DATA SETS FOR THE
CENTRAL UNITED STATES**

<i>Data Set Name</i>	<i>Description of Data Set</i>	<i>Data Type</i>	<i>Compilation Scale</i>	<i>Source</i>	<i>Remarks</i>
CENTRAL UNITED STATES (Albers Equal-Area Projection, centered on 88° W., unless otherwise noted)					
18x16city	Cities	POINT	100K	Digitized	
18x16city	City names	ANNO	---	Digitized	
18x16cnty	County boundaries	LINE	100K	DLG	No offshore boundaries; cf. 18x16pol
18x16crude	Crude oil pipelines	LINE	7.5M	Digitized	Penn Well, 1990
18x16dams	Dams	POINT	---	Generated	WRD
18x16geoliq	Poss. liquefiable sediments	LINE	---	Digitized	Also strata capable of ground amplification
18x16grat	Graticule	POLY	---	Generated	1° x 2° quadrangles
18x16grat	Graticule annotation	ANNO	---	Generated	
18x16mmi	Mod. Mercalli intens. contours	LINE	---	Digitized	
18x16natgas	Natural gas pipelines	LINE	7.5M	Digitized	Penn Well, 1990
18x16nuc	Nuclear facilities	POINT	---	Digitized	
18x16petprod	Petroleum products pipelines	LINE	7.5M	Digitized	Penn Well, 1988
18x16pipes	All pipelines	LINE	7.5M	Digitized	18x16crude + 18x16natgas + 18x16petprod
18x16pol	County boundaries	LINE	2M	DLG	No coastline; cf. 18x16cnty
18x16rds	Roads	LINE	2M	DLG	Roads and trails, Classes 1-2
18x16rr	Railroads	LINE	2M	DLG	Except section 06; cf. sec06rr
18x16str	Streams	LINE	2M	DLG	
18x16wb	Hydrography	POLY	2M	DLG	Coastlines and Great Lakes
sec06rr	Railroads	LINE	100K	DLG	Railroads missing from 18x16rr

Data Set Name	Description of Data Set	Data Type	Compilation Scale	Source	Remarks
NEW MADRID REGION (Albers Equal-Area Projection, centered on 90° W., unless otherwise noted)					
2x2ac_dp	Depth of anomalous crust	LINE	---	Generated	Hildenbrand, 1992
2x2ac_thk	Thickness of anomalous crust	LINE	---	Generated	Hildenbrand, 1992
2x2artsn	Artesian wells	POINT	---	Generated	F. McKeown, unpublished map
2x2city	Cities	POINT	100K	Digitized	
2x2city	City names	ANNO	---		
2x2cnty	County boundaries	LINE	100K	DLG	
2x2cnty	County boundary names	ANNO	---		
2x2epri	EPRI significant earthquakes	POINT	---	Generated	Clipped from EPRI catalog; M > 5.0
2x2grat	Graticule	POLY	---	Generated	15' quadrangles
2x2grat	Graticule annotation	ANNO	---	Generated	Langenheim, 1992
2x2gravstruc	Gravity structures	LINE	---	Generated	Hildenbrand, 1992
2x2hyd	Hydrography	POLY	100K	DLG	Hildenbrand, 1992
2x2magdep	Depth to magnetic basement	LINE	---	Generated	Hildenbrand, 1992
2x2magstruc	Magnetic structures	LINE	---	Generated	R. Dart, unpublished map
2x2pzgeo	Paleozoic geology	POLY	250K	Digitized	30' x 60' quadrangles and names
2x2qd100k	Graticule	POLY	---	Generated	7.5' quadrangles
2x2qd24k	Graticule	POLY	---	Generated	
2x2qd24k	Graticule annotation	ANNO	---	Generated	
2x2rds	Roads	LINE	100K	DLG	Roads and trails, Classes 1-4
2x2rds12	Roads	LINE	100K	DLG	Roads and trails, Classes 1 and 2
2x2rds123	Roads	LINE	100K	DLG	Roads and trails, Classes 1, 2, 3
2x2reflstruc	Reflection structures	LINE	250K	Digitized	R. Dart, unpublished map
2x2rr	Railroads	LINE	100K	DLG	
2x2sblows	Sand blows	POLY	500K	Digitized	Obermeier, 1989
2x2sfstruc	Major topographic features	LINE	24K; 100K	Digitized	
2x2slides	Landslides	LINE	24K	Digitized	Jibson and Keefer, 1988
2x2slu	Earthquakes	POINT	---	SLU	Clipped from St. Louis Univ. catalog 1974-90
2x2sta	Seismograph stations	POINT	---	SLU	
2x2state	State boundaries	LINE	100K	qd100k	Clipped
2x2stress	Stress	POINT	---	6x5stress	Clipped
2x2well	Wells	POINT	250K	6x5well	Clipped

<i>Data Set Name</i>	<i>Description of Data Set</i>	<i>Data Type</i>	<i>Compilation Scale</i>	<i>Source</i>	<i>Remarks</i>
MISSISSIPPI EMBAYMENT					
(Albers Equal-Area Projection, centered on 90° W., unless otherwise noted)					
6x5city	Cities	POINT	100K	Digitized	
6x5city	City names	ANNO	----	Digitized	
6x5cnty	County boundaries	LINE	100K	DLG	
6x5cnty	County boundary names	ANNO	----	Digitized	
6x5crude	Crude oil pipelines	LINE	----	Digitized	
6x5dams	Dams	POINT	----	Digitized	
6x5grat	Graticule	POLY	----	Generated	30' x 60' quadrangles
6x5grat	Graticule annotation	ANNO	----	Generated	
6x5gravmag	Gravity and magnetic profiles	LINE	----	Digitized	
6x5hyd	Hydrography	POLY	2M	DLG	
6x5natgas	Natural gas pipelines	LINE	----	Digitized	
6x5pipes	All pipelines	LINE	----	Digitized	
6x5rds	Roads	LINE	100K	DLG	Roads and trails, Classes 1-4
6x5rr	Railroads	LINE	100K	DLG	Except section 06; cf. sec06rr
6x5slu	Earthquakes	POINT	----	SLU	Clipped from St. Louis Univ. catalog 1974-90
6x5stnames	State names	POINT	----	Digitized	
6x5stress	Stress	POINT	----	Generated	
6x5well	Wells	POINT	250K	Generated	
sec06rr	Railroads	LINE	100K	DLG	Railroads not in 6x5rr

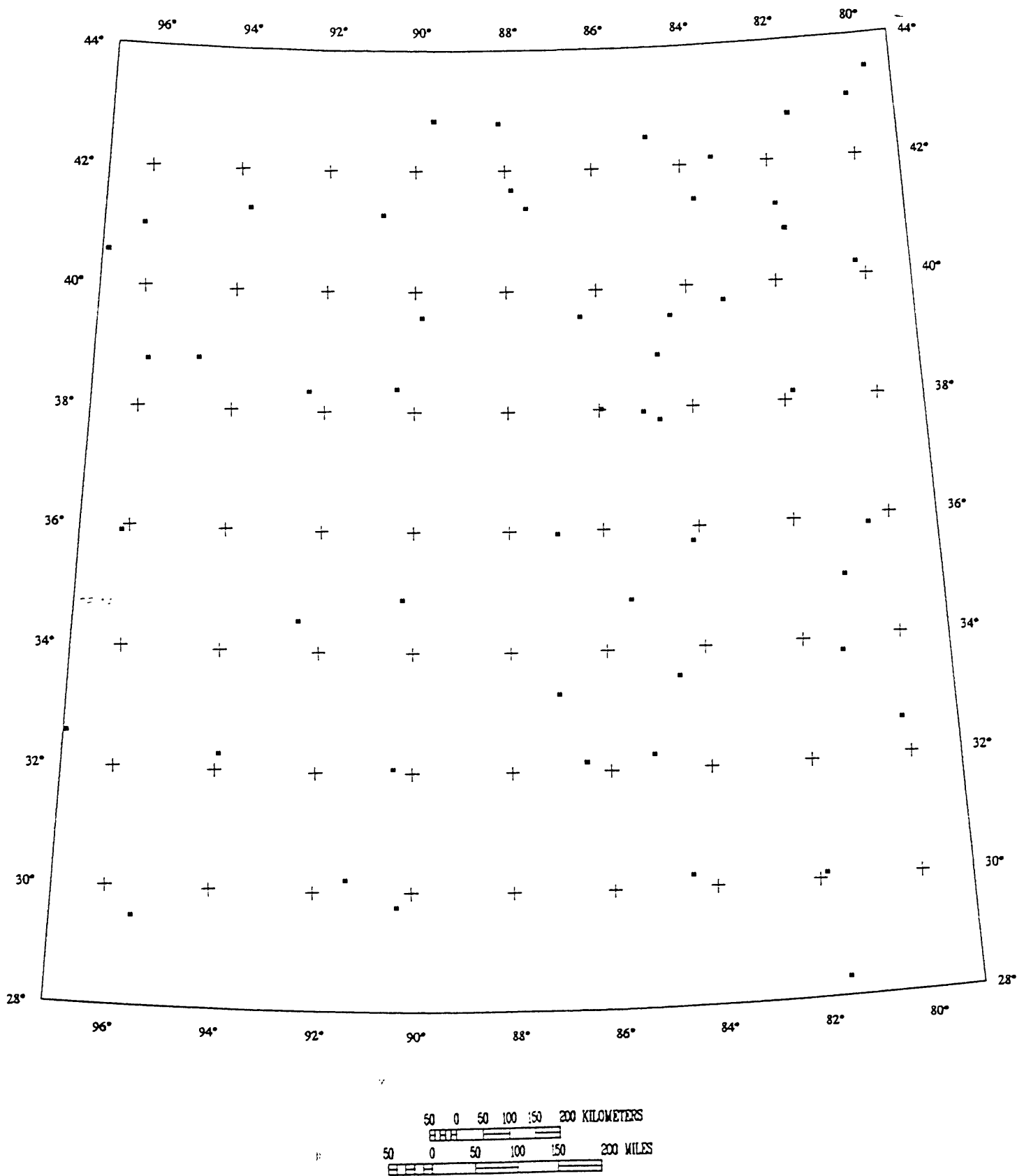
Data Set Name	Description of Data Set	Data Type	Compilation Scale	Source	Remarks
BLYTHEVILLE 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)					
by1grat	Graticule	POLY	----	Generated	7.5' quadrangles
by1grat	Graticule annotation	ANNO	----	Generated	
by1hyd	Hydrography	POLY	100K	DLG	
by1mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
by1rds	Roads	LINE	100K	DLG	Roads and trails
by1rr	Railroads	LINE	100K	DLG	
MEMPHIS EAST 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)					
by3grat	Graticule	POLY	----	Generated	7.5' quadrangles
by3grat	Graticule annotation	ANNO	----	Generated	
by3hyd	Hydrography	POLY	100K	DLG	
by3mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
by3rds	Roads	LINE	100K	DLG	Roads and trails
by3rr	Railroads	LINE	100K	DLG	
SIKESTON 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)					
dy1grat	Graticule	POLY	----	Generated	7.5' quadrangles
dy1grat	Graticule annotation	ANNO	----	Generated	
dy1hyd	Hydrography	POLY	100K	DLG	
dy1mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
dy1rds	Roads	LINE	100K	DLG	Roads and trails
dy1rr	Railroads	LINE	100K	DLG	

Data Set Name	Description of Data Set	Data Type	Compilation Scale	Source	Remarks
DYERSBURG 30' x 60' QUADRANGLE					
(Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)					
dy3grat	Graticule	POLY	----	Generated	7.5' quadrangles
dy3grat	Graticule annotation	ANNO	----	Generated	
dy3hyd	Hydrography	POLY	100K	DLG	
dy3mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
dy3rds	Roads	LINE	100K	DLG	Roads and trails
dy3rr	Railroads	LINE	100K	DLG	
MCKENZIE 30' x 60' QUADRANGLE					
(Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)					
dy4bdy	Boundaries	LINE	100K	DLG	
dy4grat	Graticule	POLY	----	Generated	7.5' quadrangles
dy4grat	Graticule annotation	ANNO	----	Generated	
dy4hyd	Hydrography	POLY	100K	DLG	
dy4mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
dy4rds	Roads	LINE	100K	DLG	Roads and trails
dy4rr	Railroads	LINE	100K	DLG	
HELENA 30' x 60' QUADRANGLE					
(Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
hl2grat	Graticule	POLY	----	Generated	7.5' quadrangles
hl2grat	Graticule annotation	ANNO	----	Generated	
hl2hyd	Hydrography	POLY	100K	DLG	
hl2mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
hl2rds	Roads	LINE	100K	DLG	Roads and trails
hl2rr	Railroads	LINE	100K	DLG	

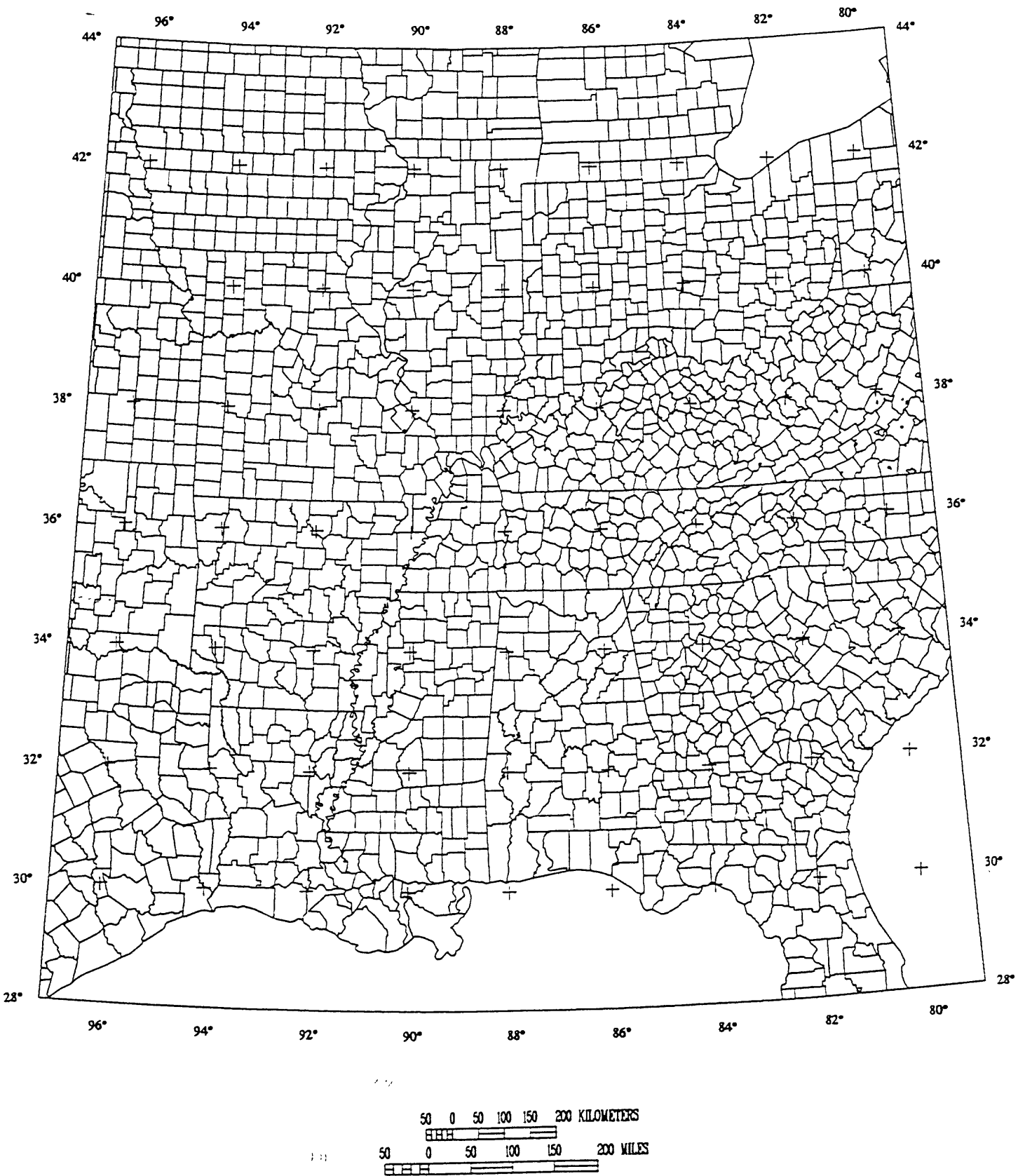
Data Set Name	Description of Data Set	Data Type	Compilation Scale	Source	Remarks
JONESBORO 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
mm2grat	Graticule	POLY	----	Generated	7.5' quadrangles
mm2grat	Graticule annotation	ANNO	----	Generated	
mm2hyd	Hydrography	POLY	100K	DLG	
mm2mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
mm2rds	Roads	LINE	100K	DLG	Roads and trails
mm2rr	Railroads	LINE	100K	DLG	
MEMPHIS WEST 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
mm4grat	Graticule	POLY	----	Generated	7.5' quadrangles
mm4grat	Graticule annotation	ANNO	----	Generated	
mm4hyd	Hydrography	POLY	100K	DLG	
mm4mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
mm4rds	Roads	LINE	100K	DLG	Roads and trails
mm4rr	Railroads	LINE	100K	DLG	
POPLAR BLUFF 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
pb2grat	Graticule	POLY	----	Generated	7.5' quadrangles
pb2grat	Graticule annotation	ANNO	----	Generated	
pb2hyd	Hydrography	POLY	100K	DLG	
pb2mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
pb2rds	Roads	LINE	100K	DLG	Roads and trails
pb2rr	Railroads	LINE	100K	DLG	

<i>Data Set Name</i>	<i>Description of Data Set</i>	<i>Data Type</i>	<i>Compilation Scale</i>	<i>Source</i>	<i>Remarks</i>
PARAGOULD 30' x 60' QUADRANGLE					
(Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
pb4grat	Graticule	POLY	---	Generated	7.5' quadrangles
pb4grat	Graticule annotation	ANNO	---	Generated	
pb4hyd	Hydrography	POLY	100K	DLG	
pb4mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
pb4rds	Roads	LINE	100K	DLG	Roads and trails
pb4rr	Railroads	LINE	100K	DLG	
SHELBY COUNTY, TENNESSEE					
(Universal Transverse Mercator Projection, Zone 15, unless otherwise noted)					
shelbycnty	County boundaries	LINE	100K	DLG	
shelbydams	Dams	LINE	---	Digitized	
shelbygrat	Graticule	POLY	---	Generated	7.5' quadrangles
shelbygrat	Graticule annotation	ANNO	---	Generated	
shelbyhyd	Hydrography	POLY	100K	DLG	
shelbyliq	Liquefaction potential	LINE	---	Digitized	Hwang et. al.
shelbymt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
shelbypga	Peak ground accel. contours	LINE	---	Digitized	Hwang et. al.
shelbypipes	Pipelines	LINE	100K	DLG	
shelbyrds	Roads	LINE	100K	DLG	Roads and trails
shelbyrr	Railroads	LINE	100K	DLG	
shelbysoil	Soil profile types	LINE	---	Digitized	Hwang et. al.

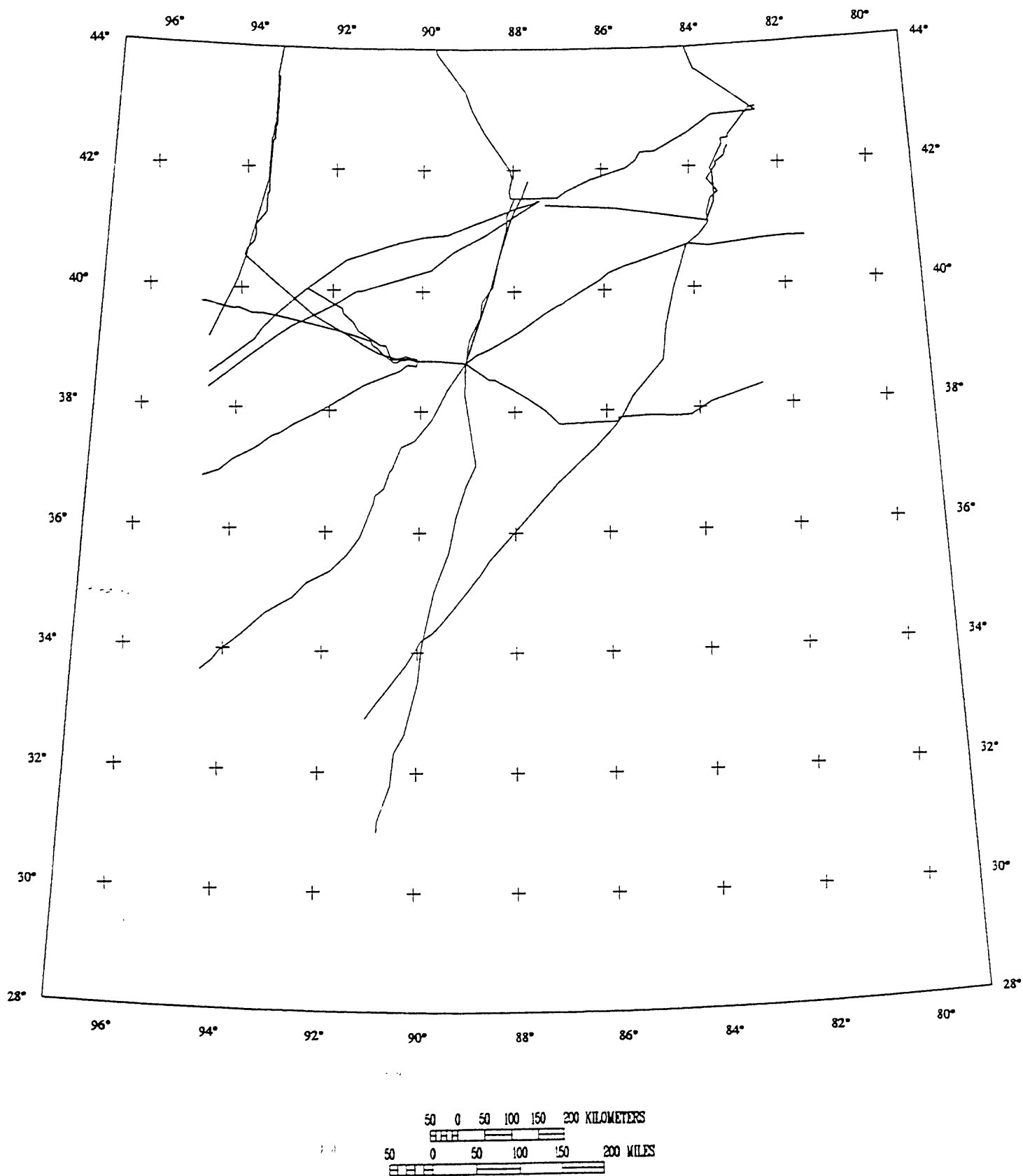
<i>Data Set Name</i>	<i>Description of Data Set</i>	<i>Data Type</i>	<i>Compilation Scale</i>	<i>Source</i>	<i>Remarks</i>
	HOLLY SPRINGS 30' x 60' QUADRANGLE (Universal Transverse Mercator Projection, Zone 16, unless otherwise noted)				
tq1grat	Graticule	POLY	---	Generated	7.5' quadrangles
tq1grat	Graticule annotation	ANNO	---	Generated	
tq1hyd	Hydrography	POLY	100K	DLG	
tq1mt	Miscellaneous transportation	LINE	100K	DLG	Airports, powerlines, and pipelines
tq1rds	Roads	LINE	100K	DLG	Roads and trails
tq1rr	Railroads	LINE	100K	DLG	



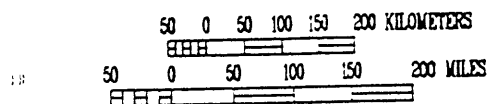
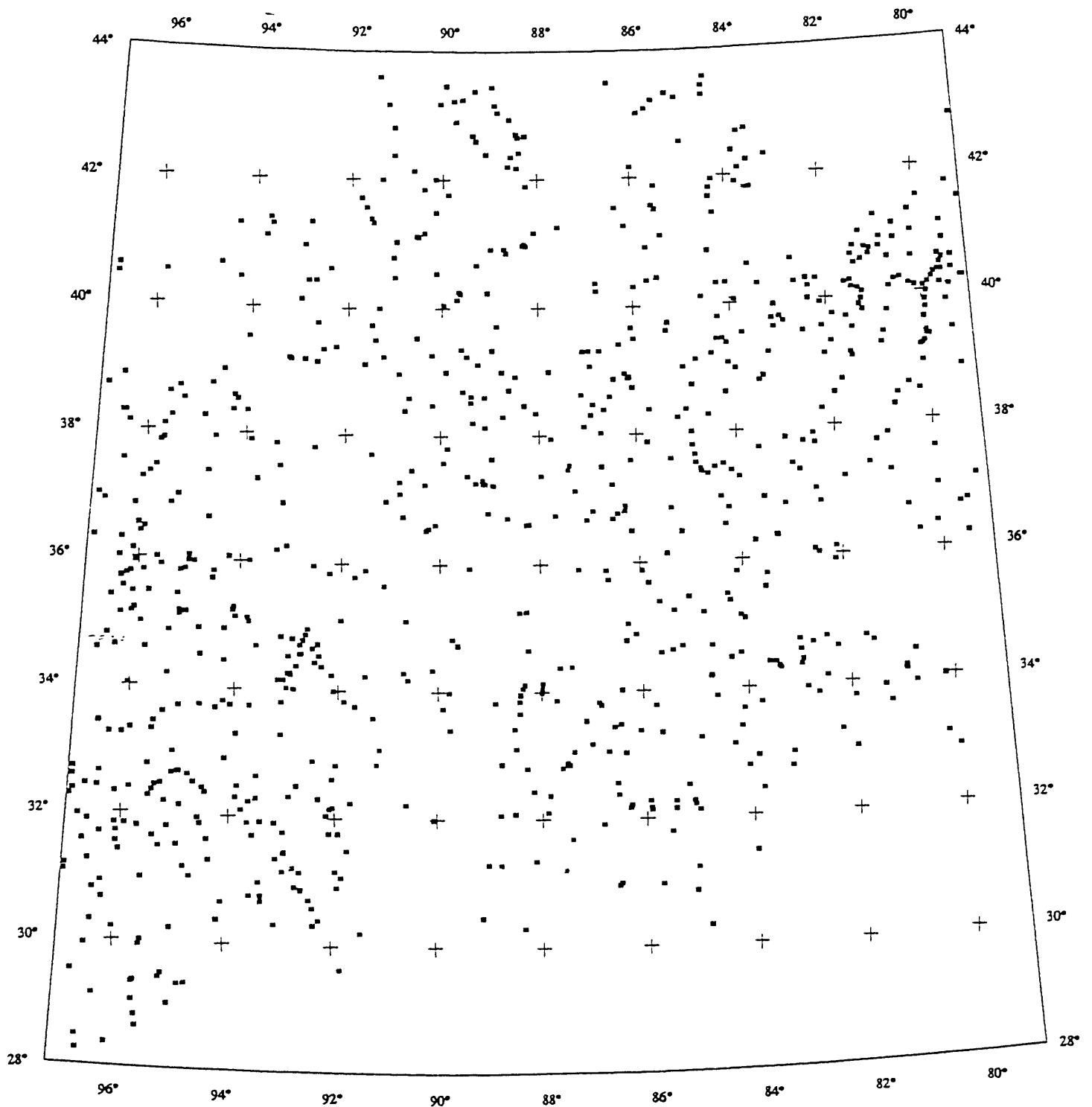
18x16city – Centers of large urban areas in the Central United States.



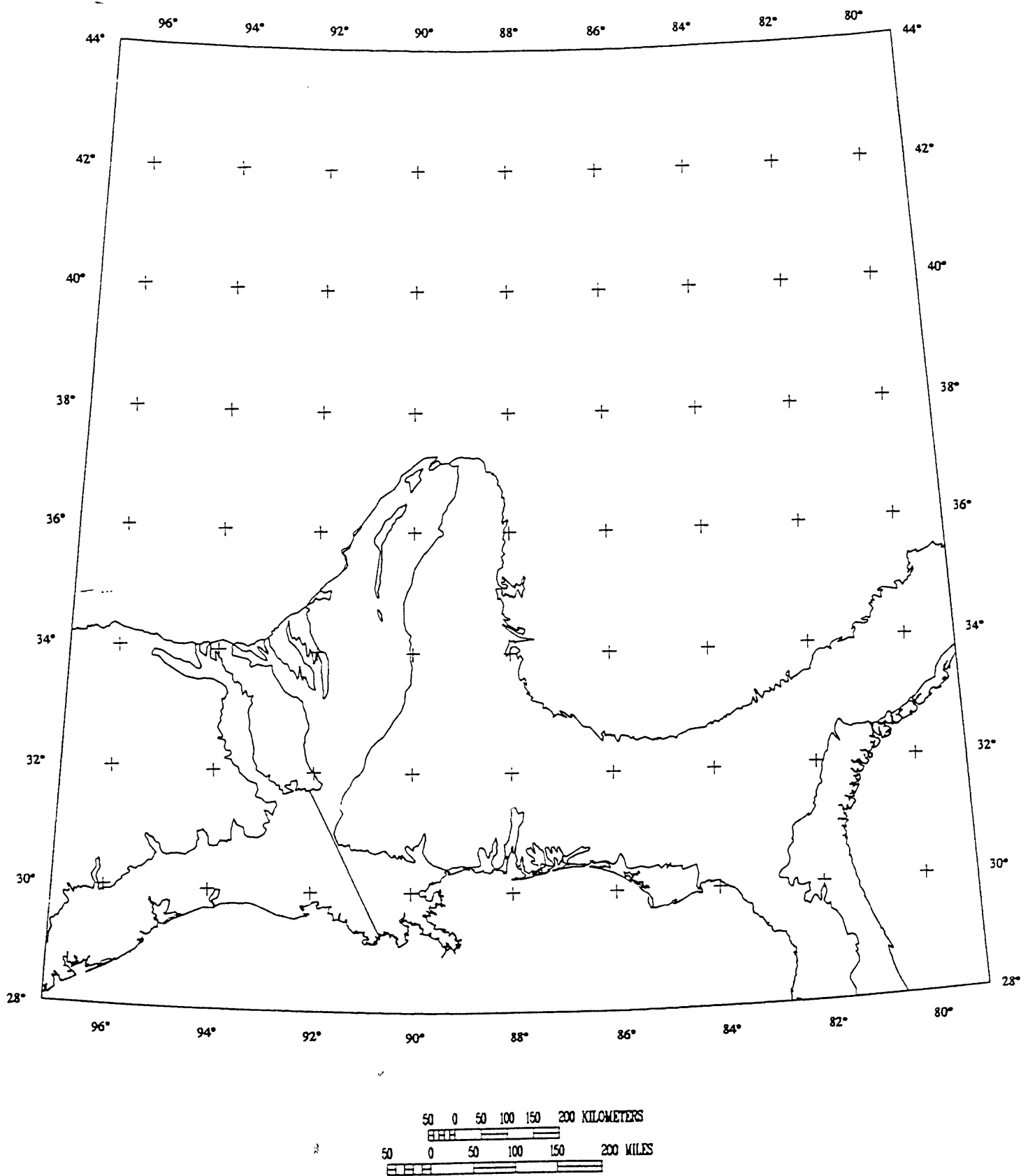
18x16cnty – County boundaries in the Central United States.



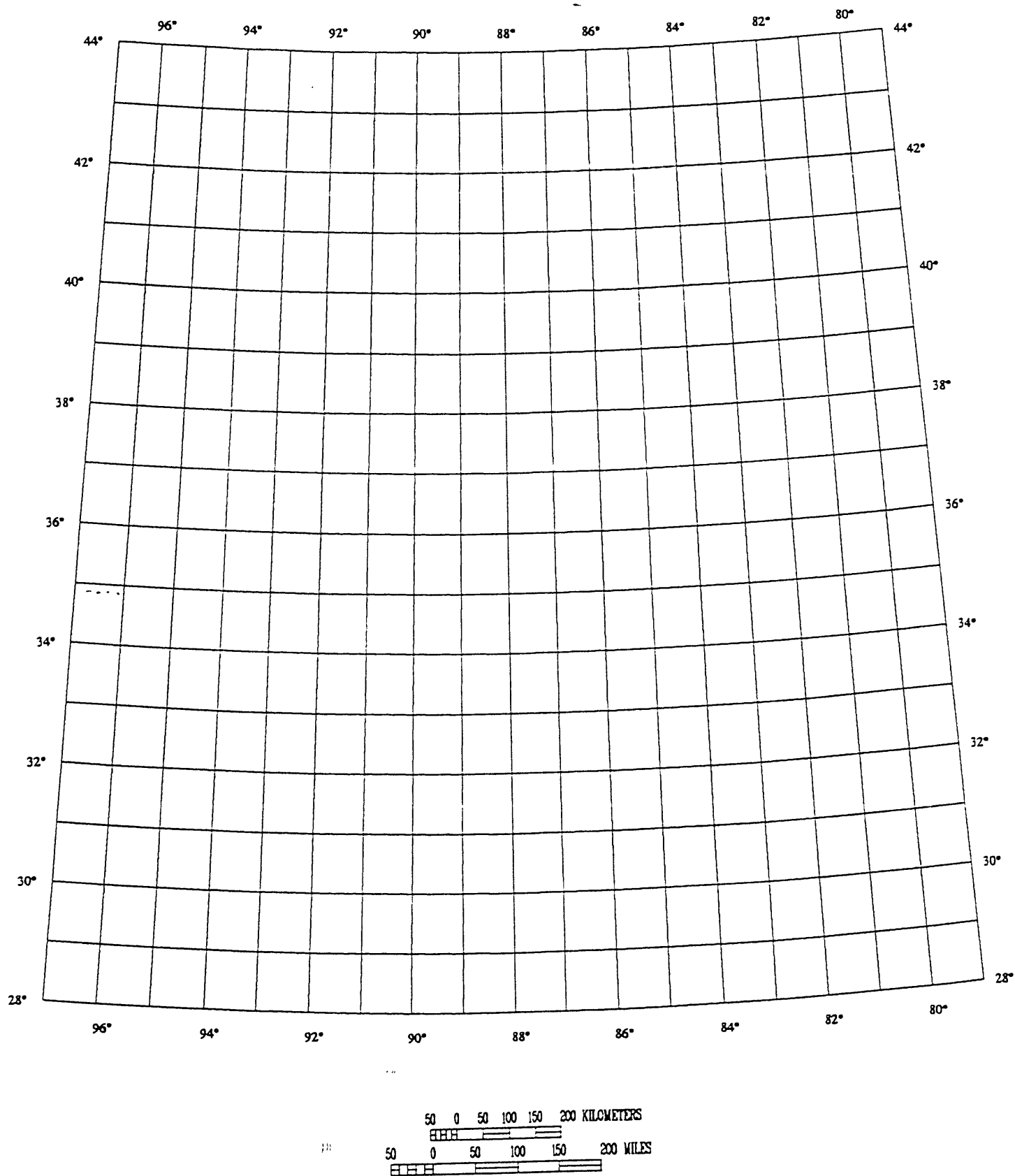
18x16crude – Crude oil pipelines in the Central United States.



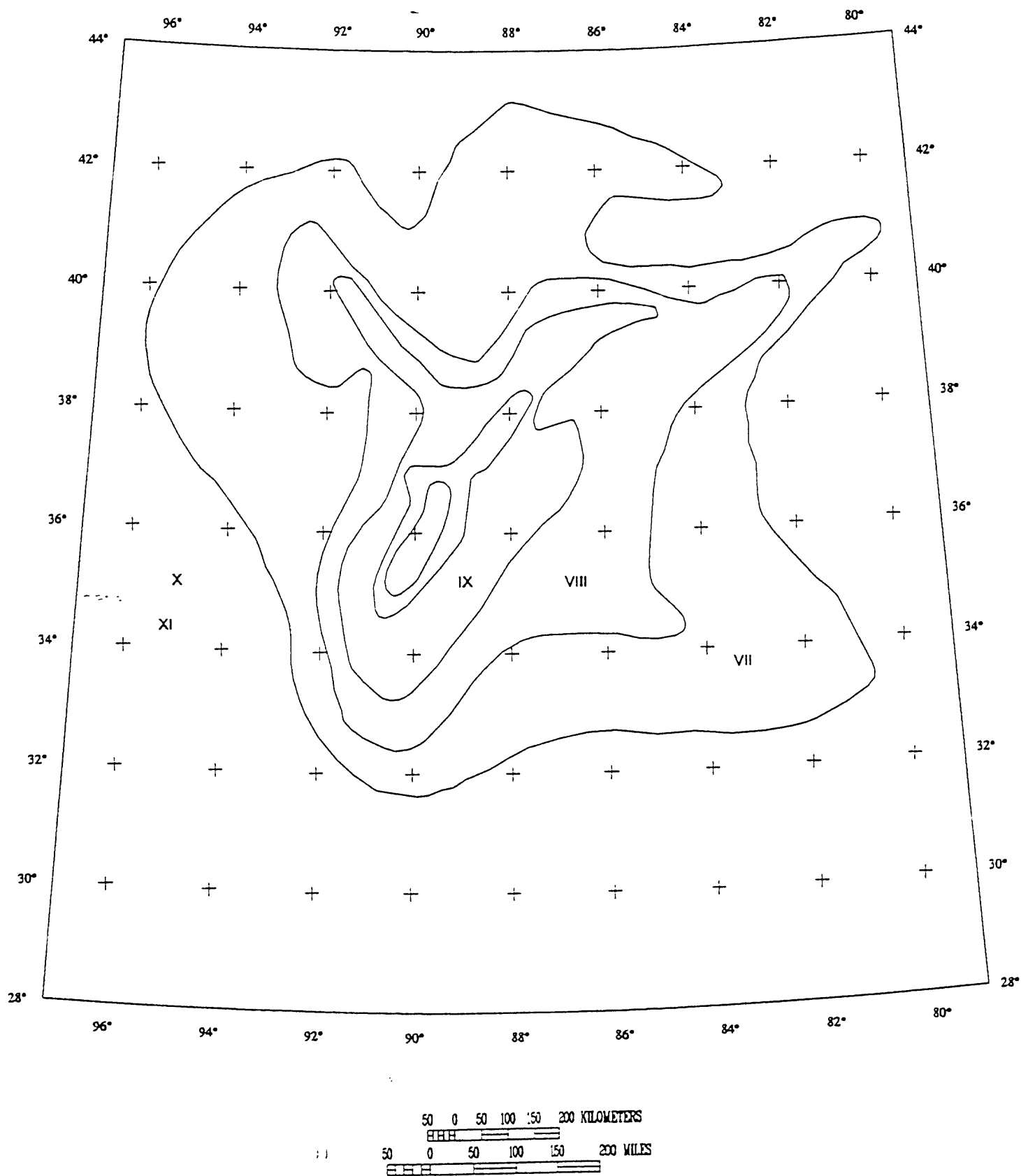
18x16dams – Dams in the Central United States.



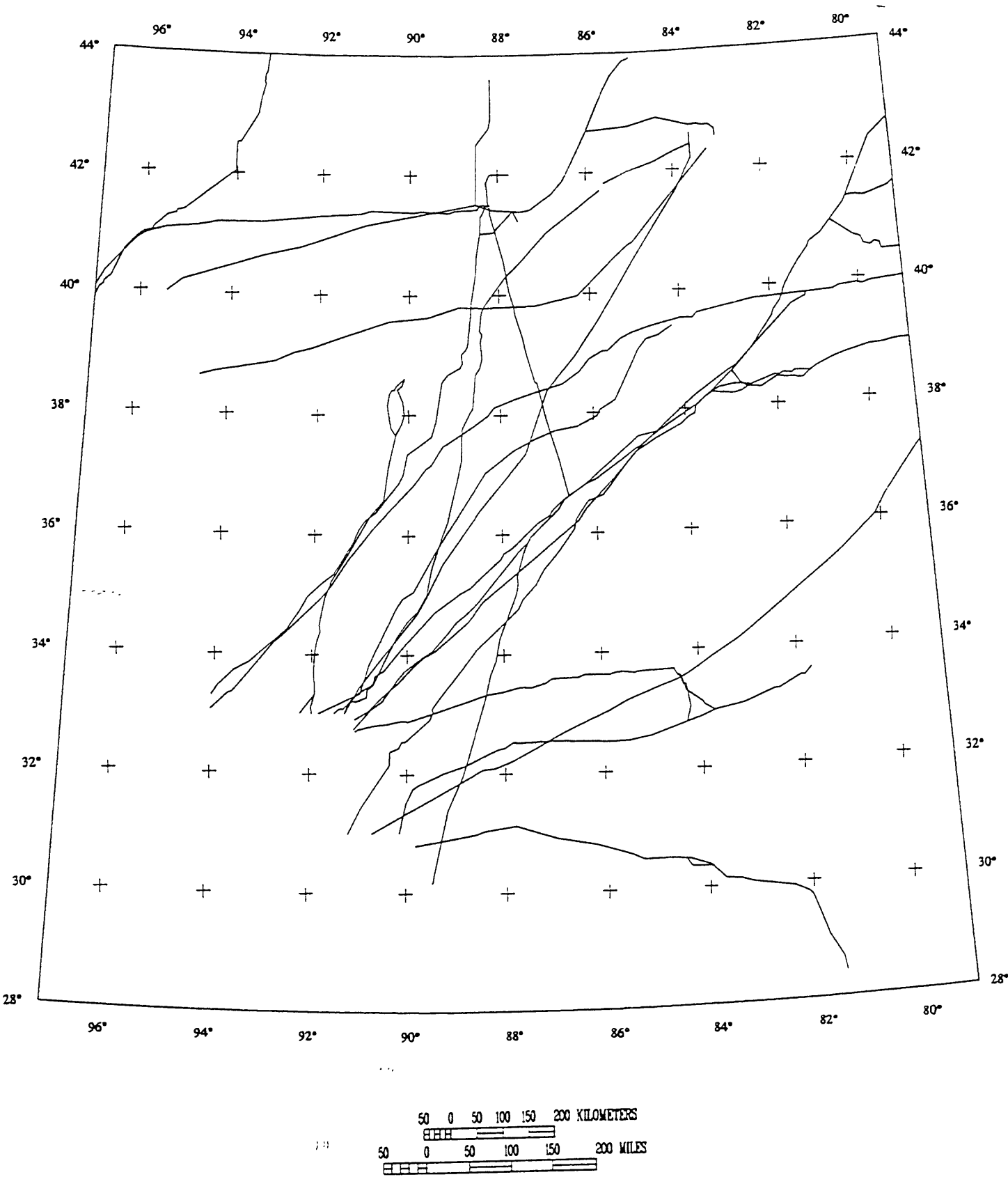
18x16geoliq -- Strata that might liquefy or amplify shaking in the Central United States.



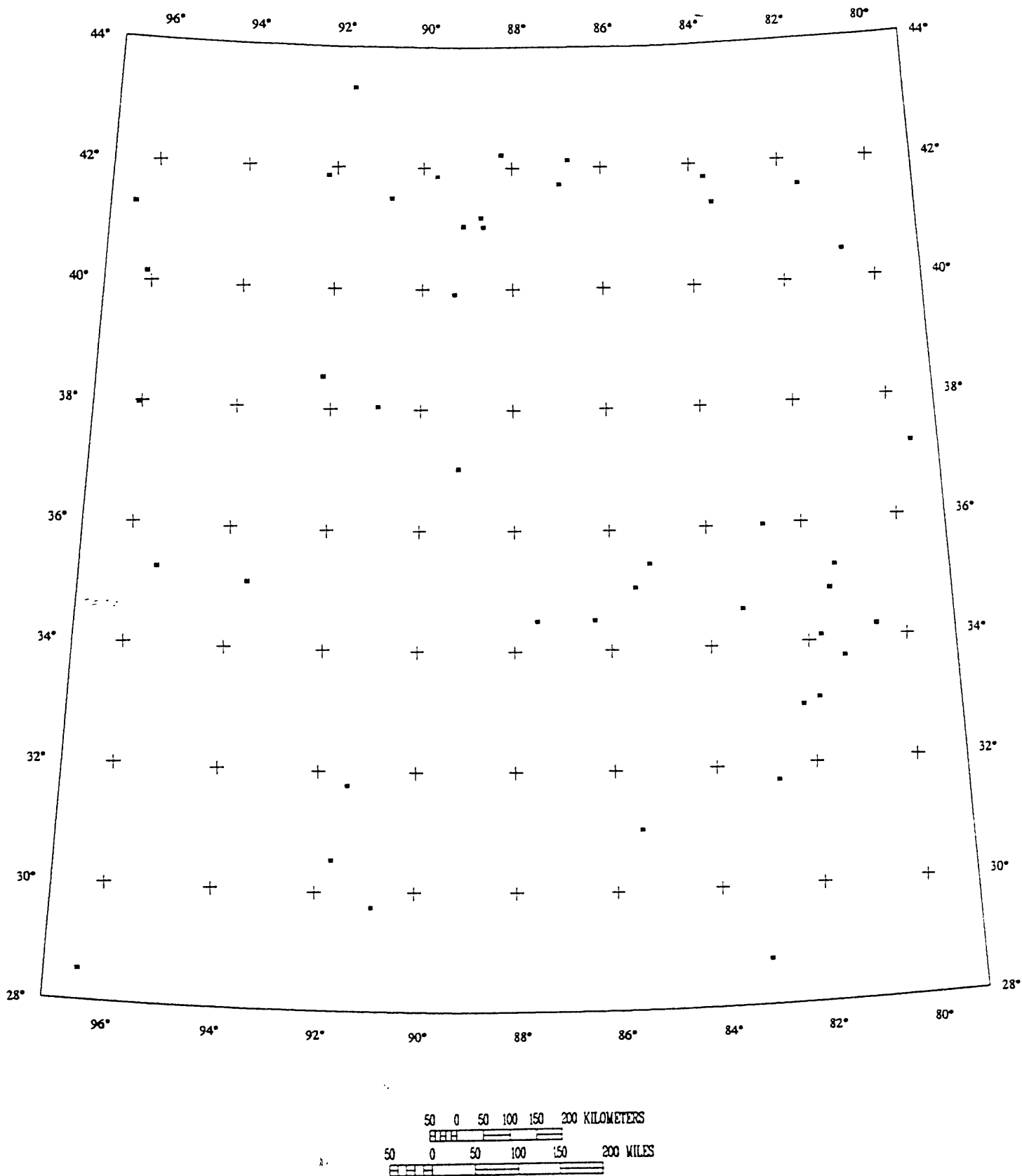
18x16grat -- Graticule of the Central United States.



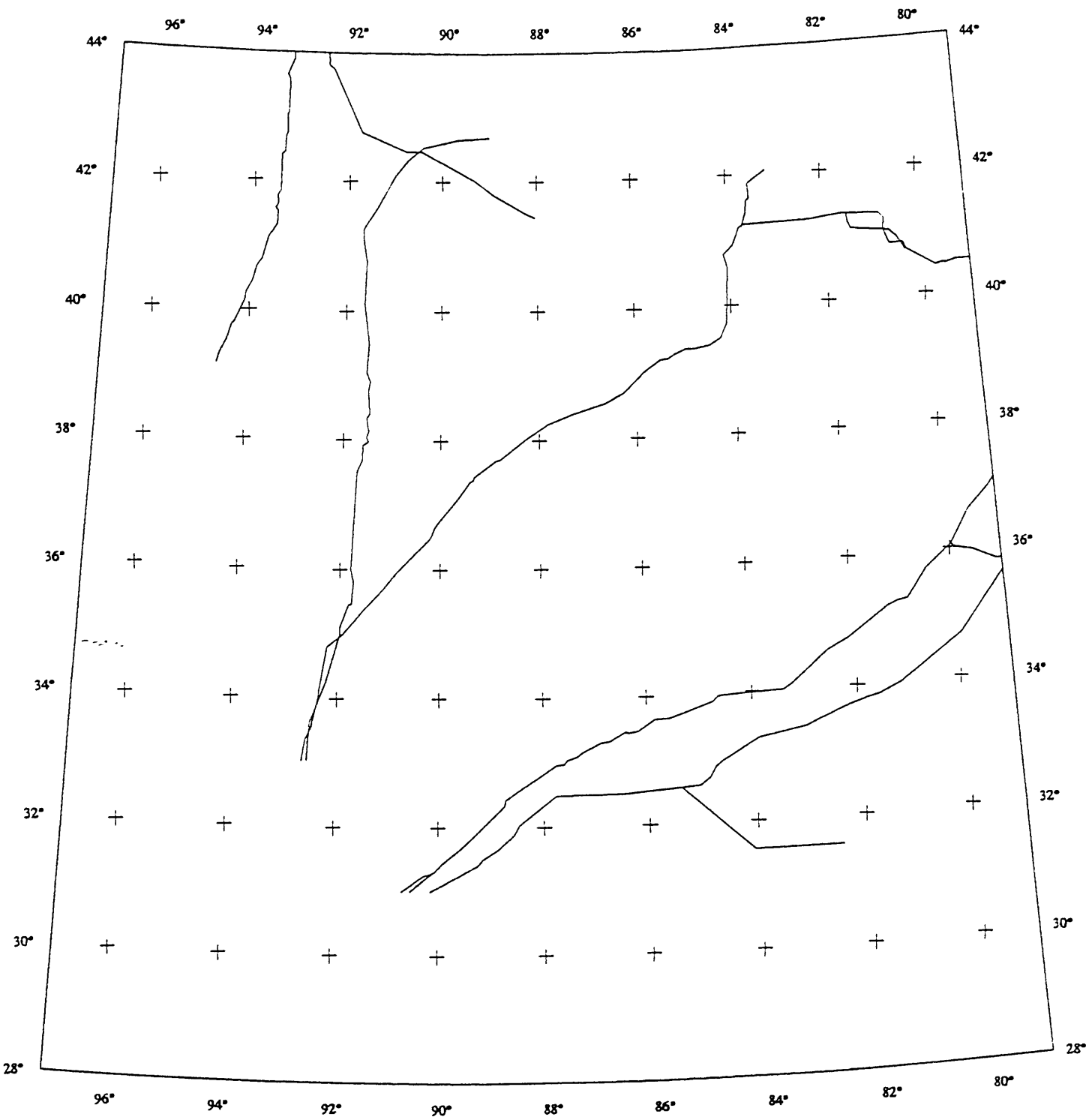
18x16mmi -- Hypothetical Modified Mercalli Intensity contours in the Central United States.



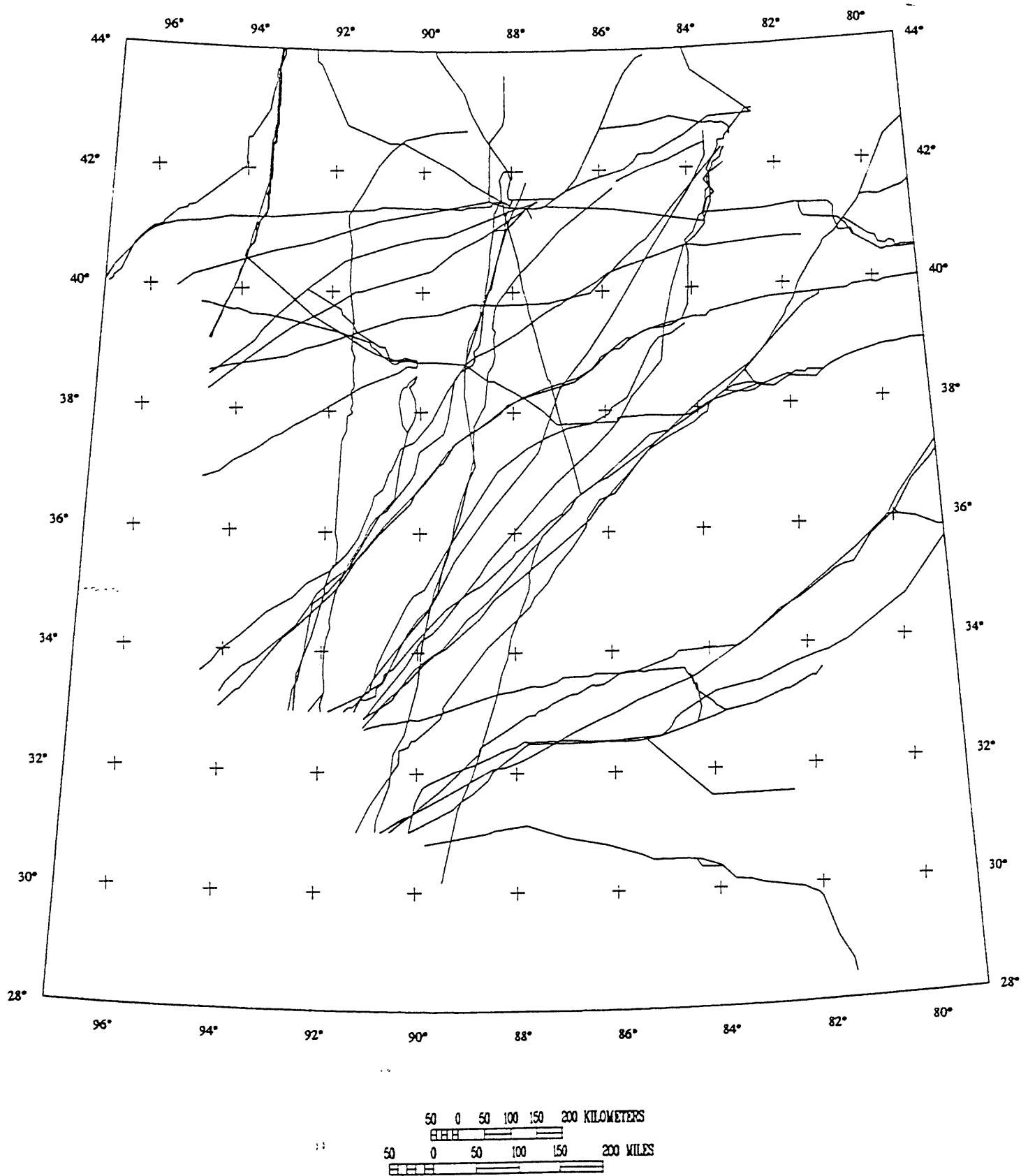
18x16natgas – Natural gas pipelines in the Central United States.



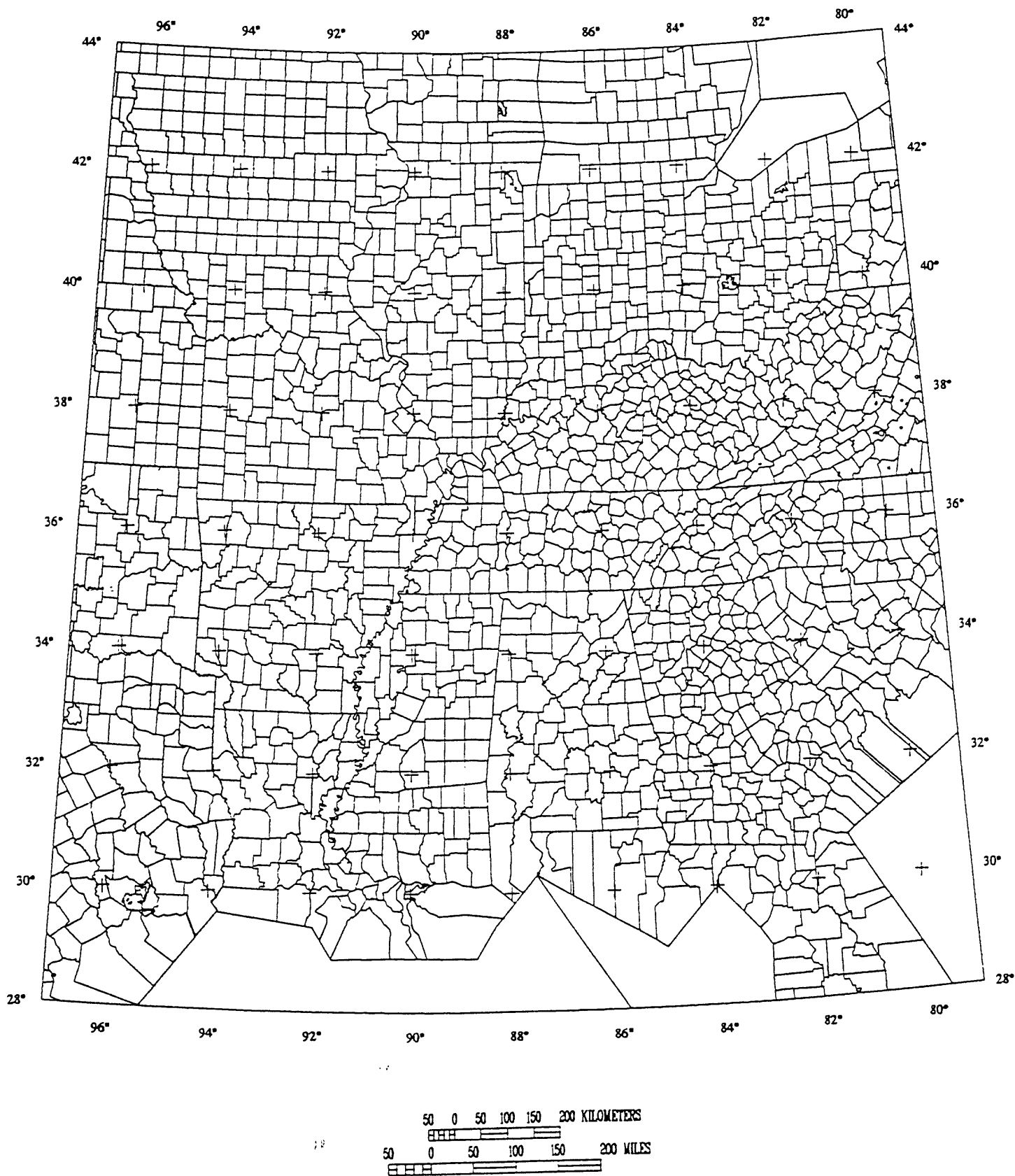
18x16nuc – Nuclear facilities in the Central United States.



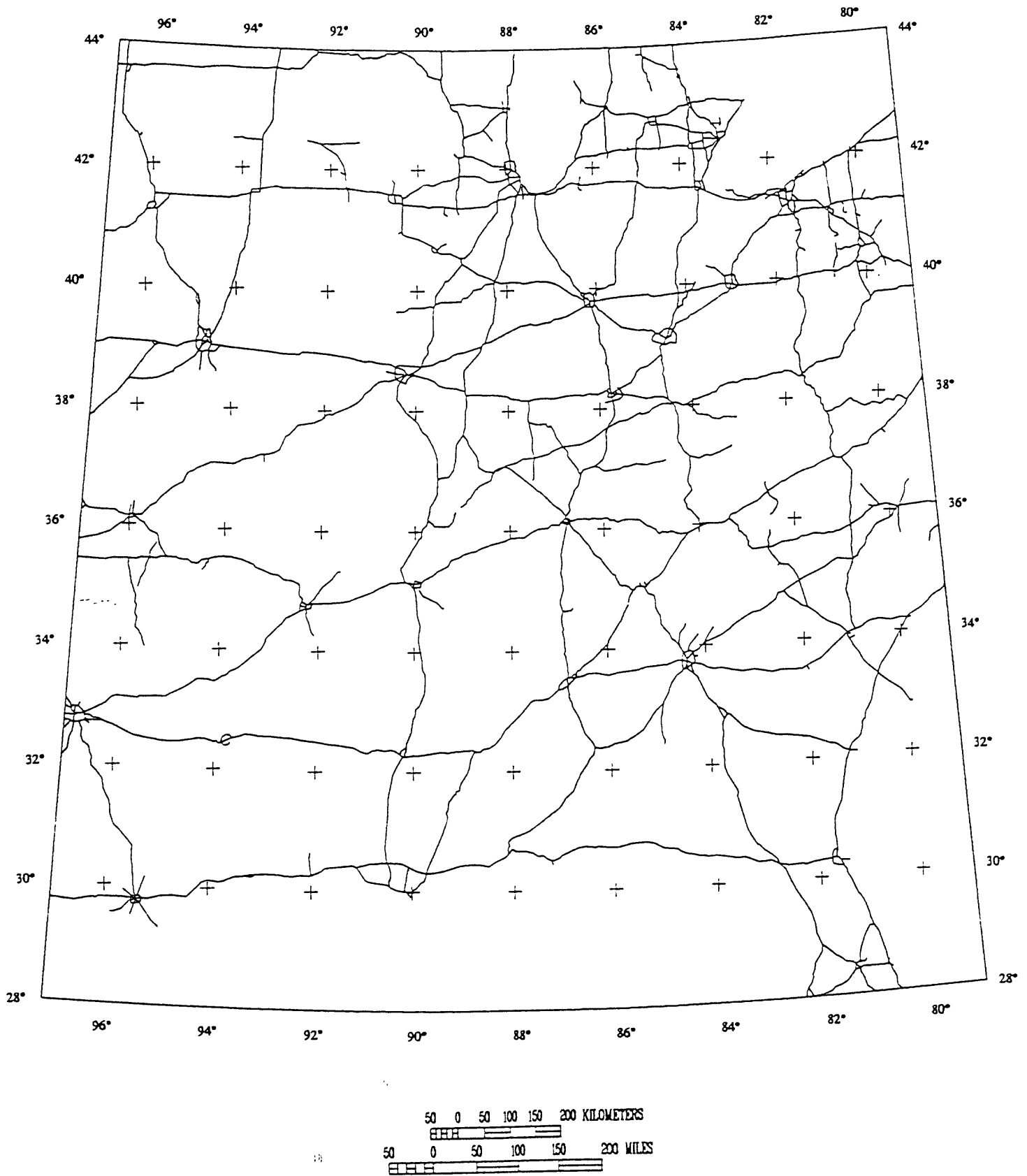
18x16petprod -- Petroleum products pipelines in the Central United States.



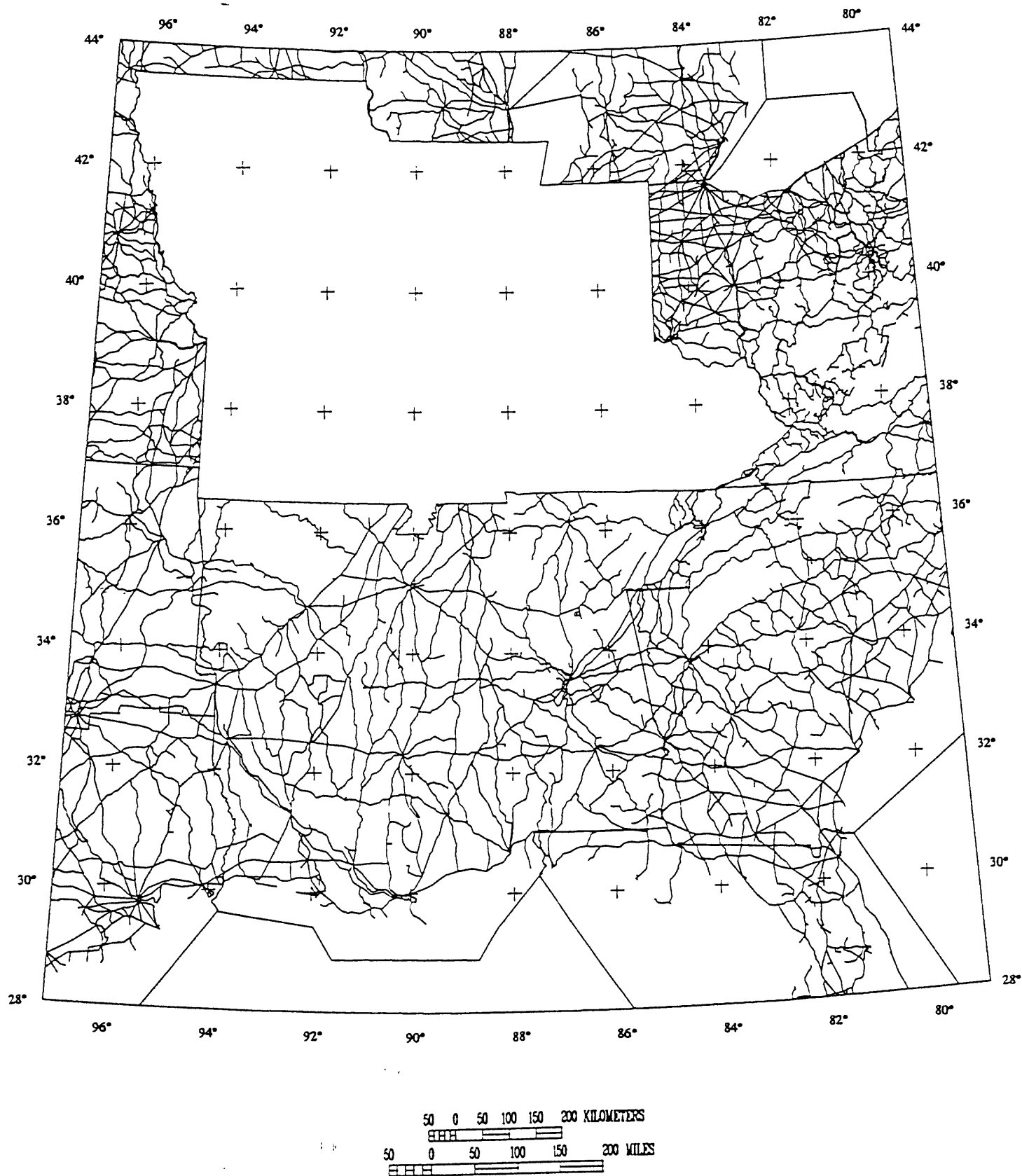
18x16pipes – Pipelines in the Central United States.



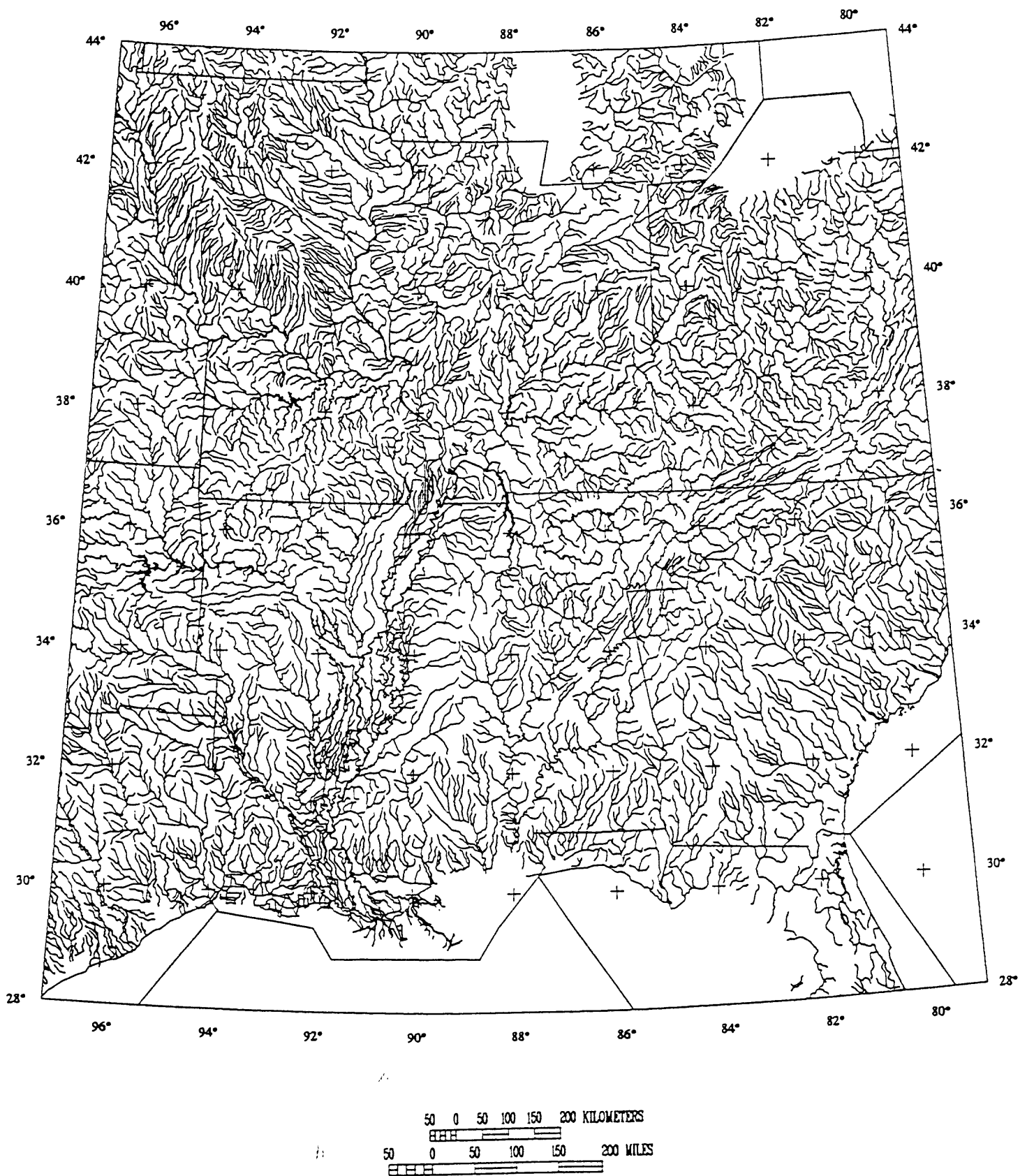
18x16pol – County boundaries in the Central United States.



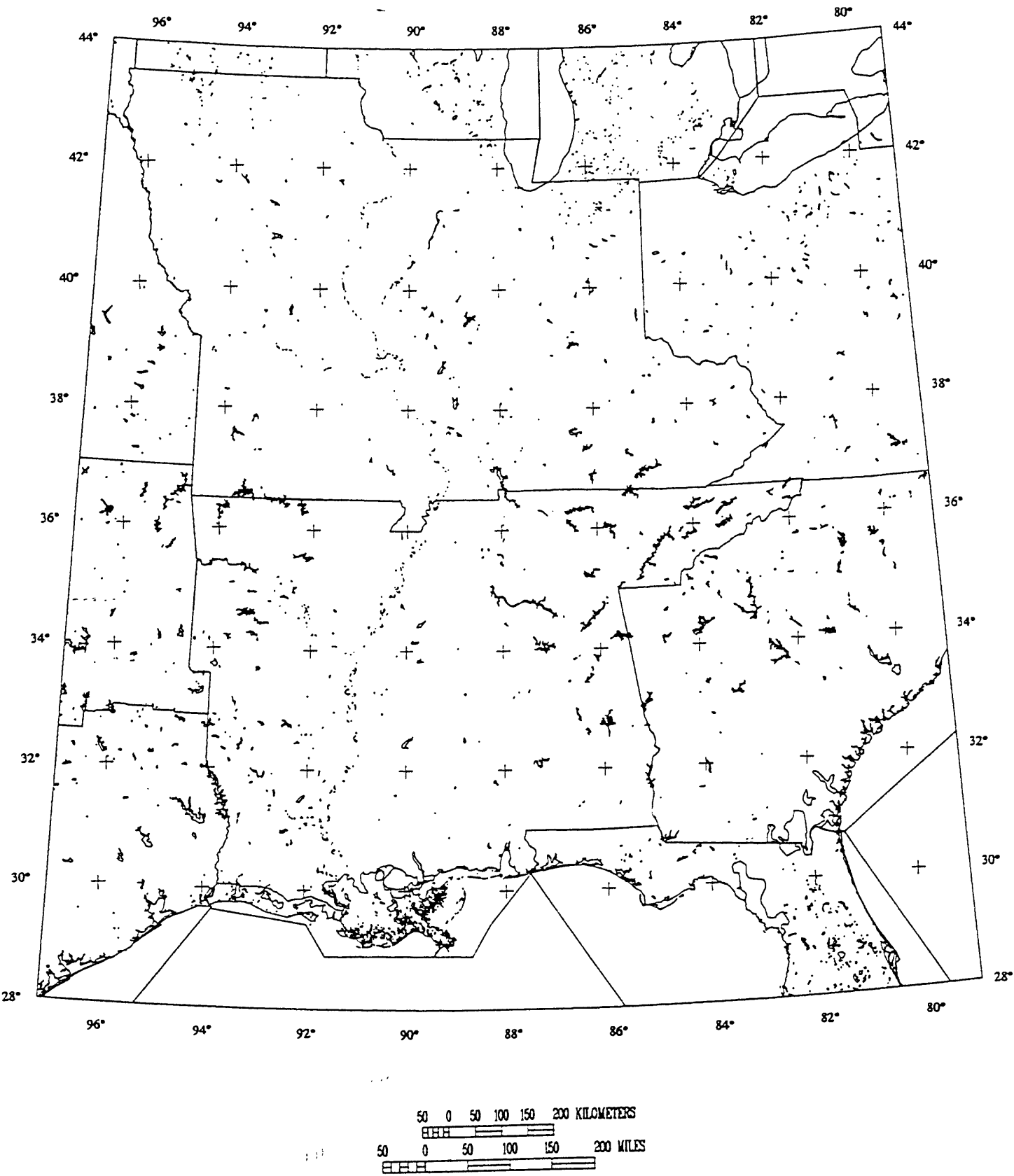
18x16rds – Limited access highways in the Central United States.



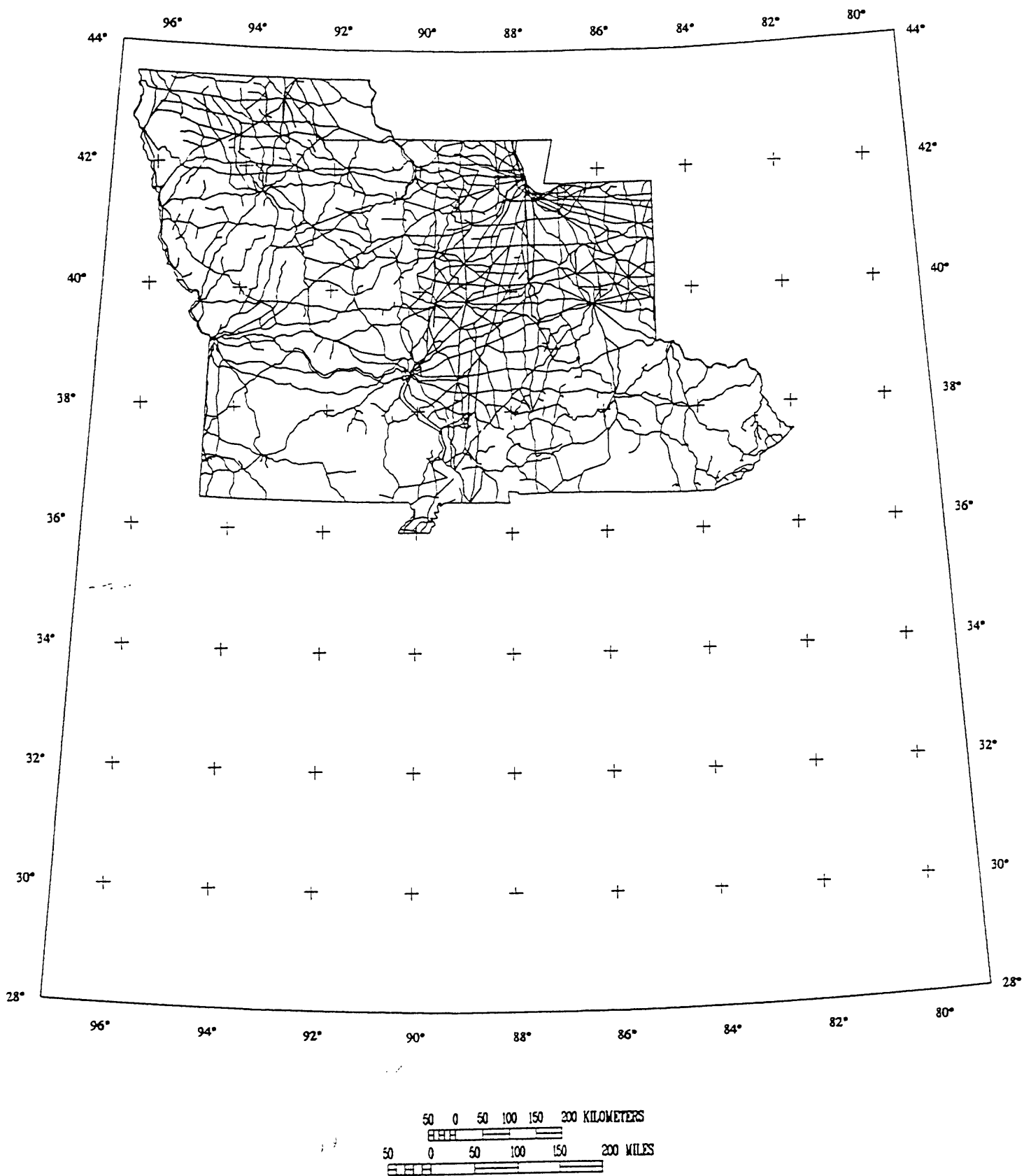
18x16rr -- Railroads in the Central United States (see also sec06rr).



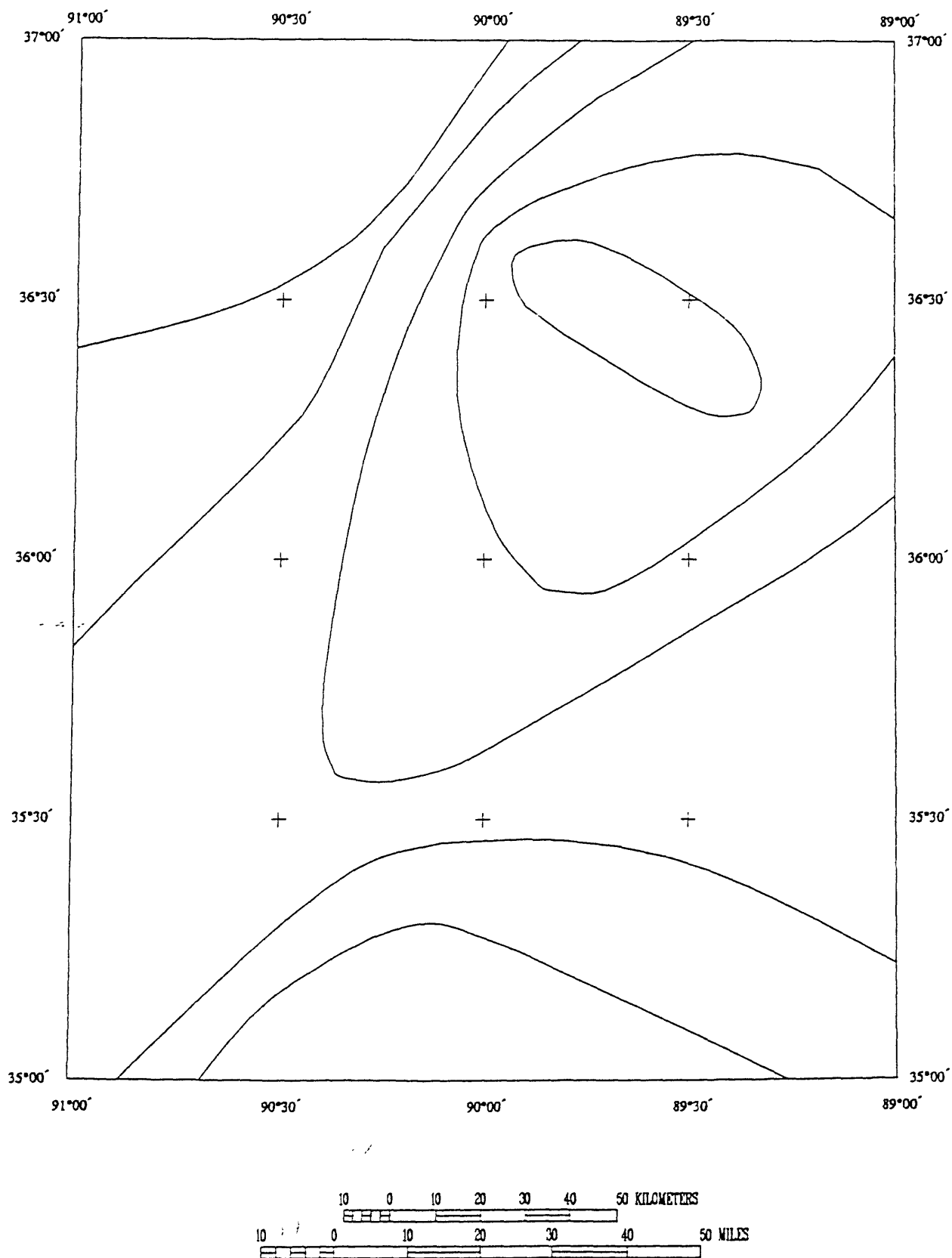
18x16str – Streams in the Central United States.



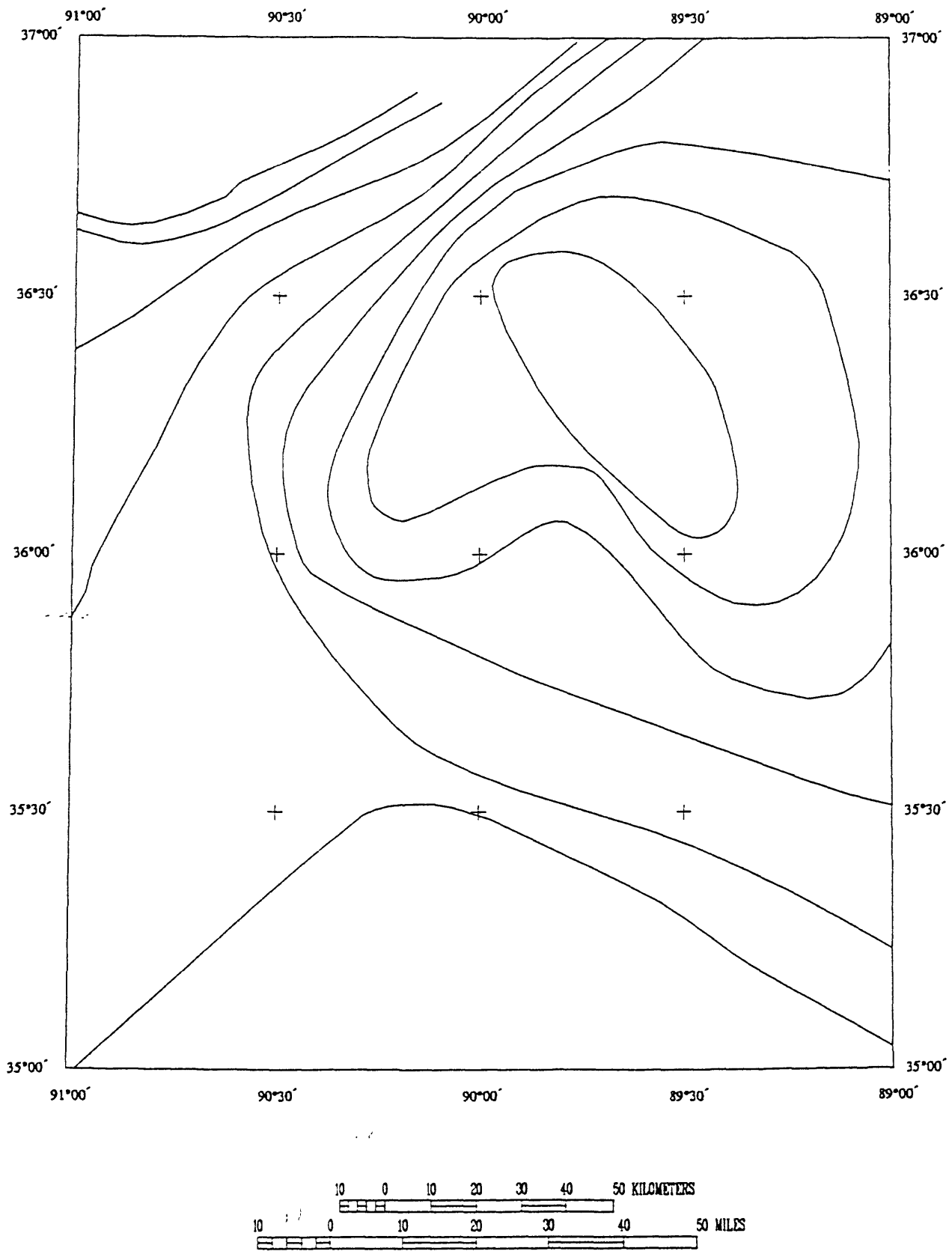
18x16wb – Water bodies in the Central United States.



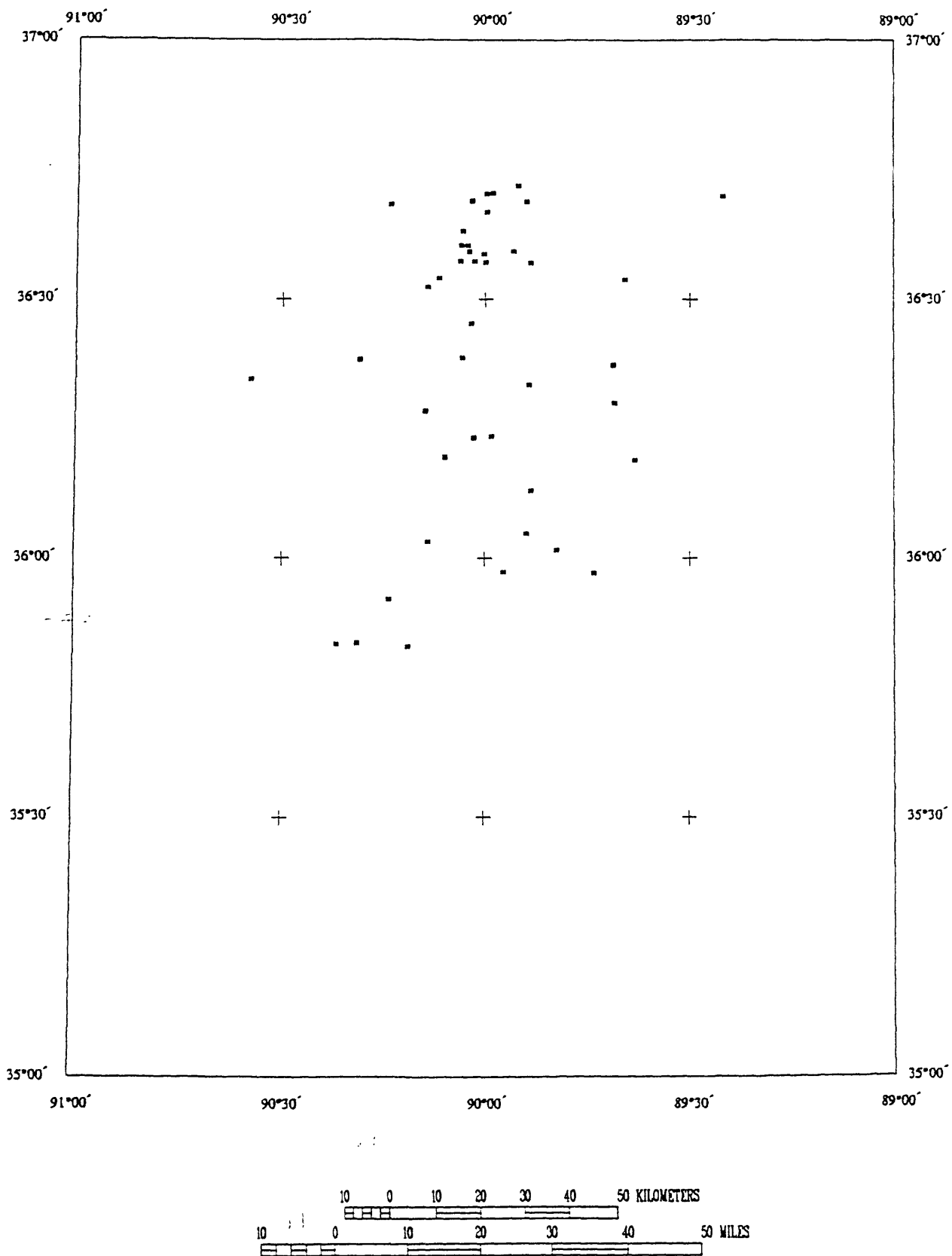
sec06rr -- Railroads in the Central United States missing from 18x16rr.



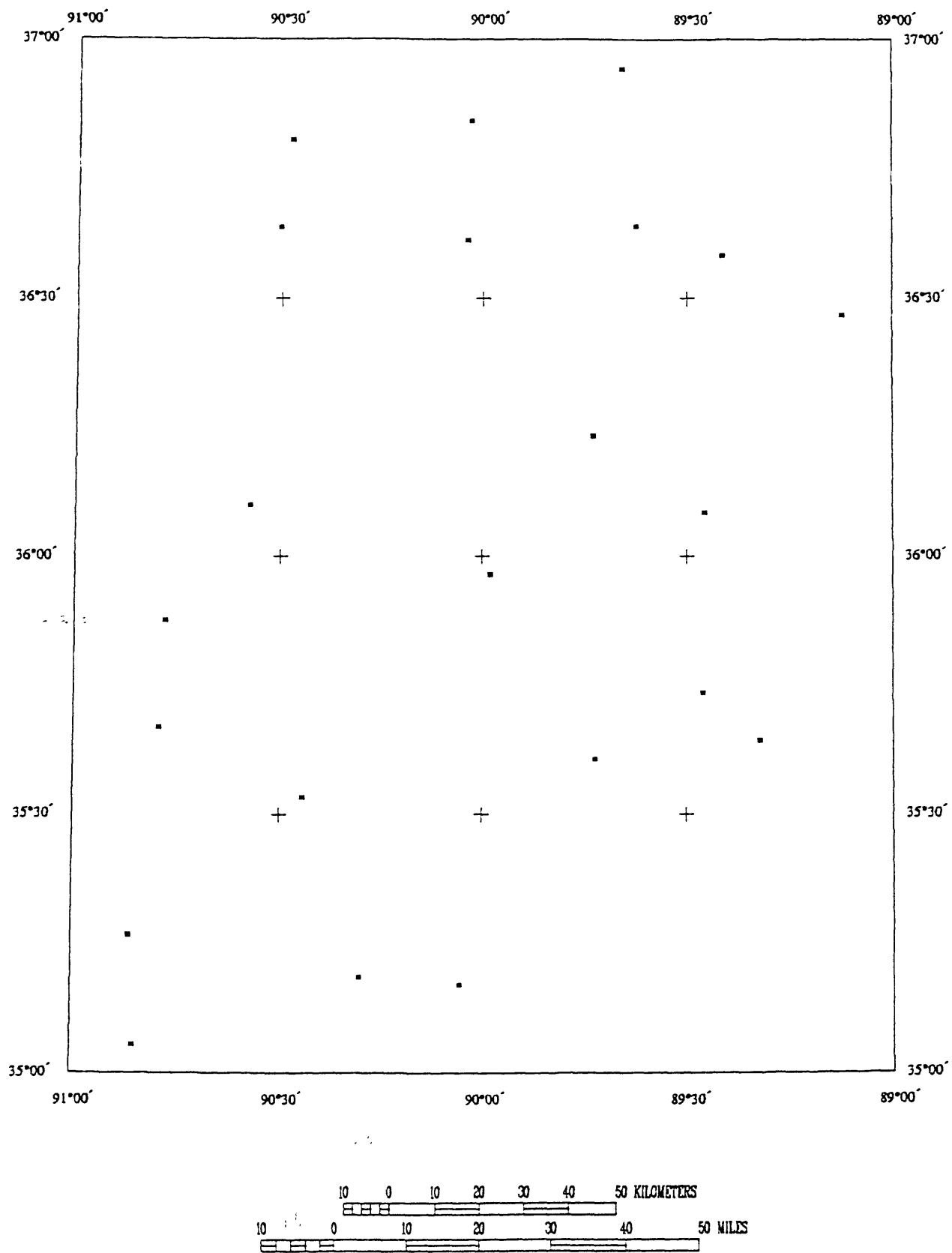
2x2ac_dp – Depth of anomalous crust in the New Madrid region.



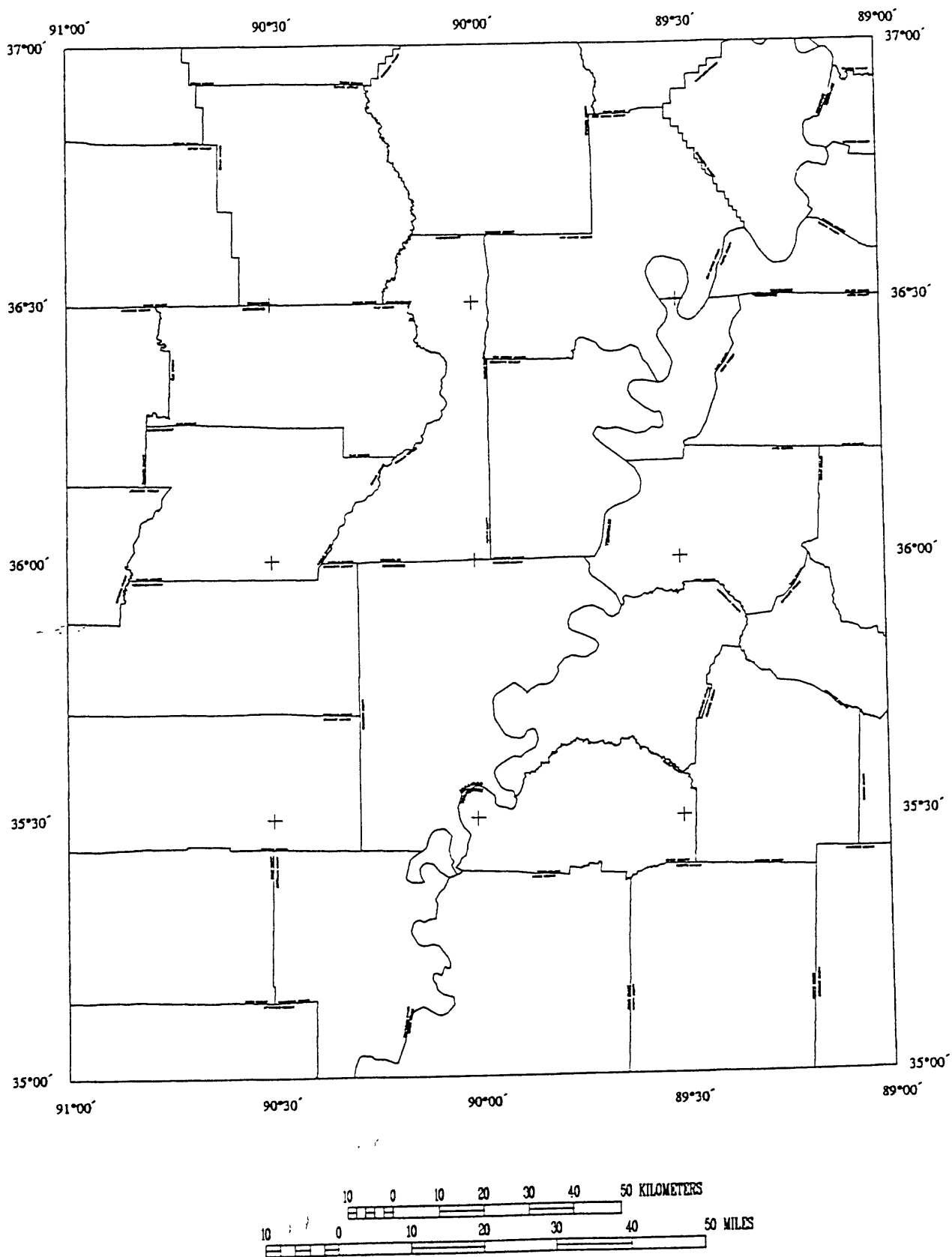
2x2ac_thk – Thickness of anomalous crust in the New Madrid region.



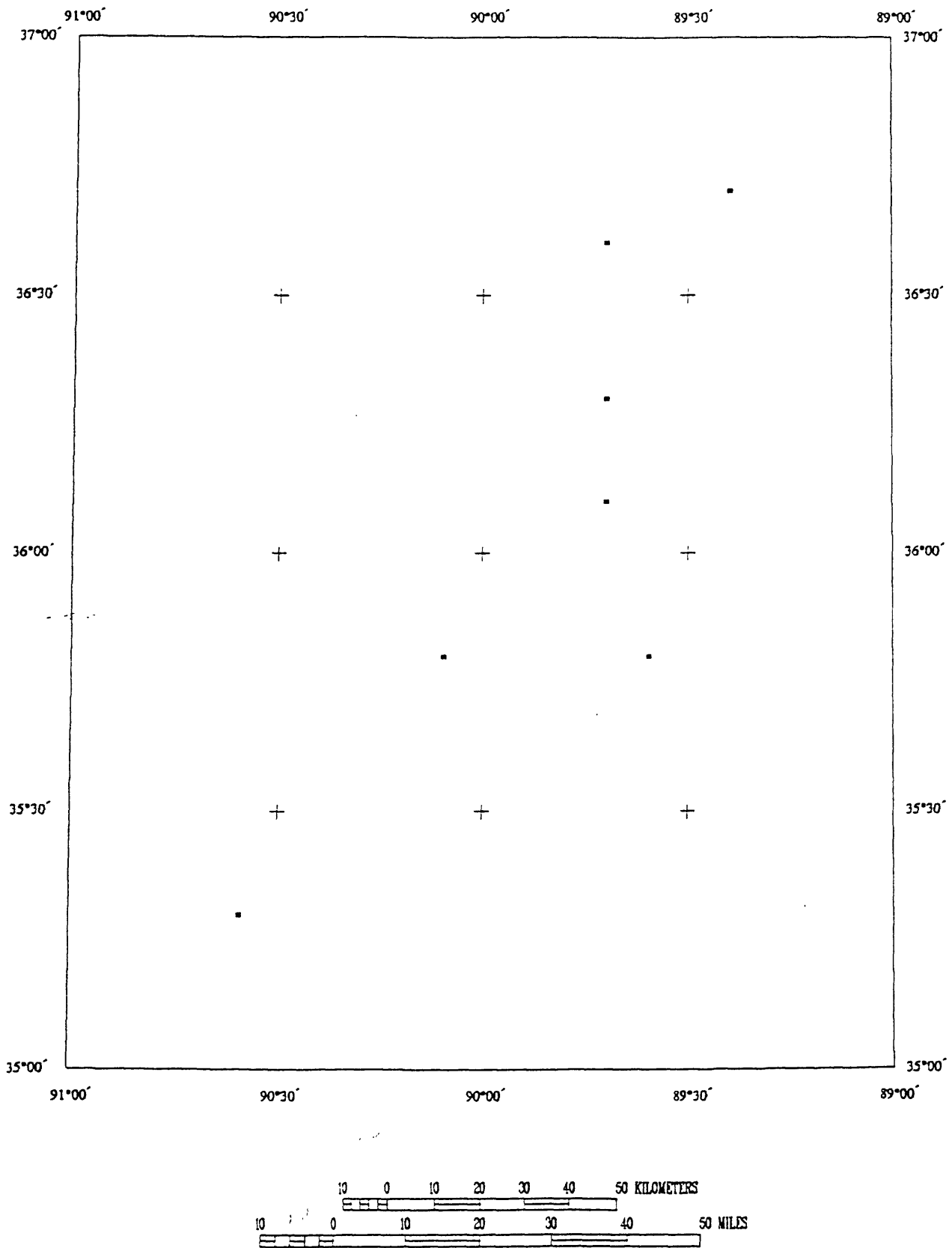
2x2artsn -- Artesian wells in the New Madrid region.



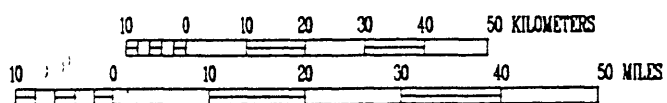
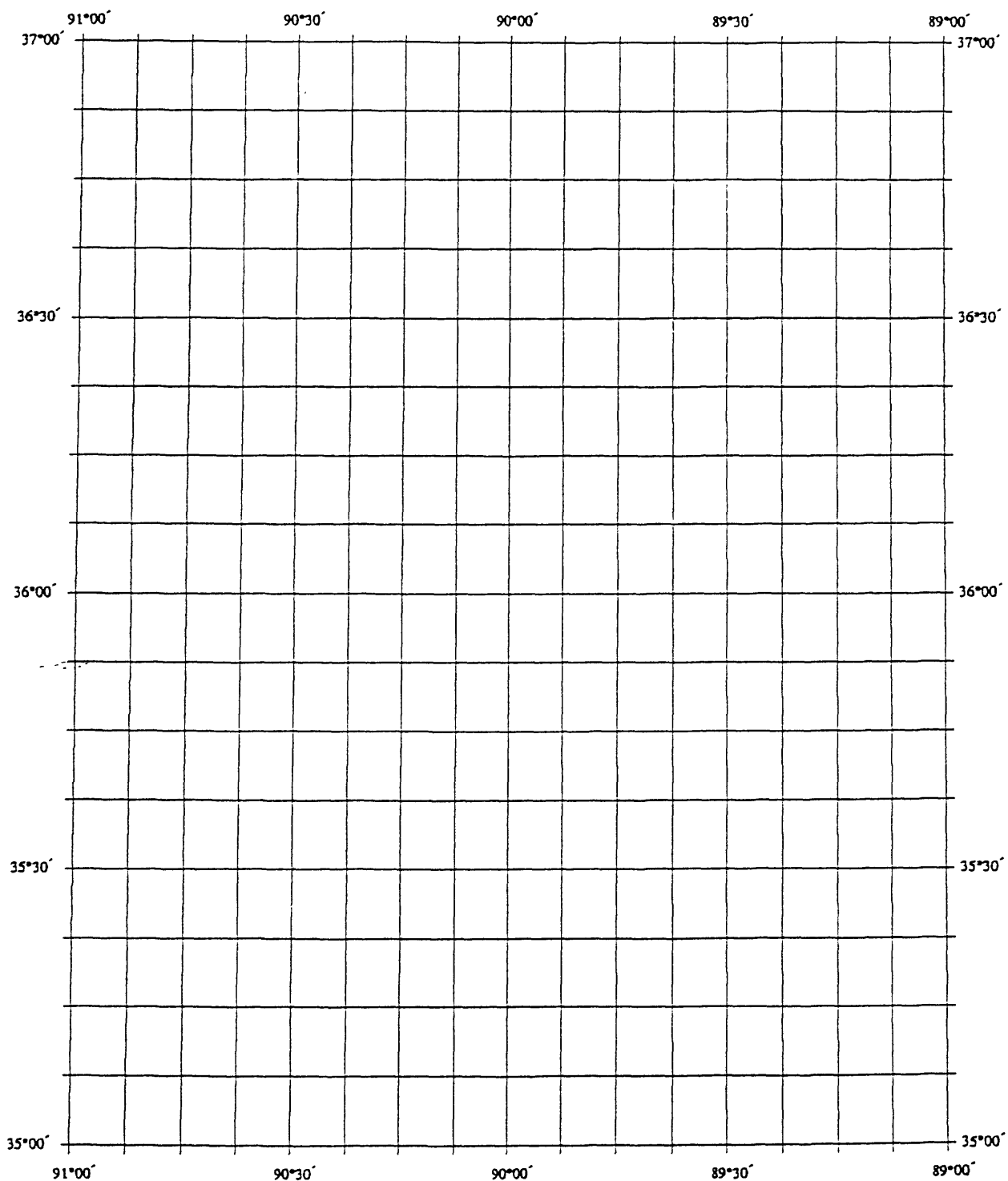
2x2city – Cities in the New Madrid region.



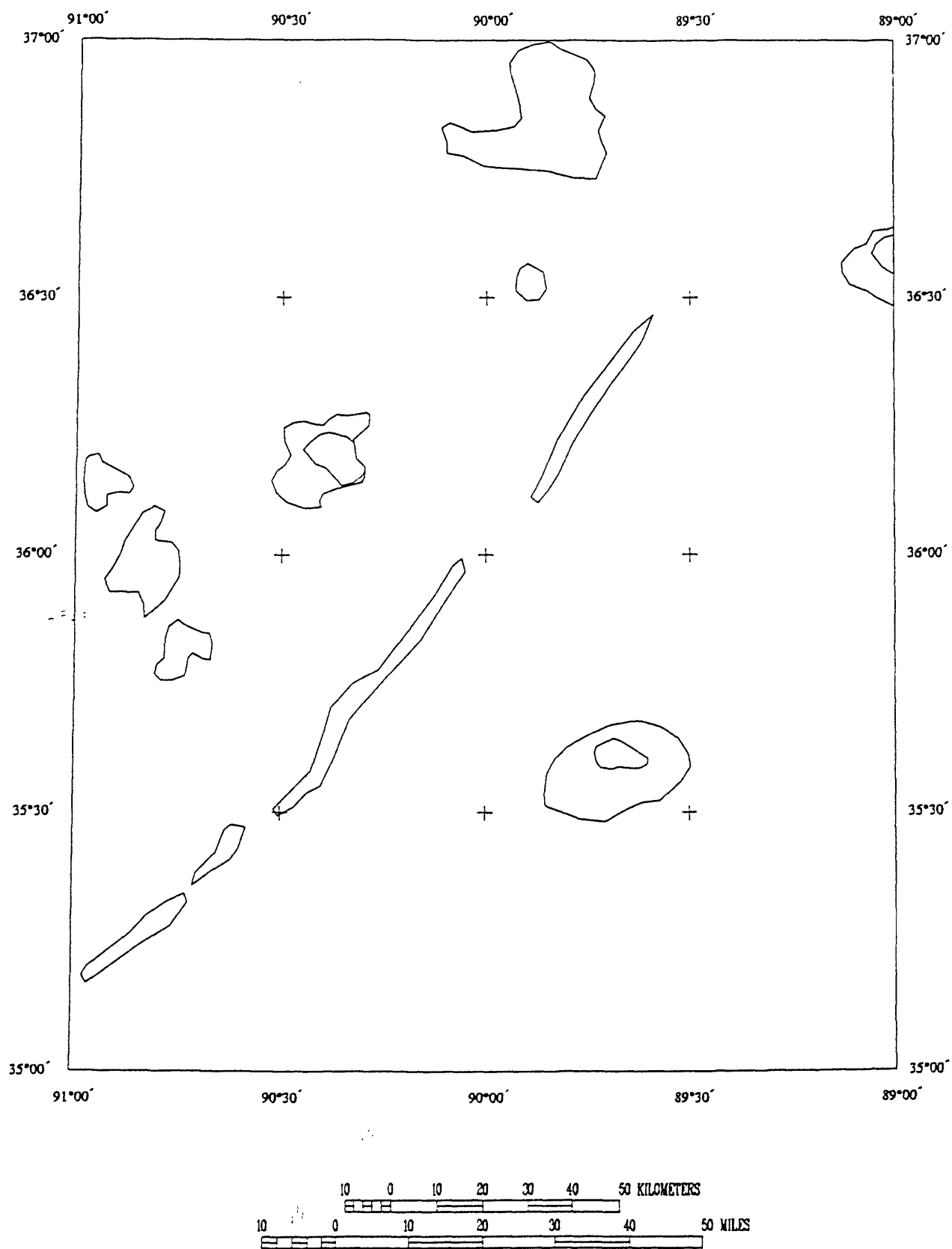
2x2cnty – County boundaries in the New Madrid region.



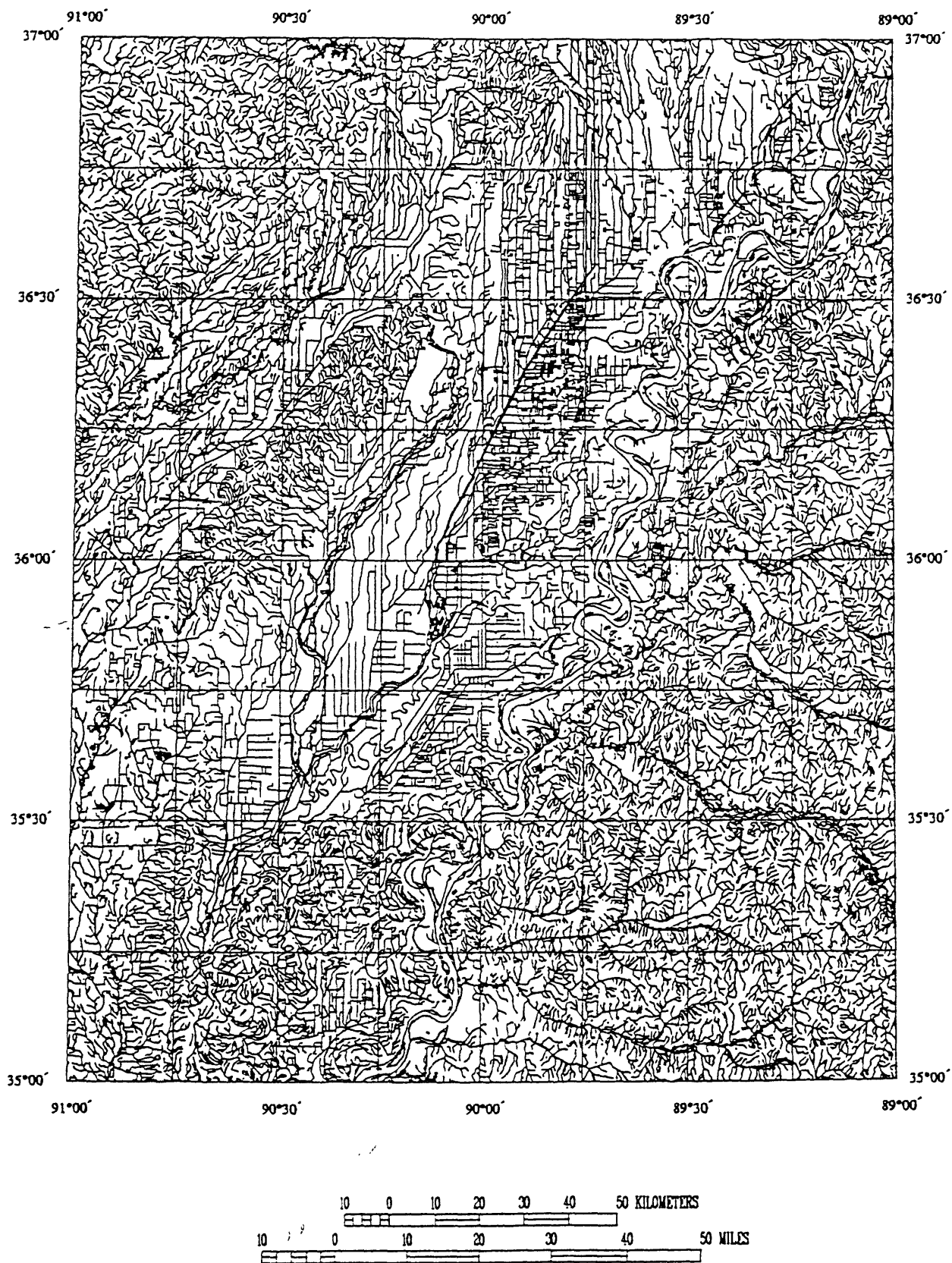
2x2epri -- EPRI earthquakes in the New Madrid region.



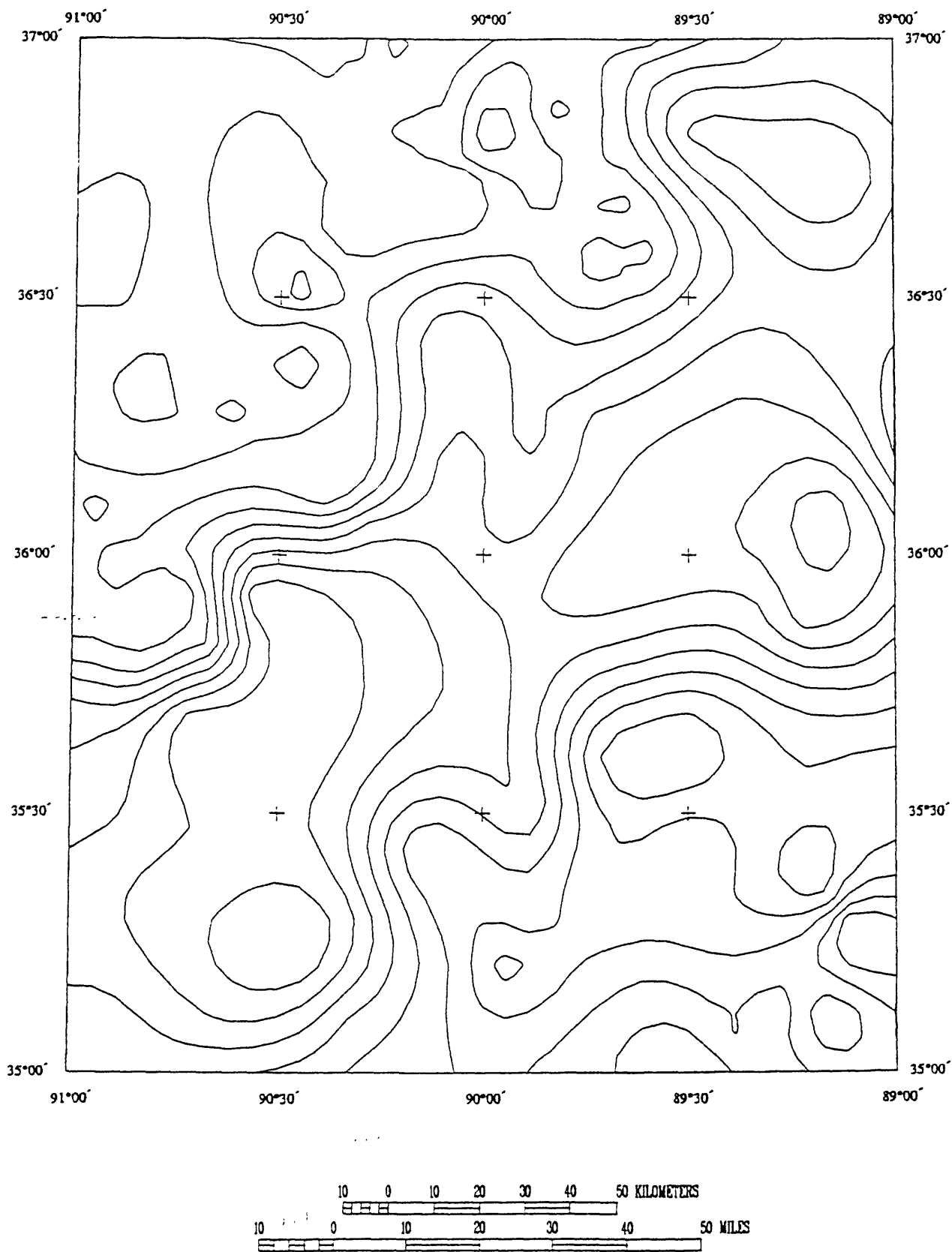
2x2grat -- Graticule of the New Madrid region.



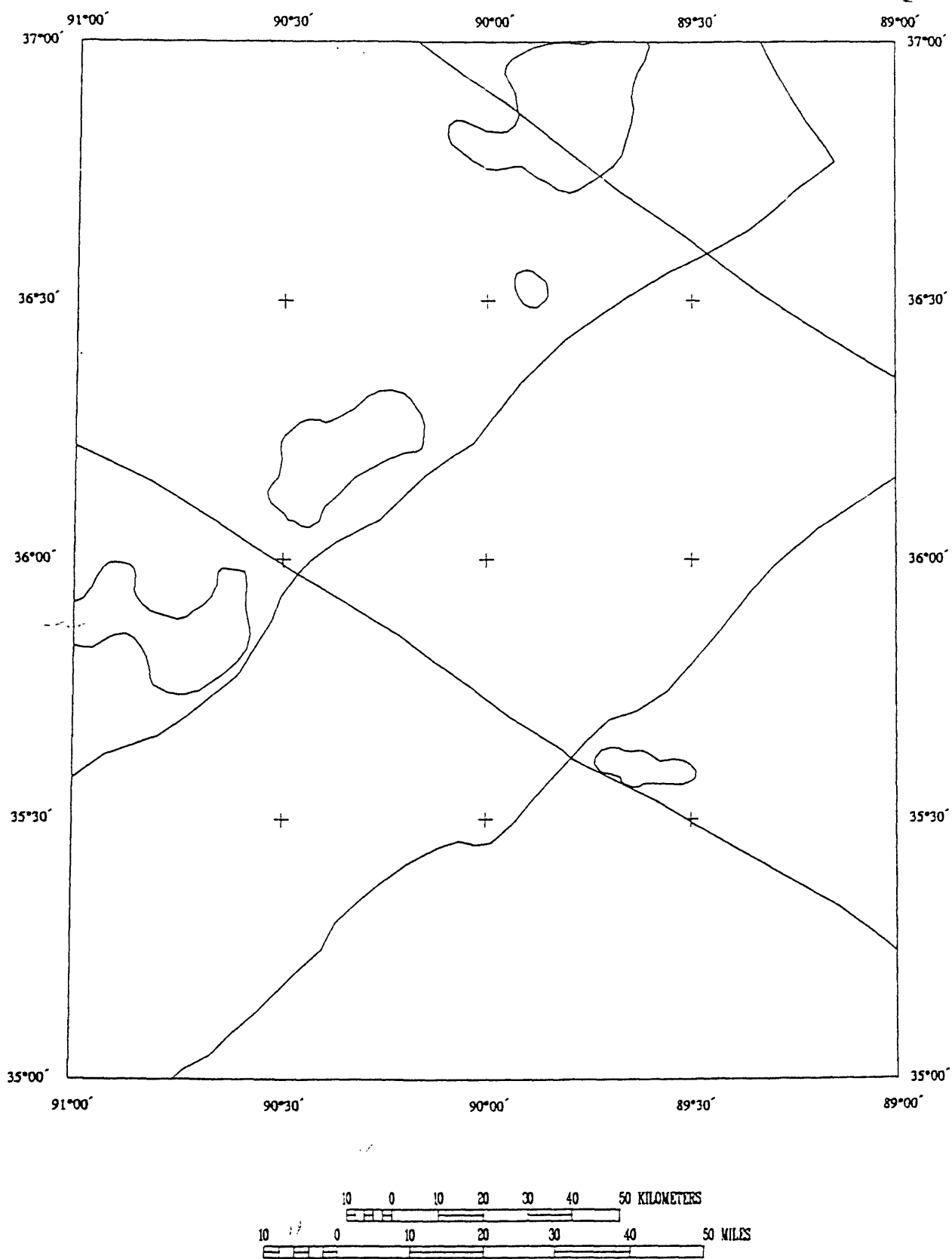
2x2gravstruc -- Gravity structures in the New Madrid region.



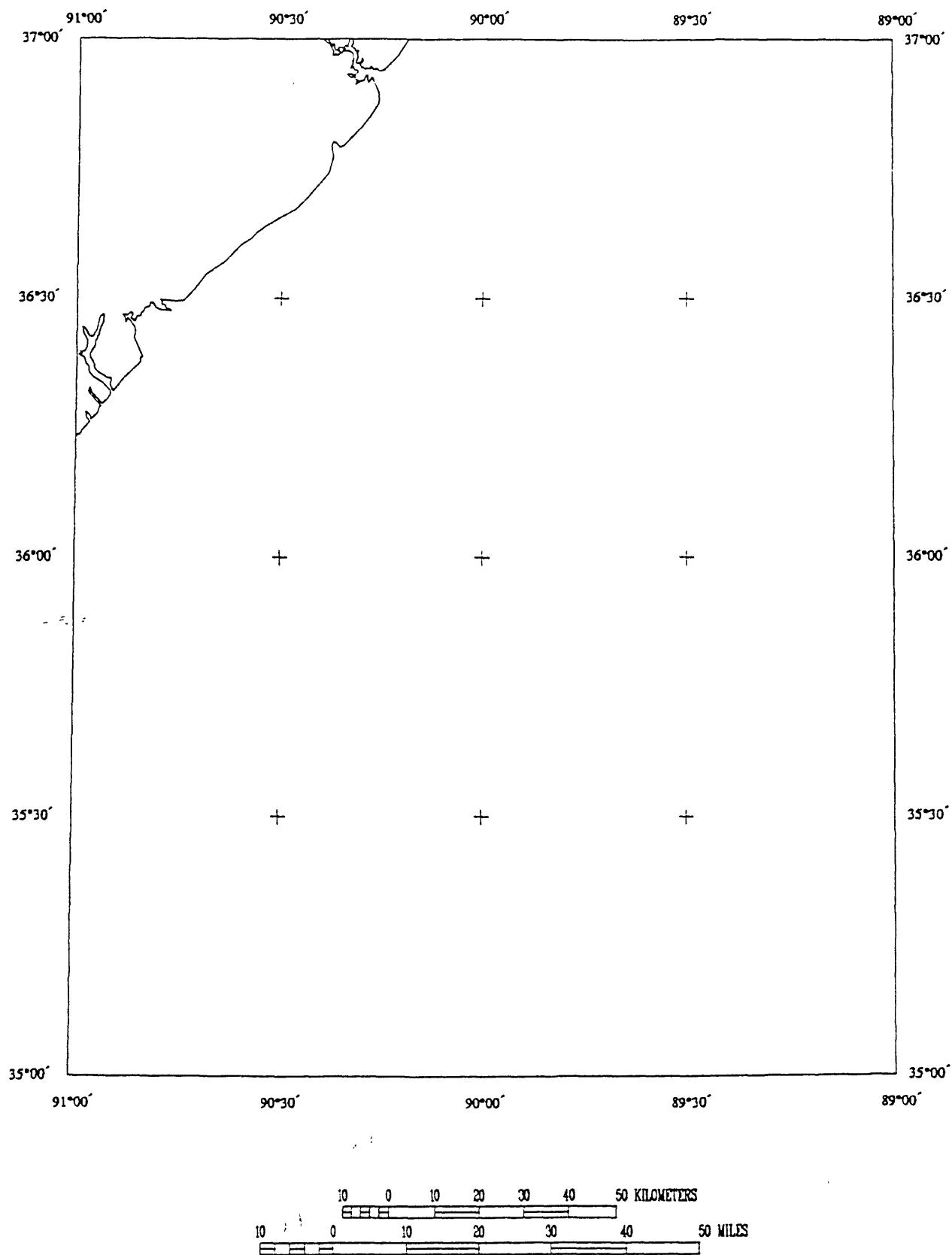
2x2hyd -- Hydrography of the New Madrid region.



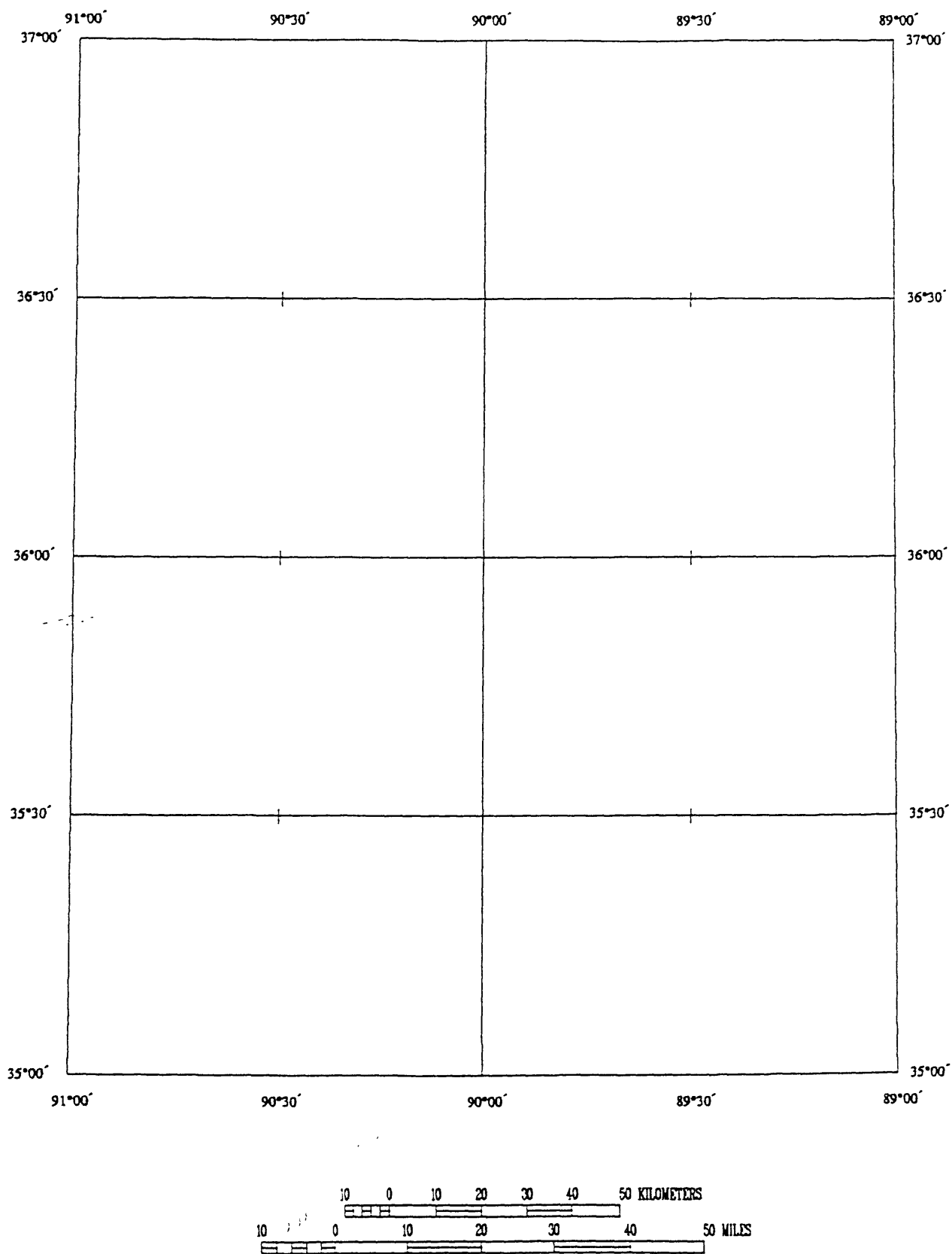
2x2magdep – Depth to magnetic basement in the New Madrid region.



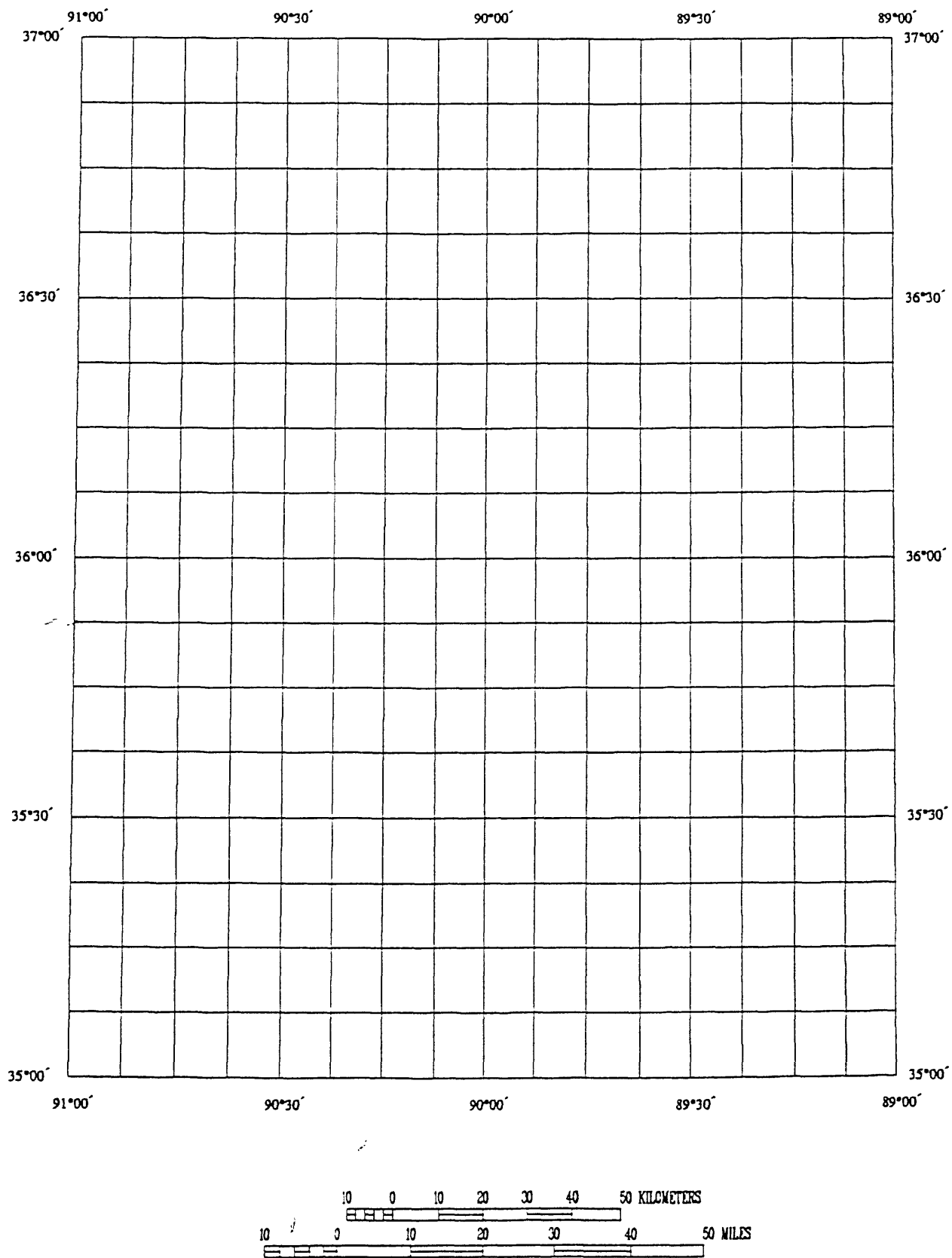
2x2magstruc – Magnetic structures in the New Madrid region.



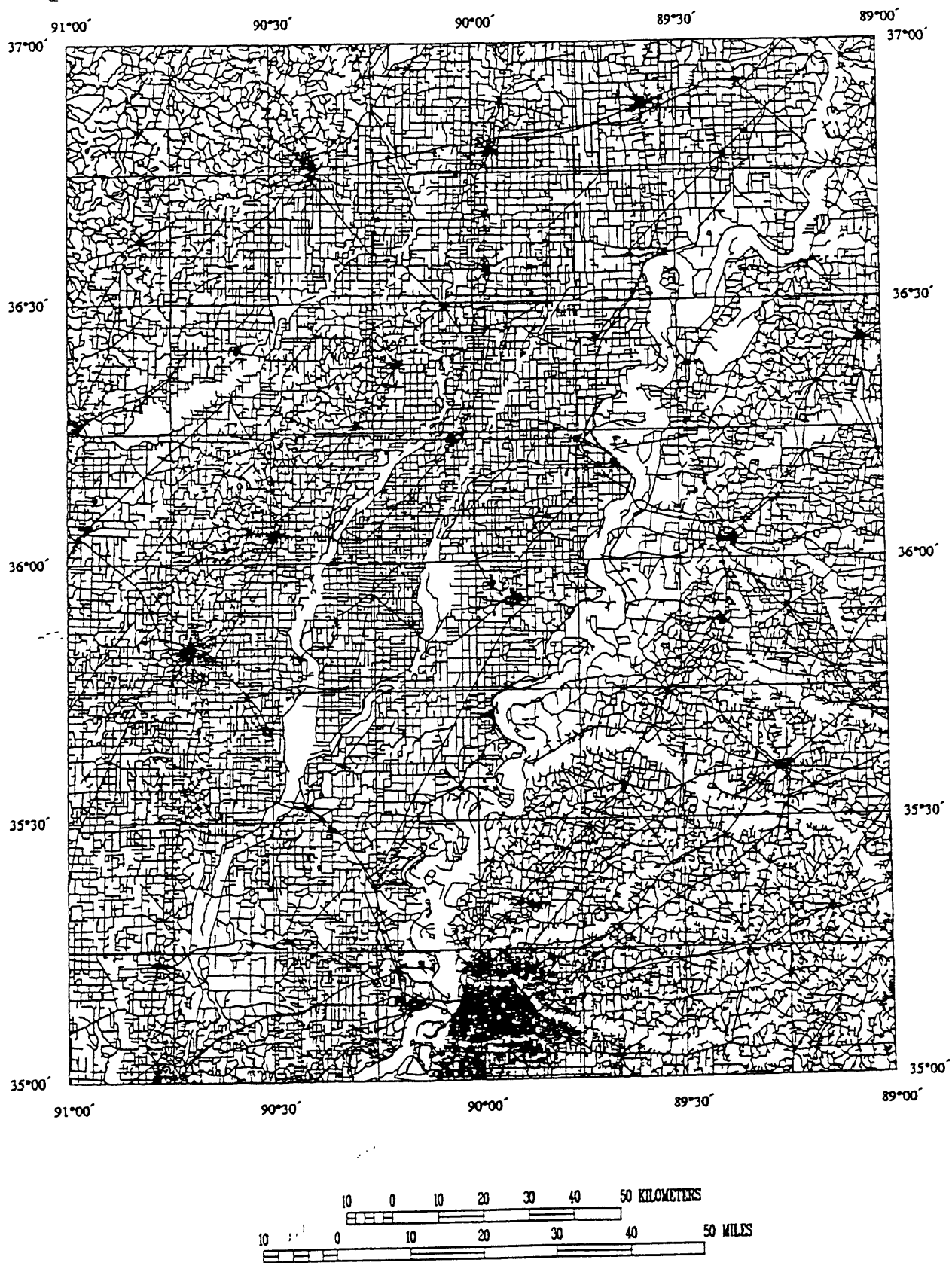
2x2pzgeo -- Paleozoic geology in the New Madrid region.



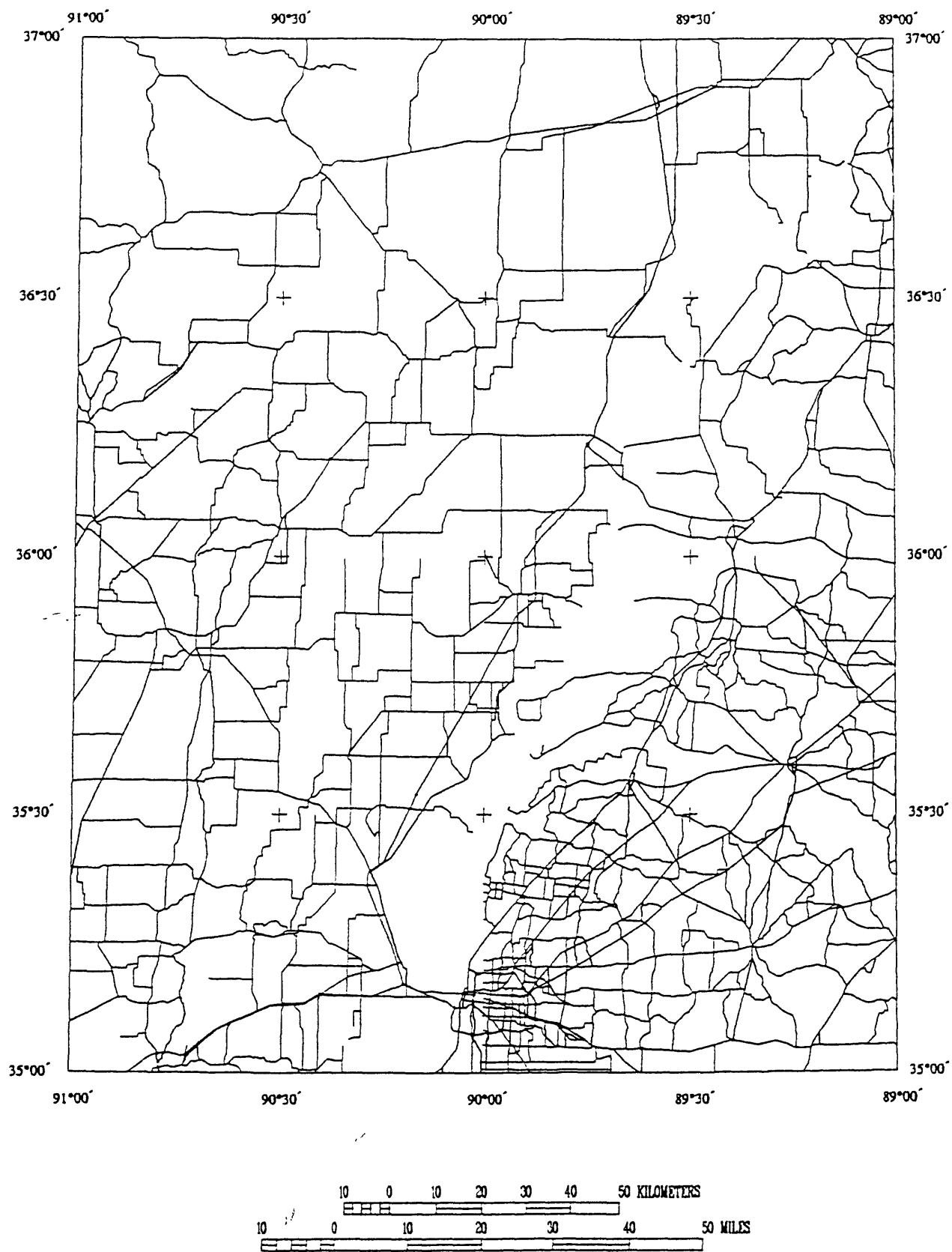
2x2qd100k -- Graticule of 1:100,000-scale quadrangles in the New Madrid region.



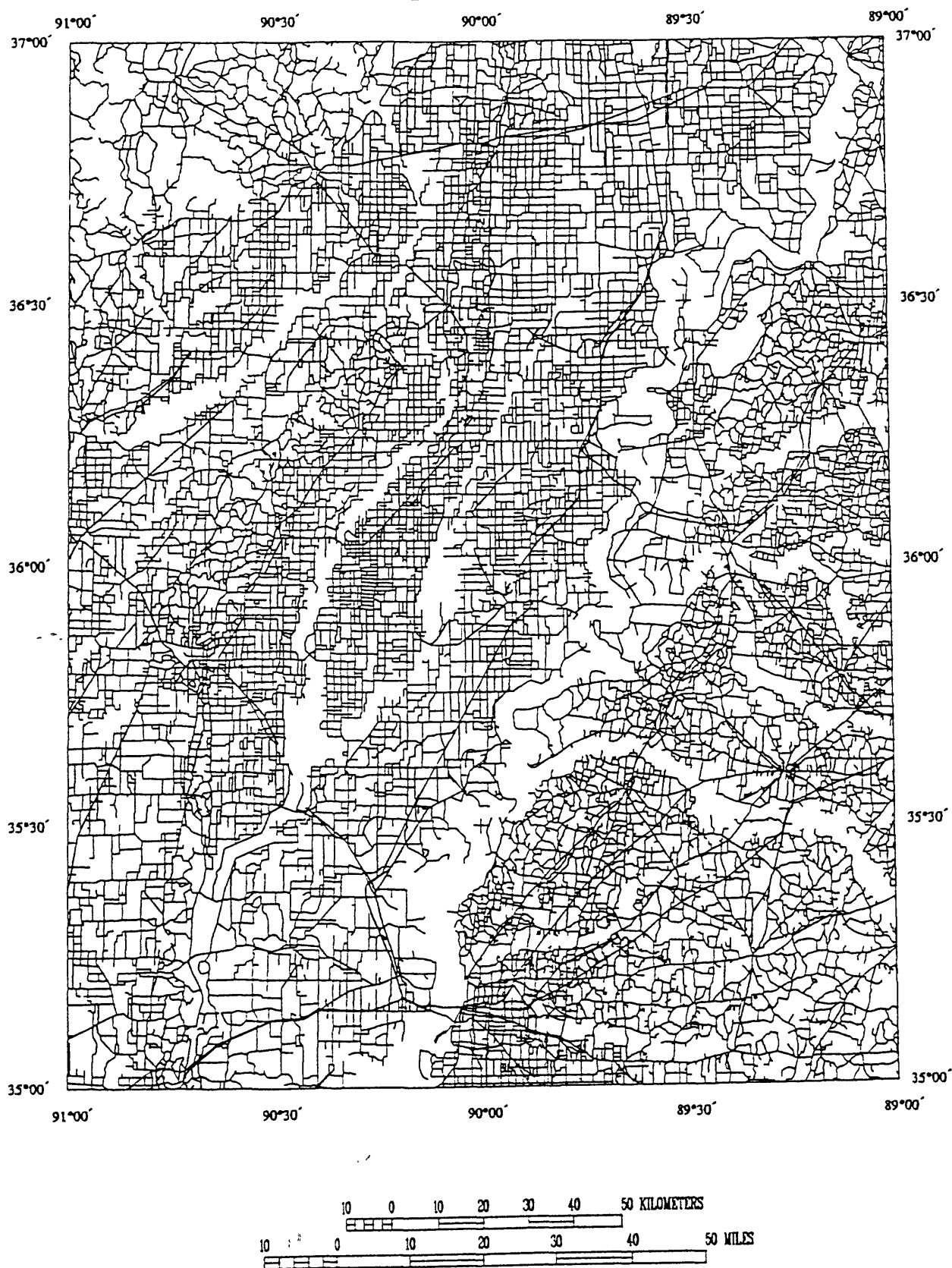
2x2qd24k -- Graticule of 1:24,000-scale quadrangles in the New Madrid region.



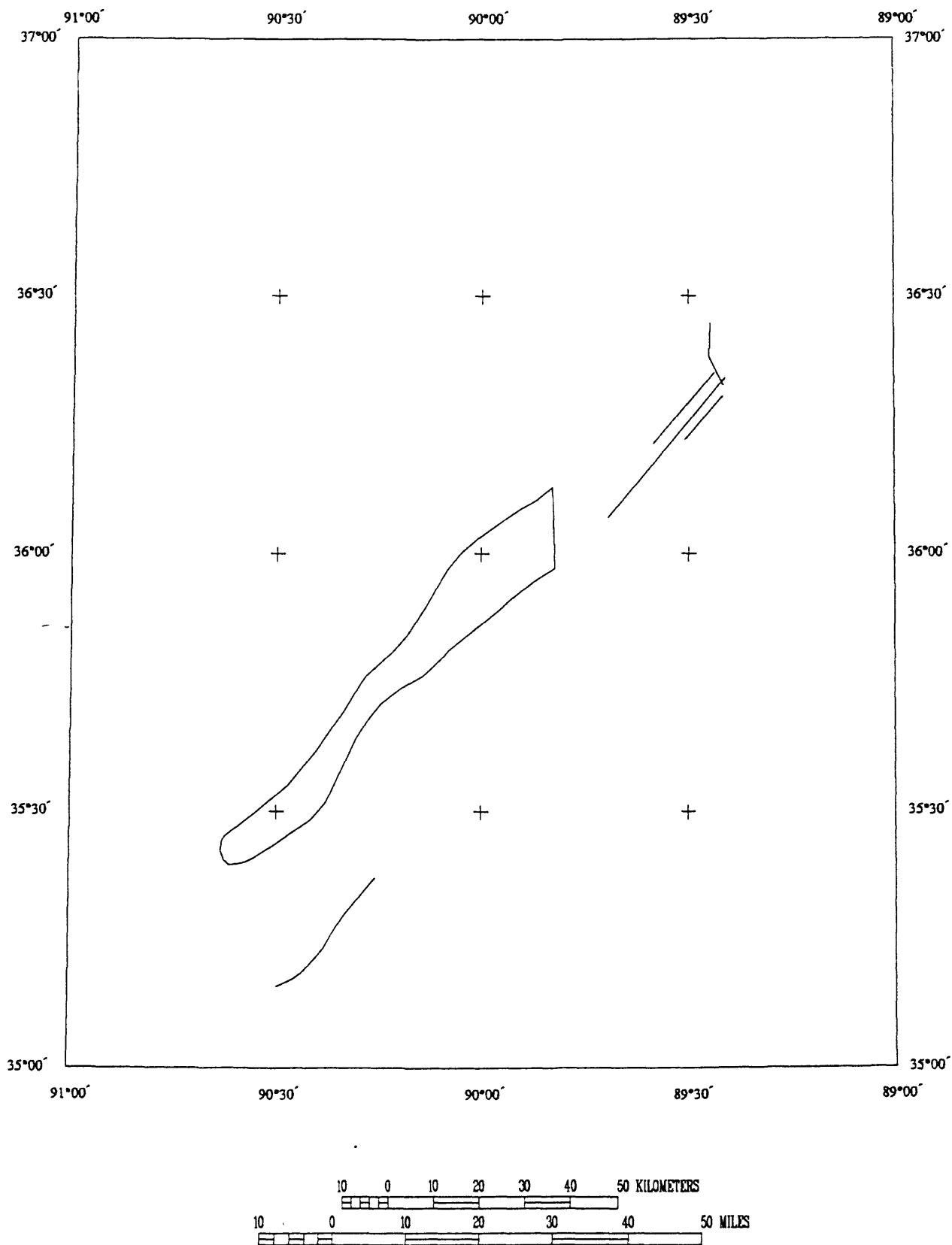
2x2rds – Roads and trails in the New Madrid region, Classes 1 - 4.



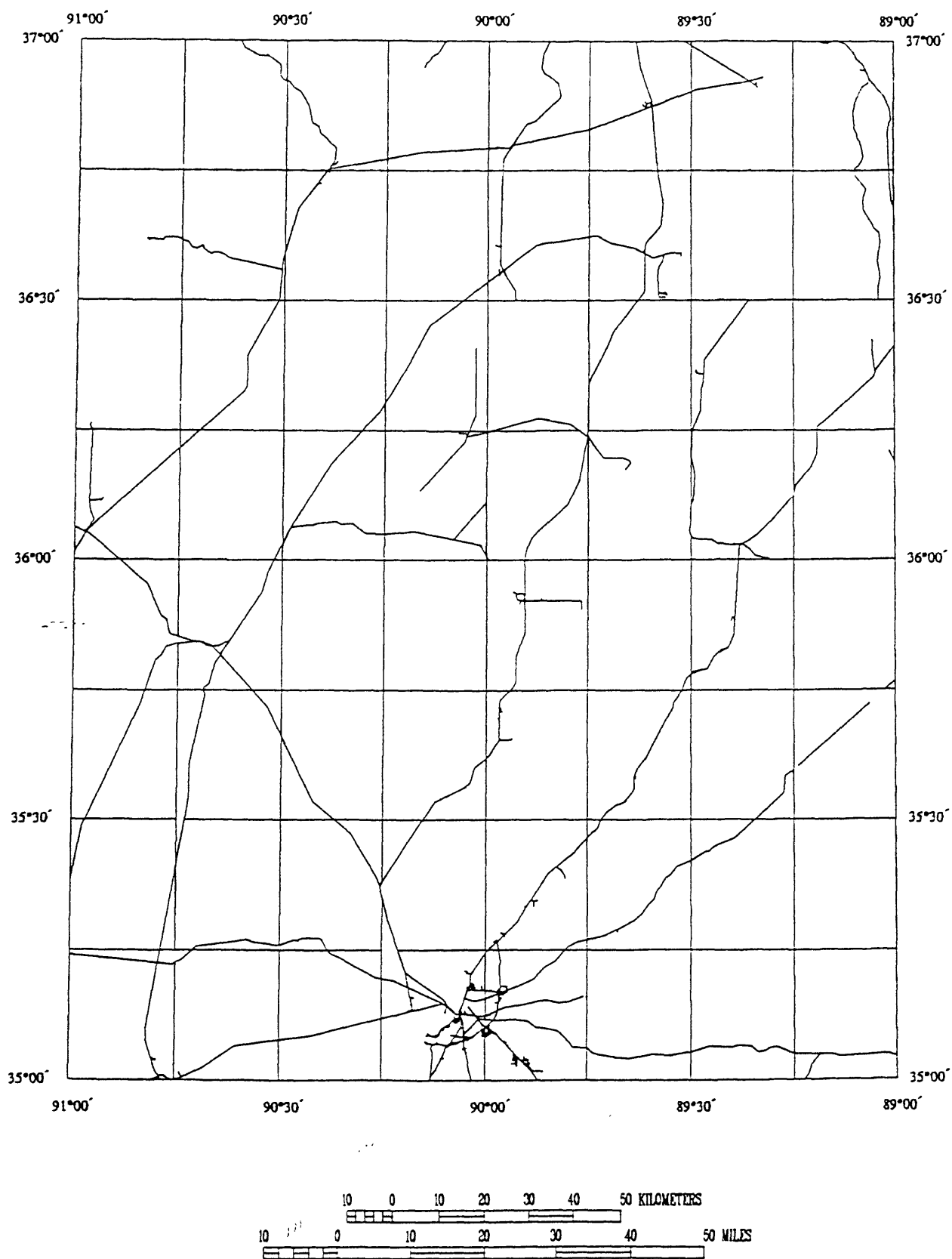
2x2rds12 – Roads and trails in the New Madrid region, Classes 1 - 2.



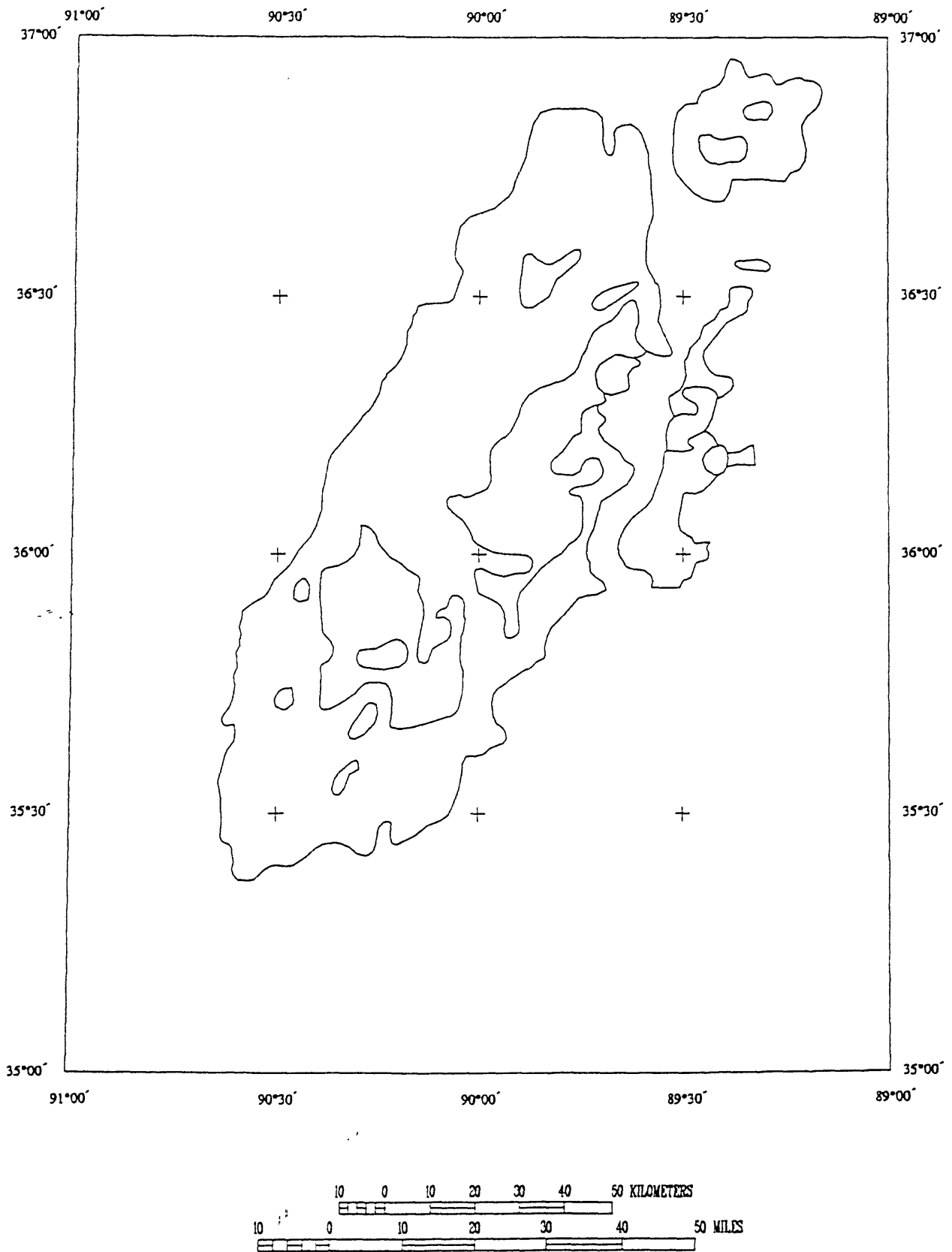
2x2rds123 – Roads and trails in the New Madrid region, Classes 1 - 3.



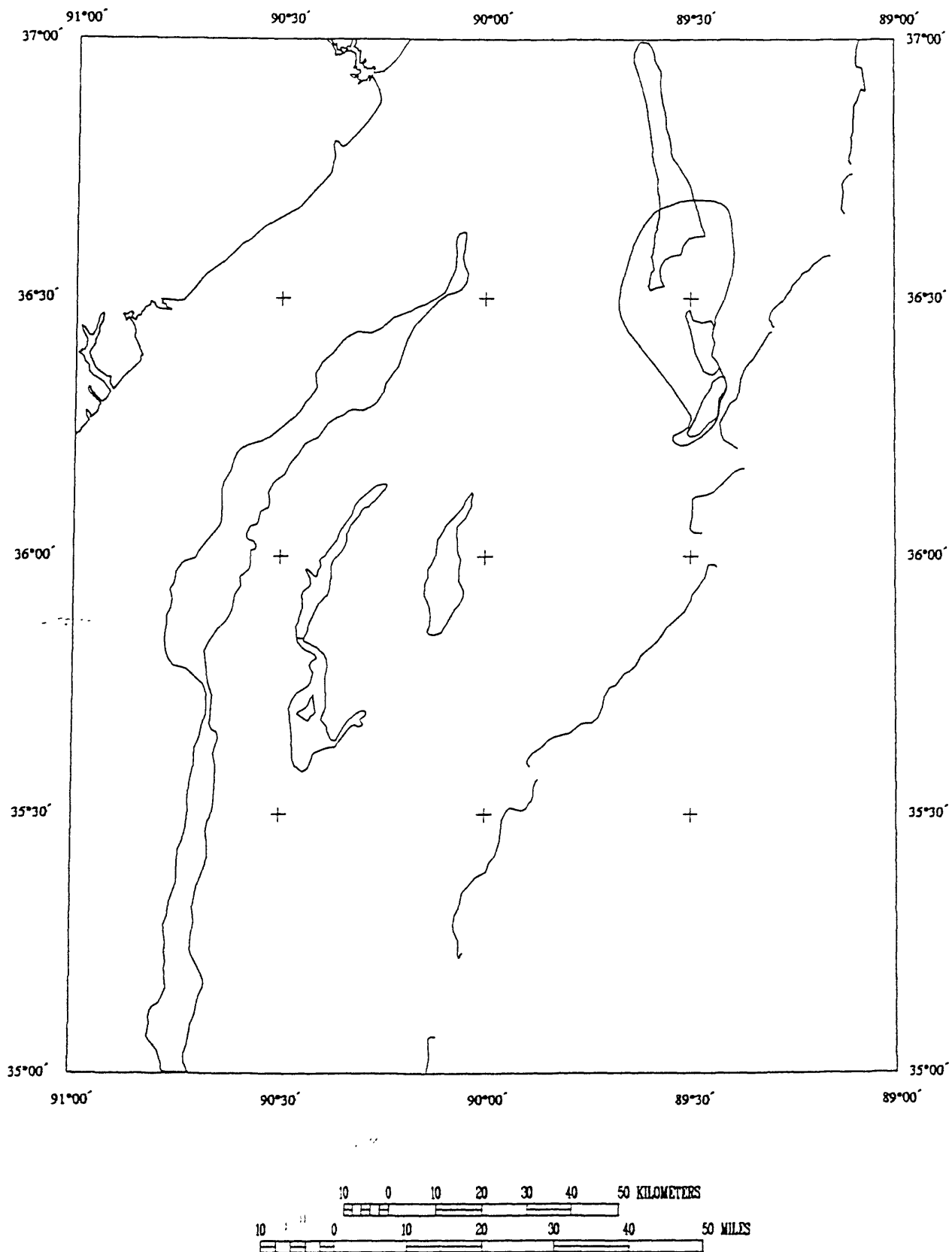
2x2reflstruc -- Structures determined by seismic reflection in the New Madrid region.



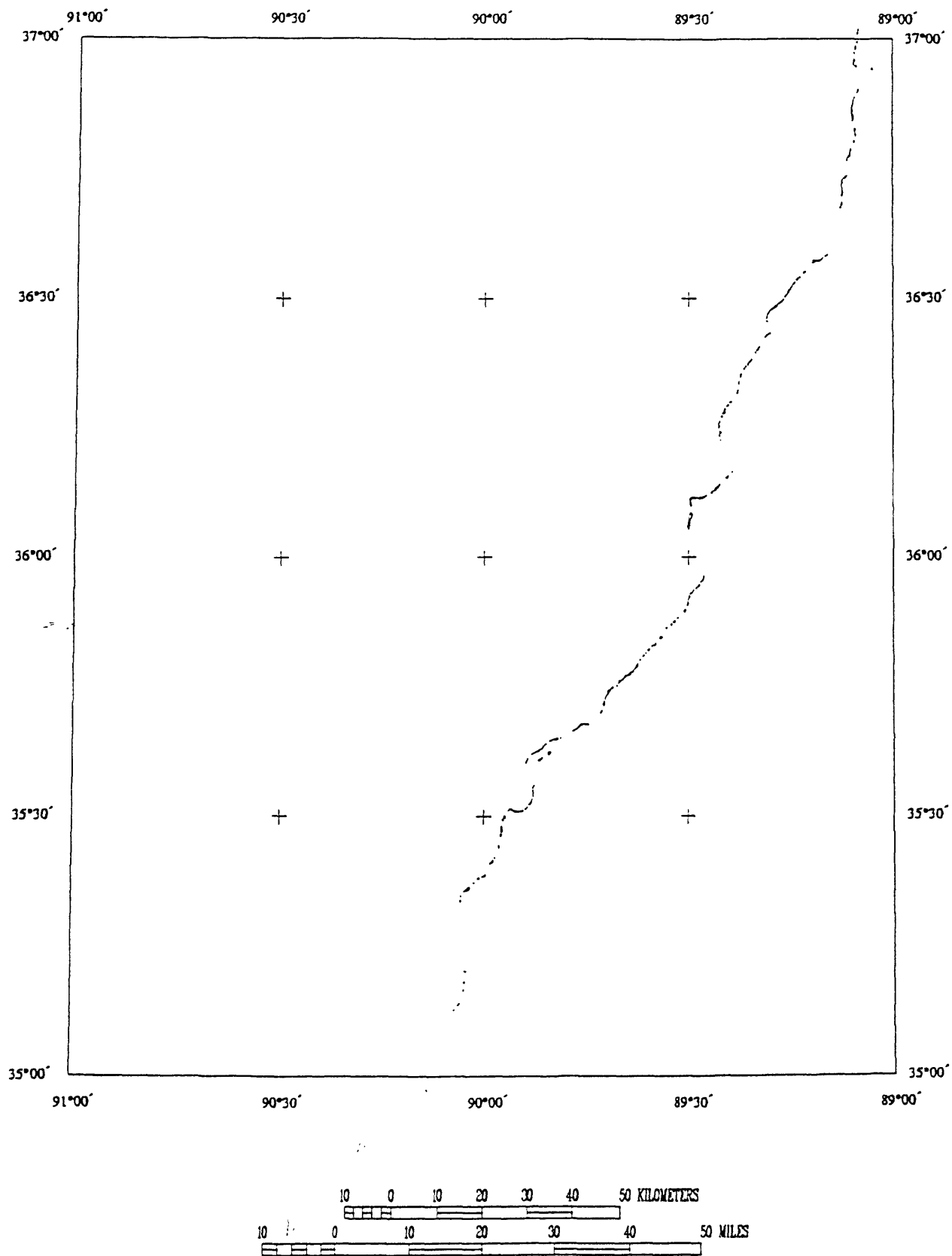
2x2rr -- Railroads in the New Madrid region.



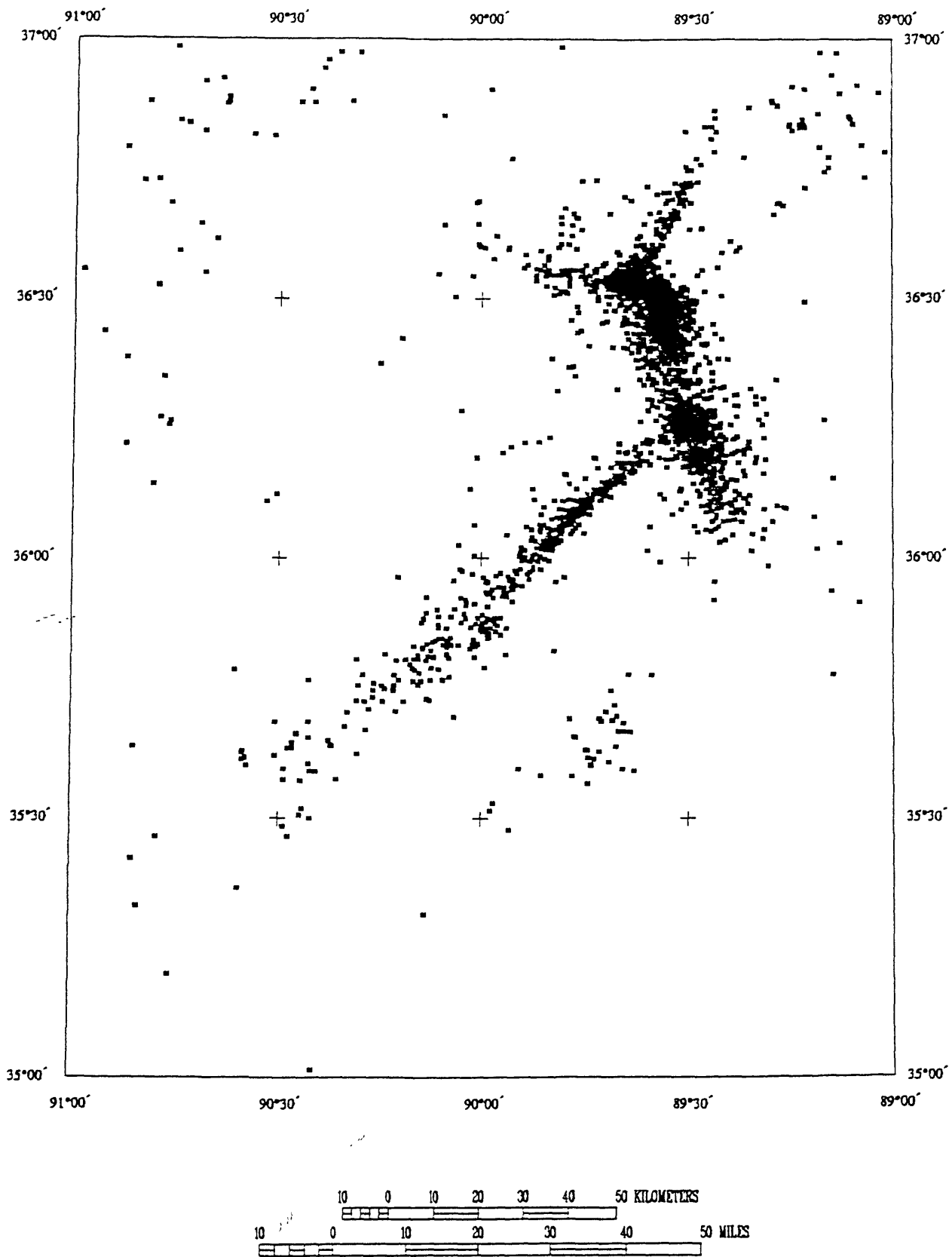
2x2sblows -- Sandblows in the New Madrid region.



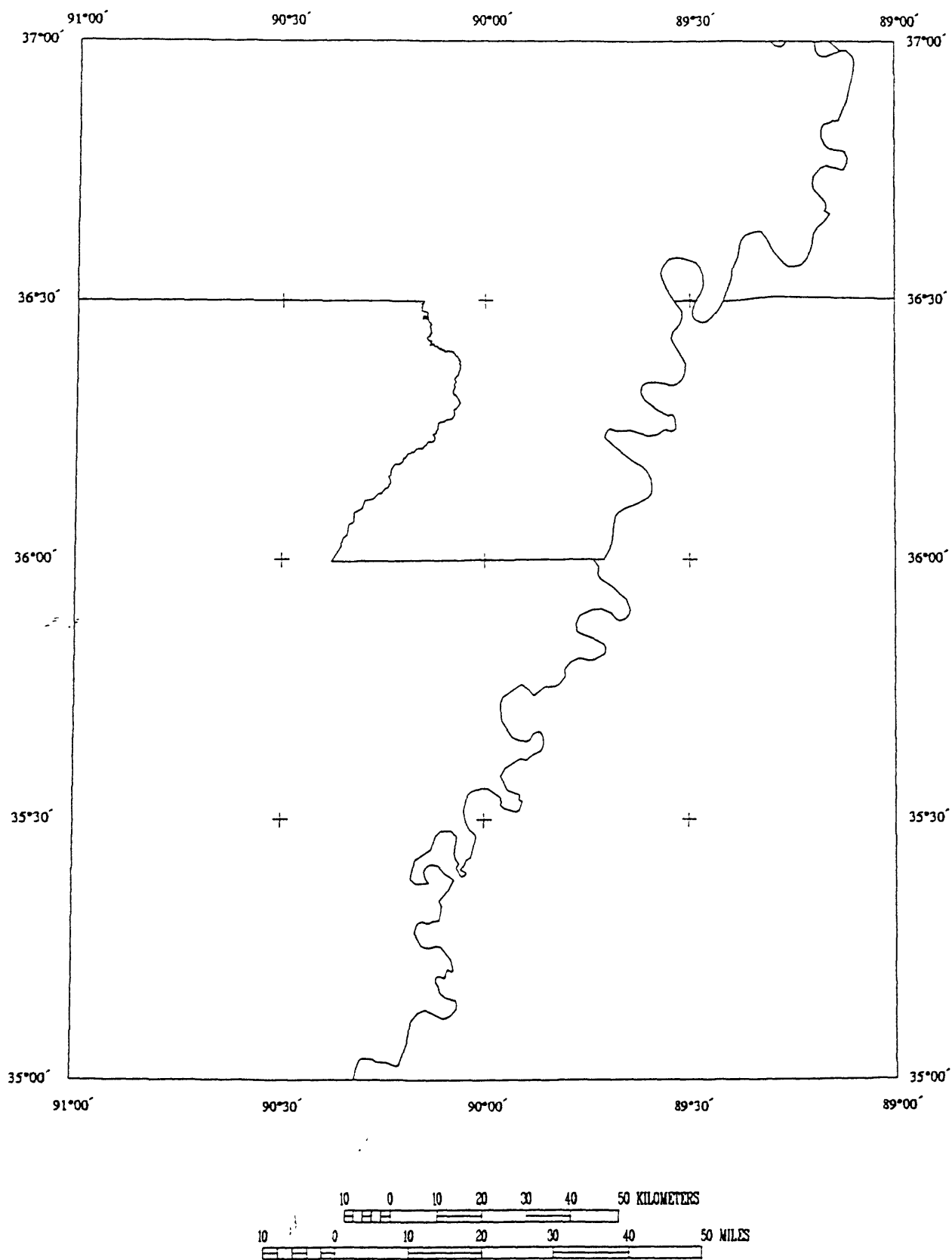
2x2sfstruc – Major topographic features in the New Madrid region.



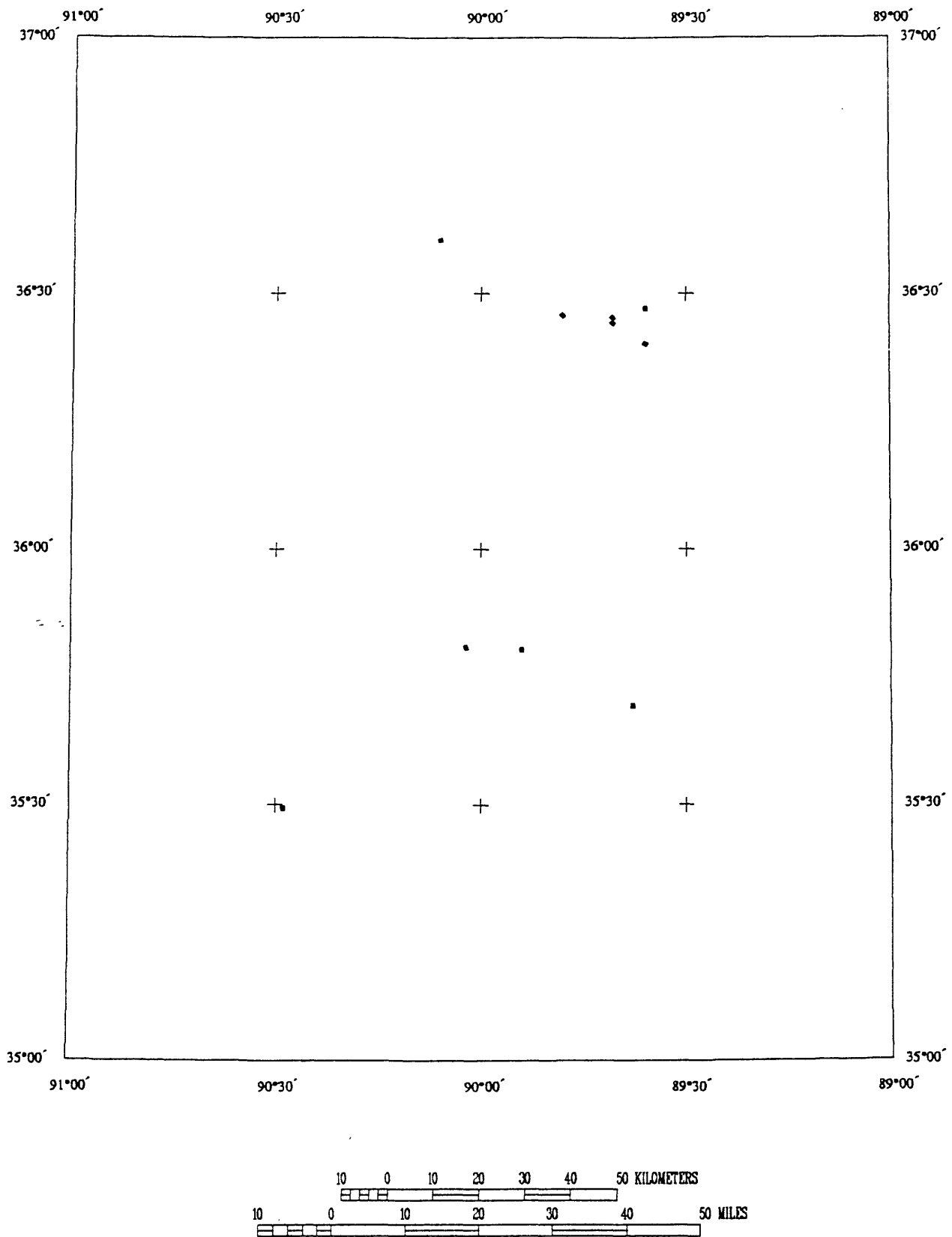
2x2slides – Landslides in the New Madrid region.



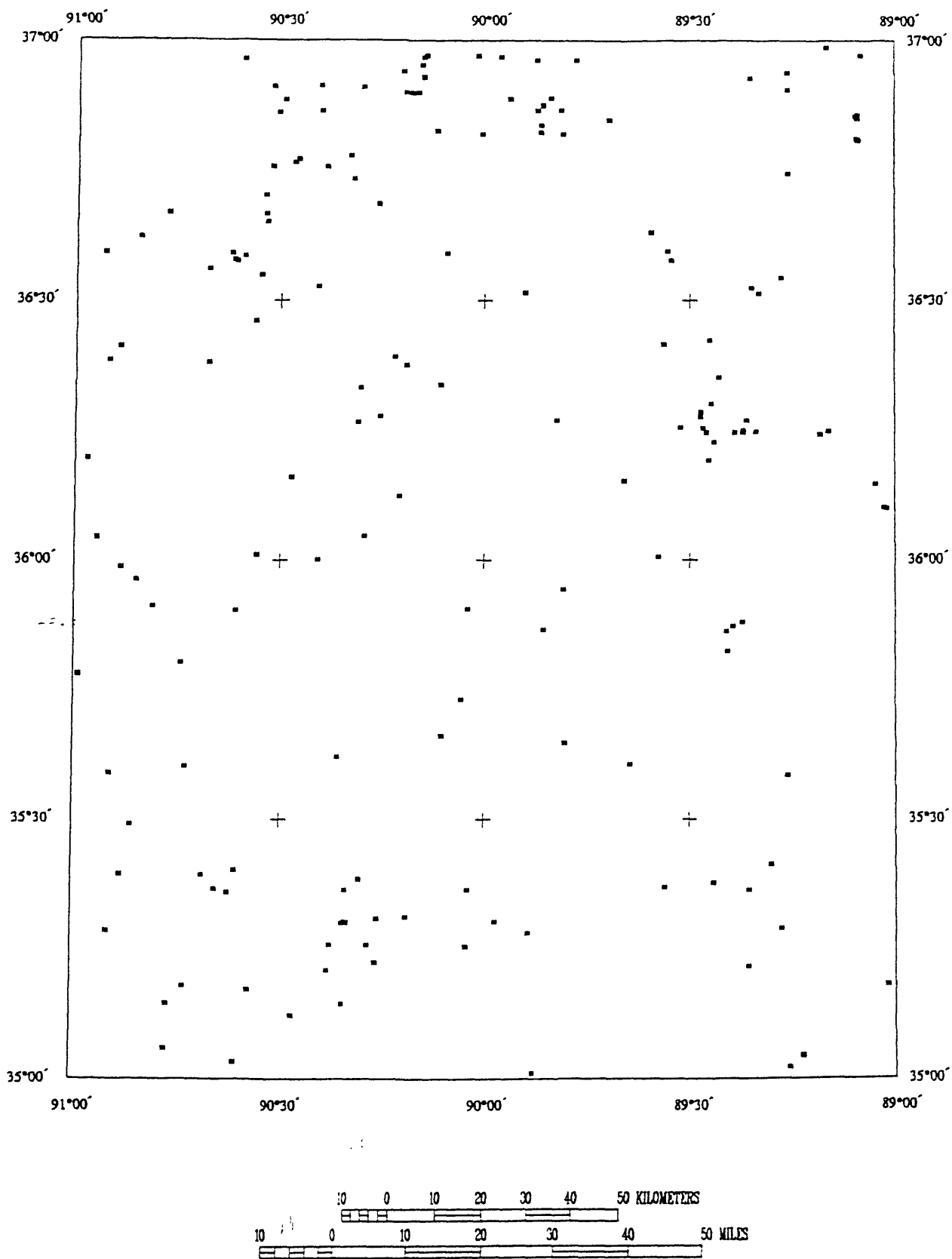
2x2slu -- Earthquake epicenters in the New Madrid region.



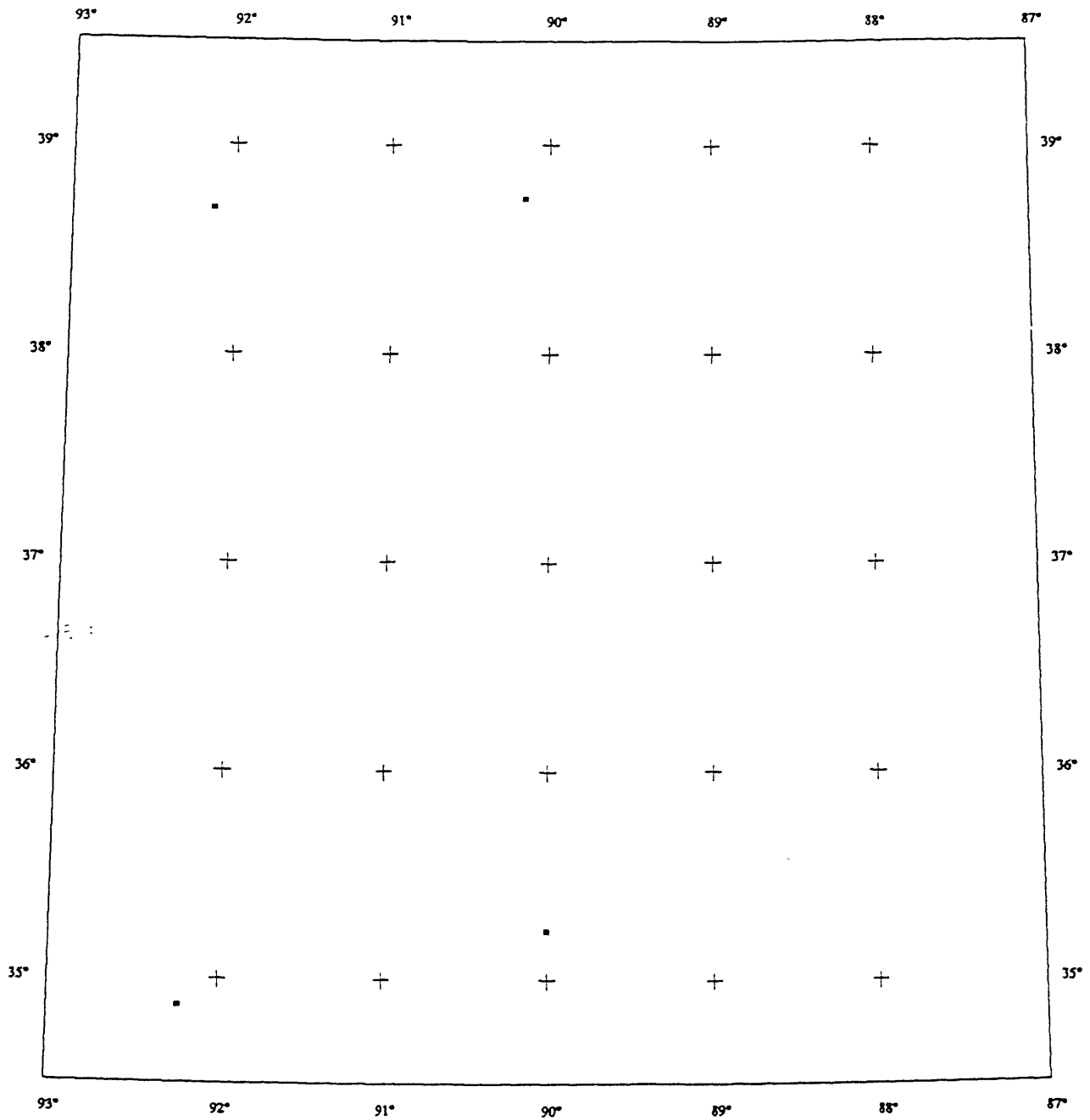
2x2state -- State boundaries in the New Madrid region.



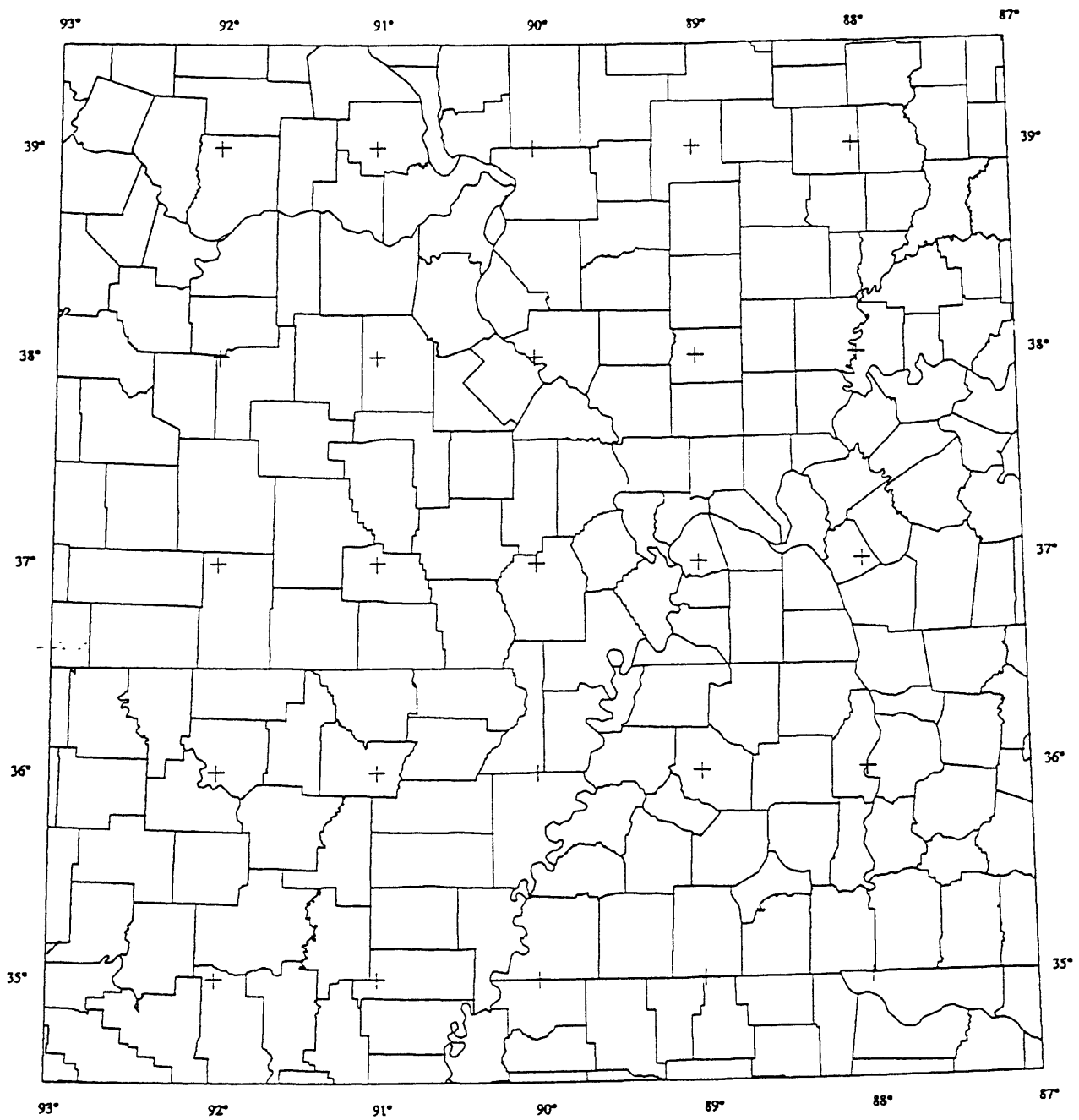
2x2stress – Stress in the New Madrid region.



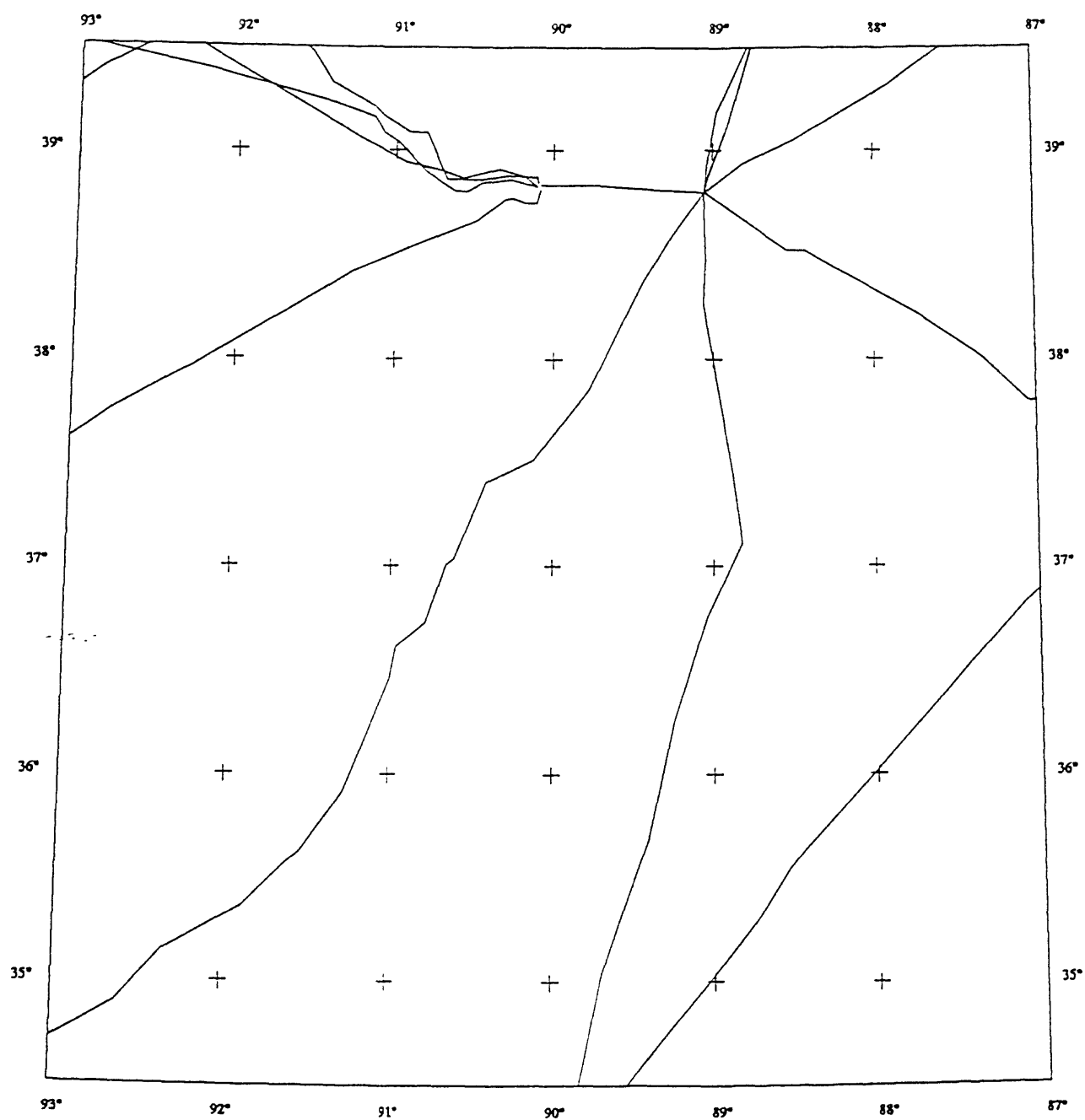
2x2well – Wells in the New Madrid region.



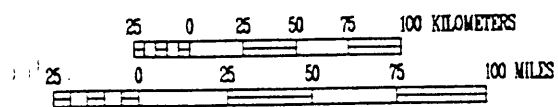
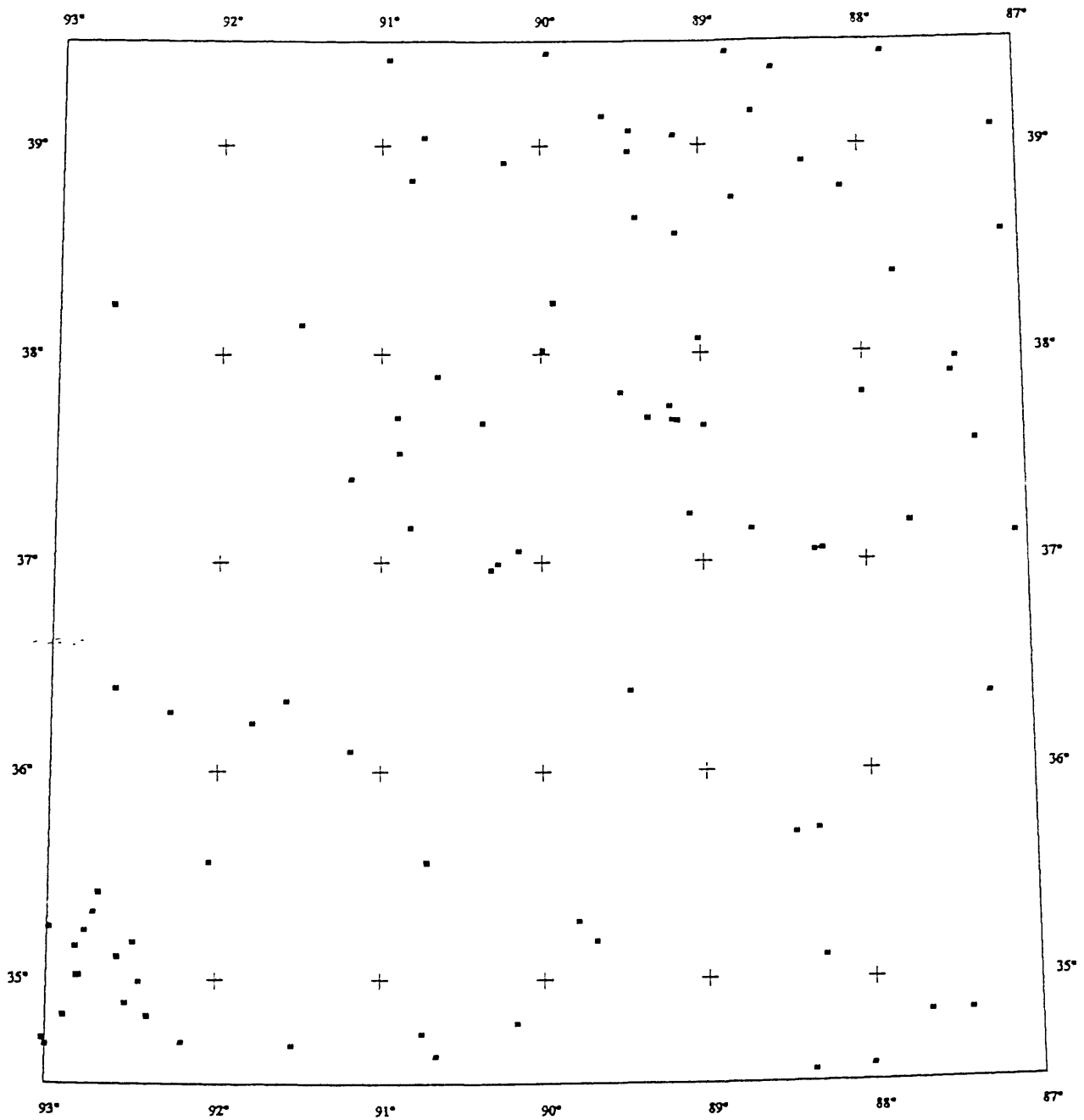
6x5city – Urban centers in the Mississippi Embayment.



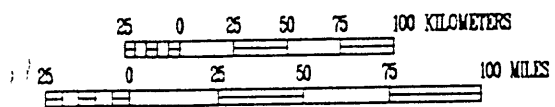
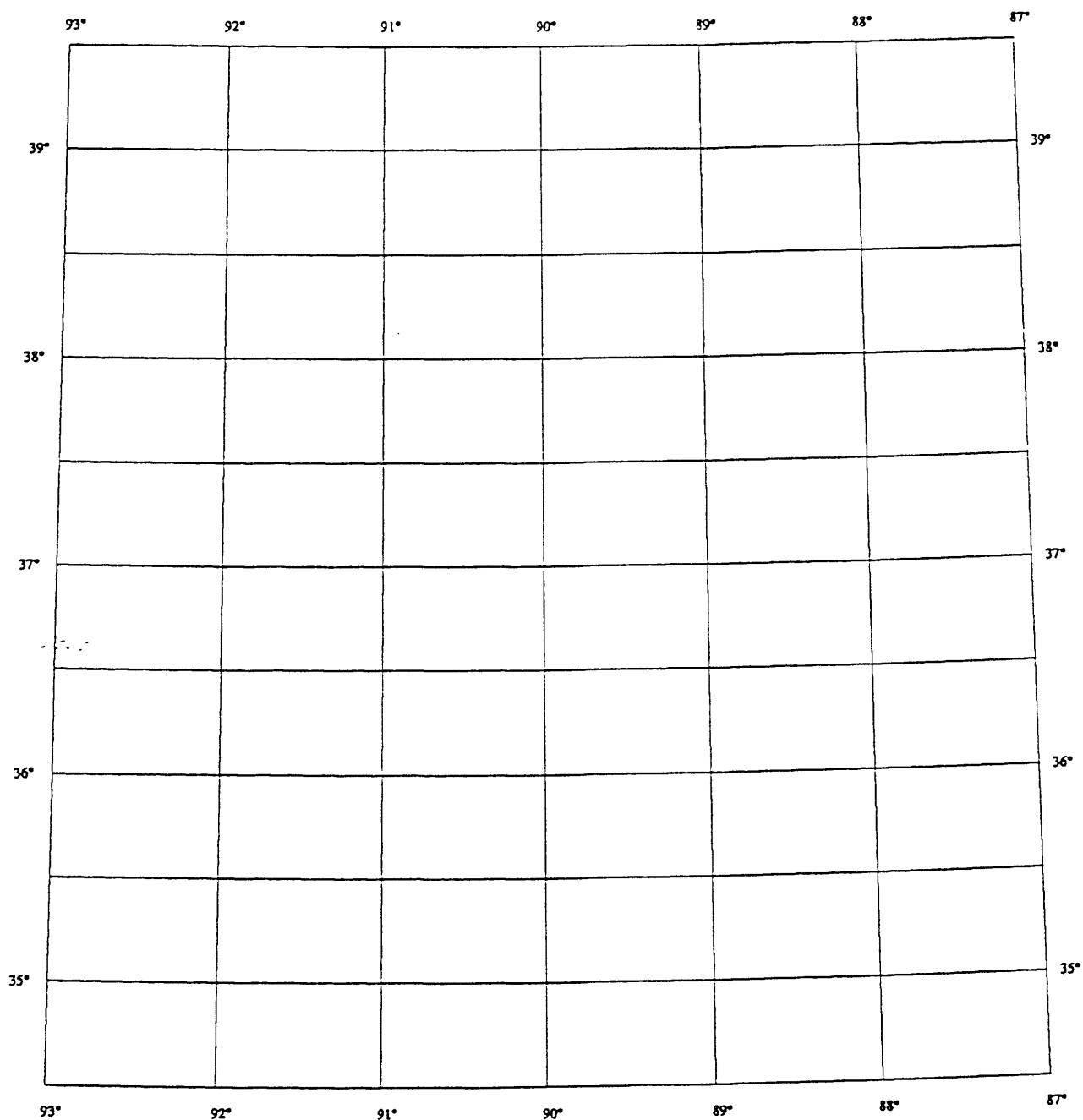
6x5cnty – County boundaries in the Mississippi Embayment.



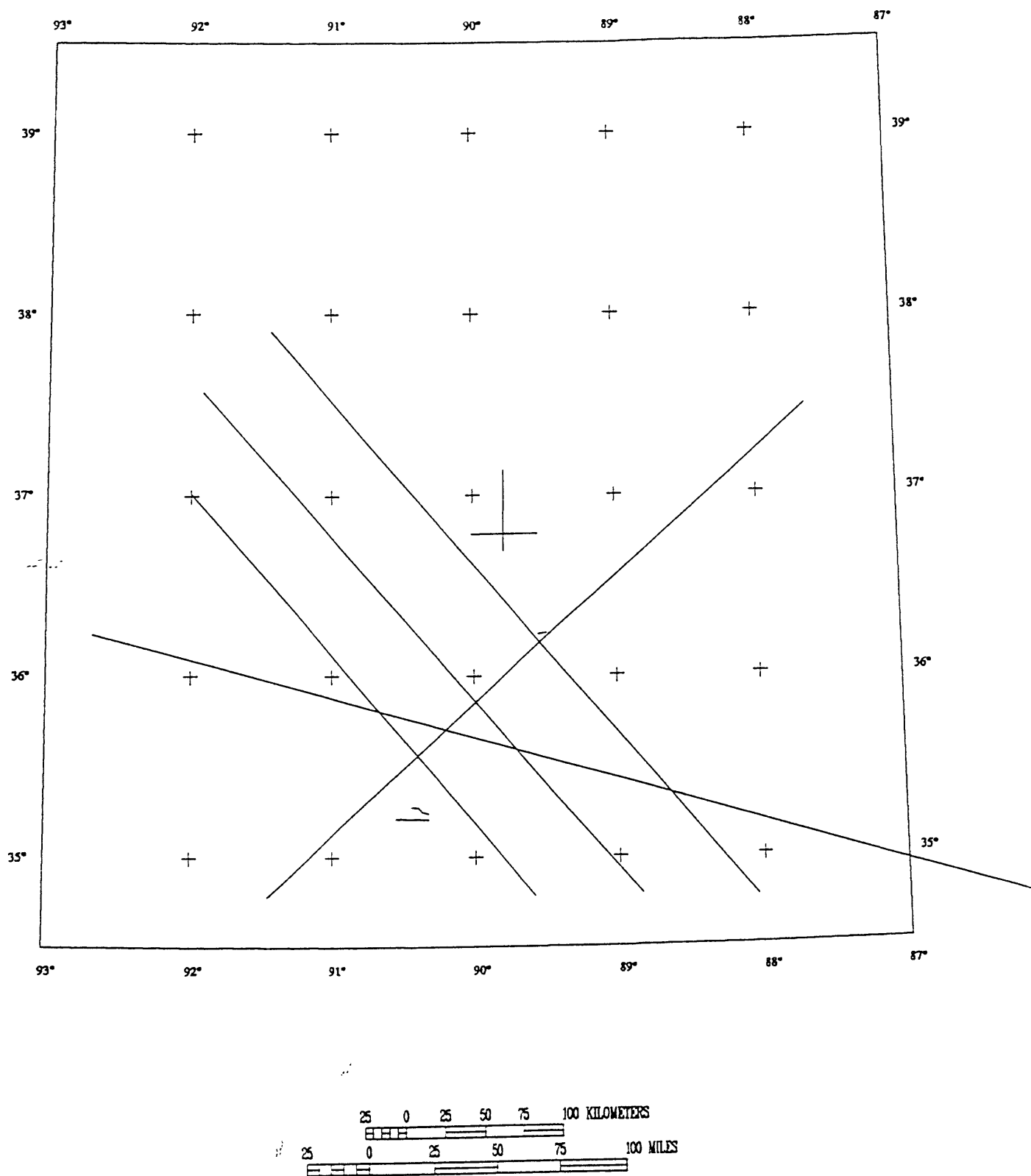
6x5crude – Crude oil pipelines in the Mississippi Embayment.



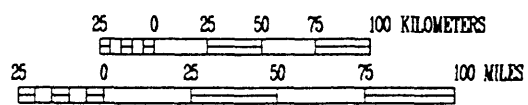
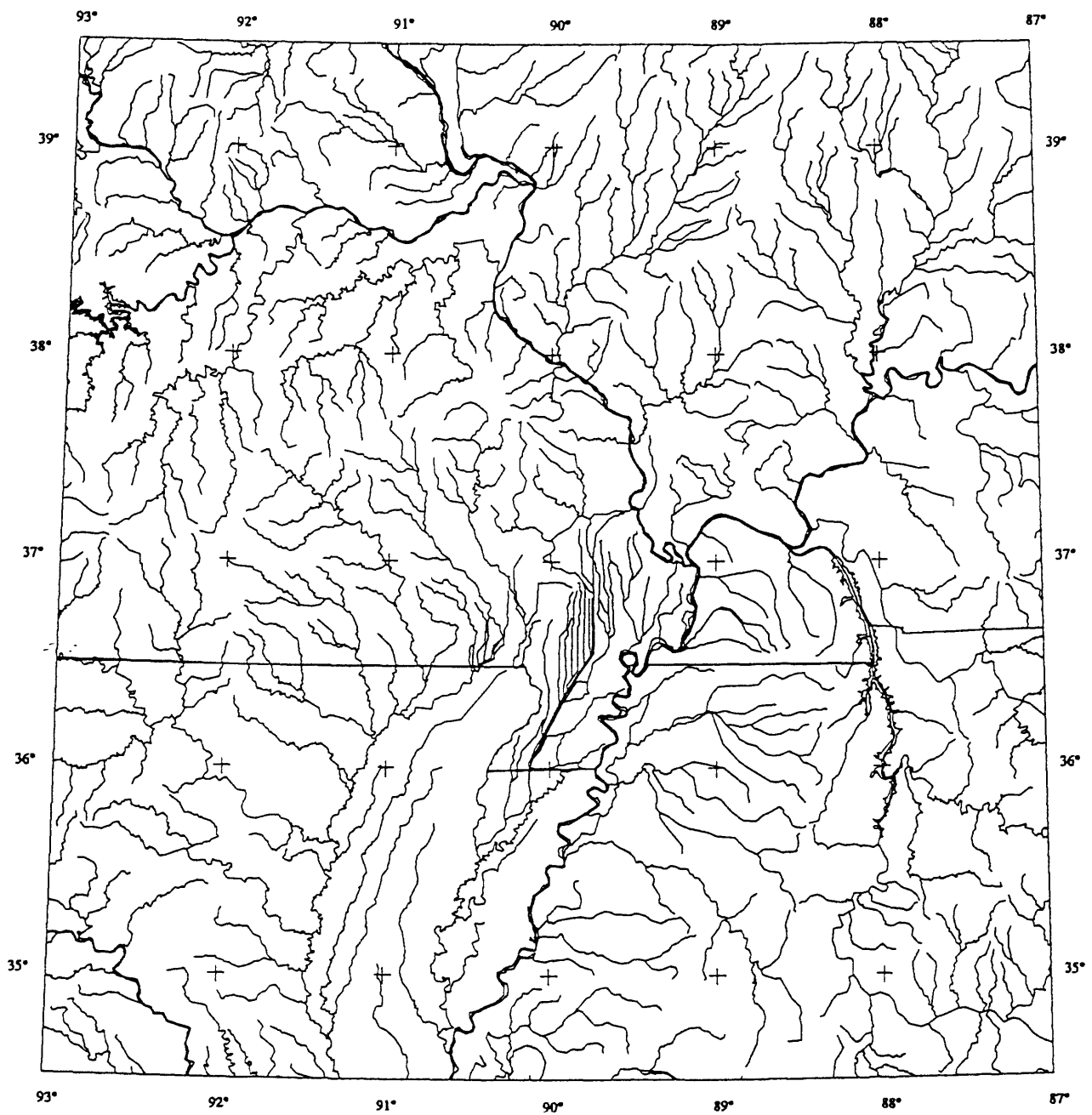
6x5dams – Dams in the Mississippi Embayment.



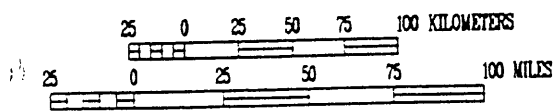
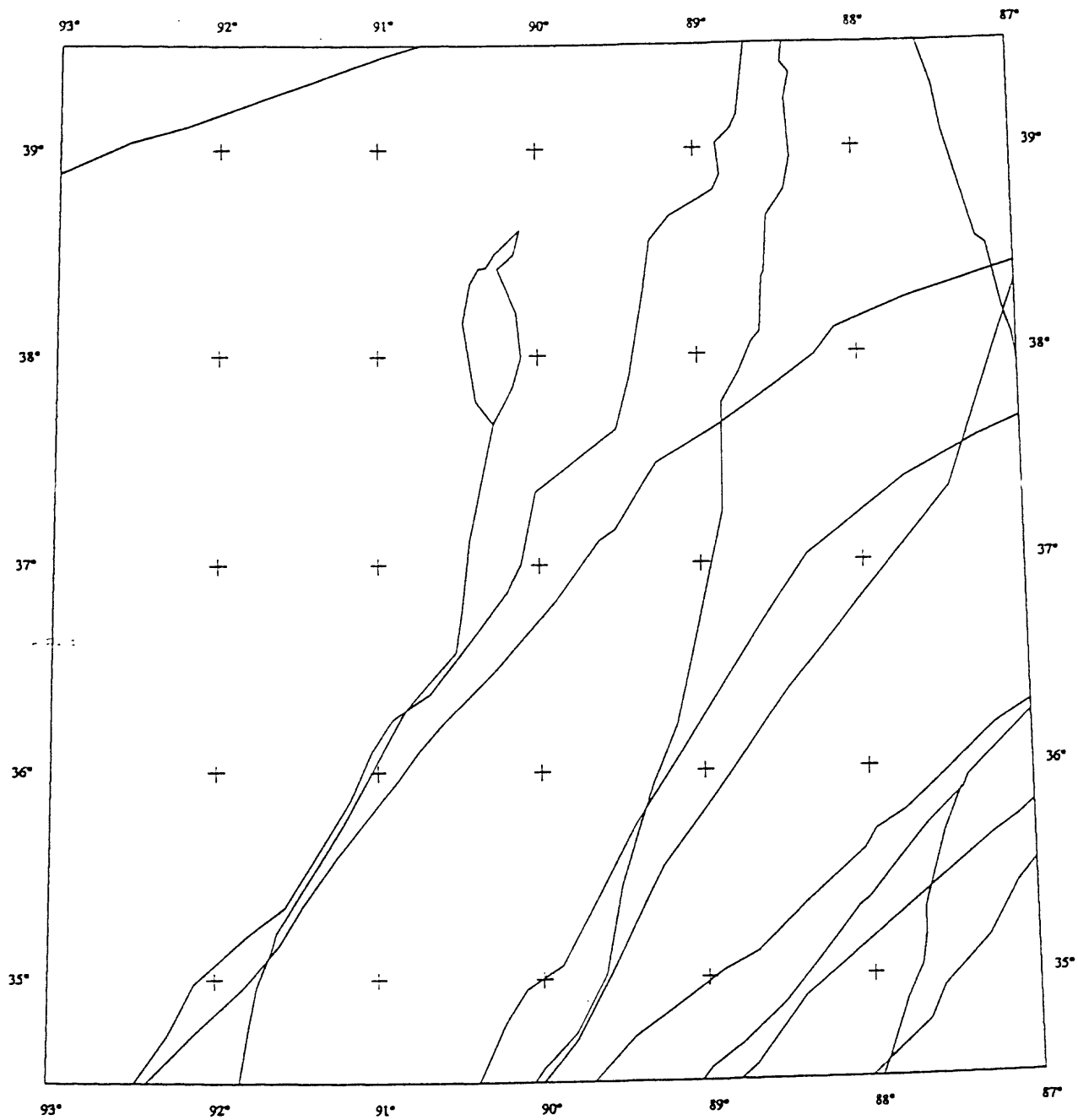
6x5grat -- Graticule of the Mississippi Embayment.



6x5gravmag – Gravity and magnetic profiles in the Mississippi Embayment.



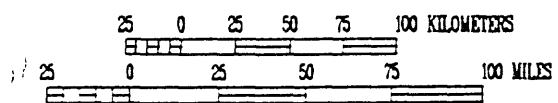
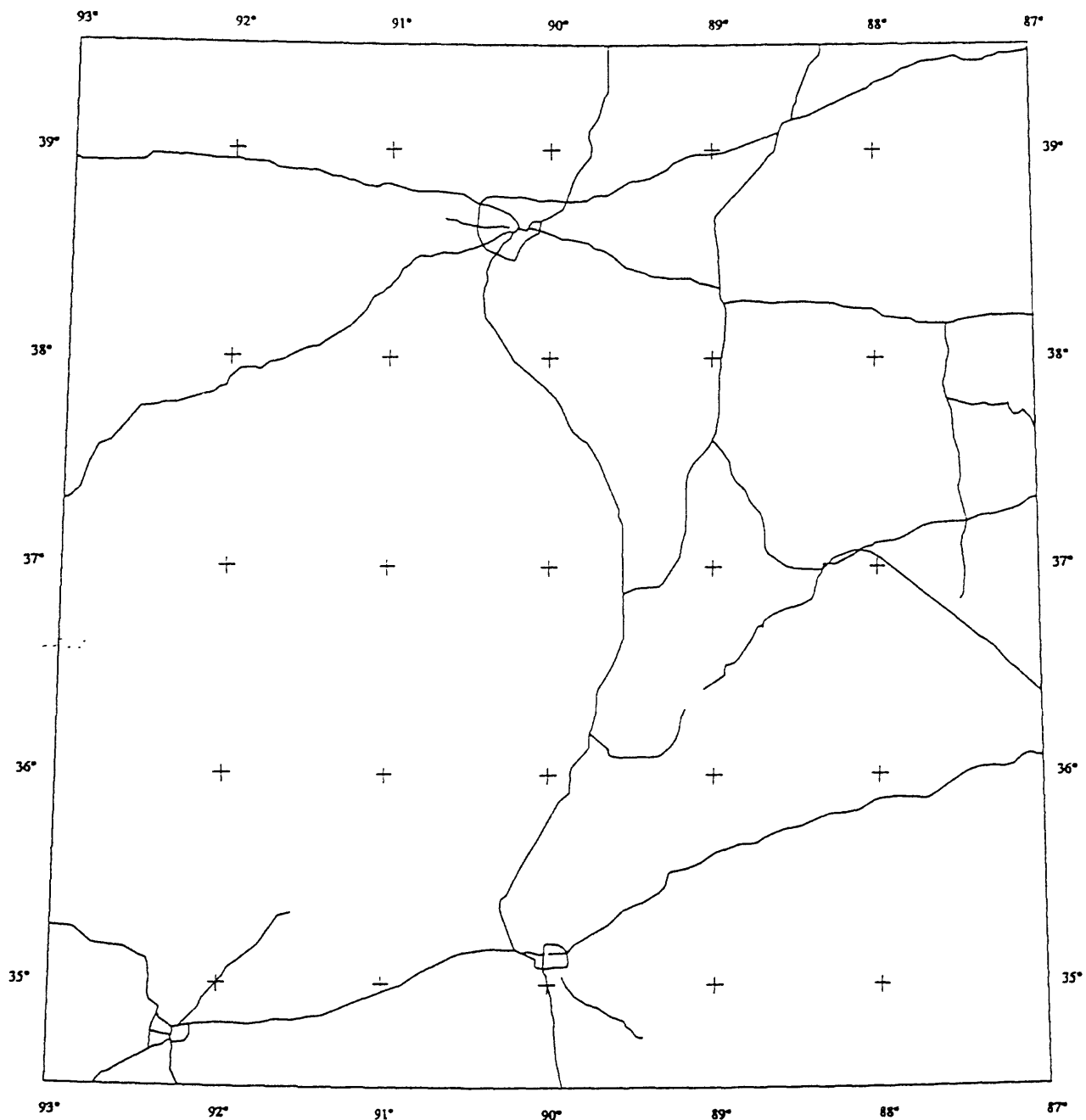
6x5hyd -- Hydrography of the Mississippi Embayment.



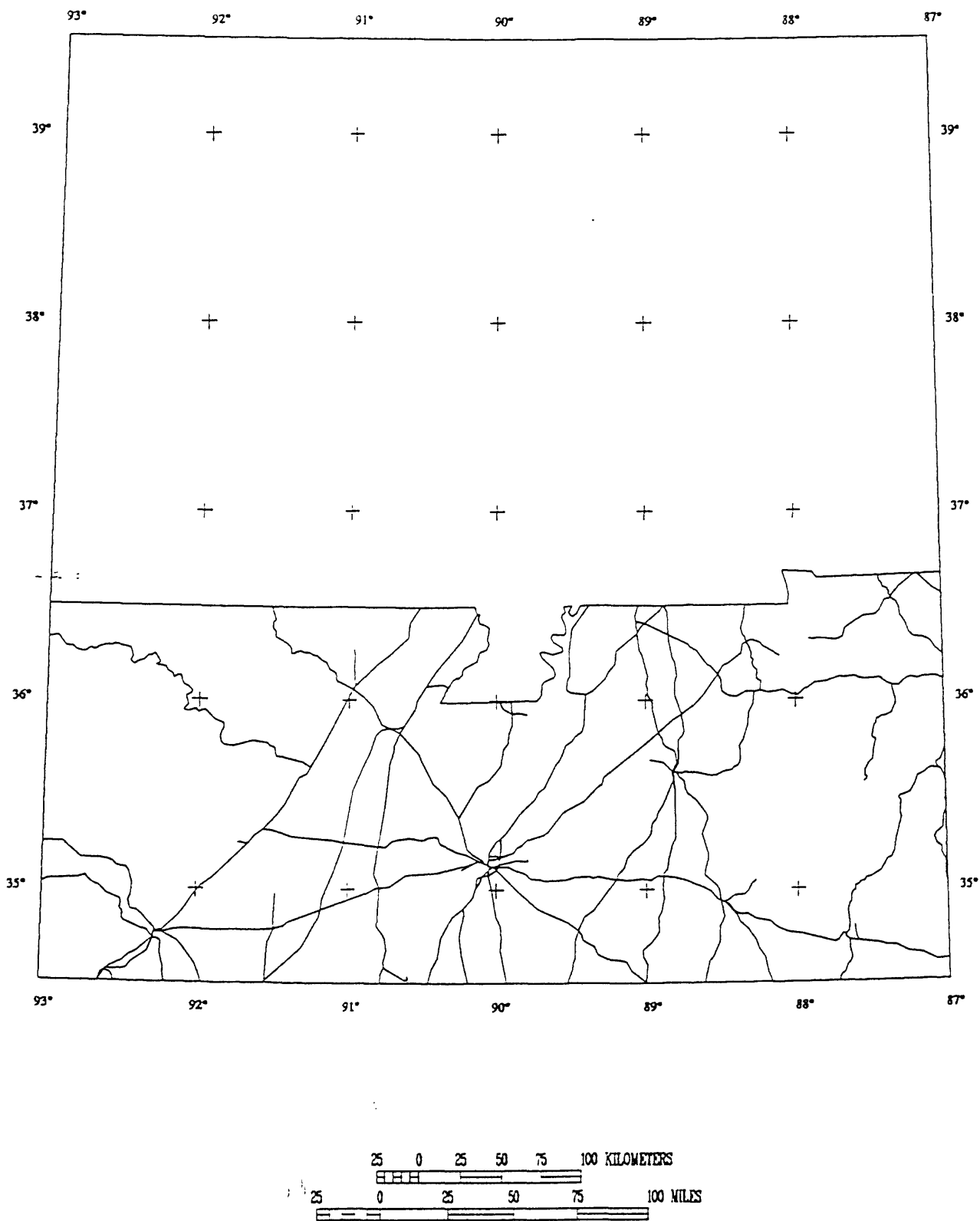
6x5natgas – Natural gas pipelines in the Mississippi Embayment.



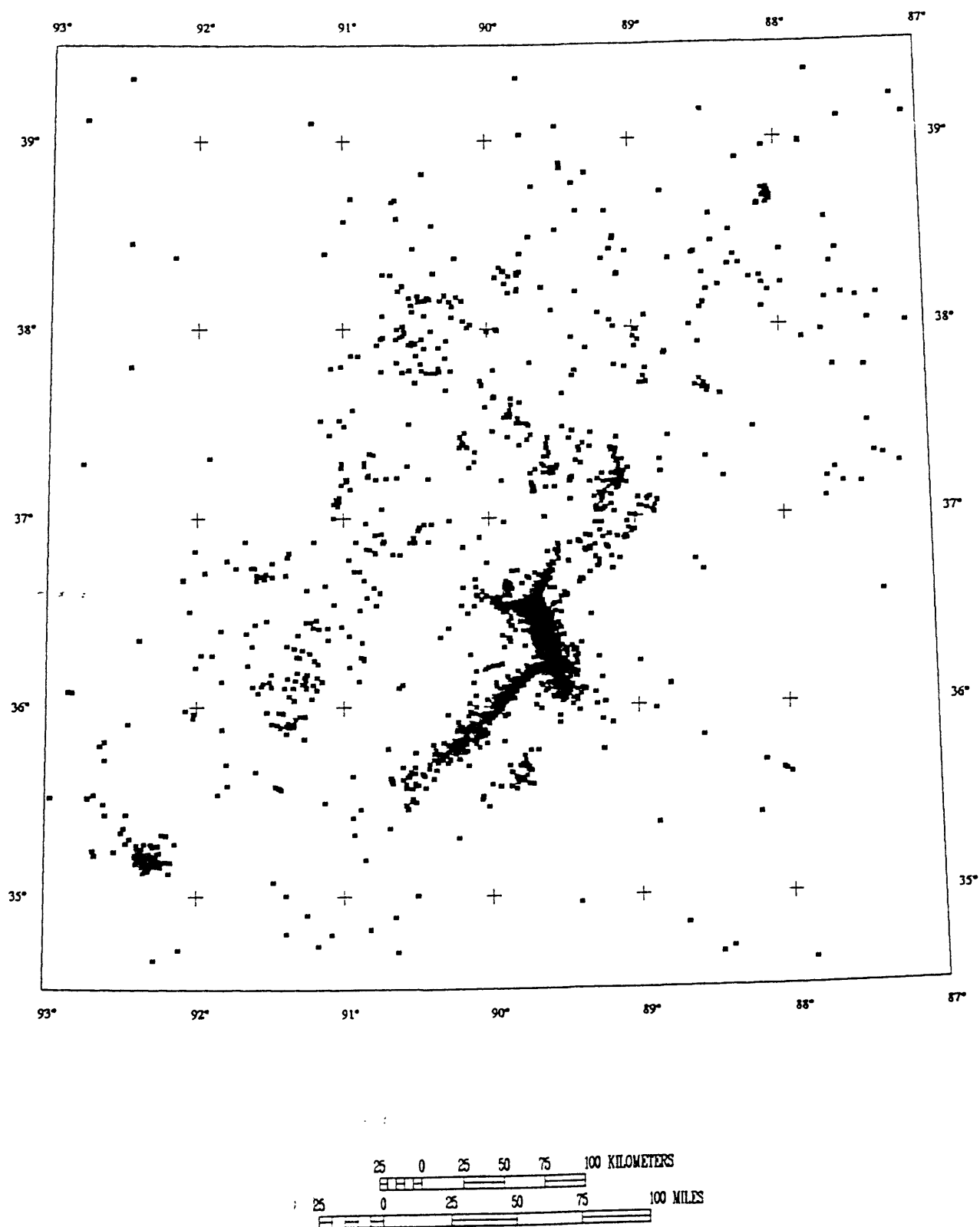
6x5pipes – Pipelines in the Mississippi Embayment.



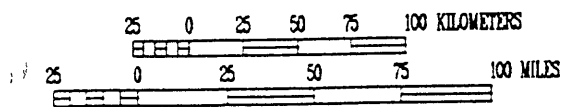
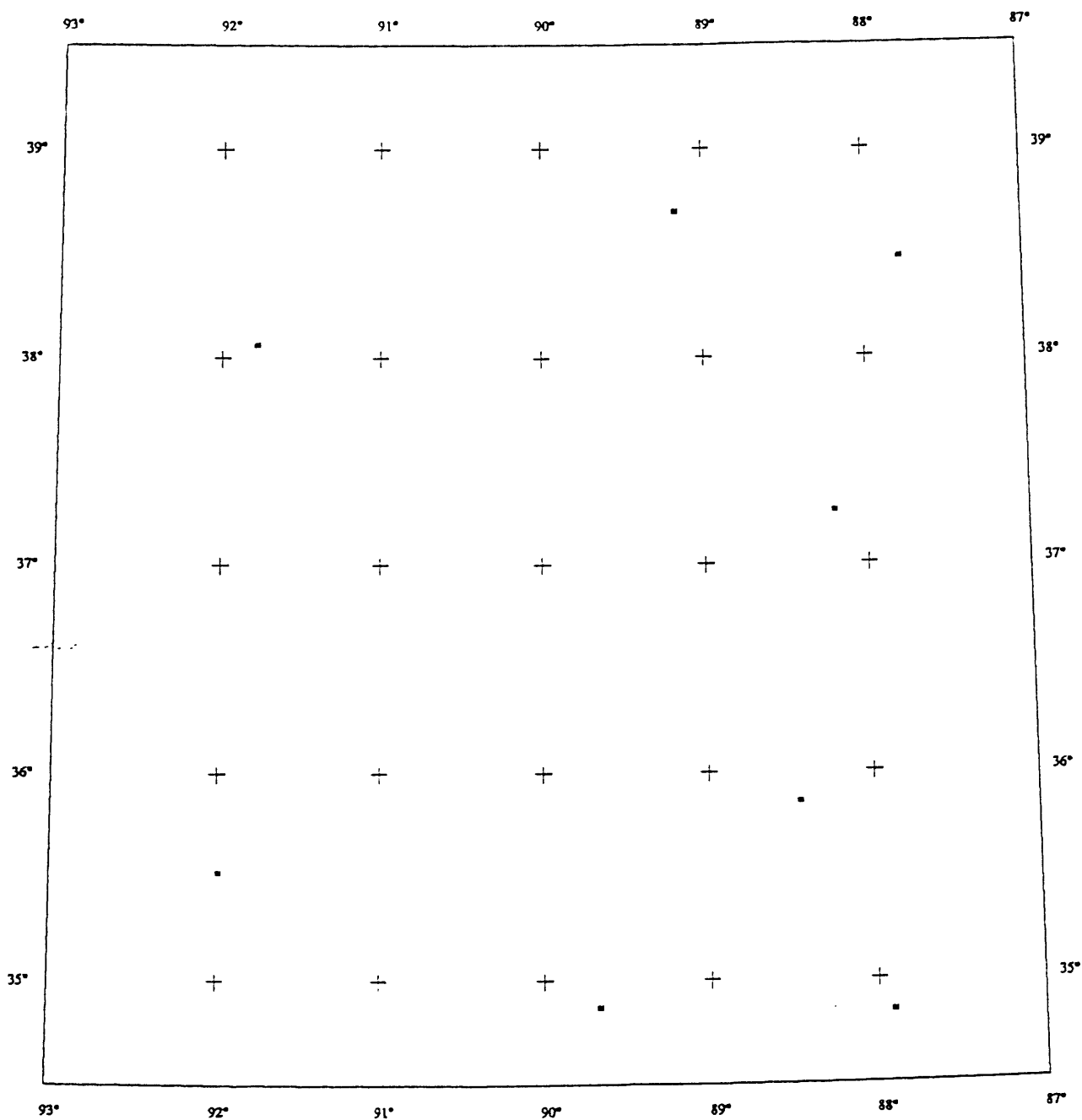
6x5rds -- Limited access highways in the Mississippi Embayment.



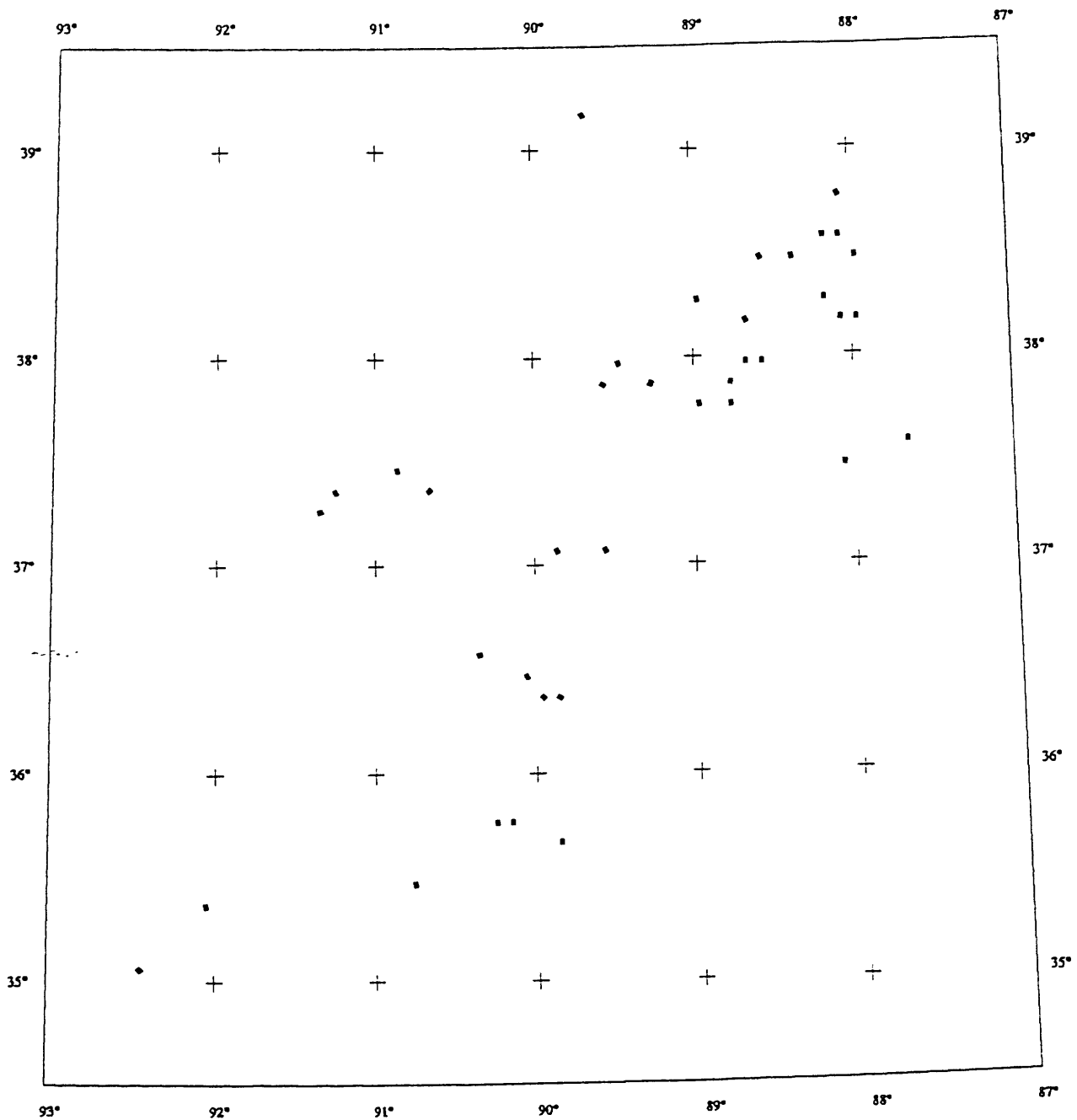
6x5rr -- Railroads in the Mississippi Embayment (see also sec06rr).



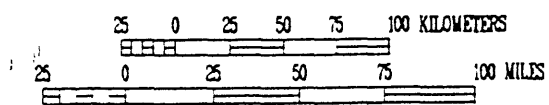
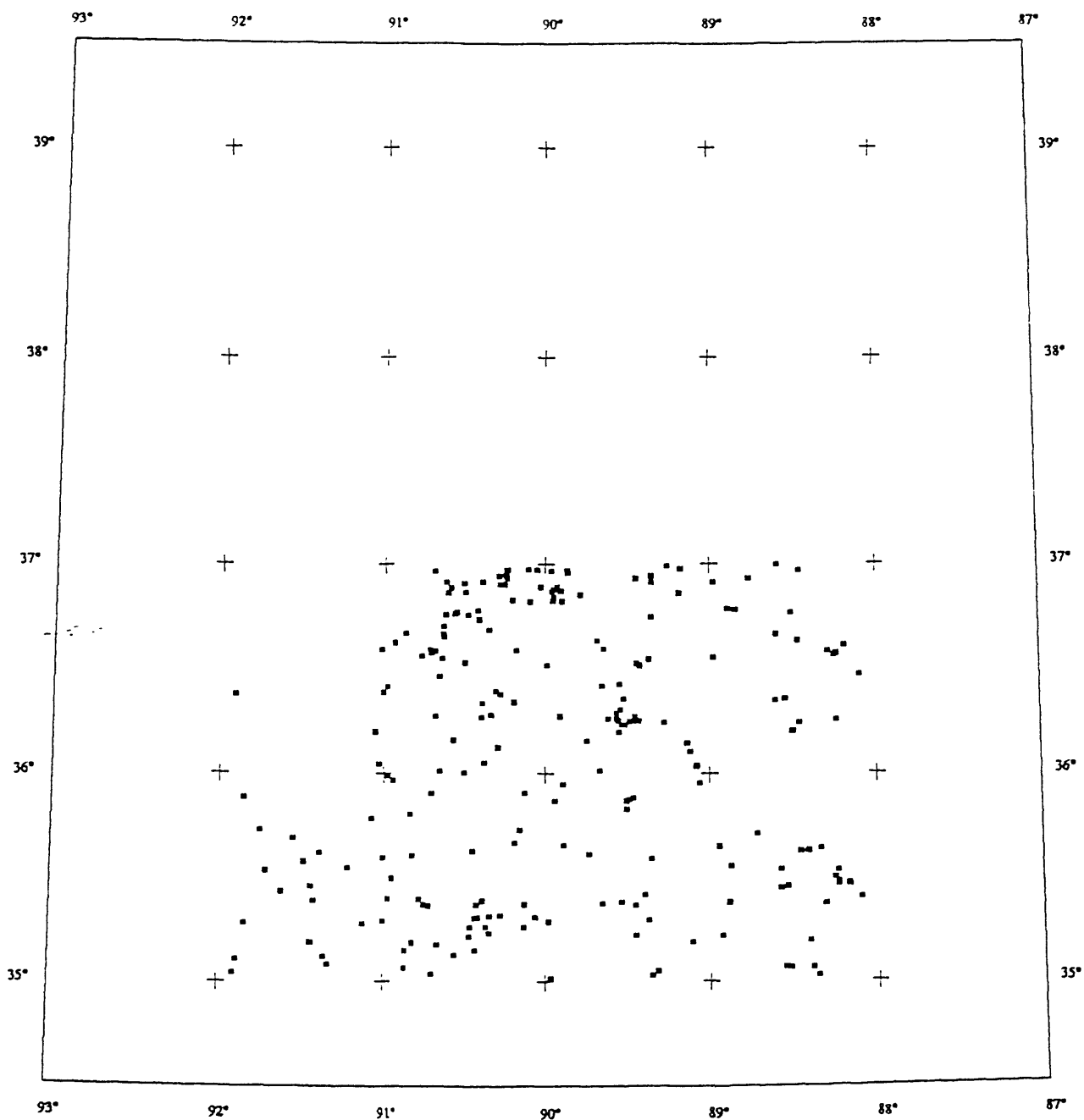
6x5slu -- Earthquake epicenters in the Mississippi Embayment.



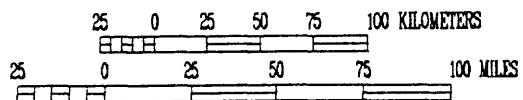
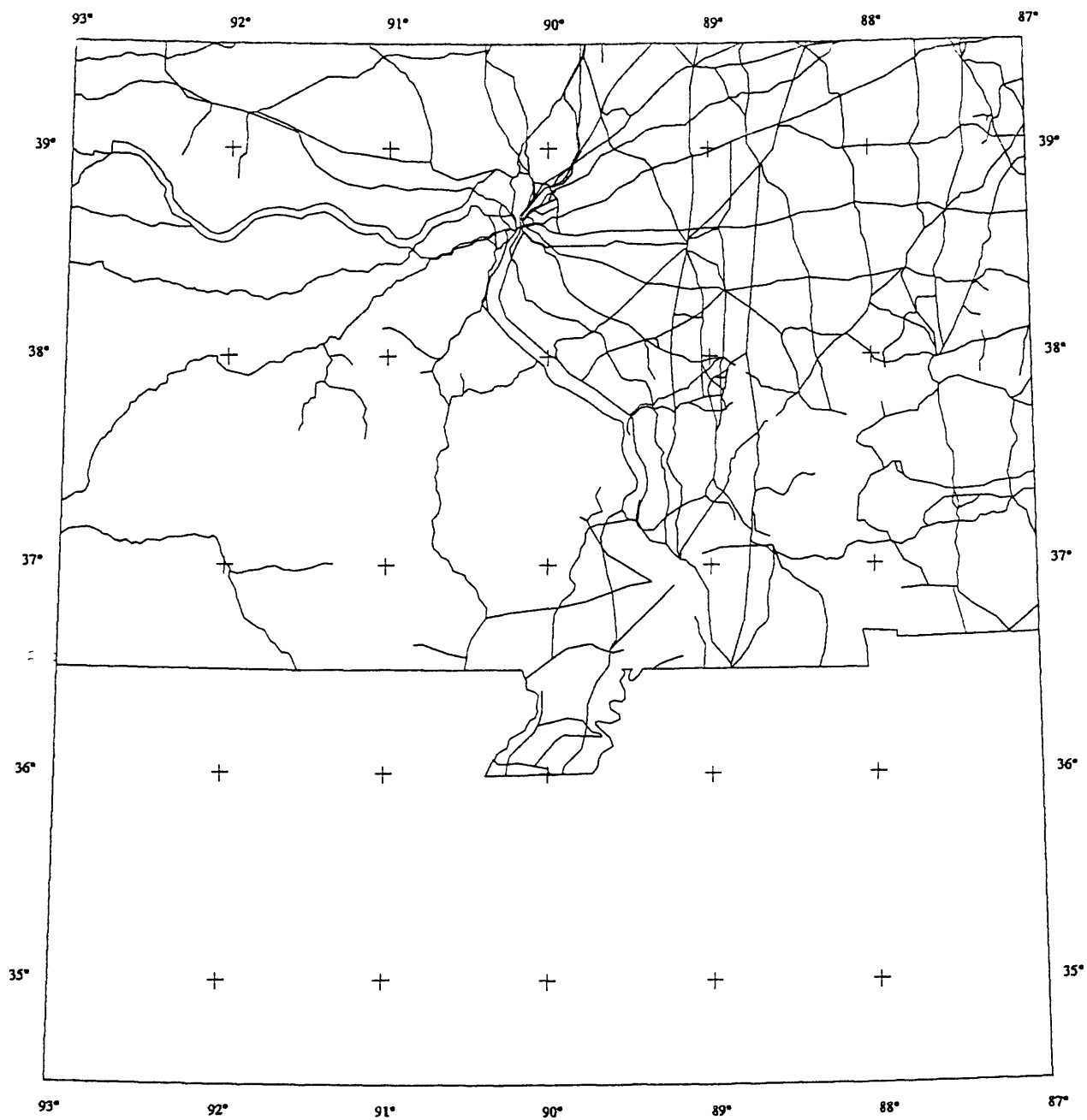
6x5stnames -- Label points for state names in the Mississippi Embayment.



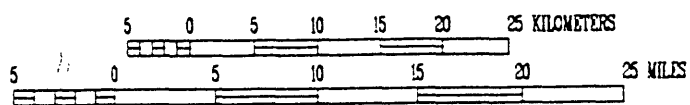
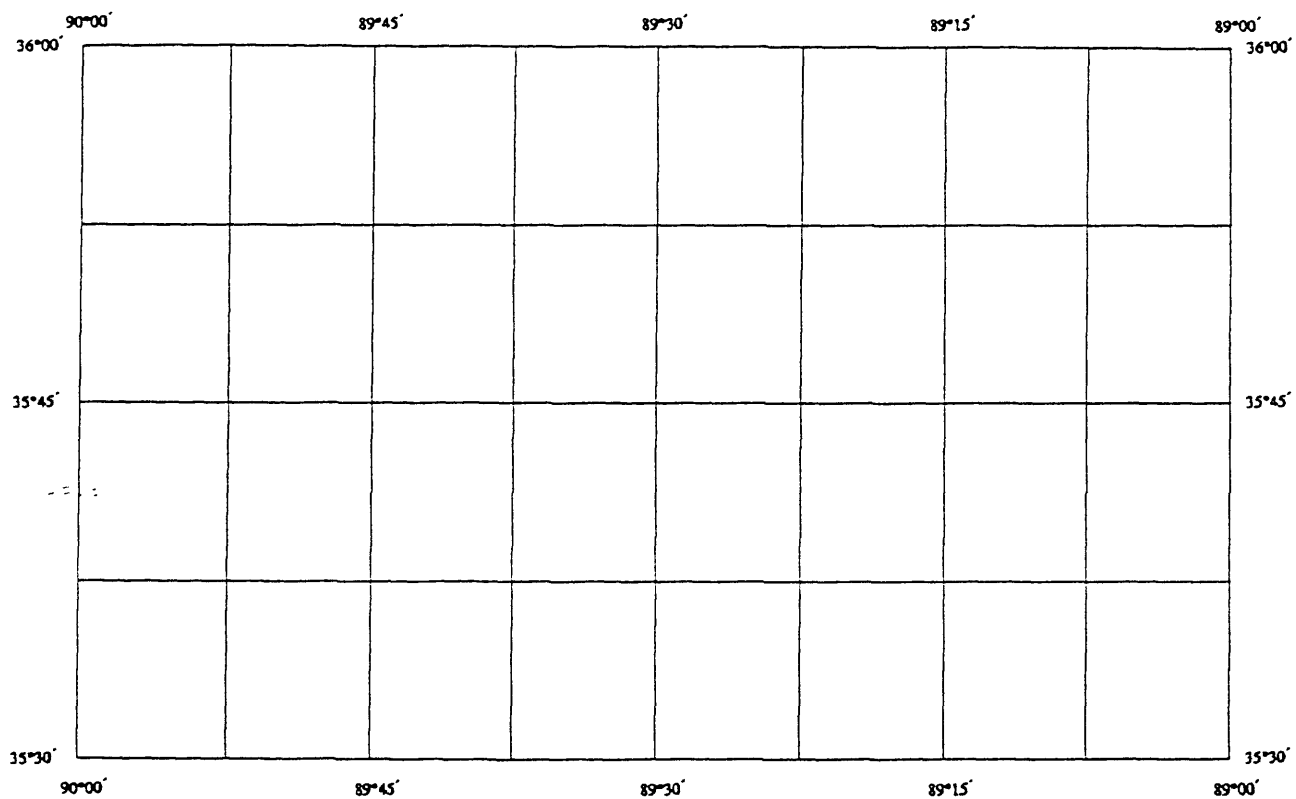
6x5stress – Stress in the Mississippi Embayment.



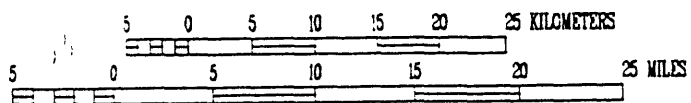
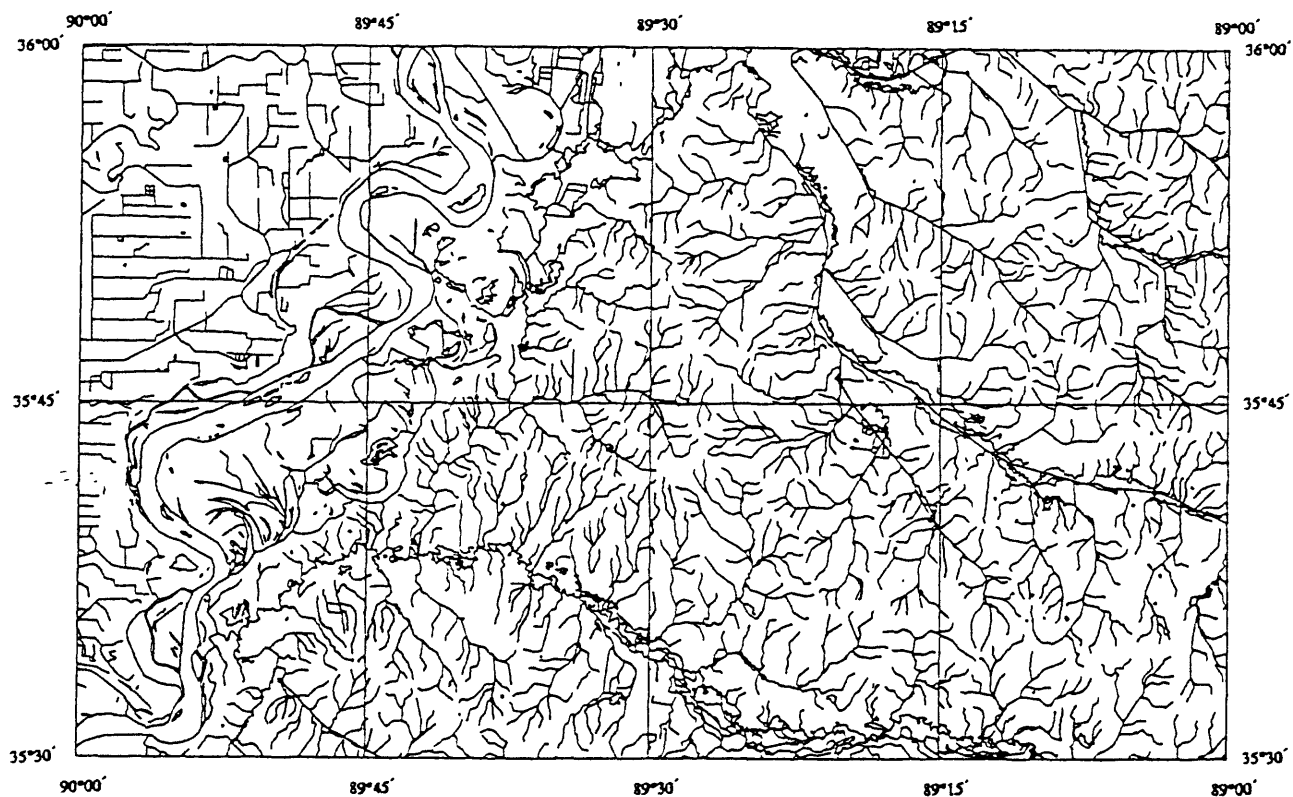
6x5well – Wells in the Mississippi Embayment.



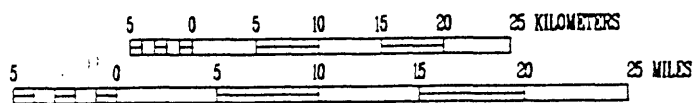
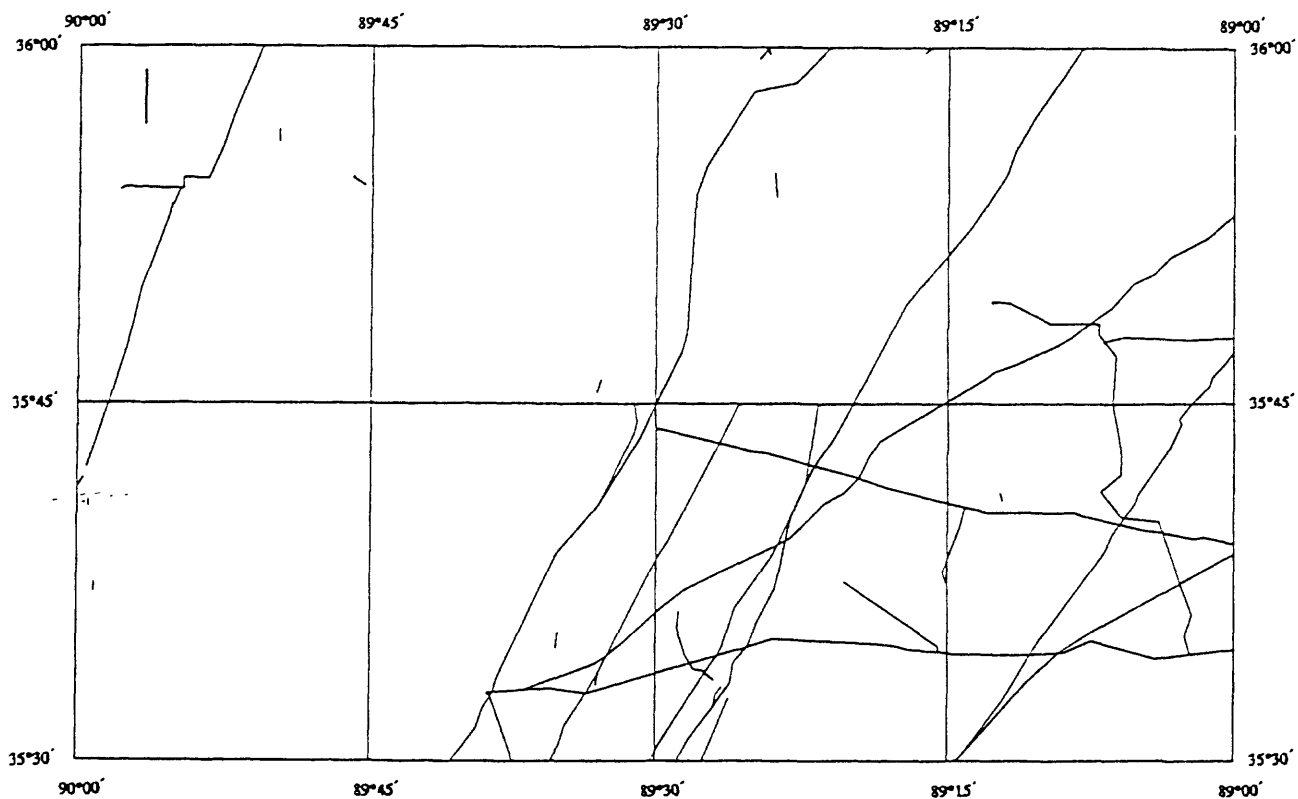
sec06rr – Railroads in the Mississippi Embayment missing from 6x5rr.



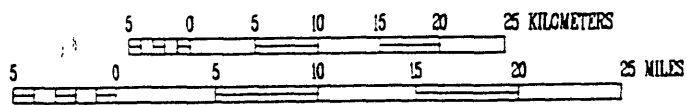
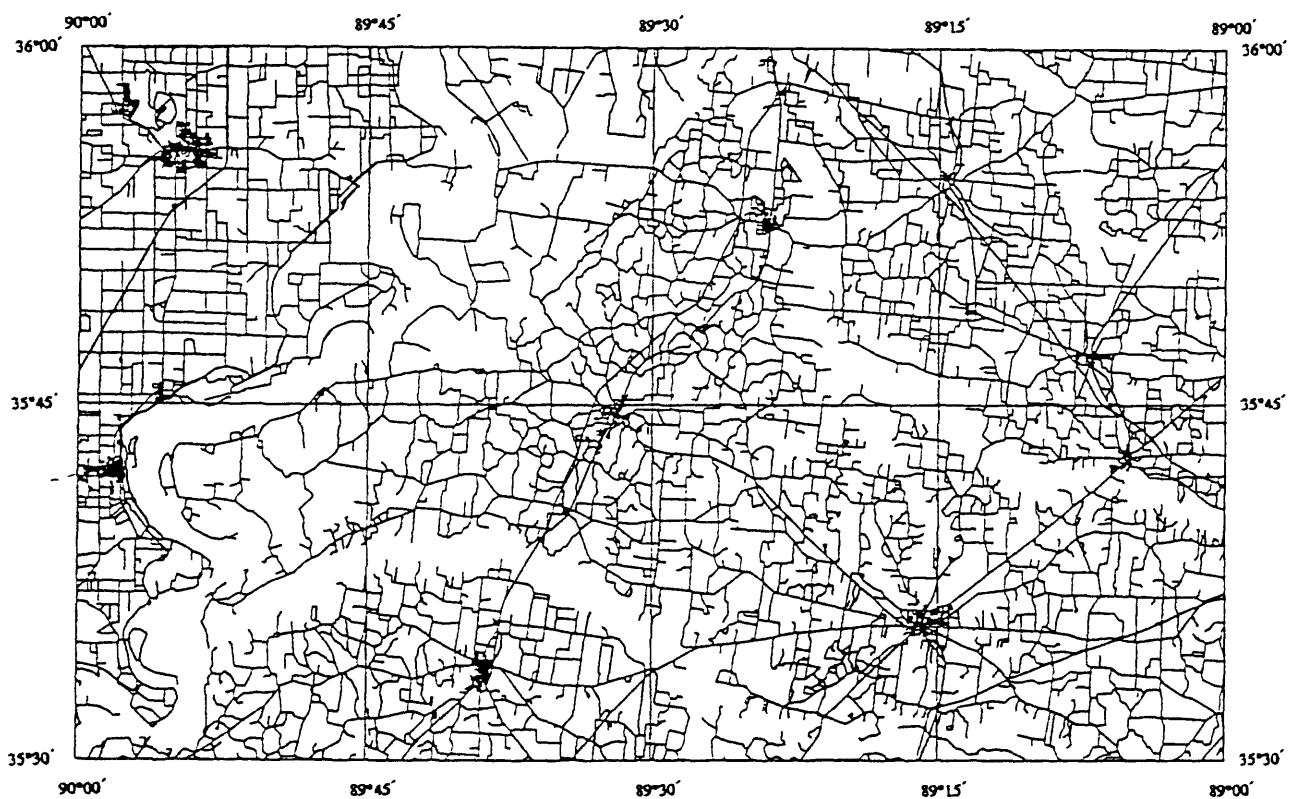
by1grat – Graticule of the Blytheville 30' x 60' (1:100,000-scale) quadrangle.



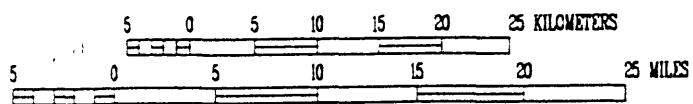
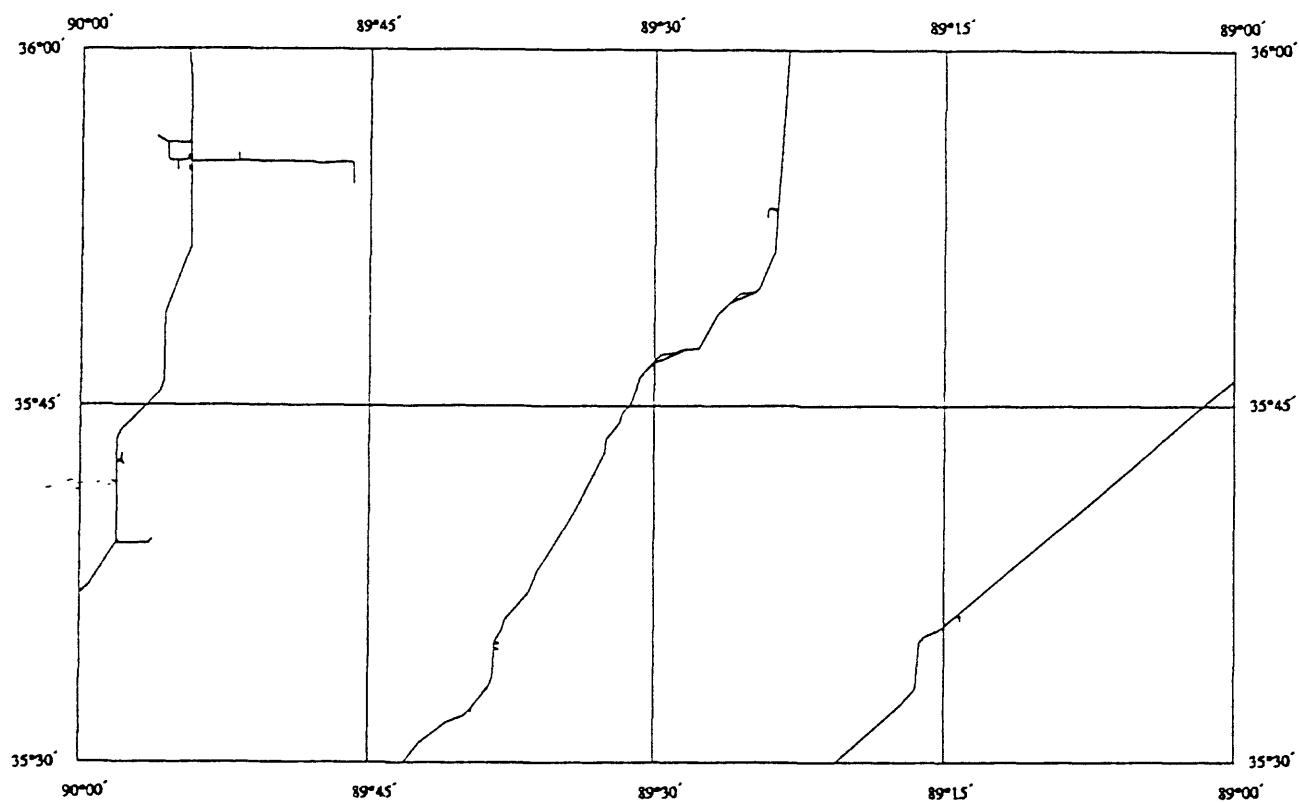
by1hyd – Hydrography of the Blytheville 30' x 60' (1:100,000-scale) quadrangle.



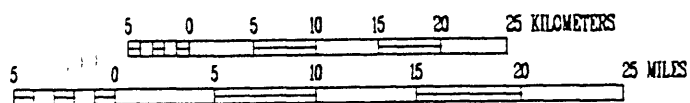
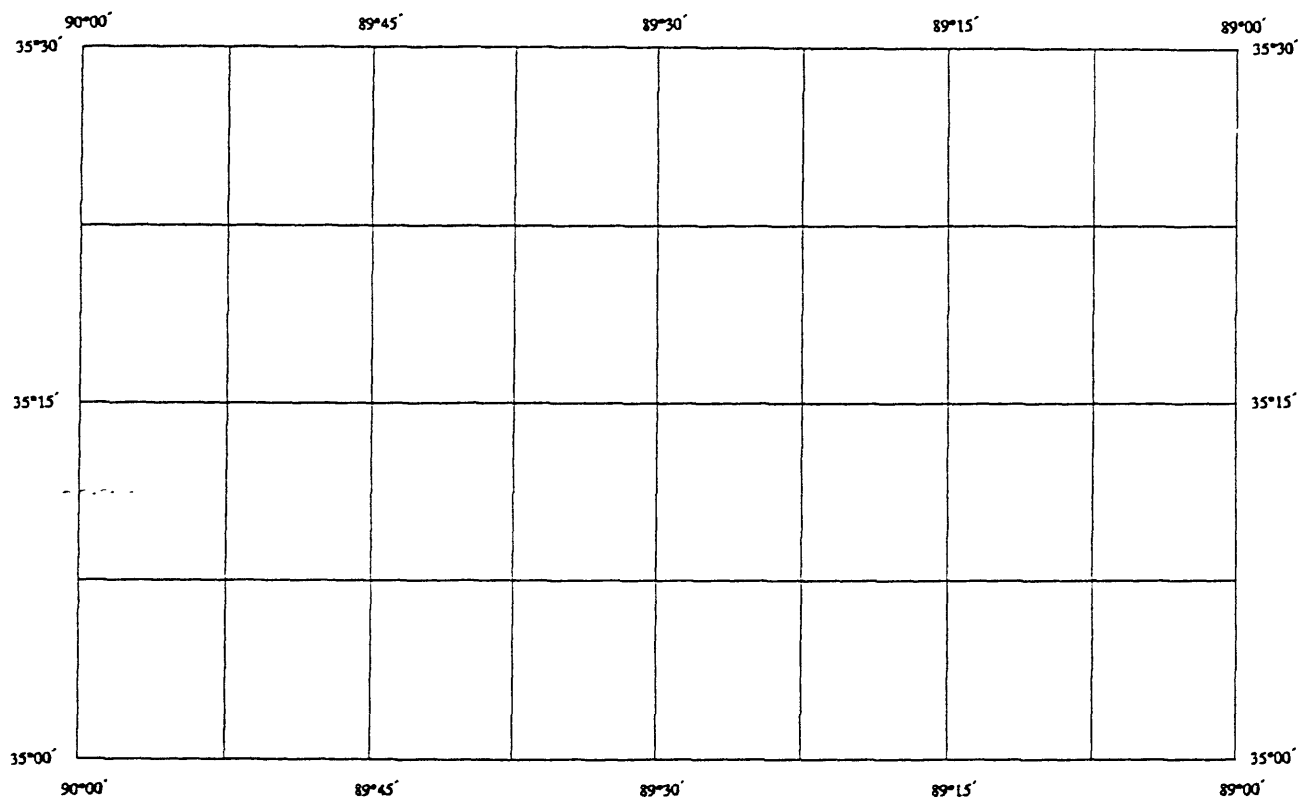
by1mt -- Miscellaneous transportation features of the Blytheville 30' x 60'
(1:100,000-scale) quadrangle.



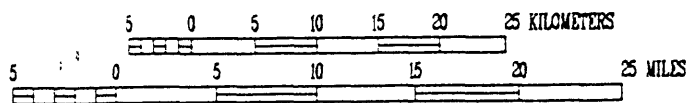
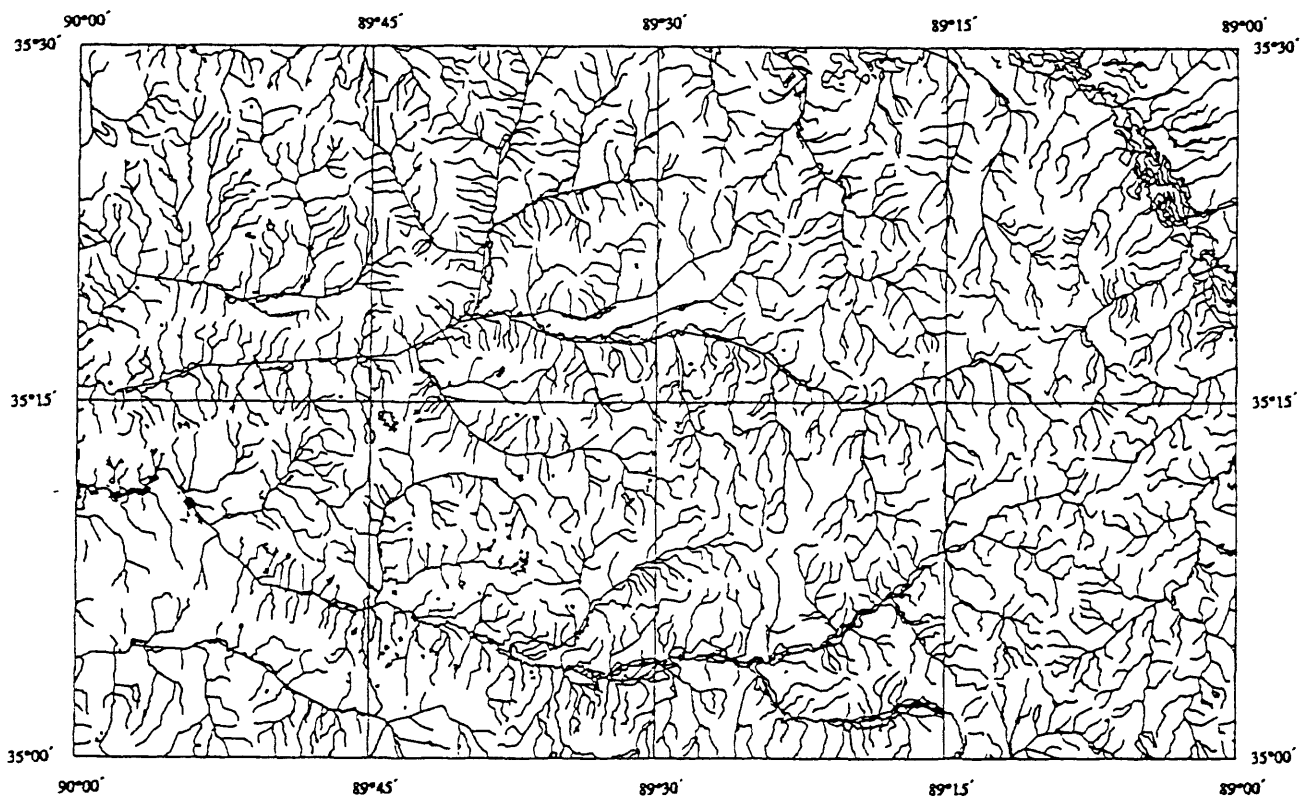
by1rds -- Roads and trails of the Blytheville 30' x 60' (1:100,000-scale) quadrangle.



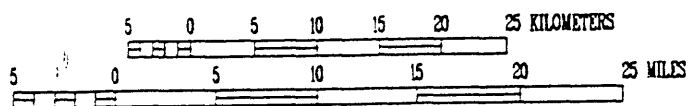
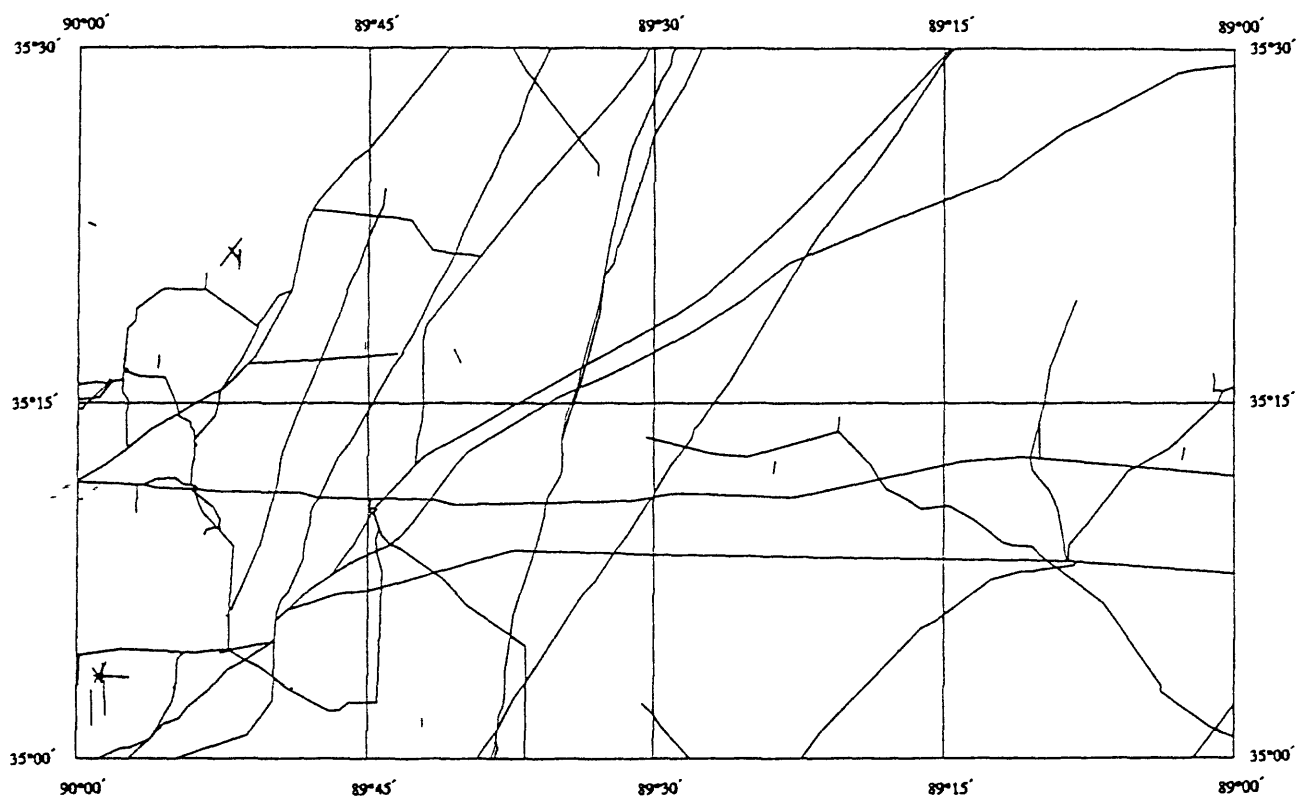
by1rr — Railroads of the Blytheville 30' x 60' (1:100,000-scale) quadrangle.



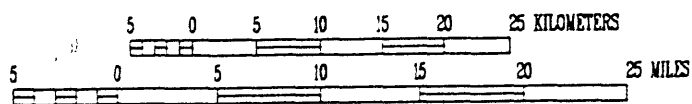
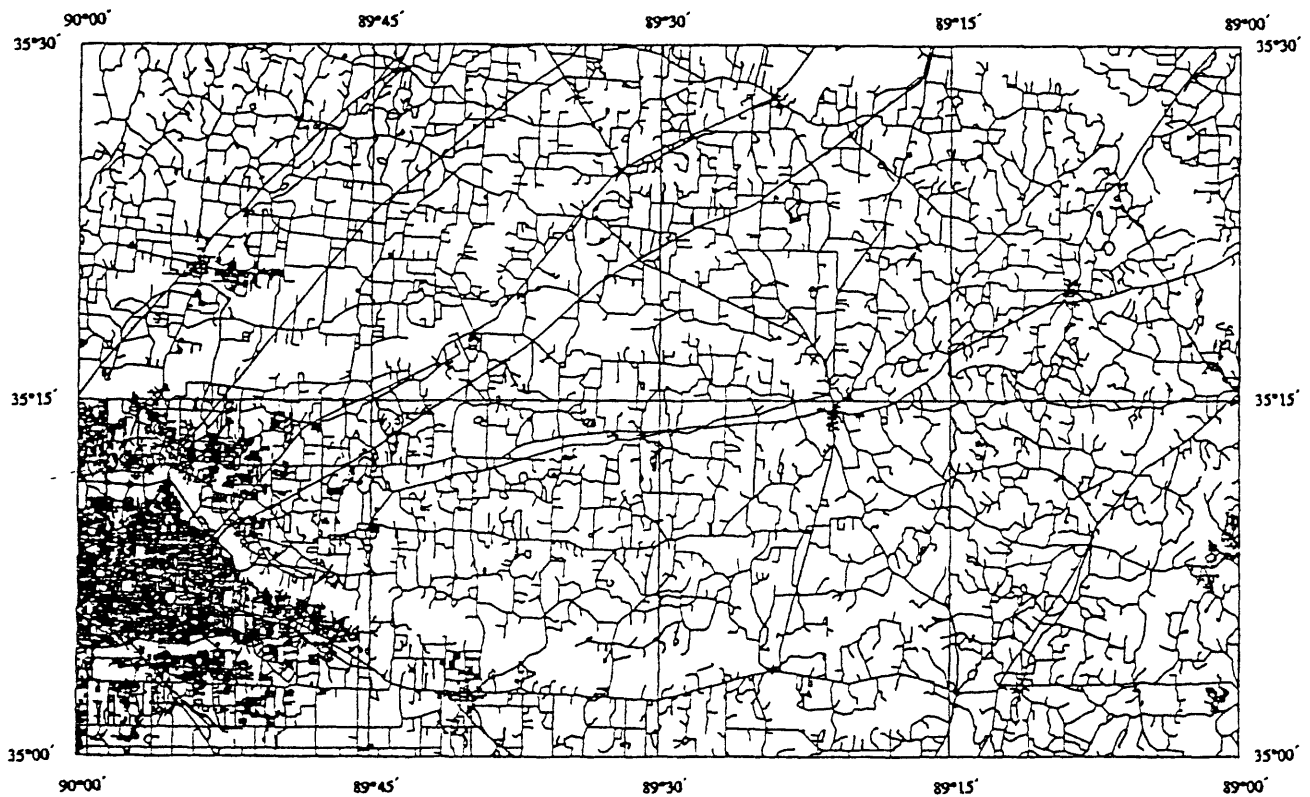
by3grat – Graticule of the Memphis East 30' x 60' (1:100,000-scale) quadrangle.



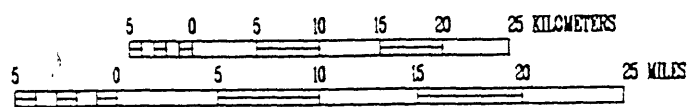
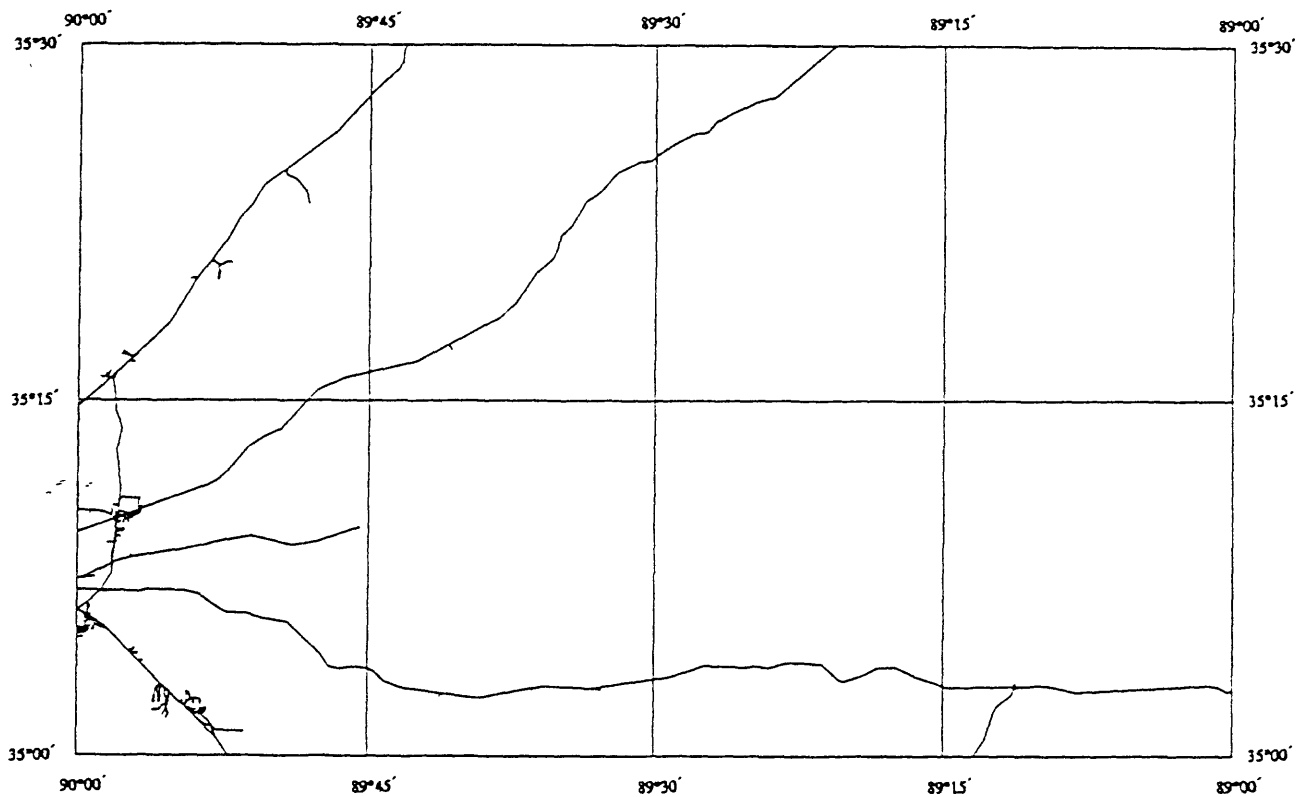
by3hyd – Hydrography of the Memphis East 30' x 60' (1:100,000-scale) quadrangle.



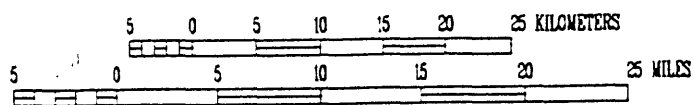
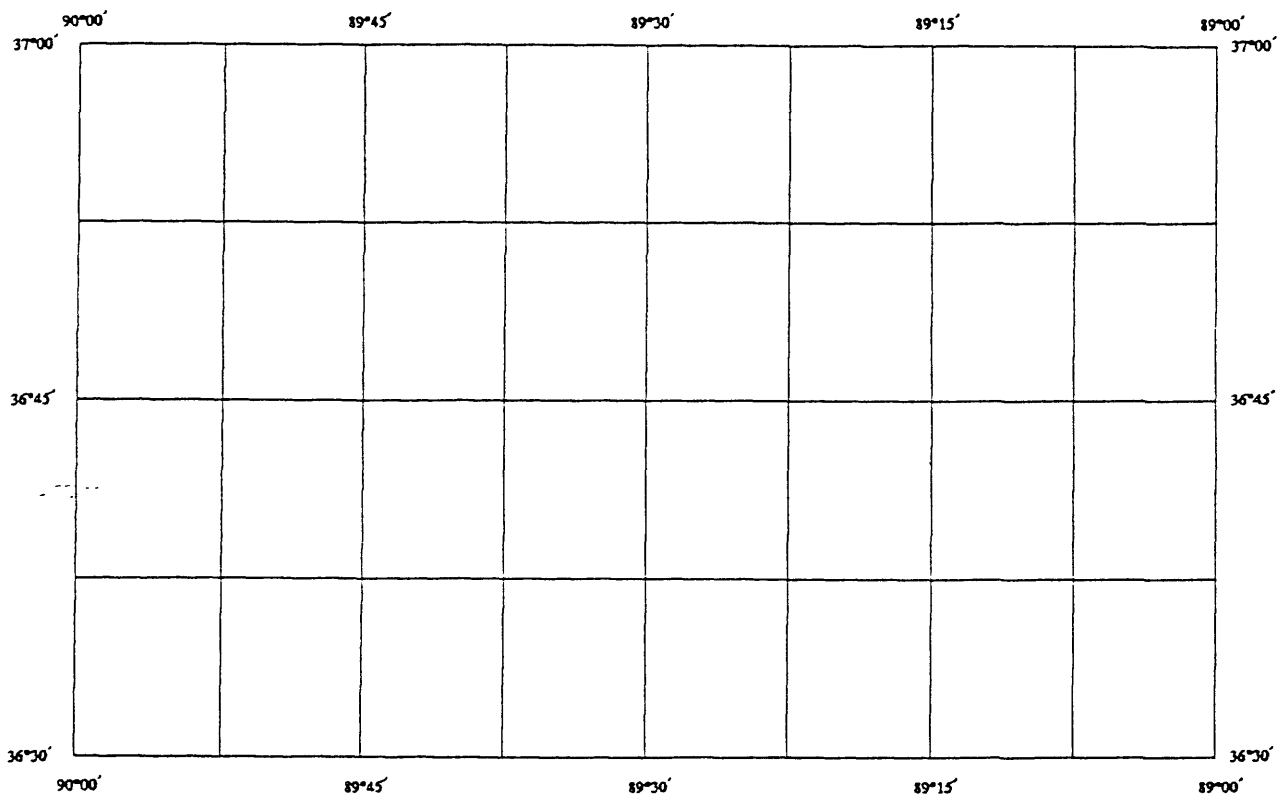
by3mt -- Miscellaneous transportation features of the Memphis East 30' x 60' (1:100,000-scale) quadrangle.



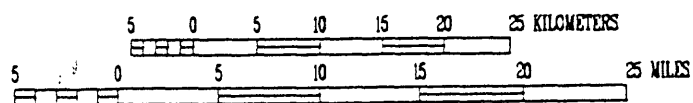
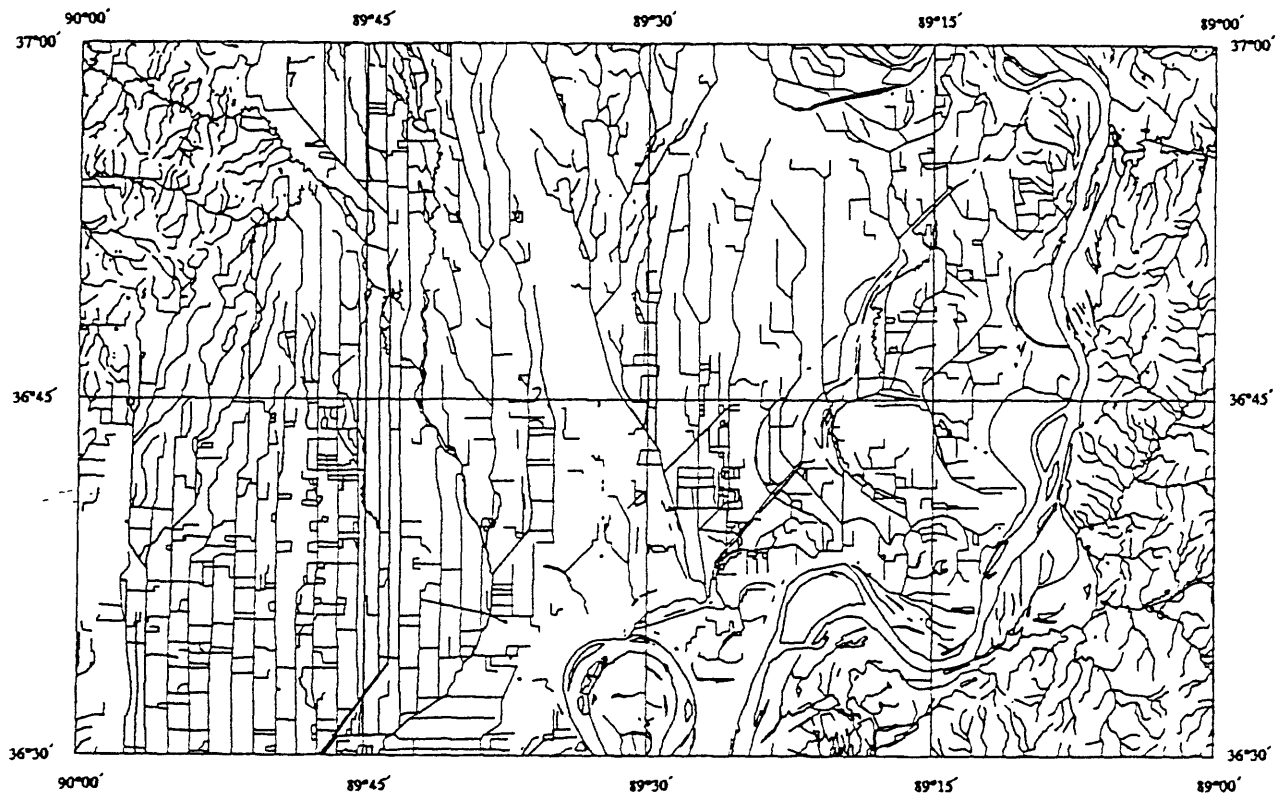
by3rds -- Roads and trails of the Memphis East 30' x 60' (1:100,000-scale) quadrangle.



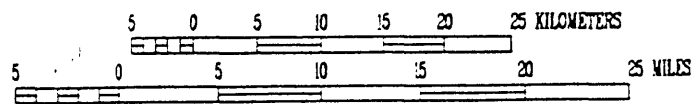
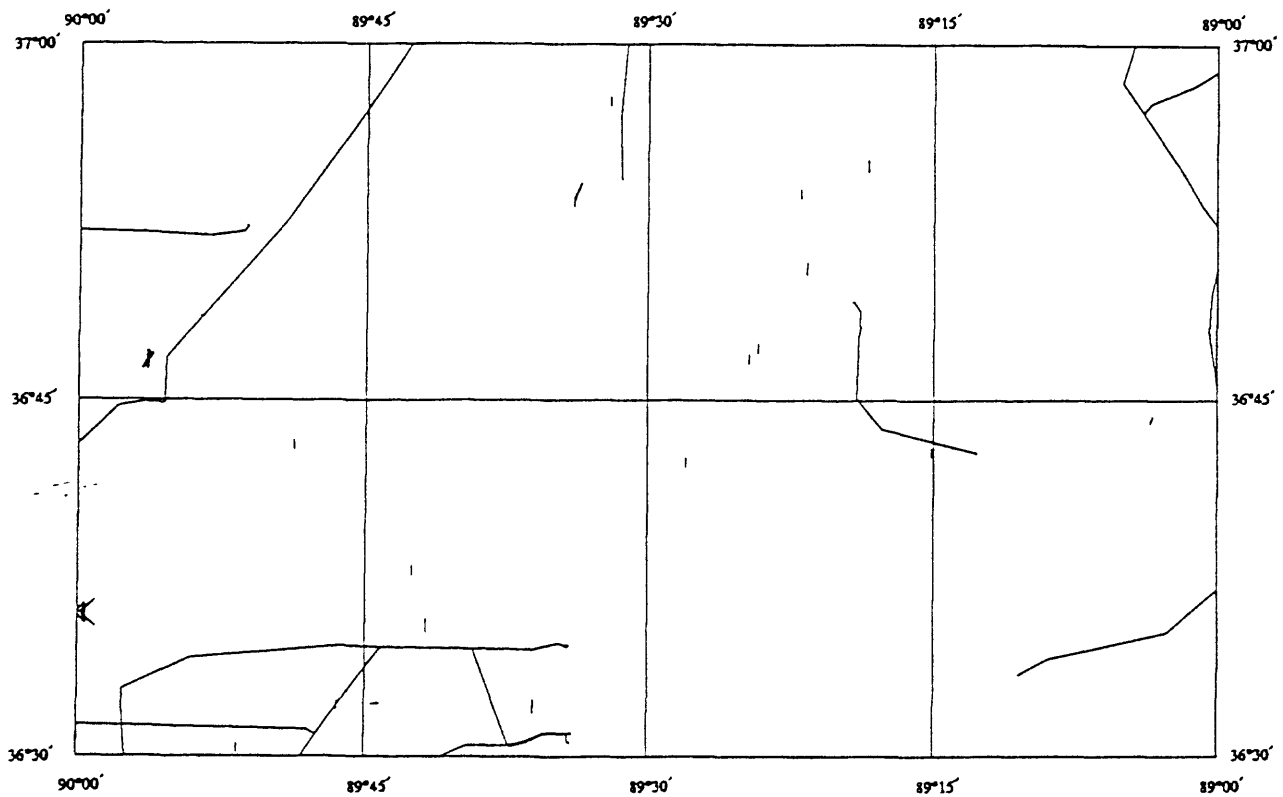
by3rr – Railroads of the Memphis East 30' x 60' (1:100,000-scale) quadrangle.



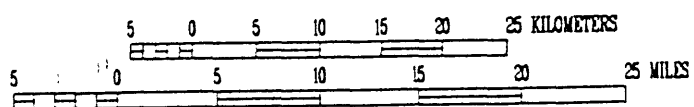
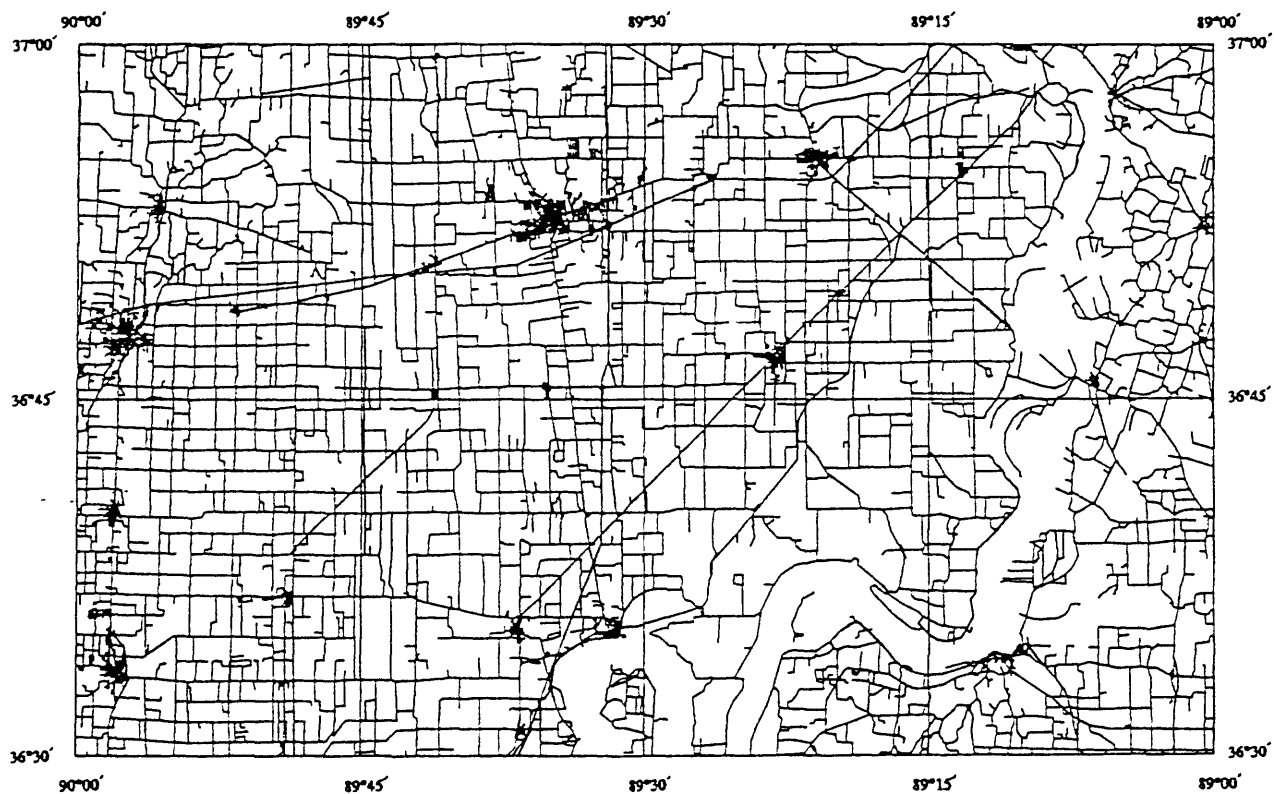
dy1grat – Graticule of the Sikeston 30' x 60' (1:100,000-scale) quadrangle.



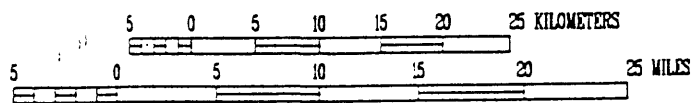
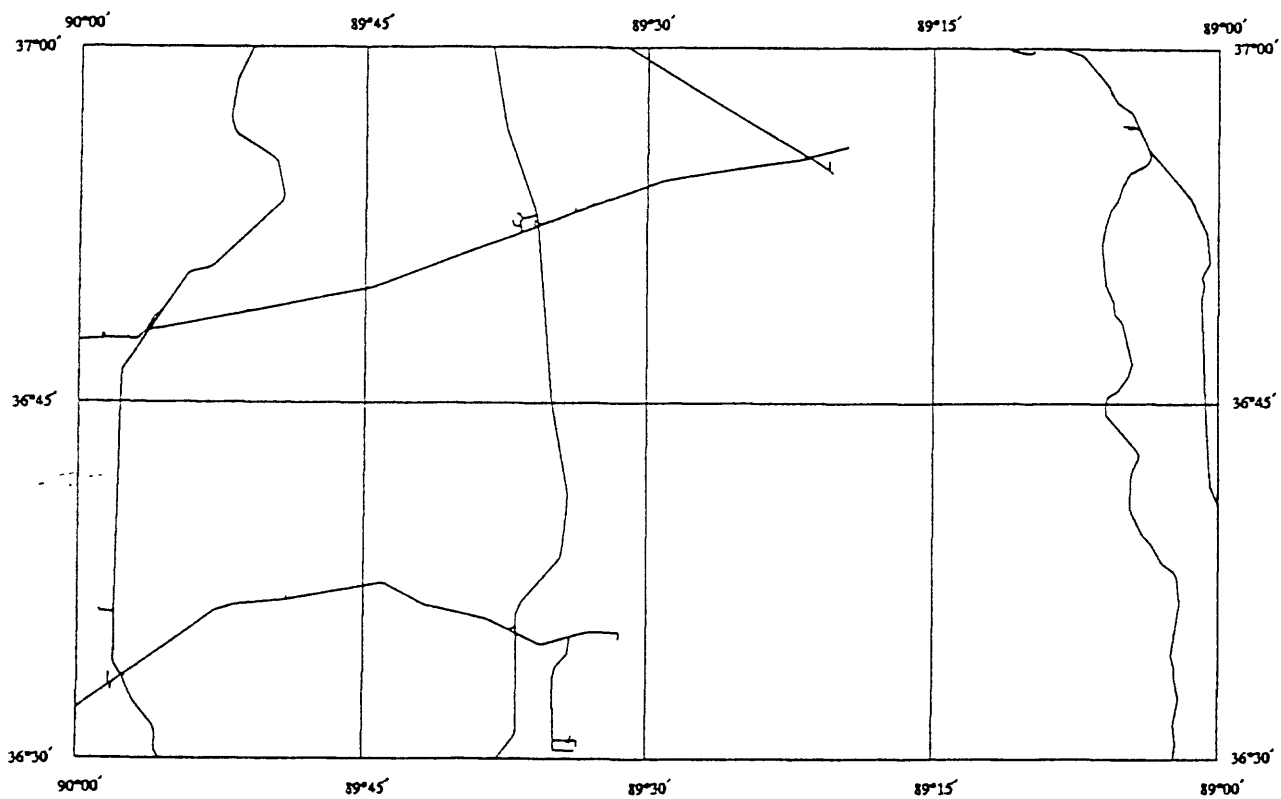
dy1hyd – Hydrography of the Siketon 30' x 60' (1:100,000-scale) quadrangle.



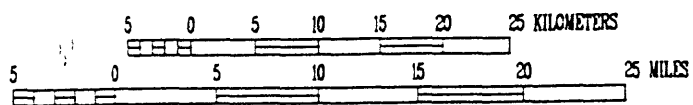
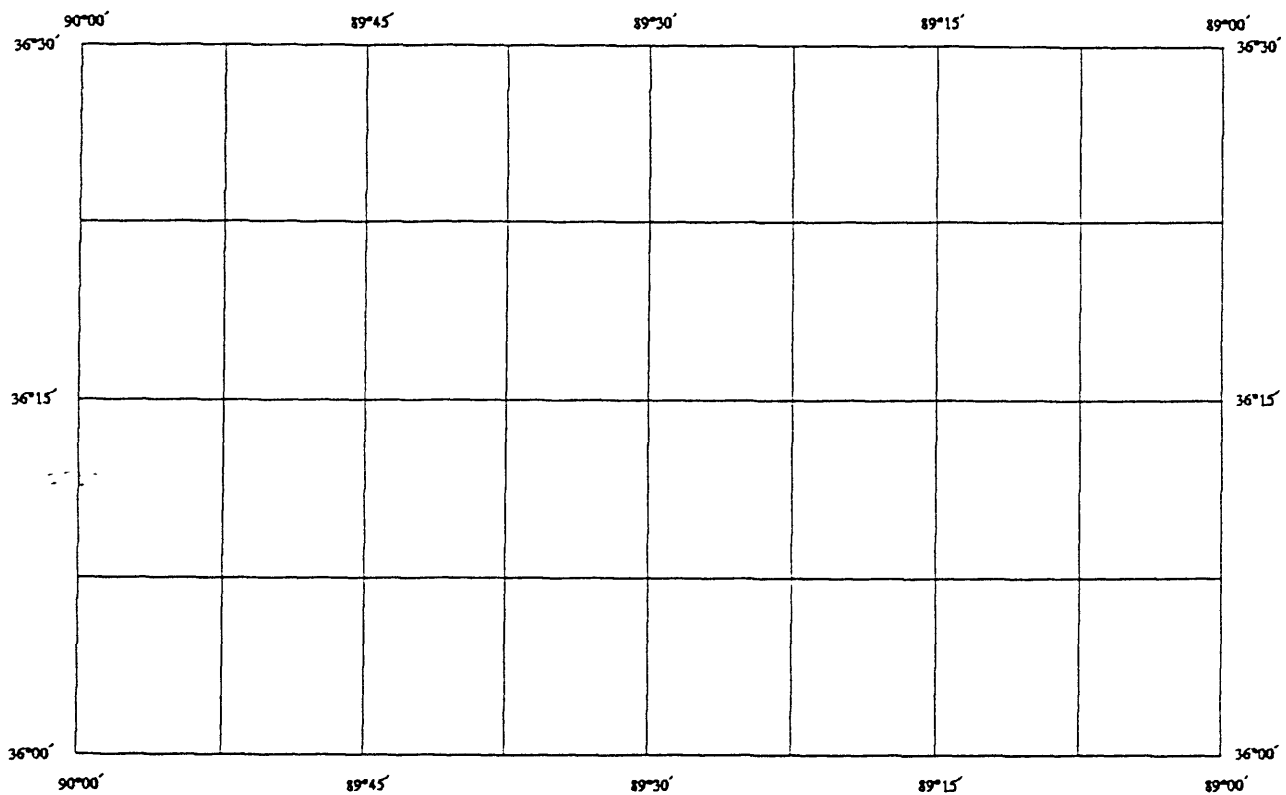
dy1mt -- Miscellaneous transportation features of the Sikeston 30' x 60' (1:100,000-scale) quadrangle.



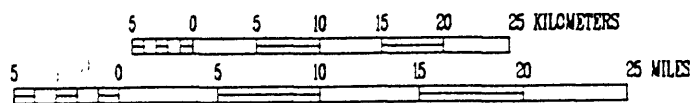
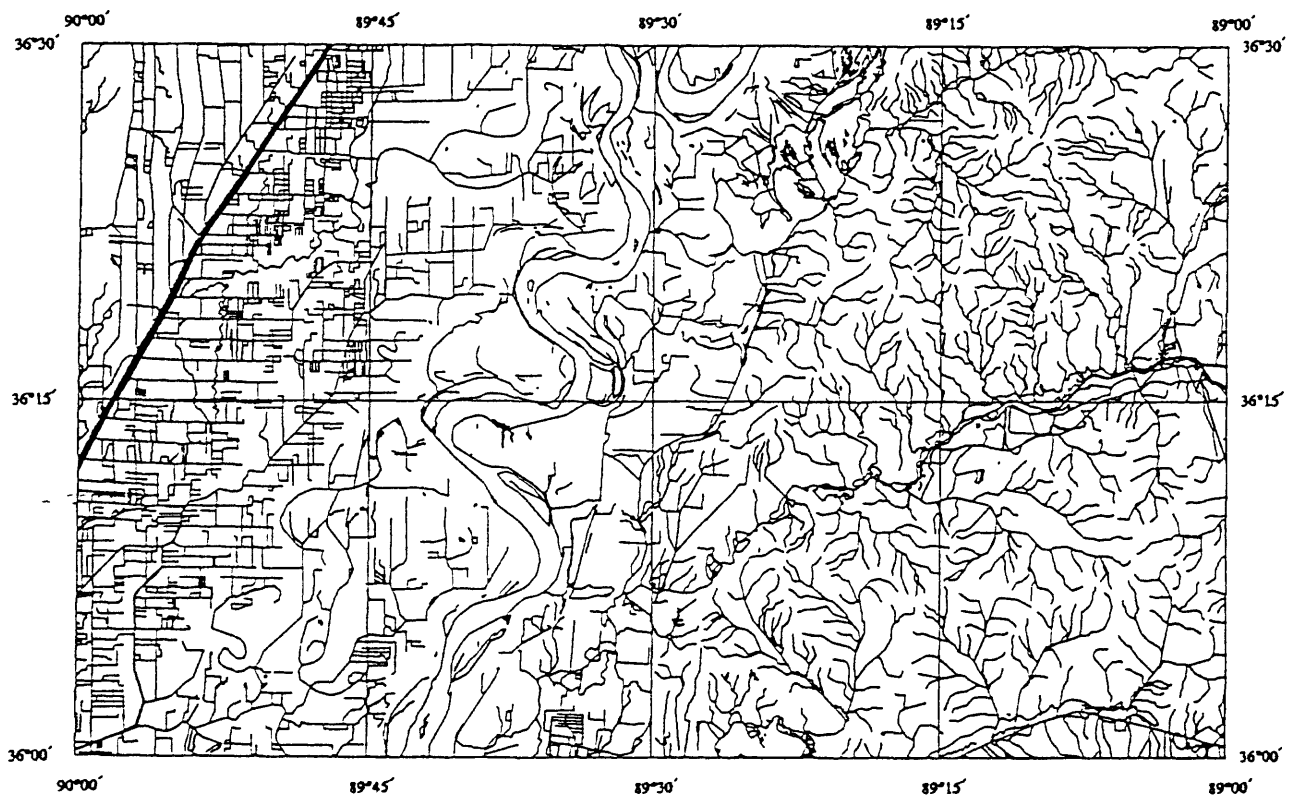
dy1rds -- Roads and trails of the Sikeston 30' x 60' (1:100,000-scale) quadrangle.



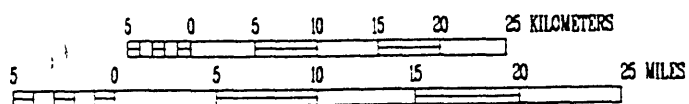
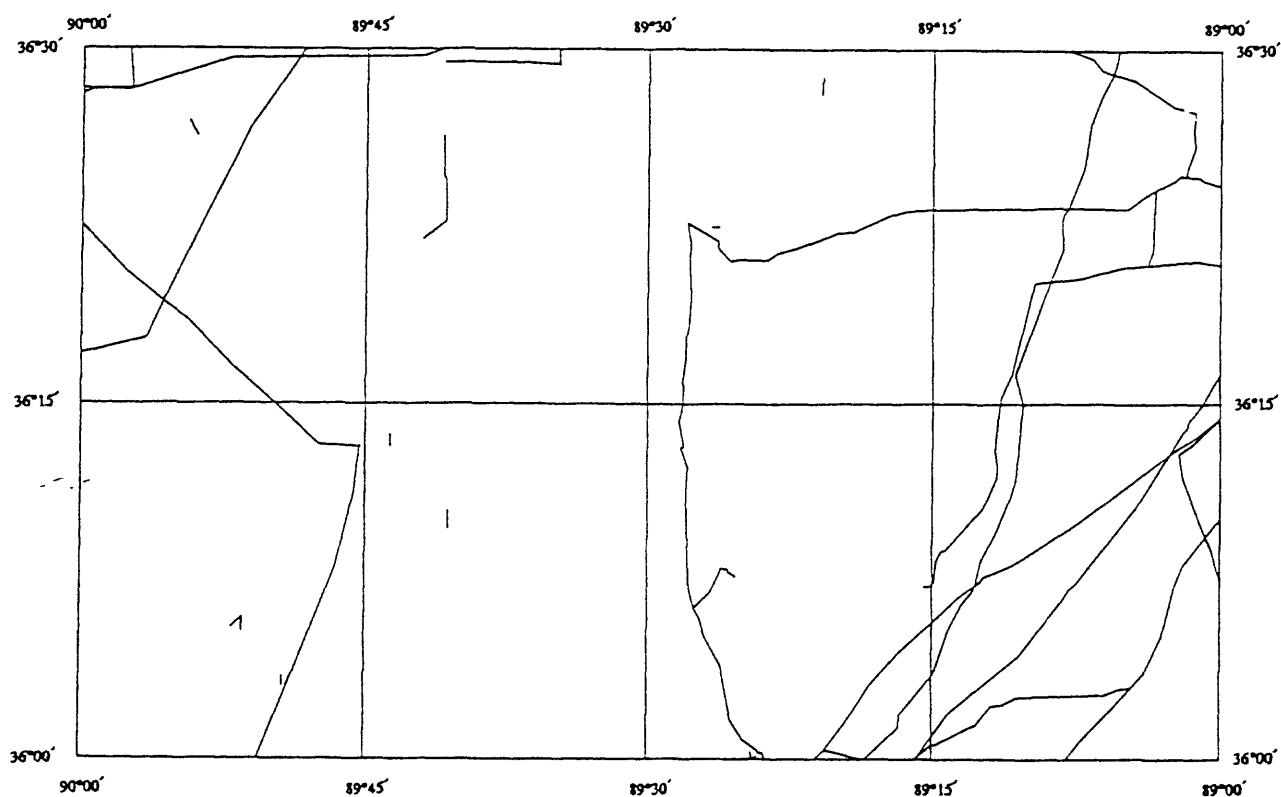
dy1rr – Railroads of the Sikeston 30' x 60' (1:100,000-scale) quadrangle.



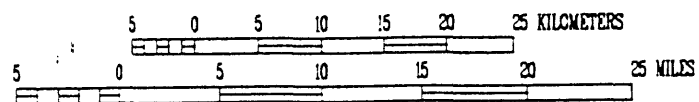
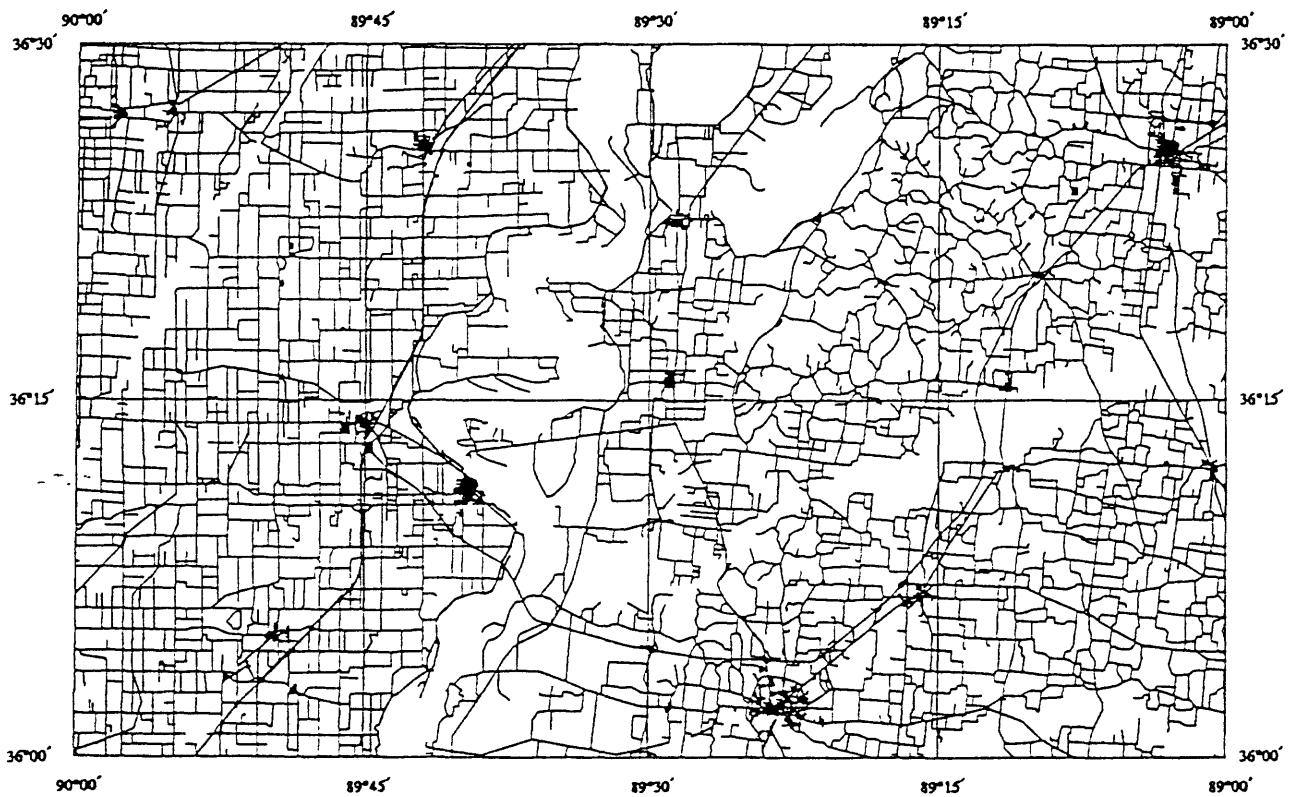
dy3grat – Graticule of the Dyersburg 30' x 60' (1:100,000-scale) quadrangle.



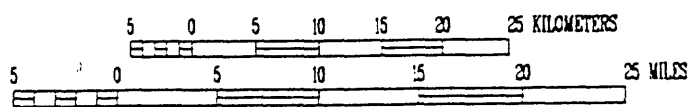
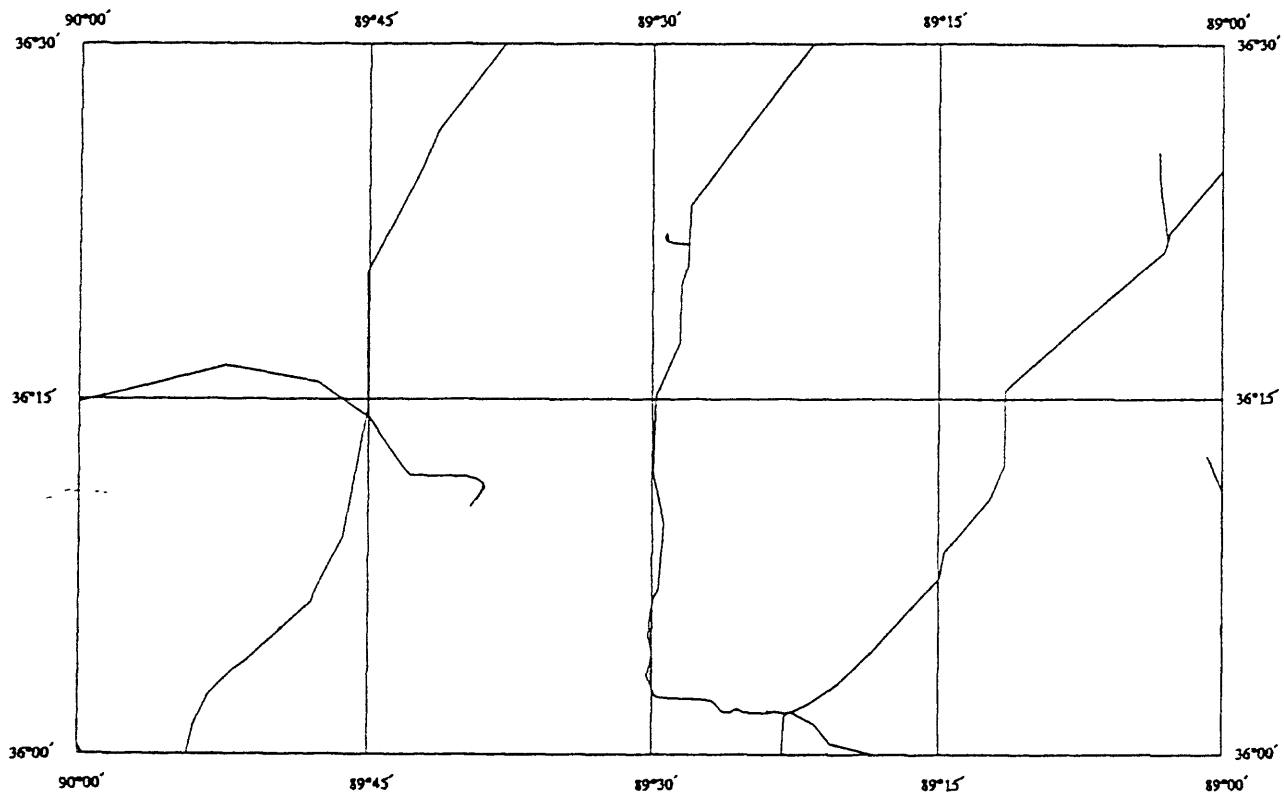
dy3hyd – Hydrography of the Dyersburg 30' x 60' (1:100,000-scale) quadrangle.



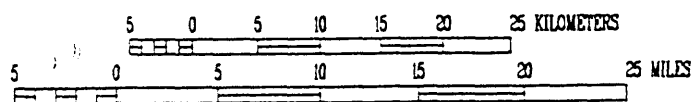
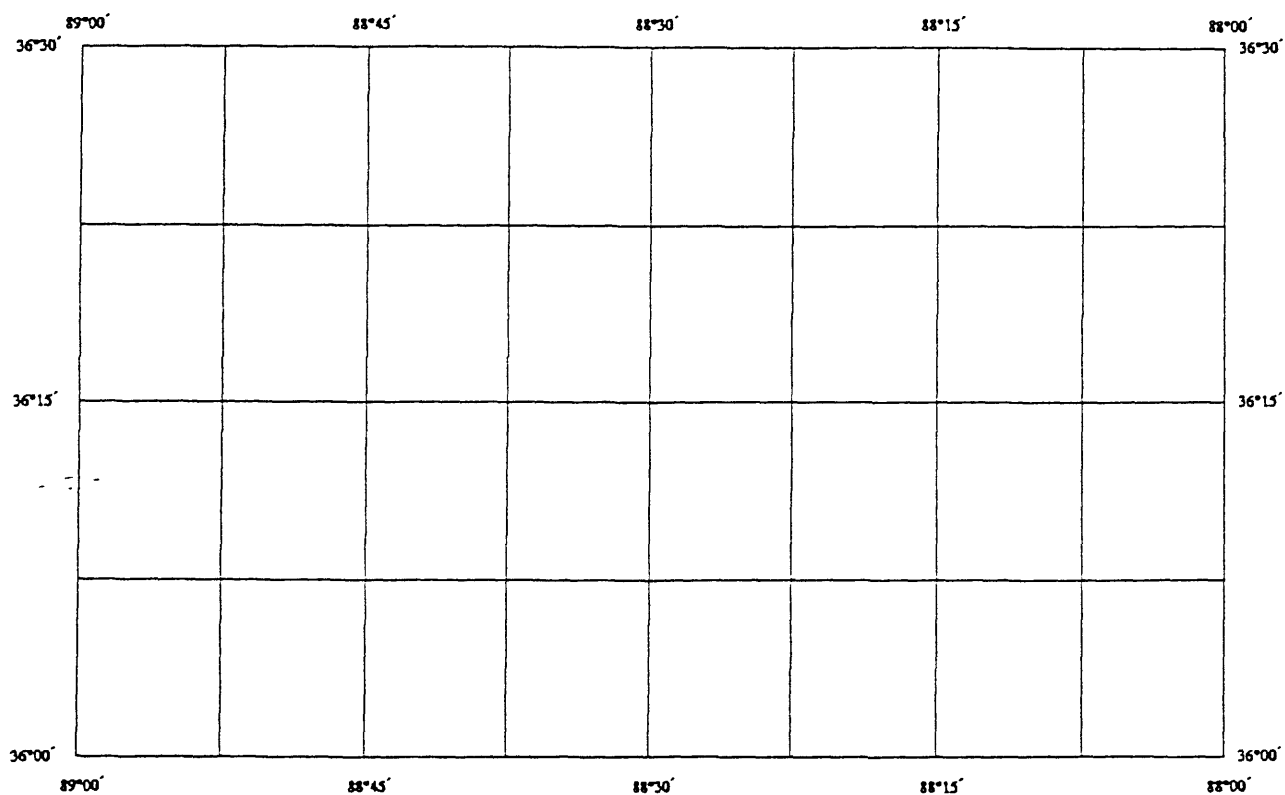
dy3mt -- Miscellaneous transportation features of the Dyersburg 30' x 60' (1:100,000-scale) quadrangle.



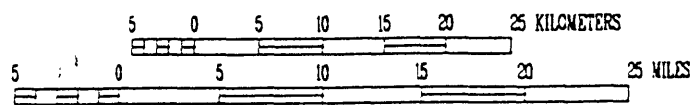
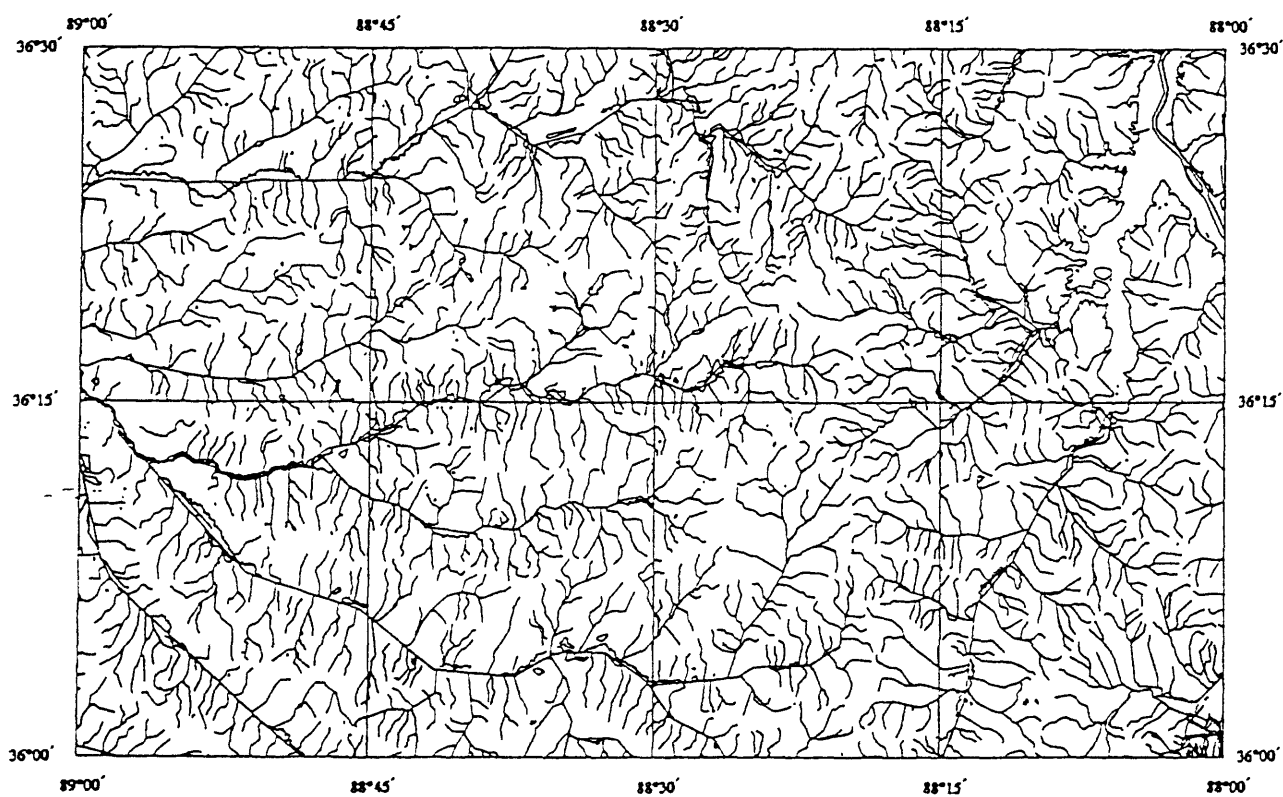
dy3rds -- Roads and trails of the Dyersburg 30' x 60' (1:100,000-scale) quadrangle.



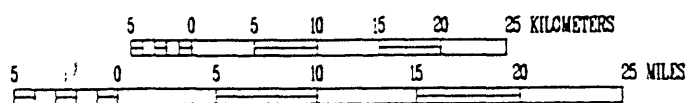
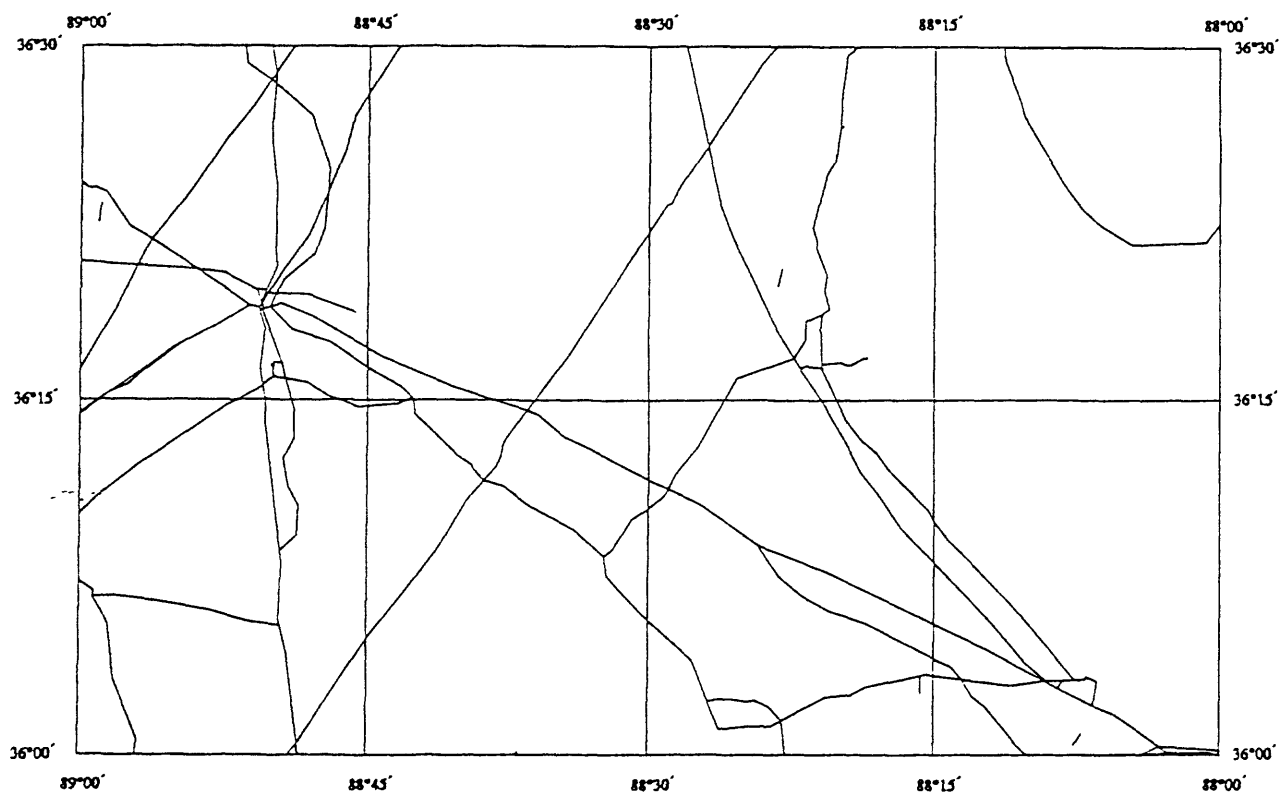
dy3rr -- Railroads of the Dyersburg 30' x 60' (1:100,000-scale) quadrangle.



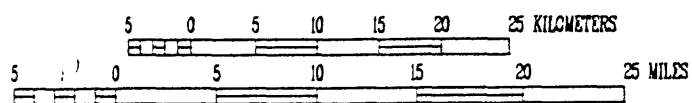
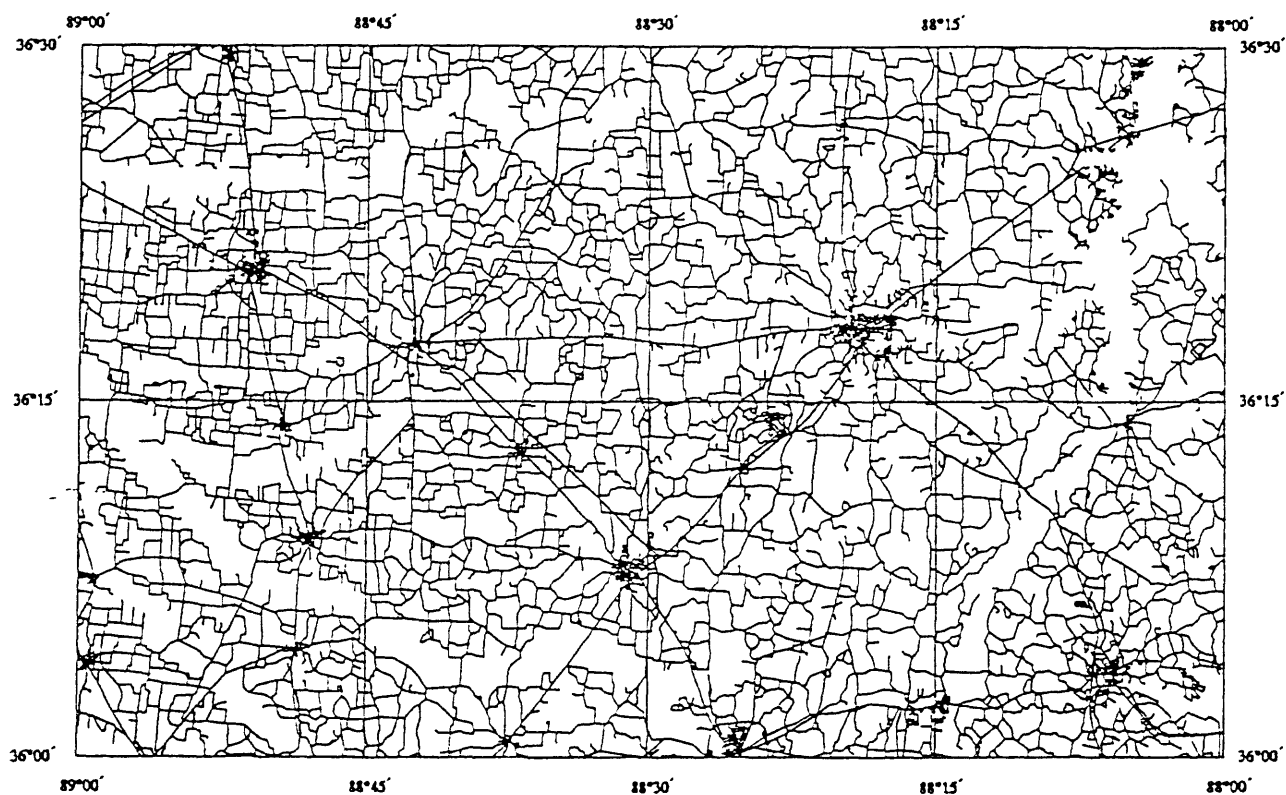
dy4grat – Graticule of the McKenzie 30' x 60' (1:100,000-scale) quadrangle.



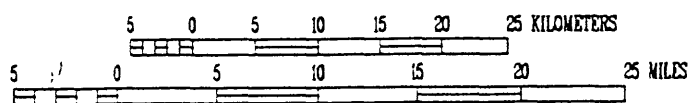
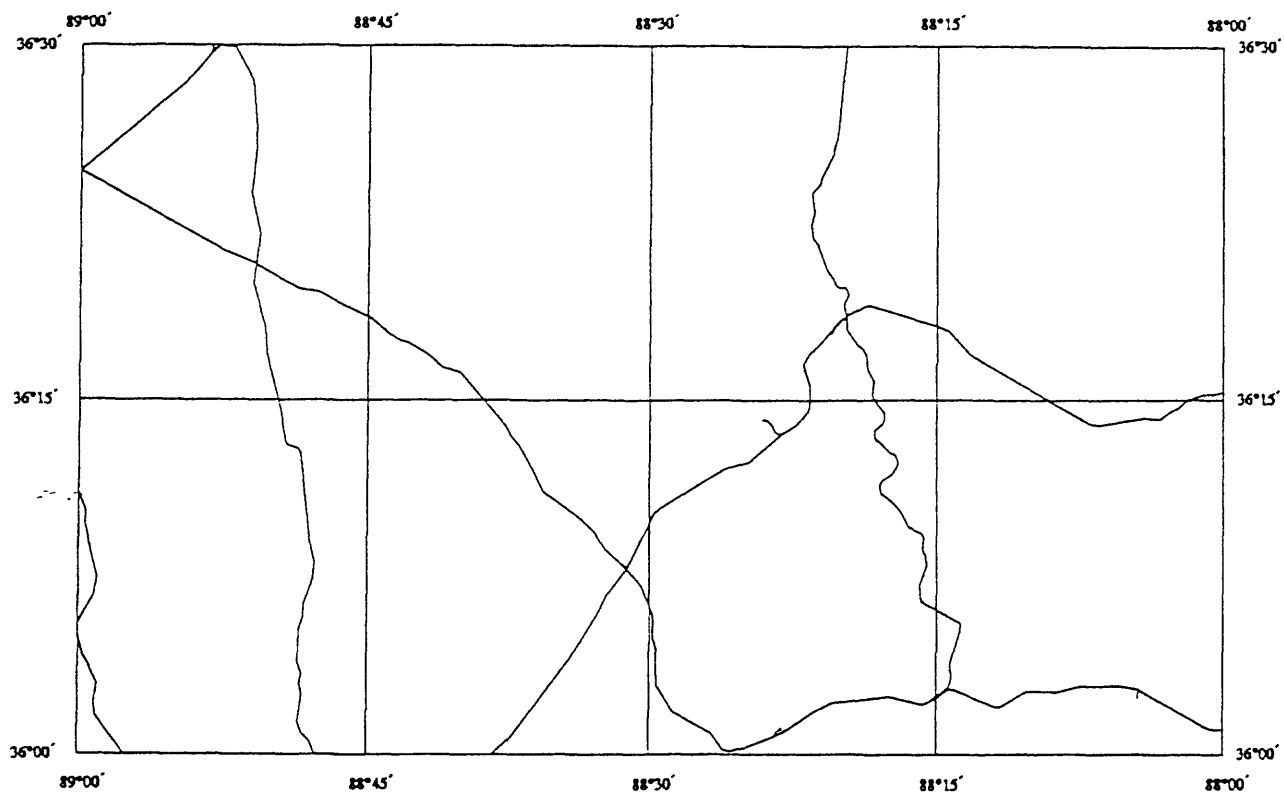
dy4hyd – Hydrography of the McKenzie 30' x 60' (1:100,000-scale) quadrangle.



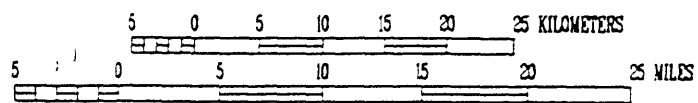
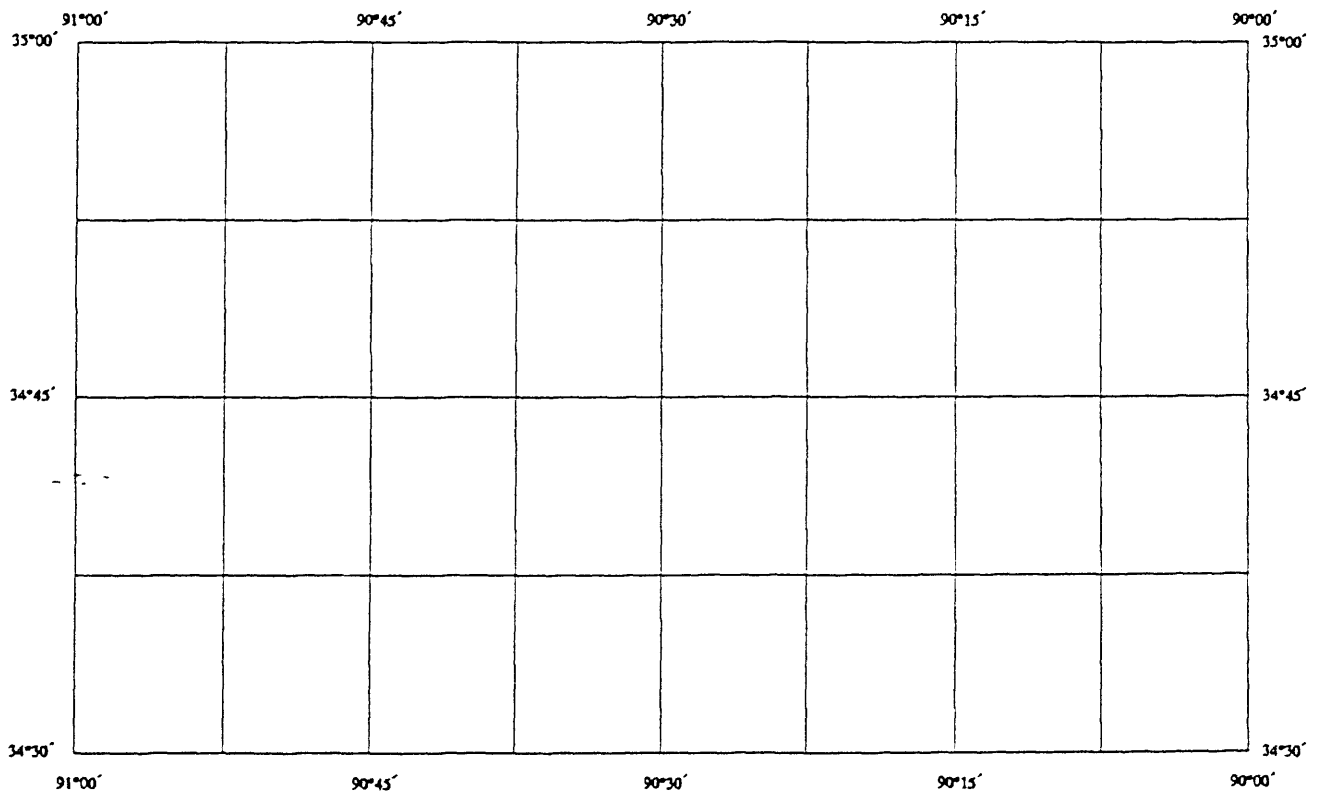
dy4mt -- Miscellaneous transportation features of the McKenzie 30' x 60' (1:100,000-scale) quadrangle.



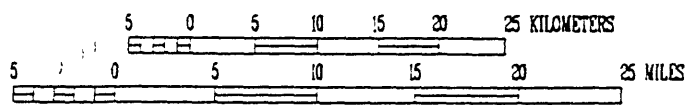
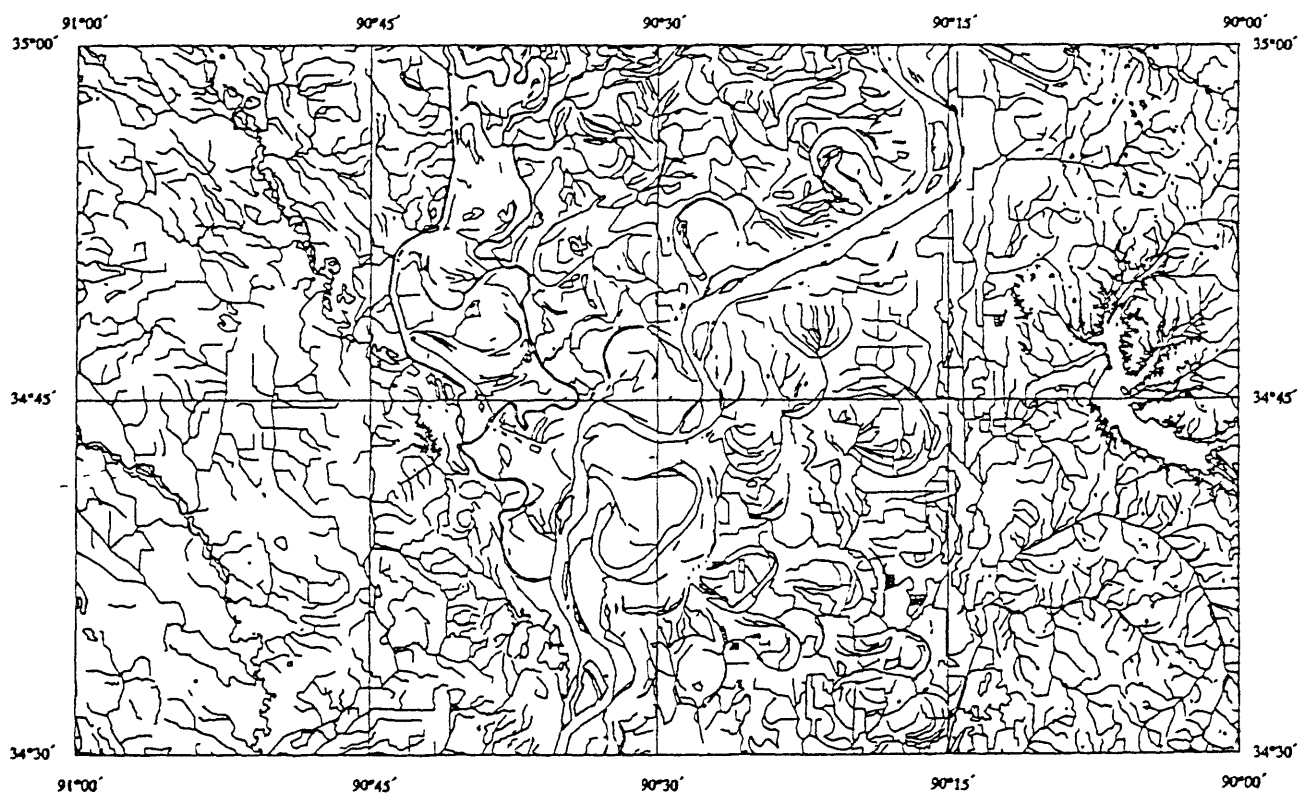
dy4rds -- Roads and trails of the McKenzie 30' x 60' (1:100,000-scale) quadrangle.



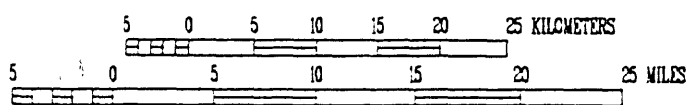
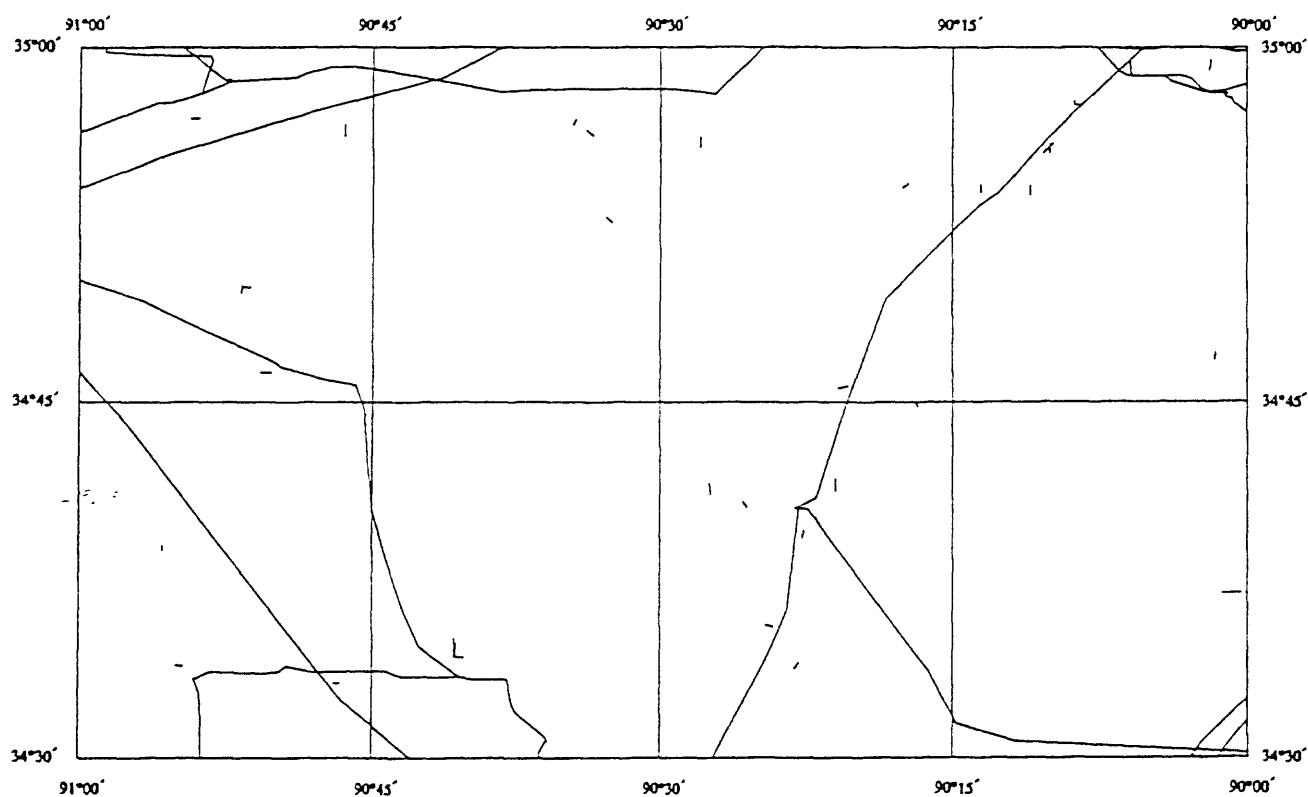
dy4rr – Railroads of the McKenzie 30' x 60' (1:100,000-scale) quadrangle.



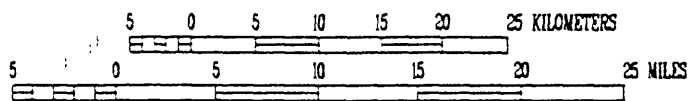
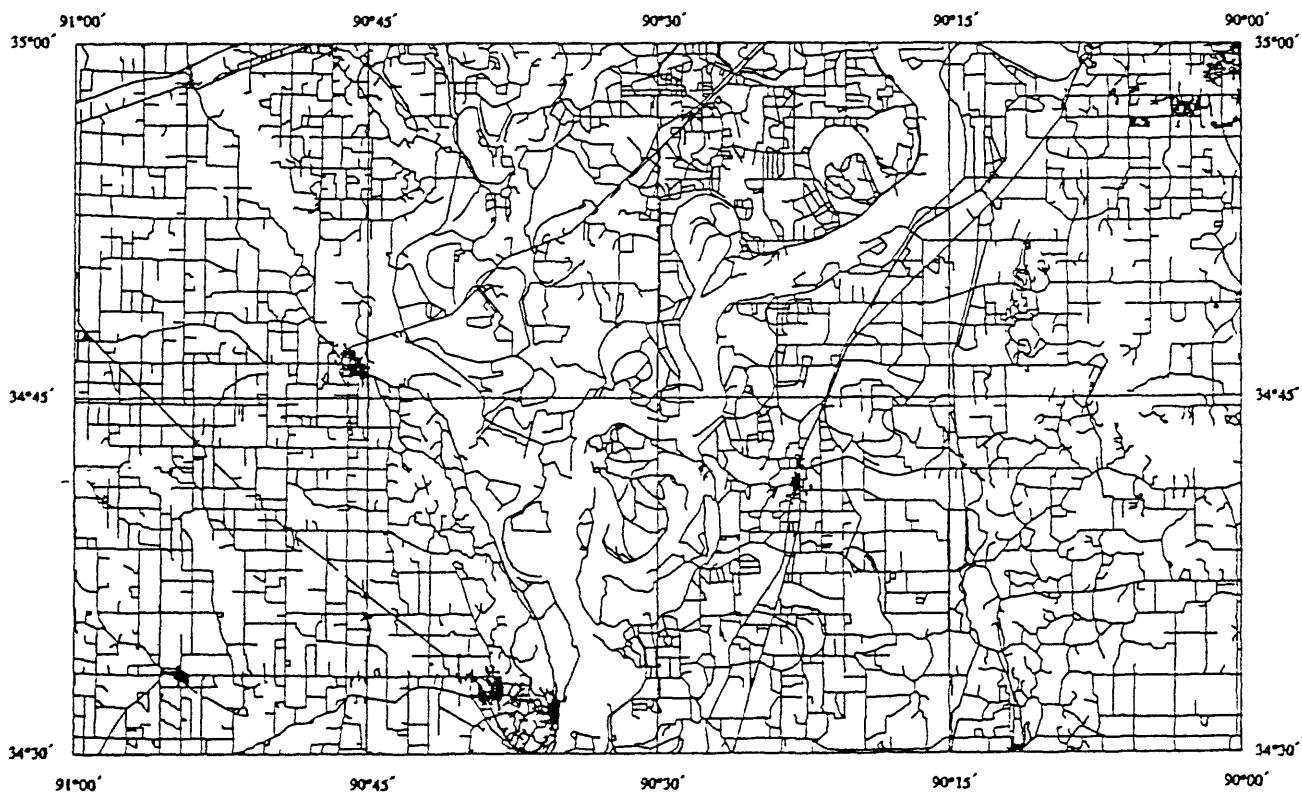
hl2grat -- Graticule of the Helena 30' x 60' (1:100,000-scale) quadrangle.



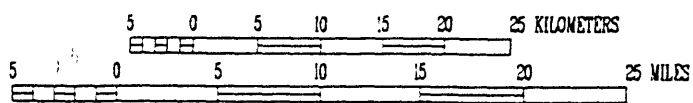
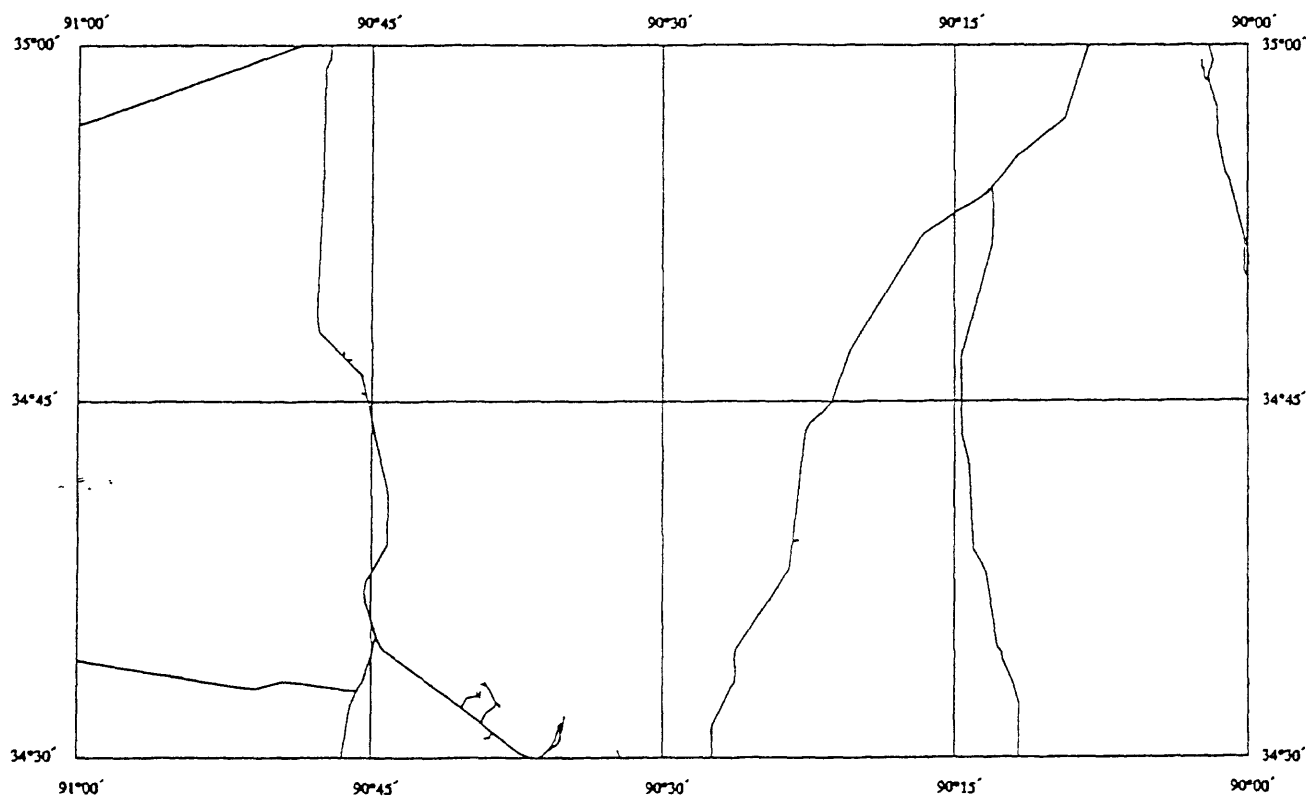
h12hyd -- Hydrography of the Helena 30' x 60' (1:100,000-scale) quadrangle.



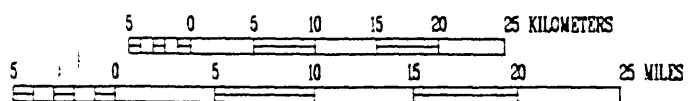
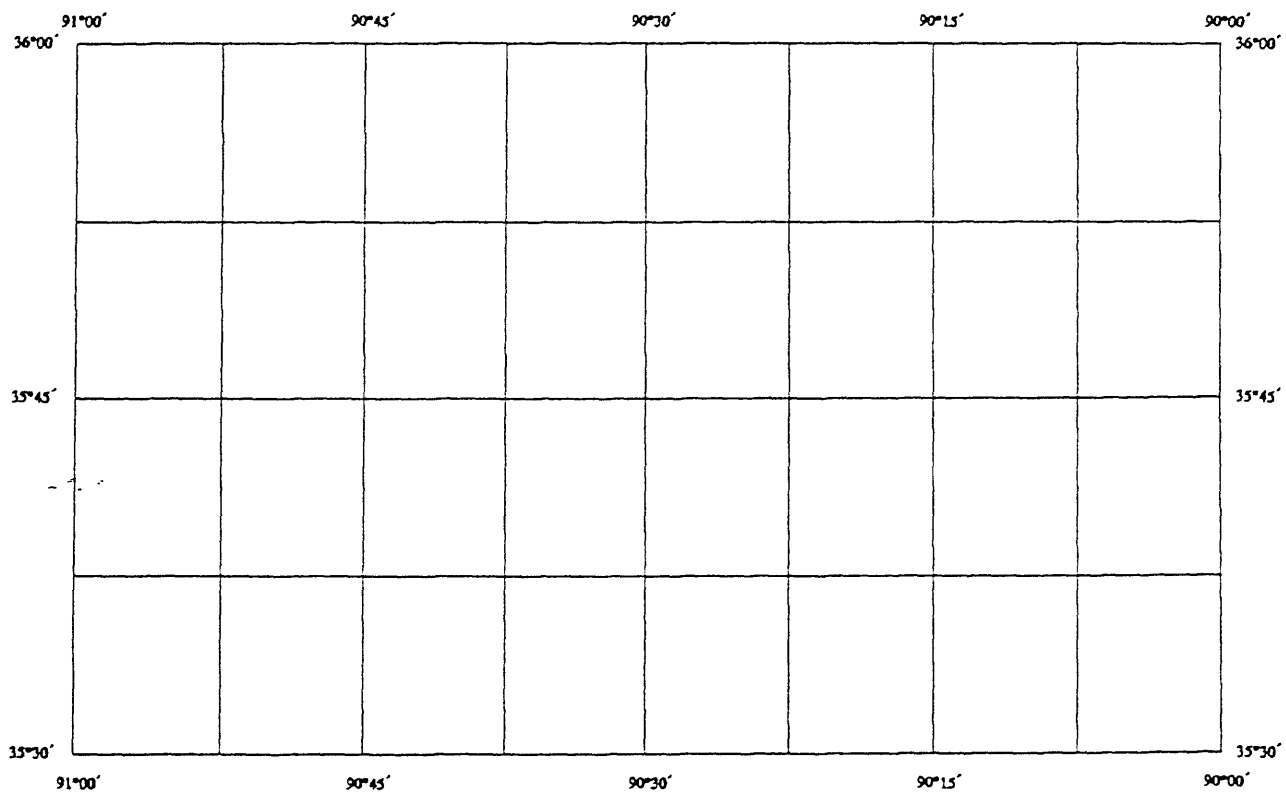
h12mt – Miscellaneous transportation features of the Helena 30' x 60' (1:100,000-scale) quadrangle.



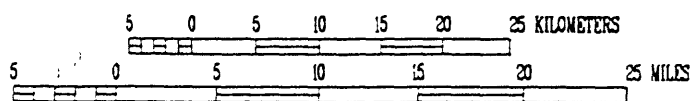
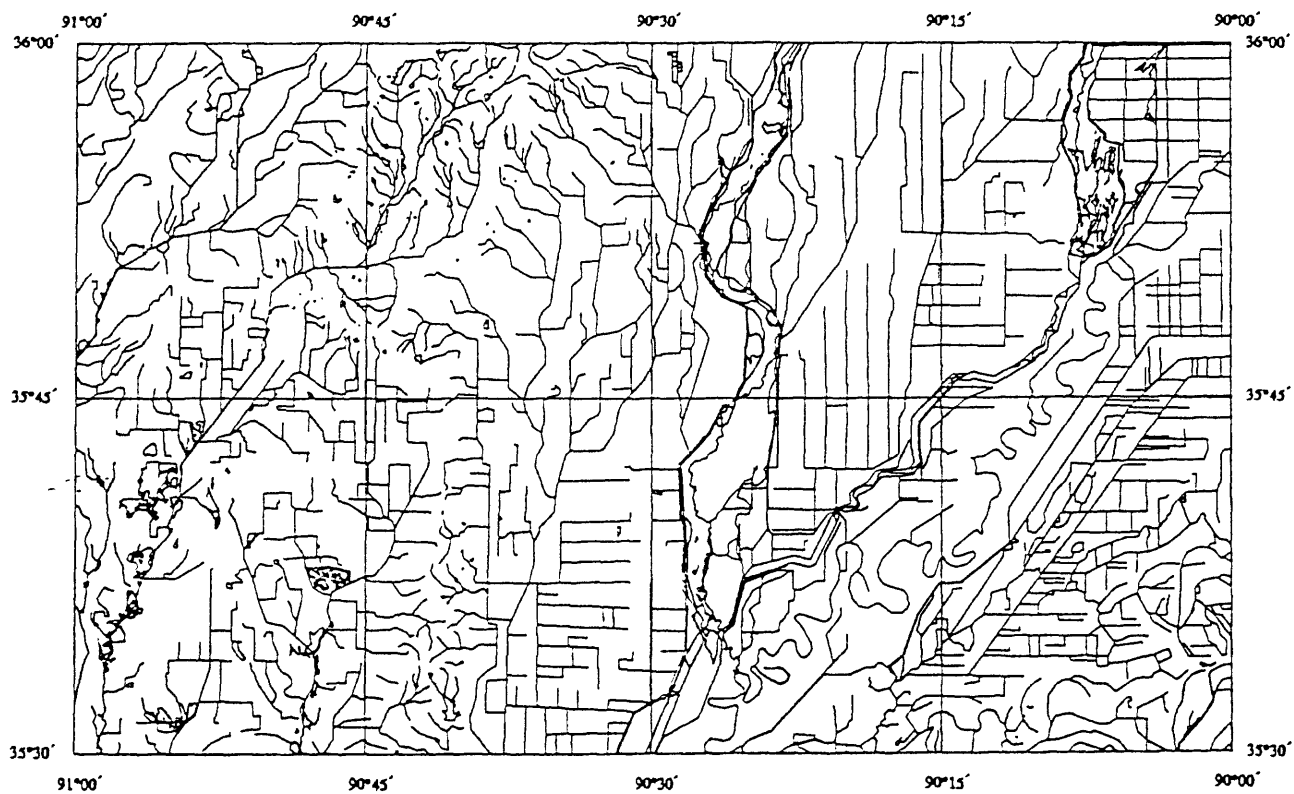
hl2rds -- Roads and trails of the Helena 30' x 60' (1:100,000-scale) quadrangle.



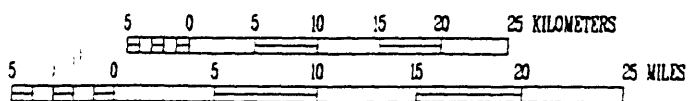
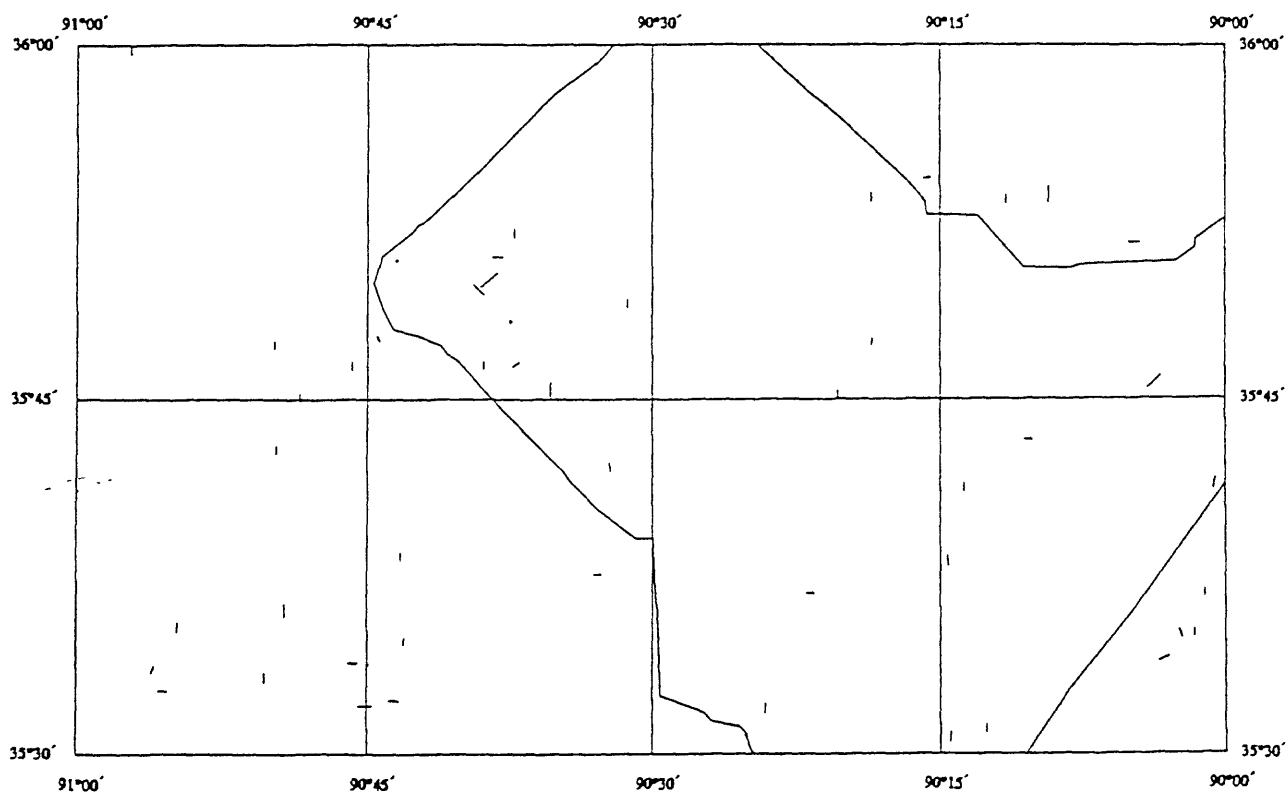
h12rr -- Railroads of the Helena 30' x 60' (1:100,000-scale) quadrangle.



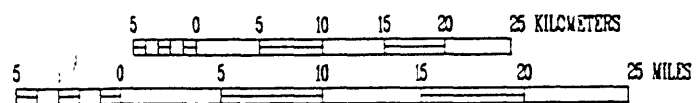
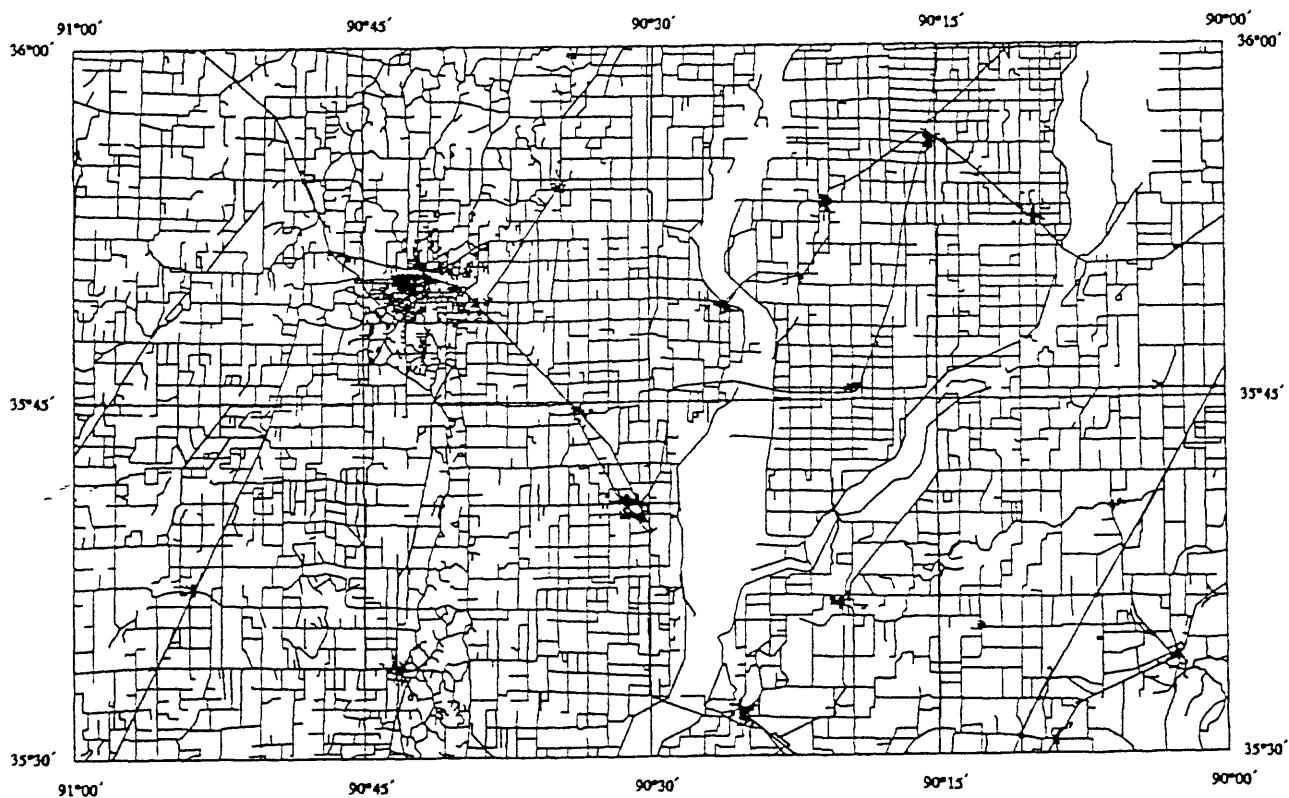
mm2grat – Graticule of the Jonesboro 30' x 60' (1:100,000-scale) quadrangle.



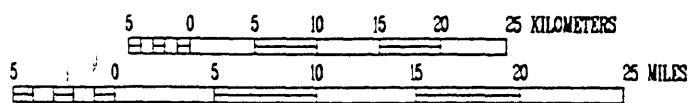
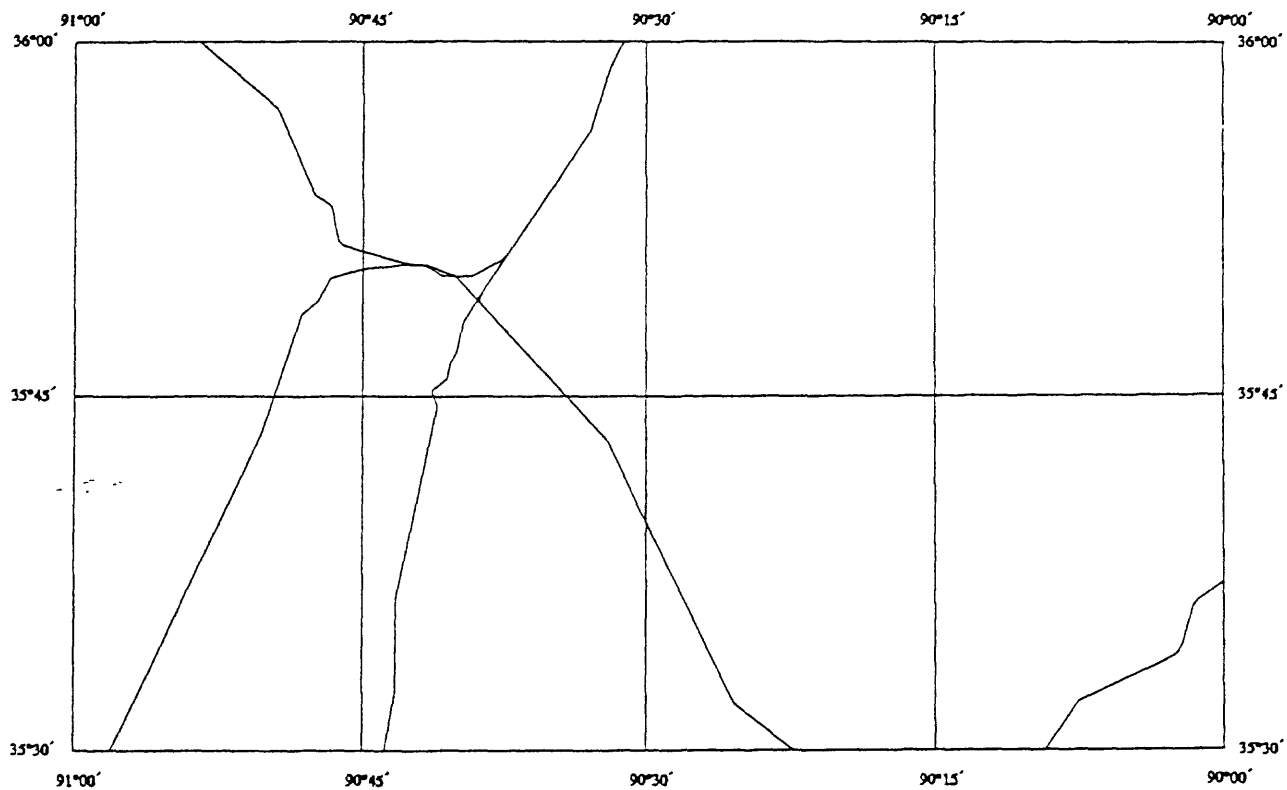
mm2hyd – Hydrography of the Jonesboro 30' x 60' (1:100,000-scale) quadrangle.



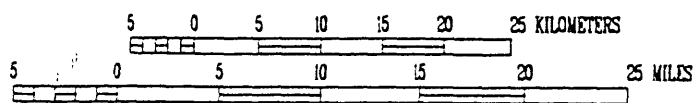
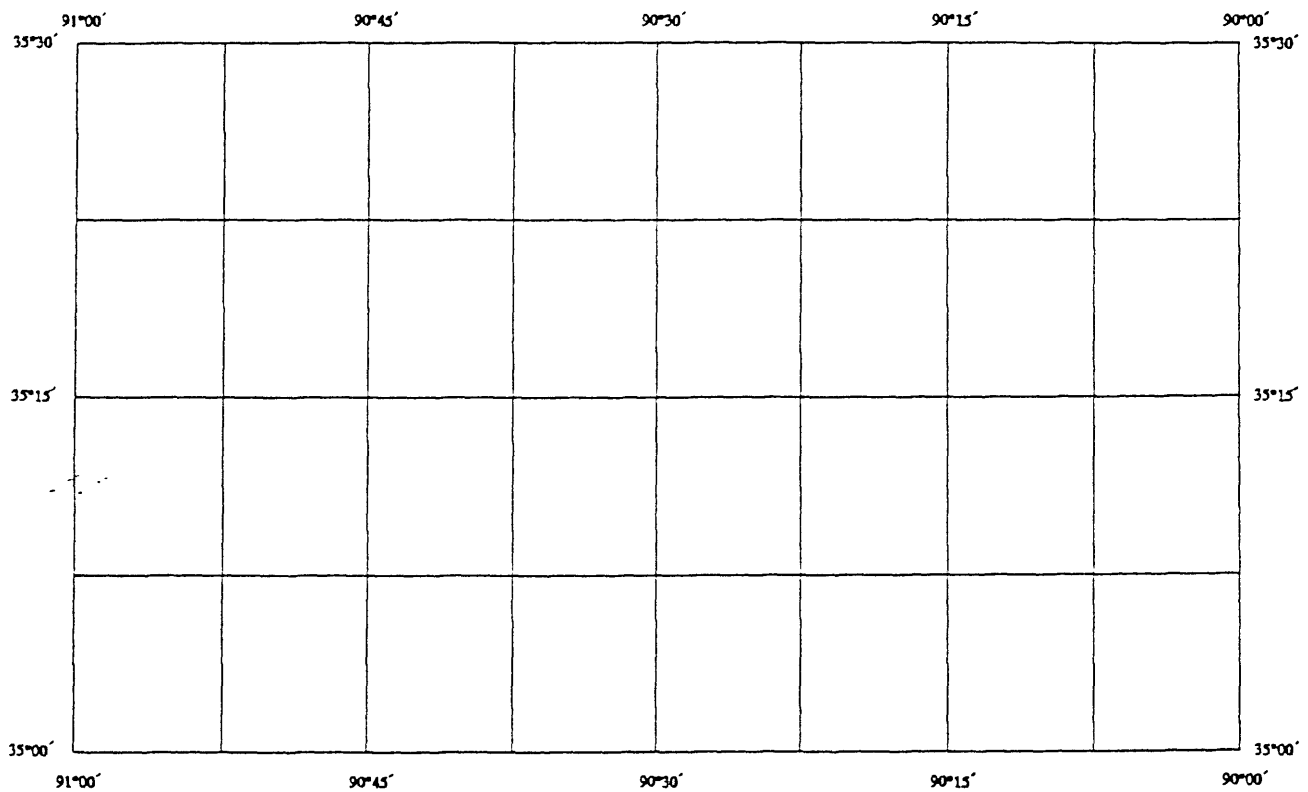
mm2mt – Miscellaneous transportation features of the Jonesboro 30' x 60' (1:100,000-scale) quadrangle.



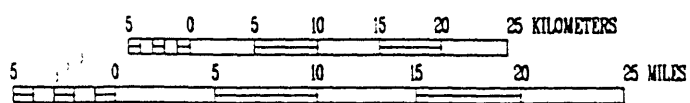
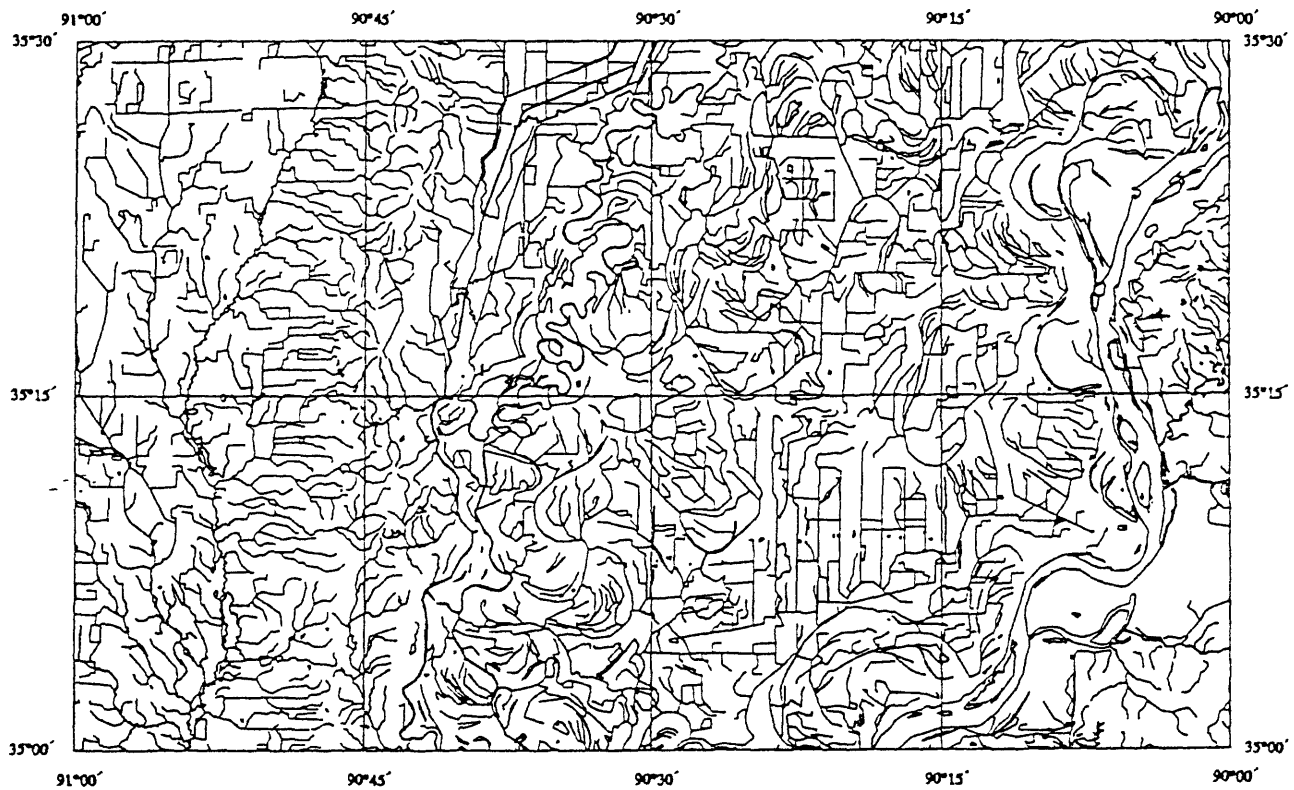
mm2rds -- Roads and trails of the Jonesboro 30' x 60' (1:100,000-scale) quadrangle.



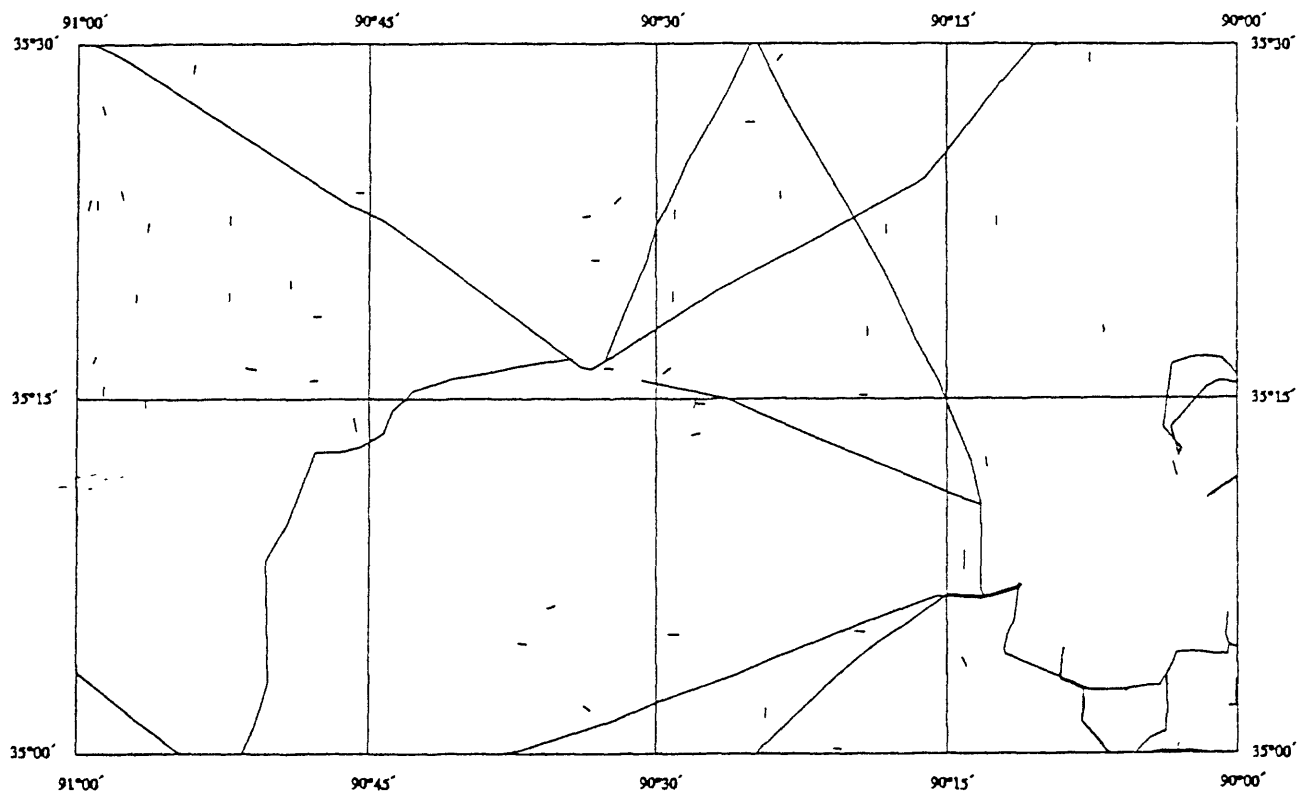
mm2rr – Railroads of the Jonesboro 30' x 60' (1:100,000-scale) quadrangle.



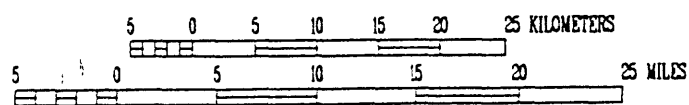
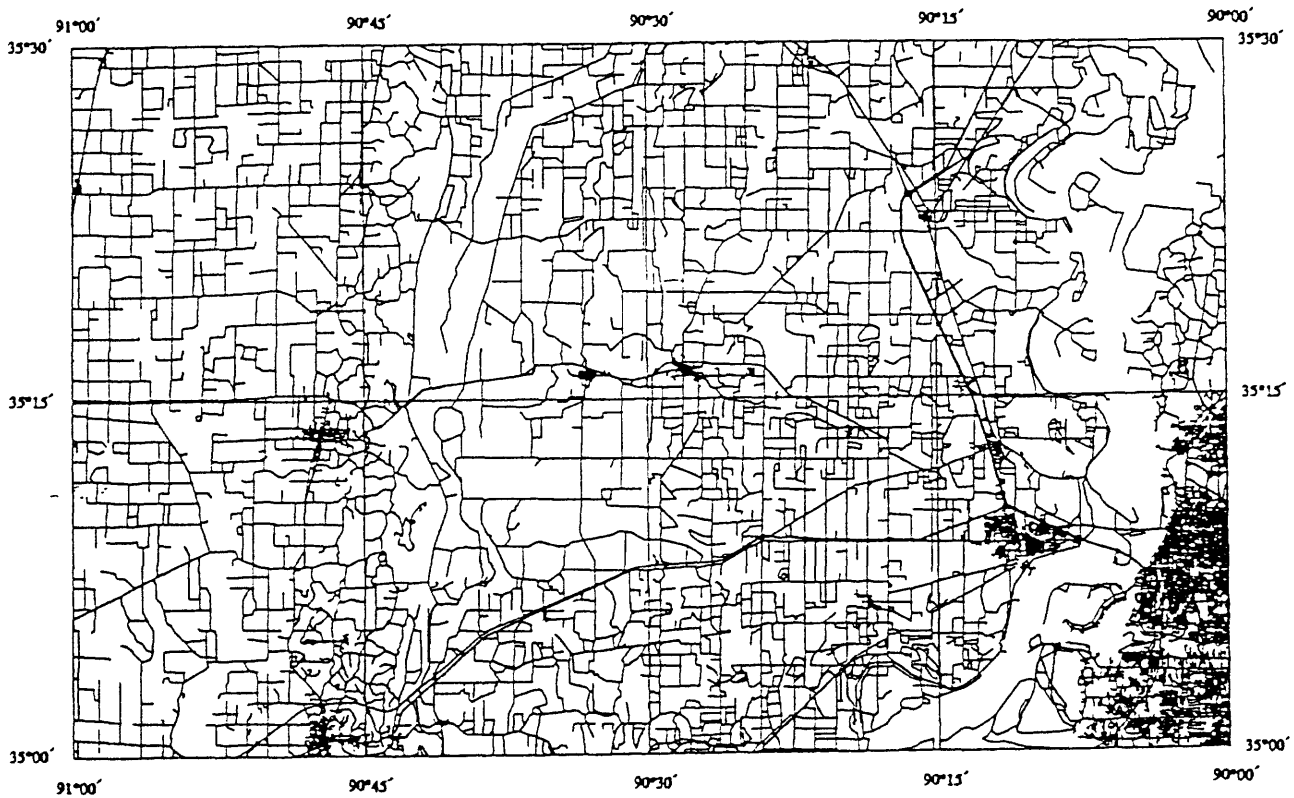
mm4grat – Graticule of the Memphis West 30' x 60' (1:100,000-scale) quadrangle.



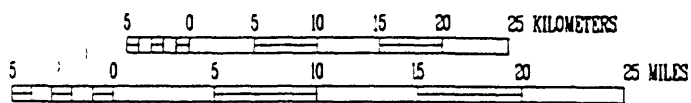
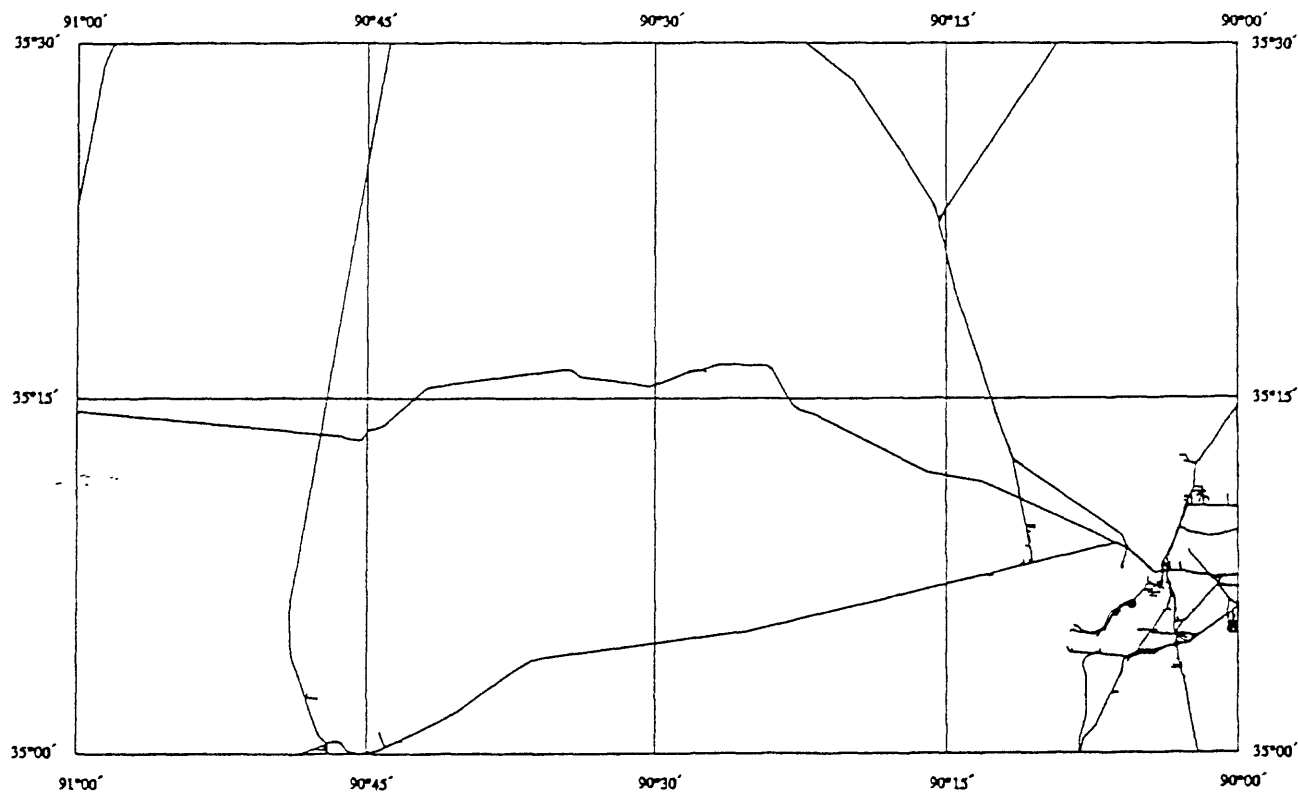
mm4hyd – Hydrography of the Memphis West 30' x 60' (1:100,000-scale) quadrangle.



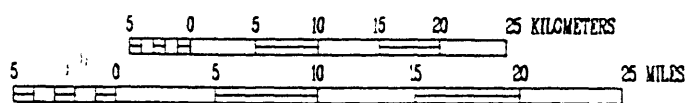
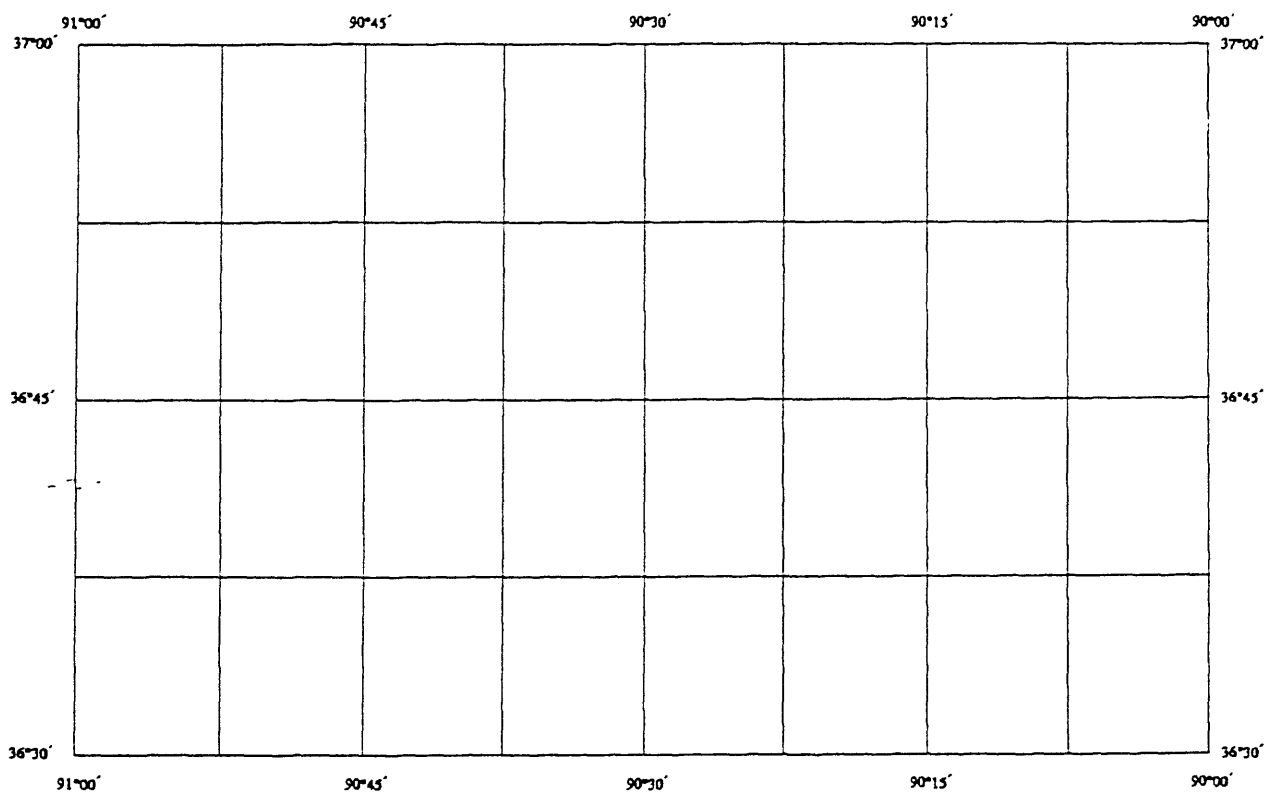
mm4mt – Miscellaneous transportation features of the Memphis West 30' x 60' (1:100,000-scale) quadrangle.



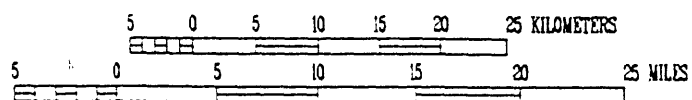
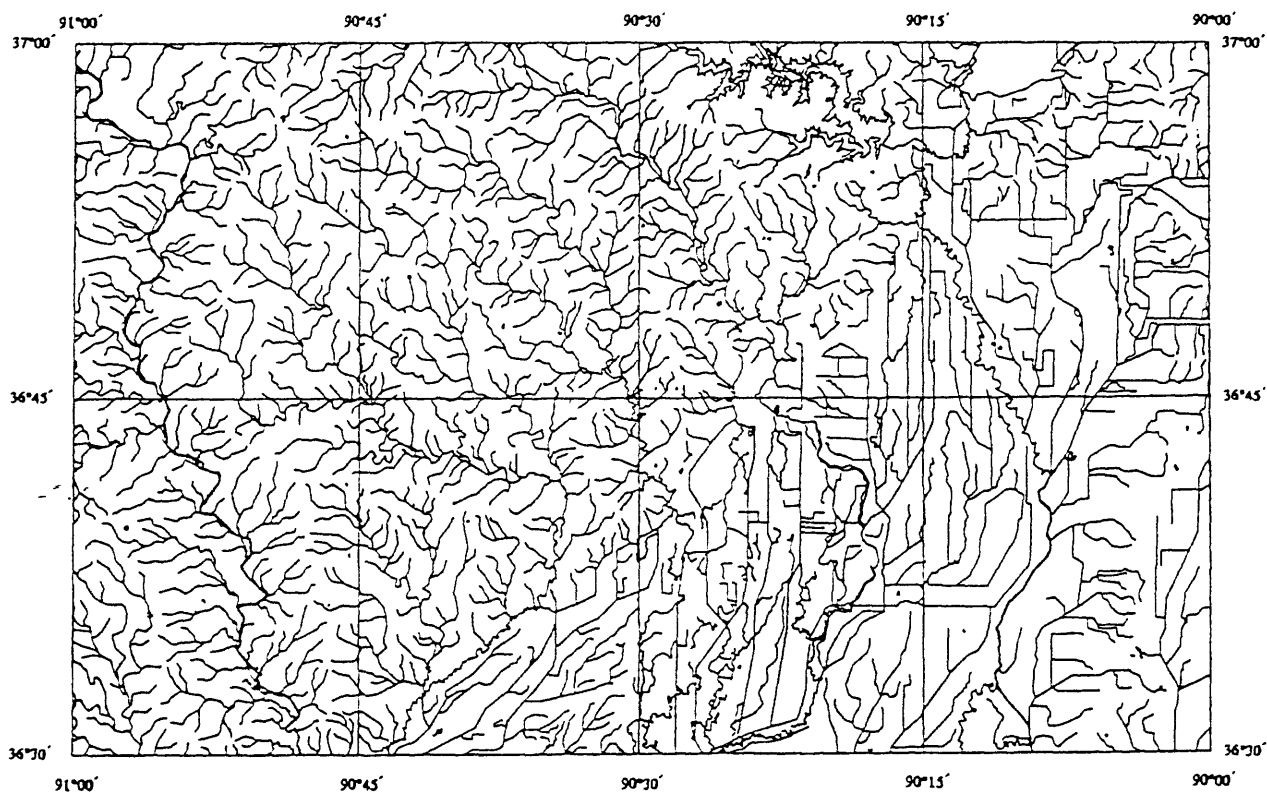
mm4rds -- Roads and trails of the Memphis West 30' x 60' (1:100,000-scale) quadrangle.



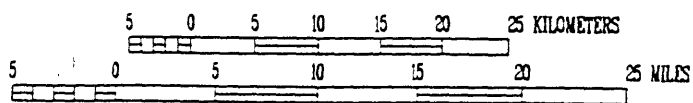
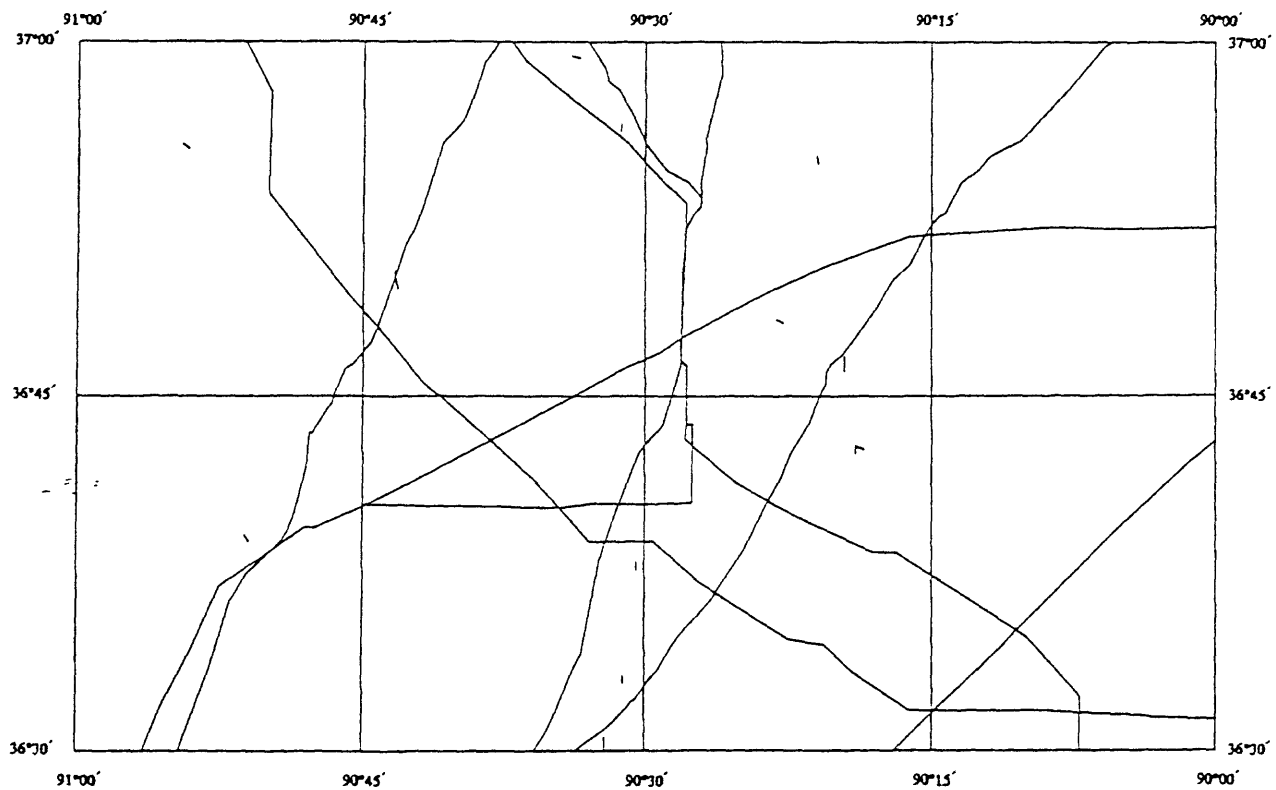
mm4rr – Railroads of the Memphis West 30' x 60' (1:100,000-scale) quadrangle.



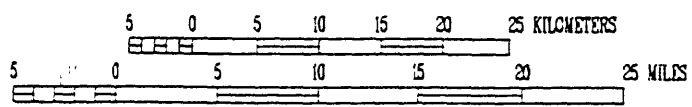
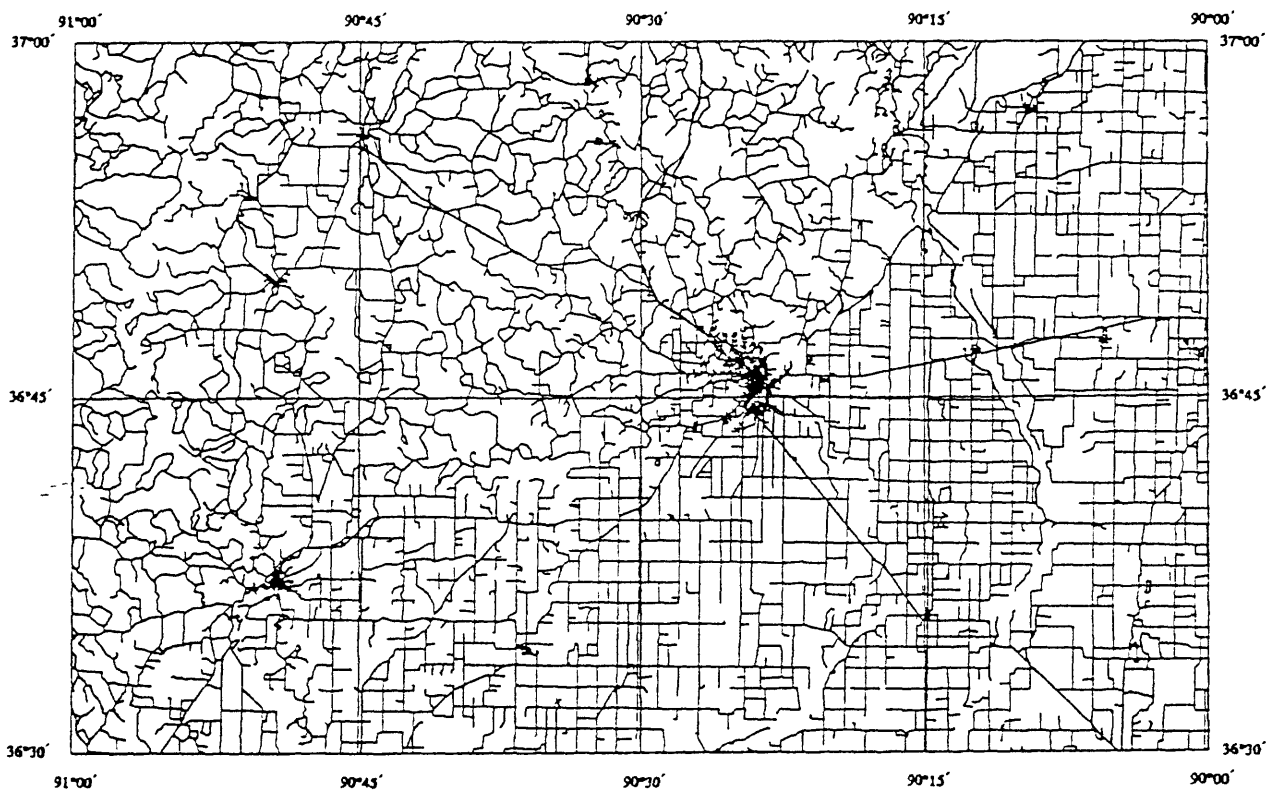
pb2grat – Graticule of the Poplar Bluff 30' x 60' (1:100,000-scale) quadrangle.



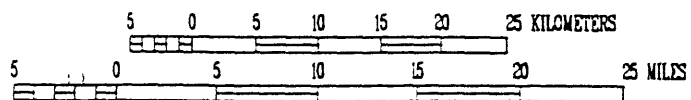
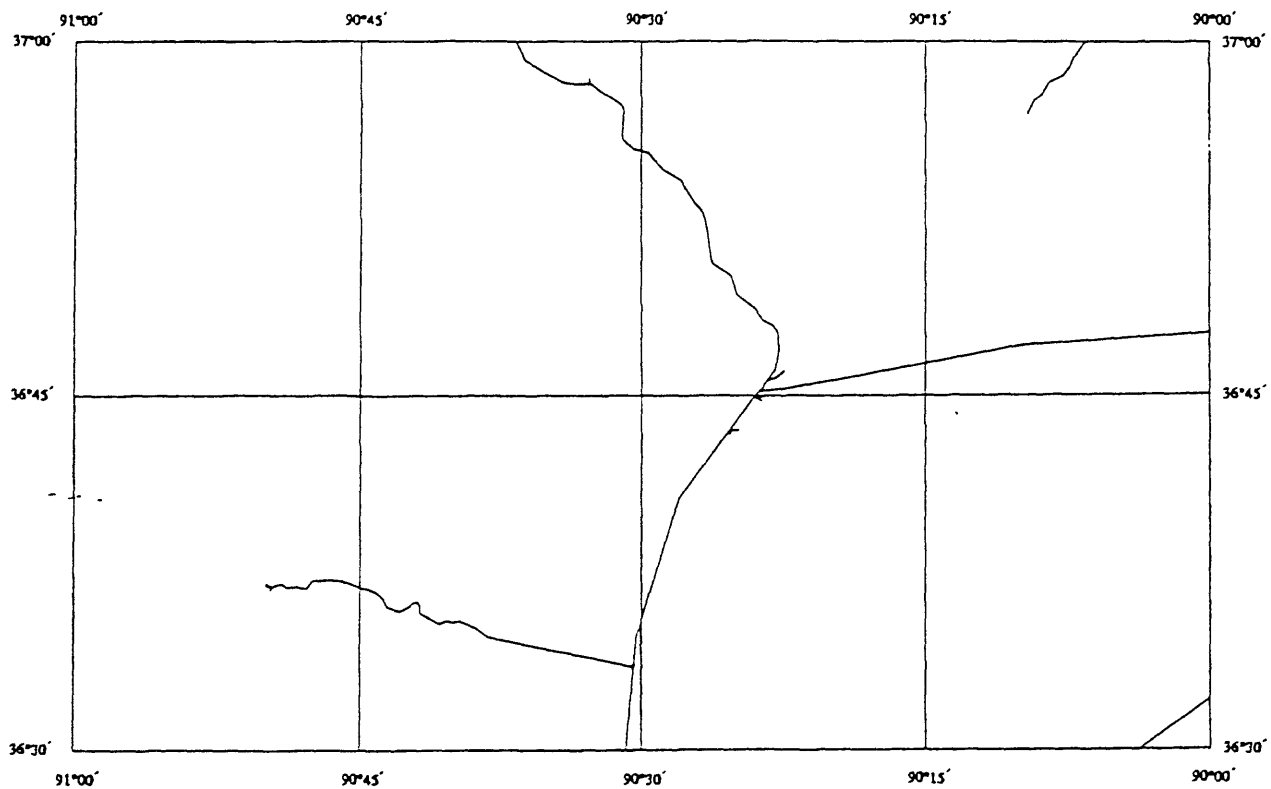
pb2hyd – Hydrography of the Poplar Bluff 30' x 60' (1:100,000-scale) quadrangle.



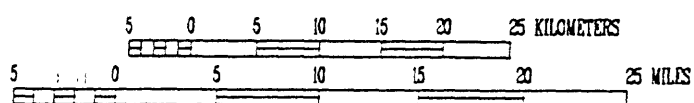
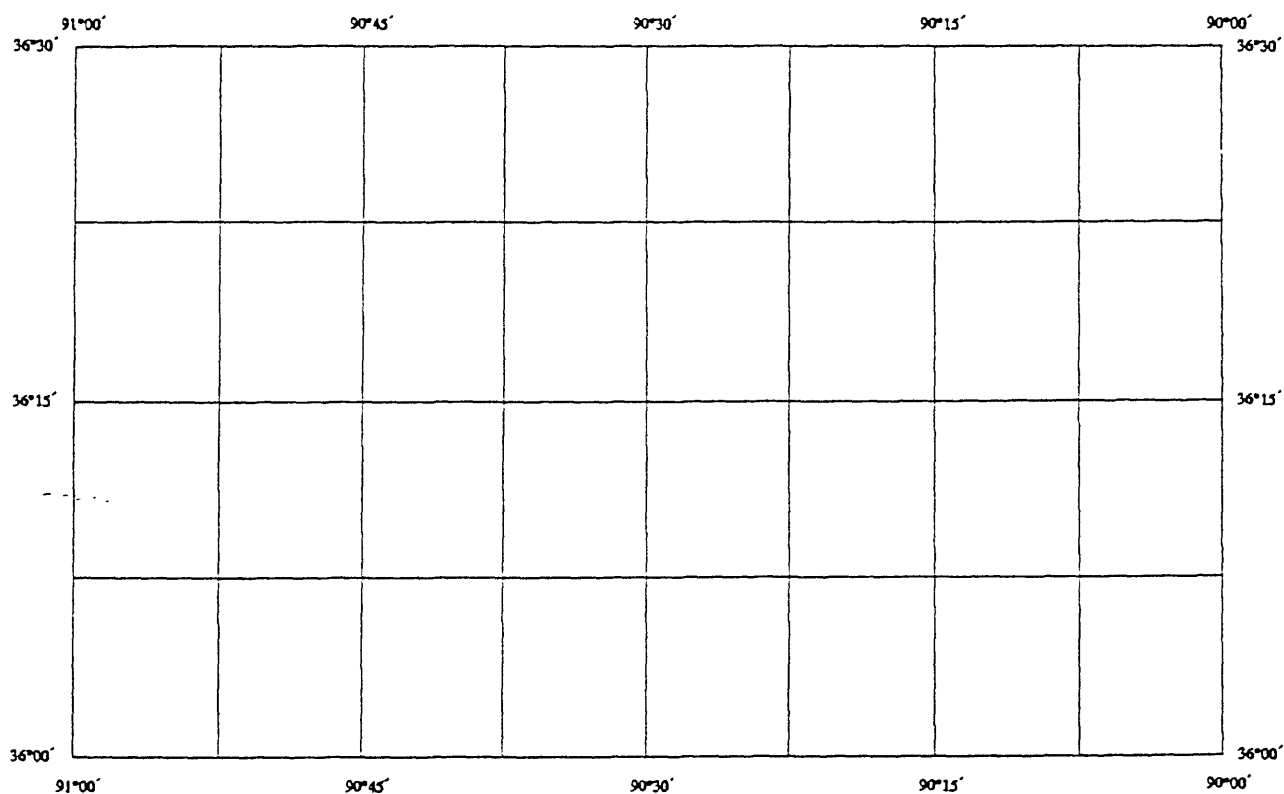
pb2mt -- Miscellaneous transportation features of the Poplar Bluff 30' x 60' (1:100,000-scale) quadrangle.



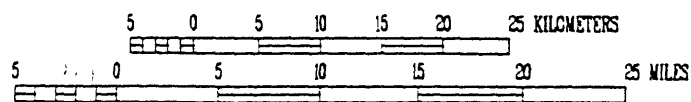
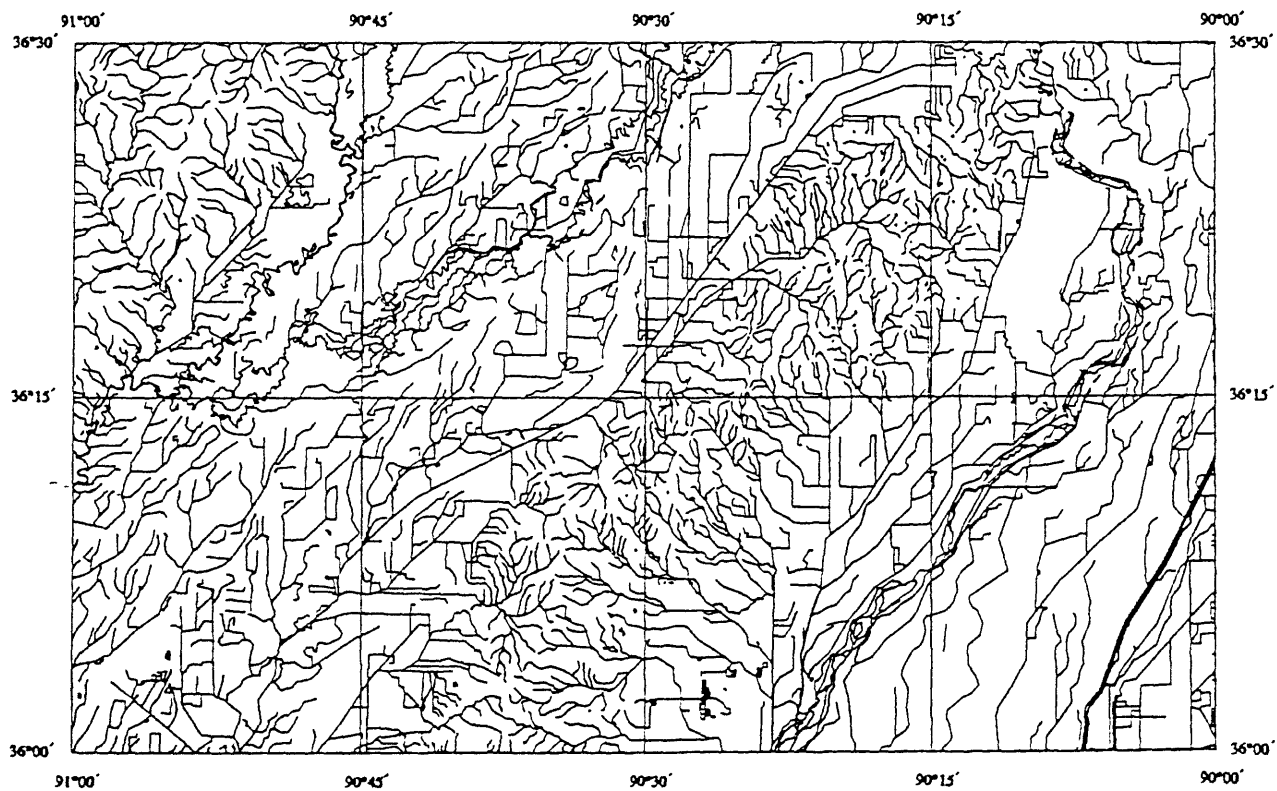
pb2rds – Roads and trails of the Poplar Bluff 30' x 60' (1:100,000-scale) quadrangle.



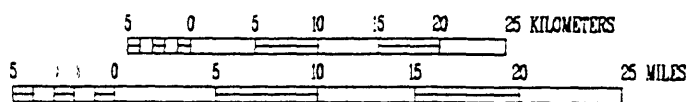
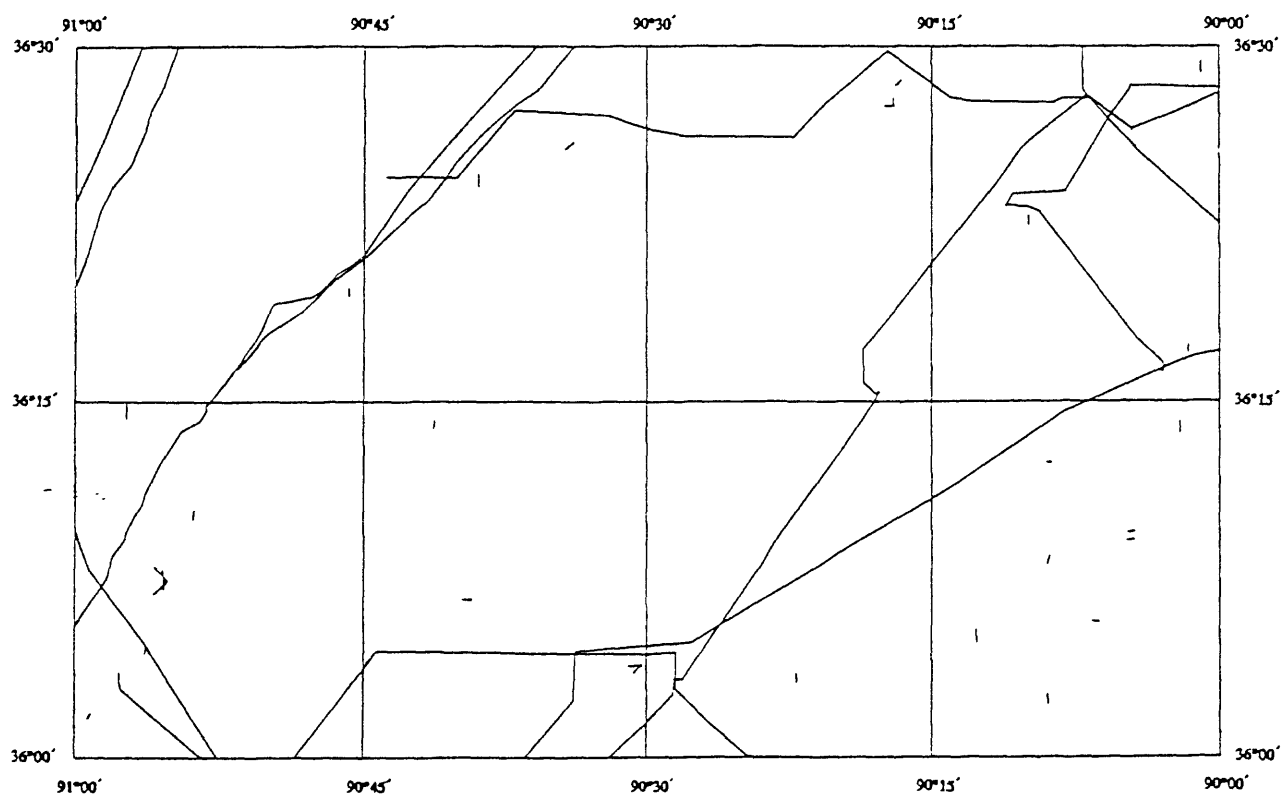
pb2rr -- Railroads of the Poplar Bluff 30' x 60' (1:100,000-scale) quadrangle.



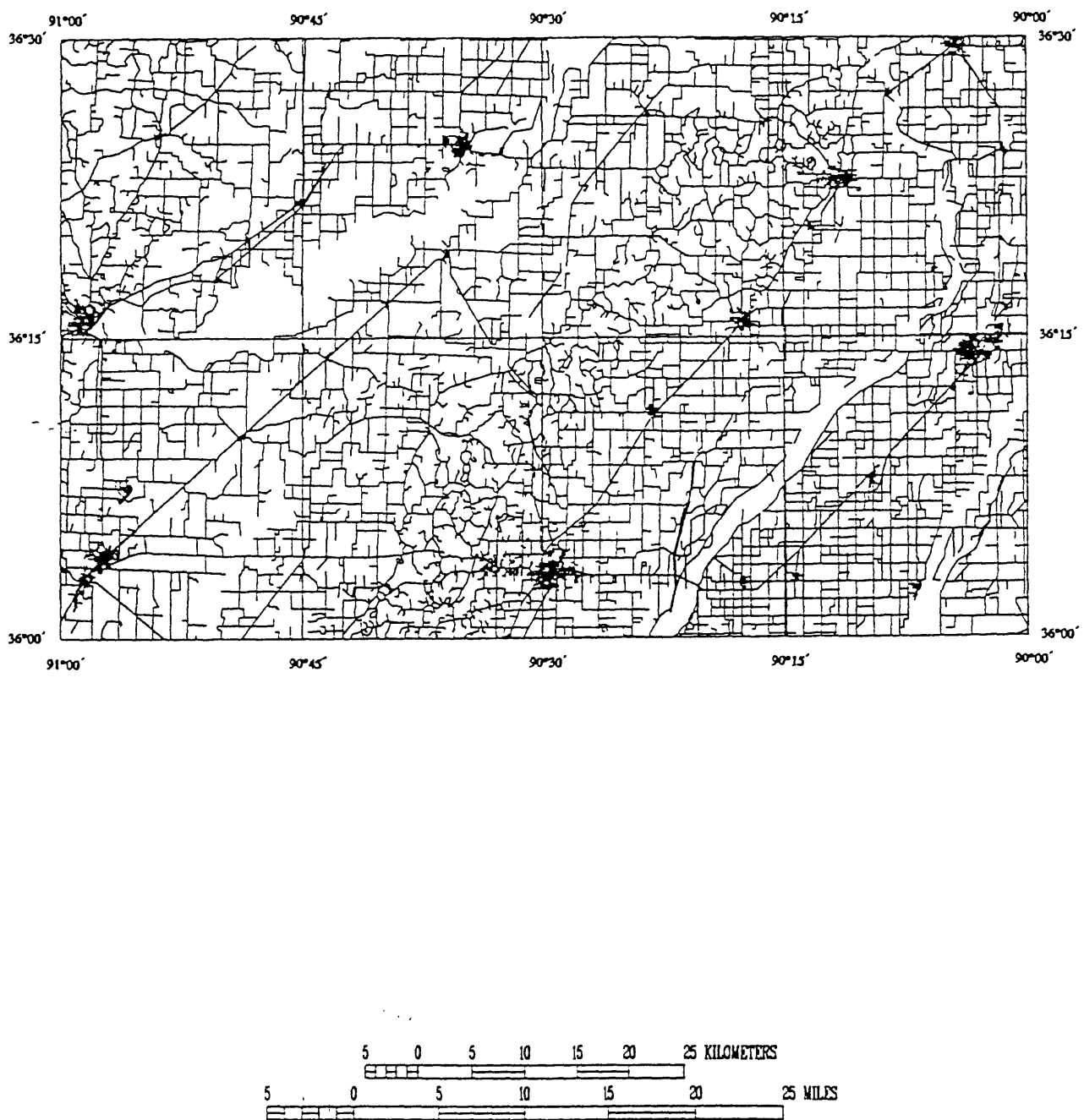
pb4grat -- Graticule of the Paragould 30' x 60' (1:100,000-scale) quadrangle.



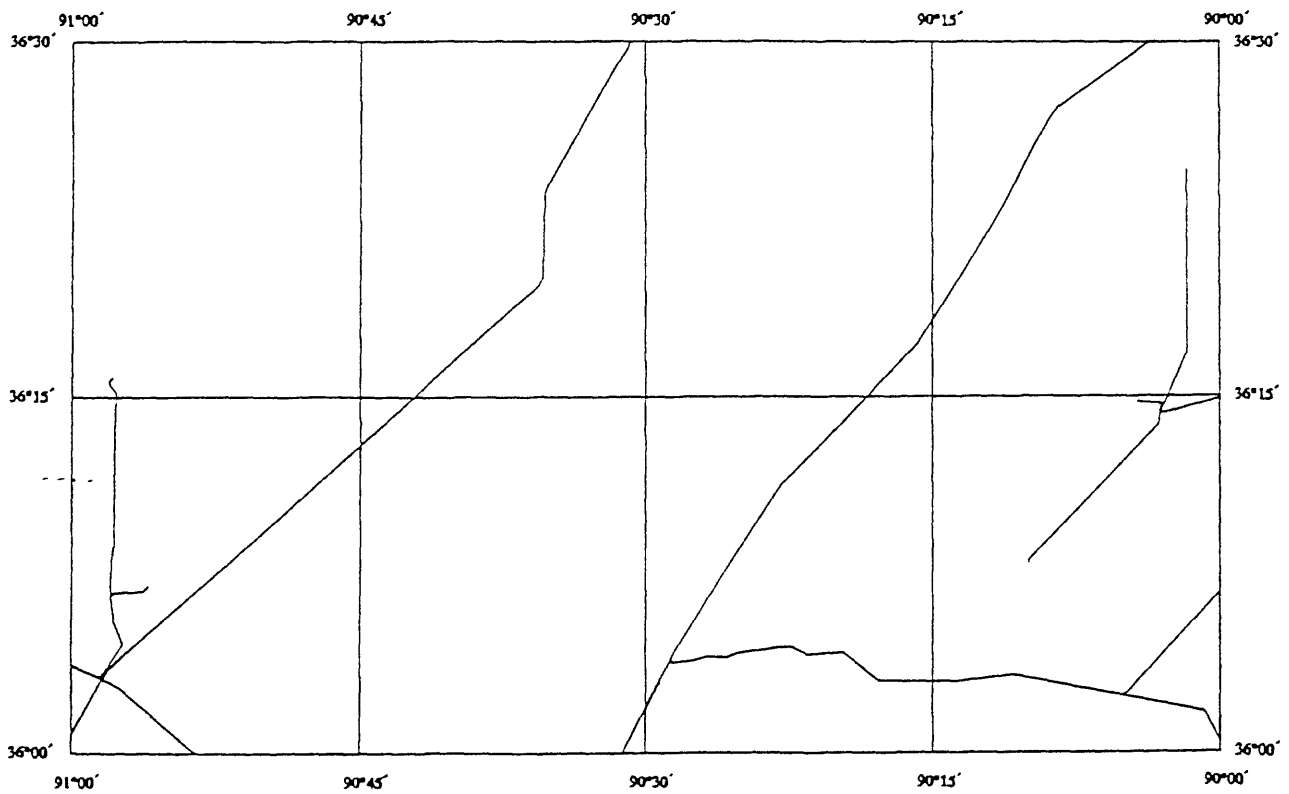
pb4hyd – Hydrography of the Paragould 30' x 60' (1:100,000-scale) quadrangle.



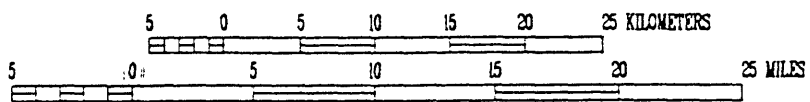
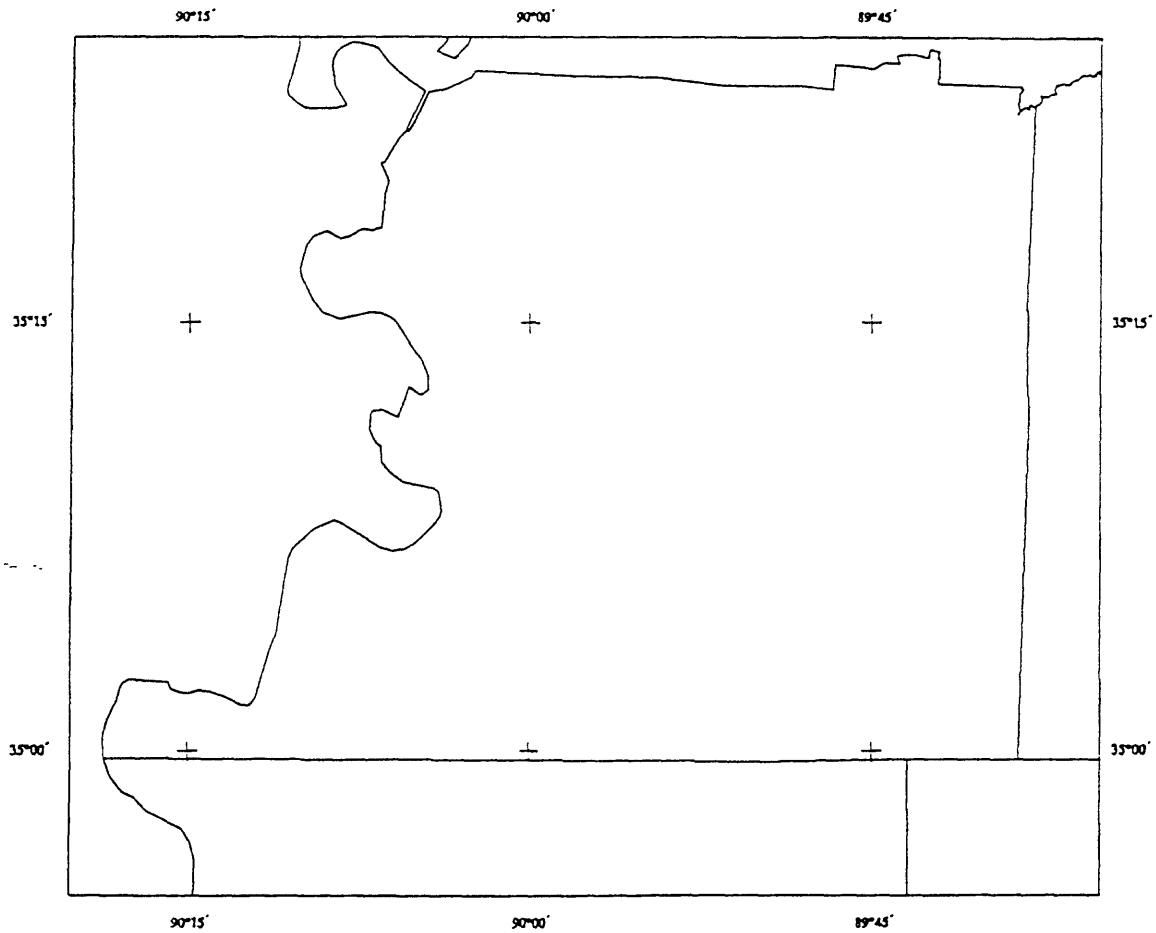
pb4mt – Miscellaneous transportation features of the Paragould 30' x 60' (1:100,000-scale) quadrangle.



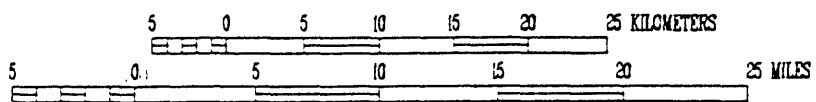
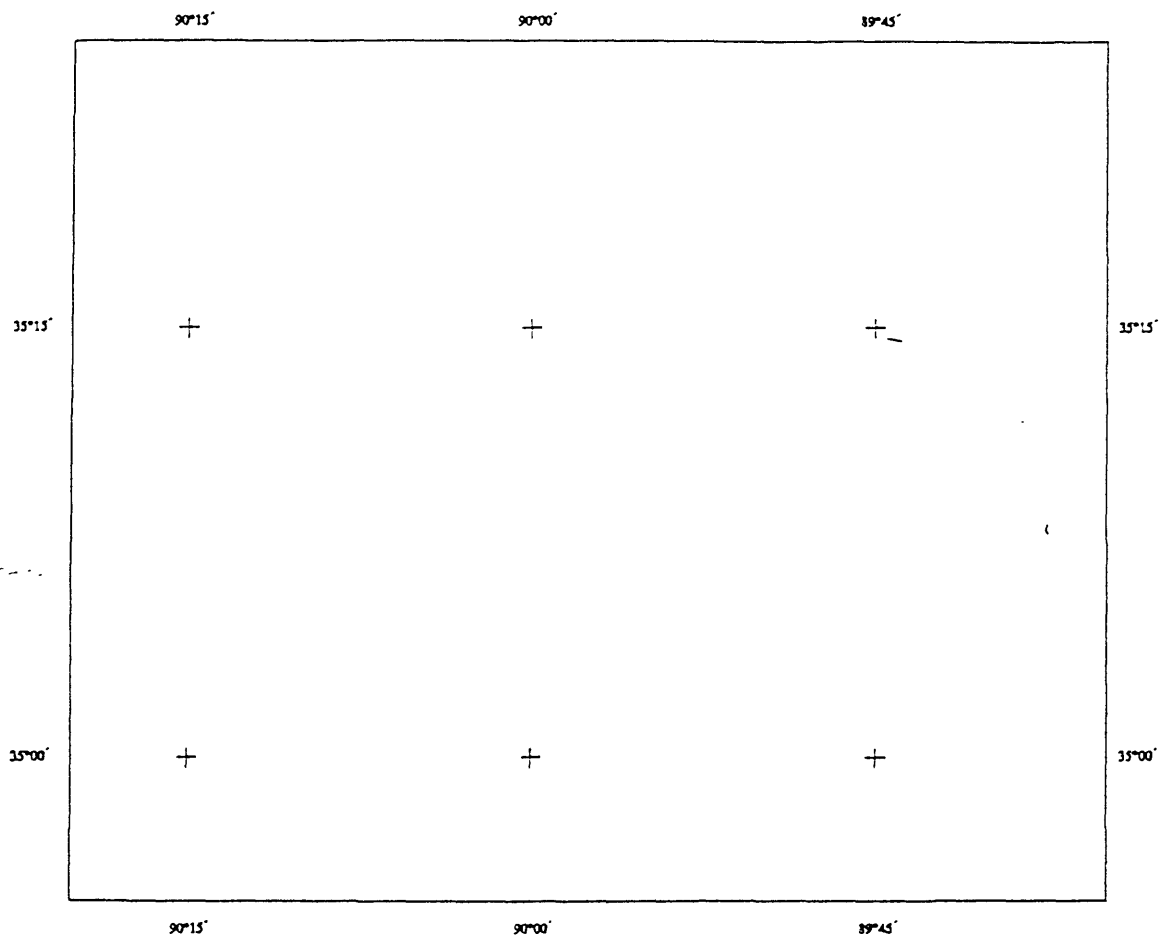
pb4rds – Roads and trails of the Paragould 30' x 60' (1:100,000-scale) quadrangle.



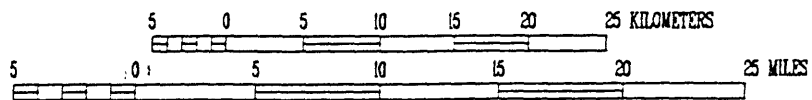
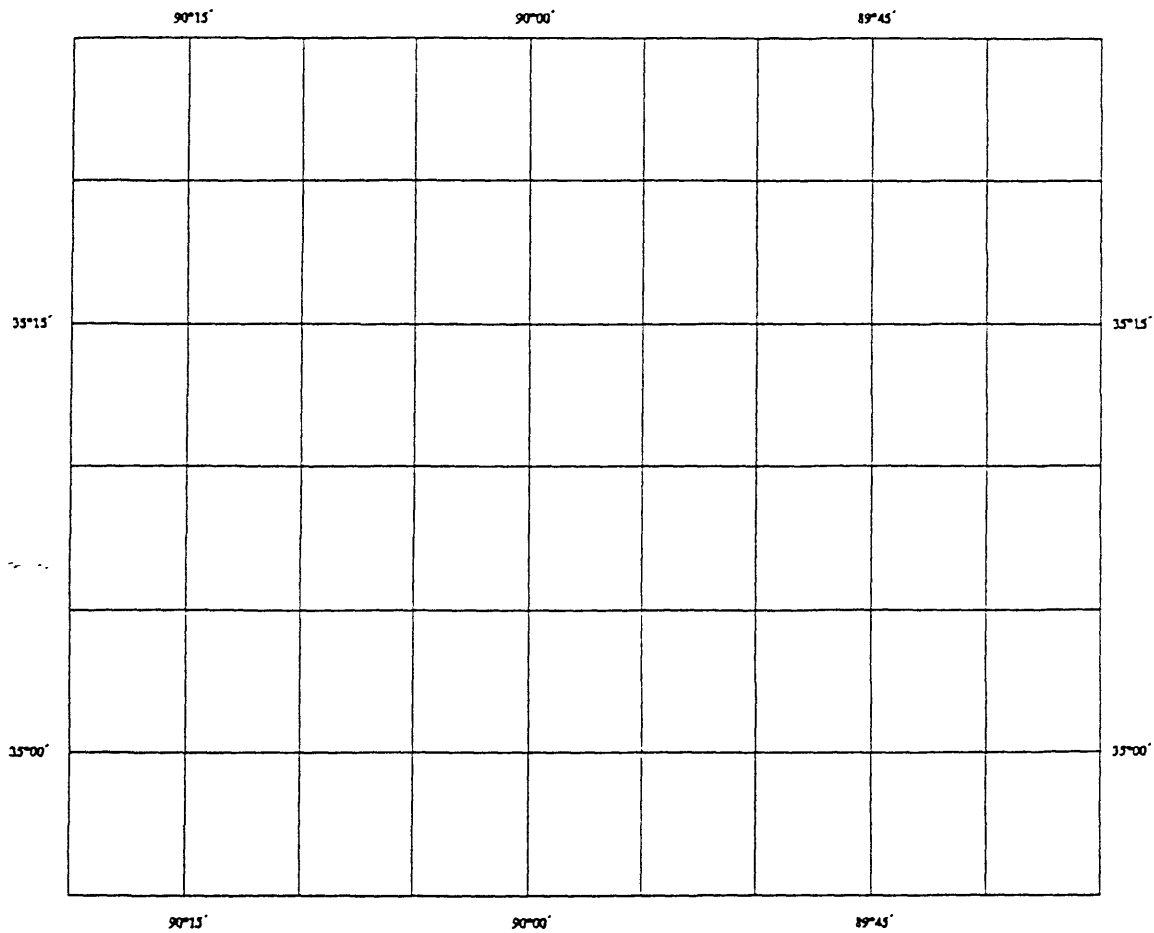
pb4rr -- Railroads of the Paragould 30' x 60' (1:100,000-scale) quadrangle.



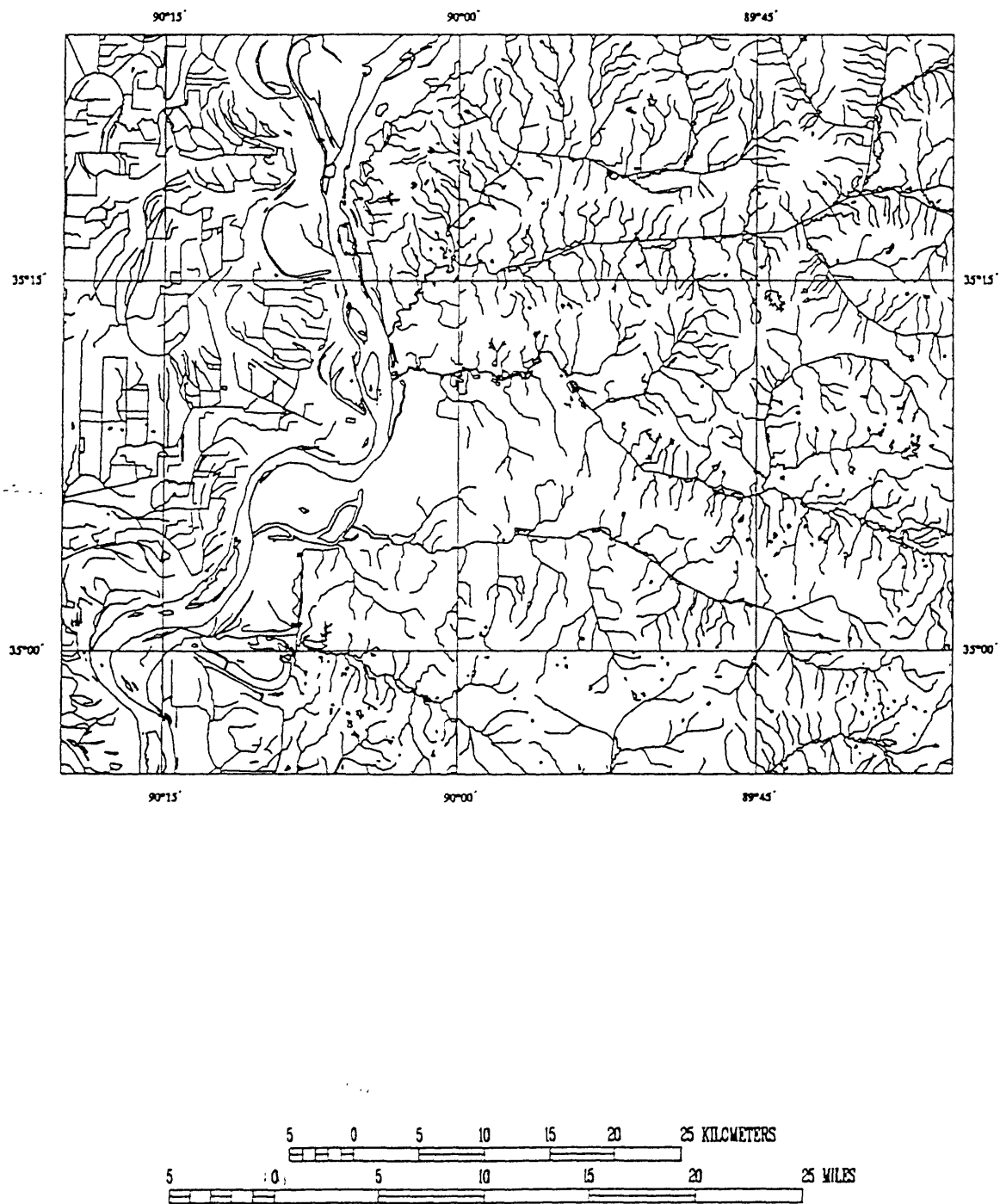
shelbycnty – County boundaries of the Shelby County, Tennessee area.



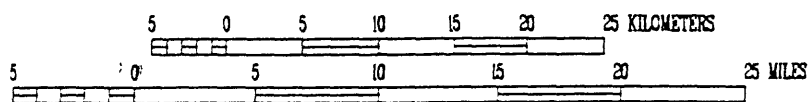
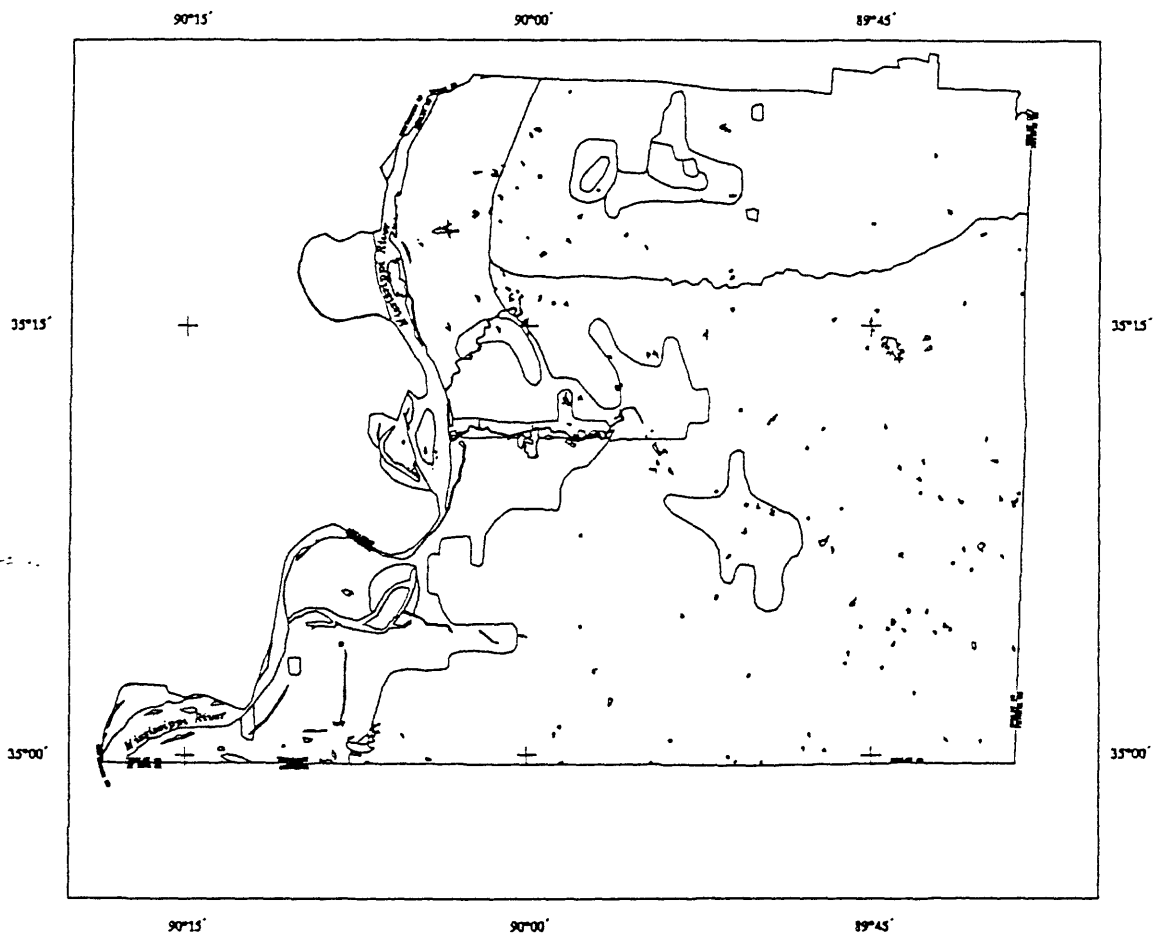
shelbydams – Dams of the Shelby County, Tennessee area.



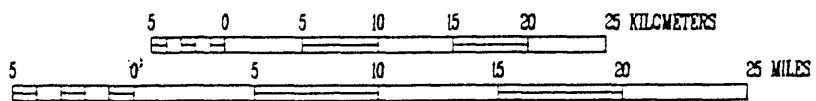
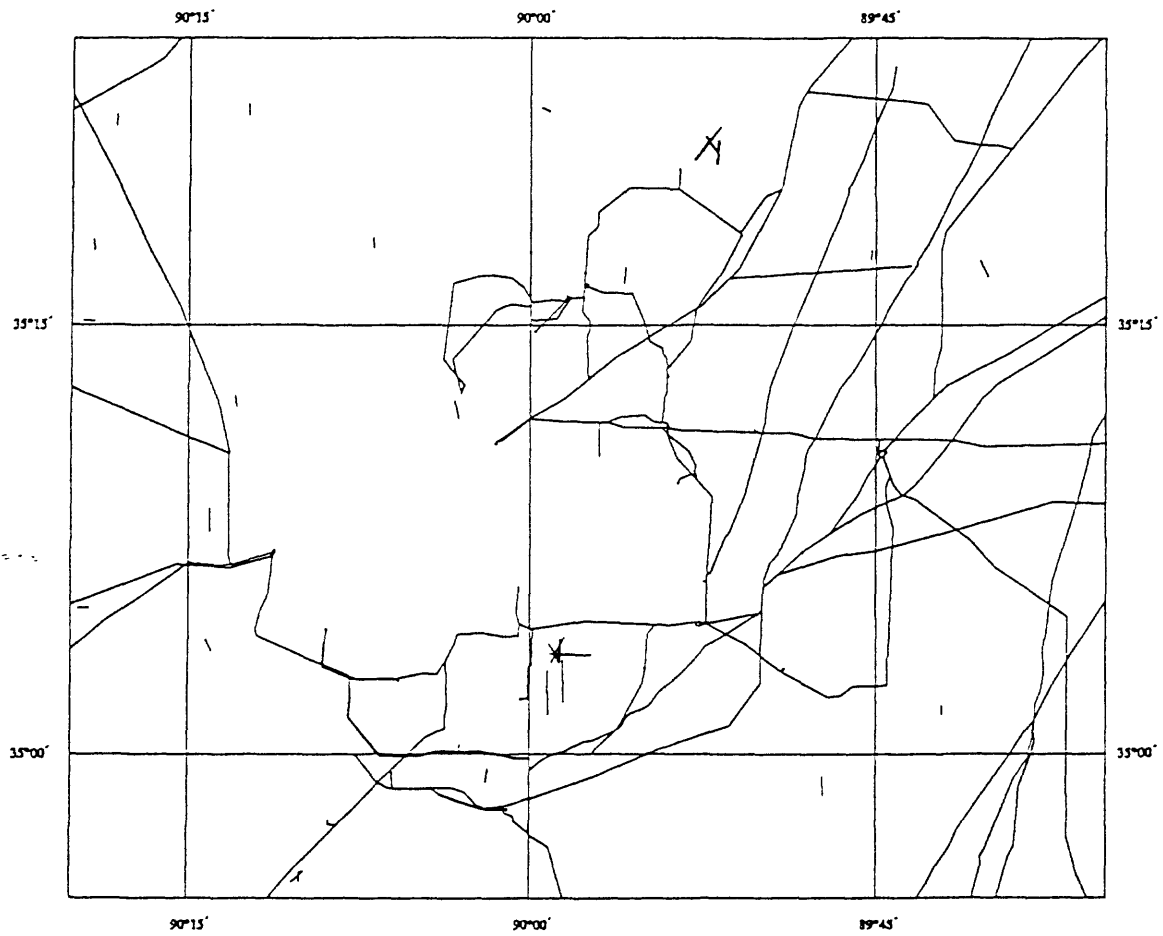
shelbygrat -- Graticule of the Shelby County, Tennessee area.



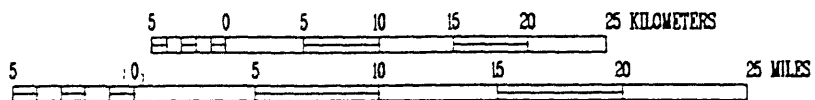
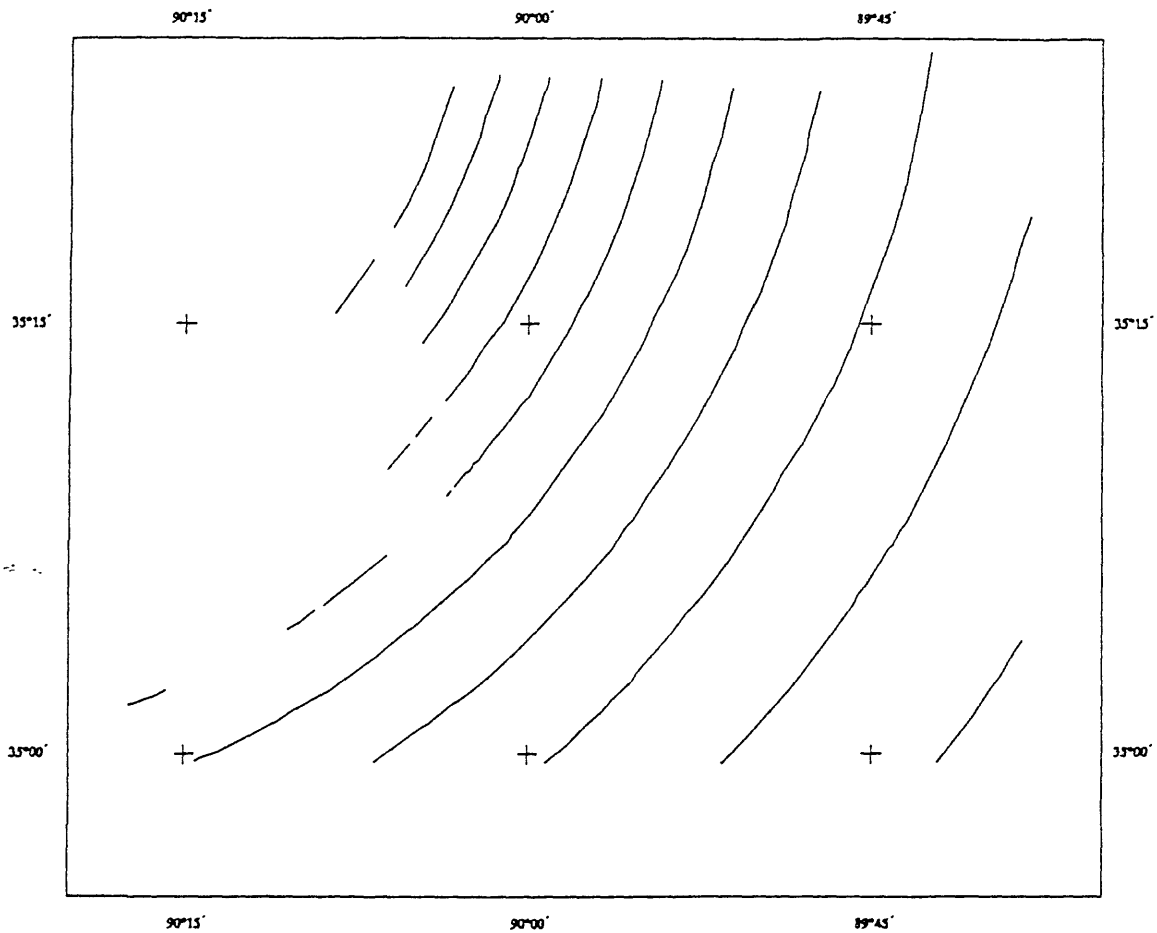
shelbyhyd -- Hydrography of the Shelby County, Tennessee area.



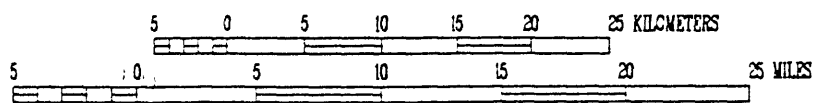
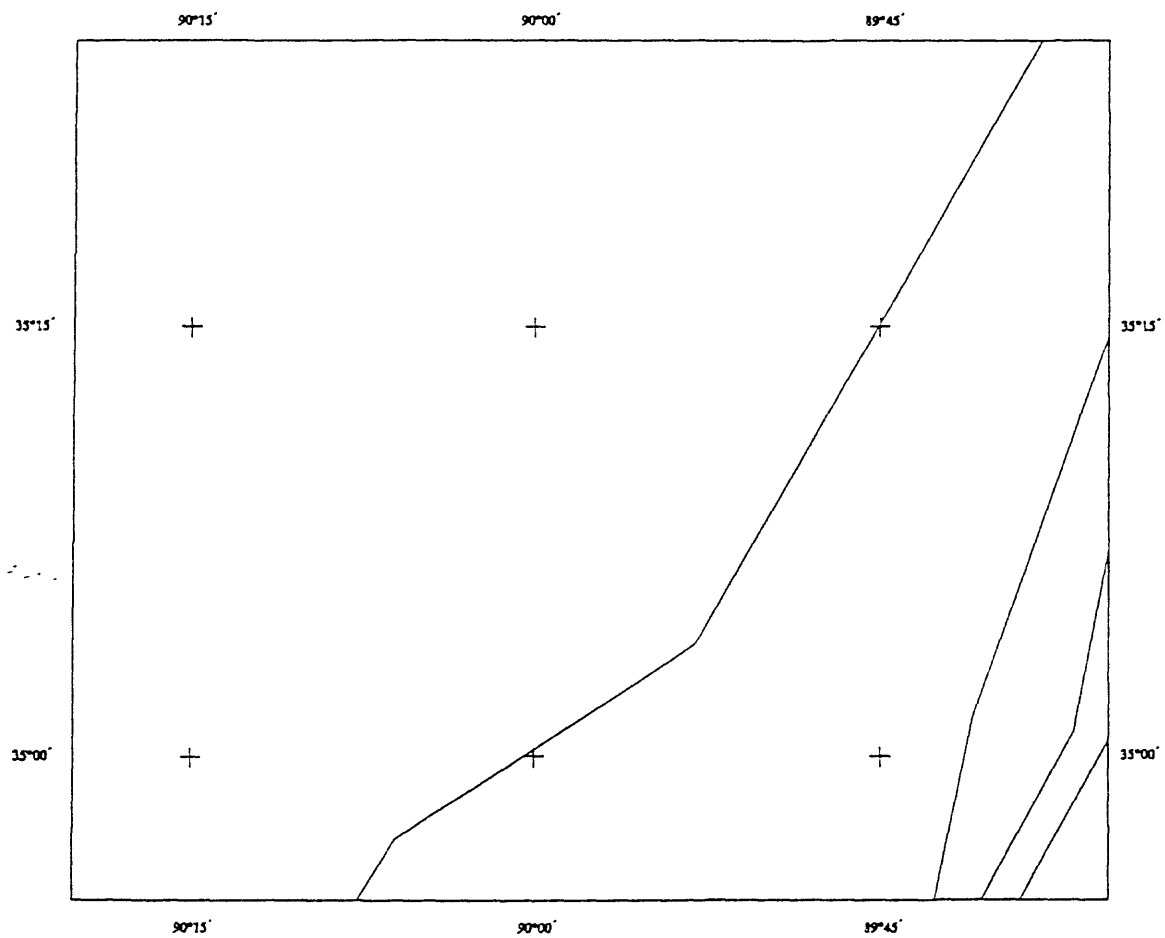
shelbyliq -- Liquefaction potential of the Shelby County, Tennessee area.



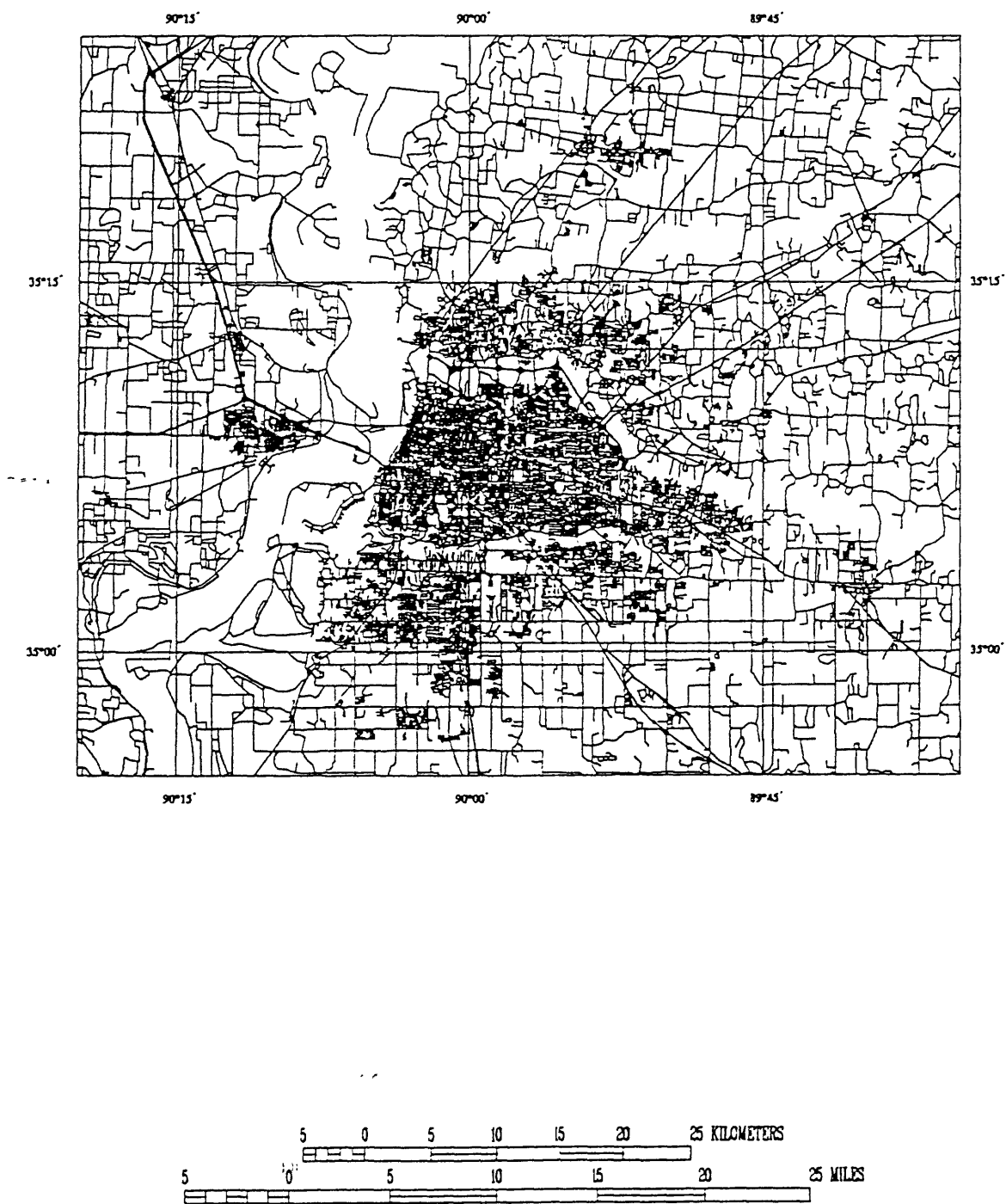
shelbymt -- Miscellaneous transportation features of the Shelby County, Tennessee area.



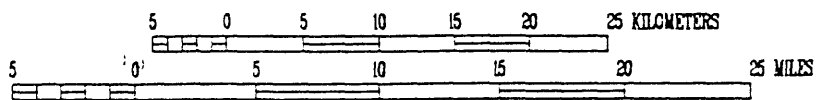
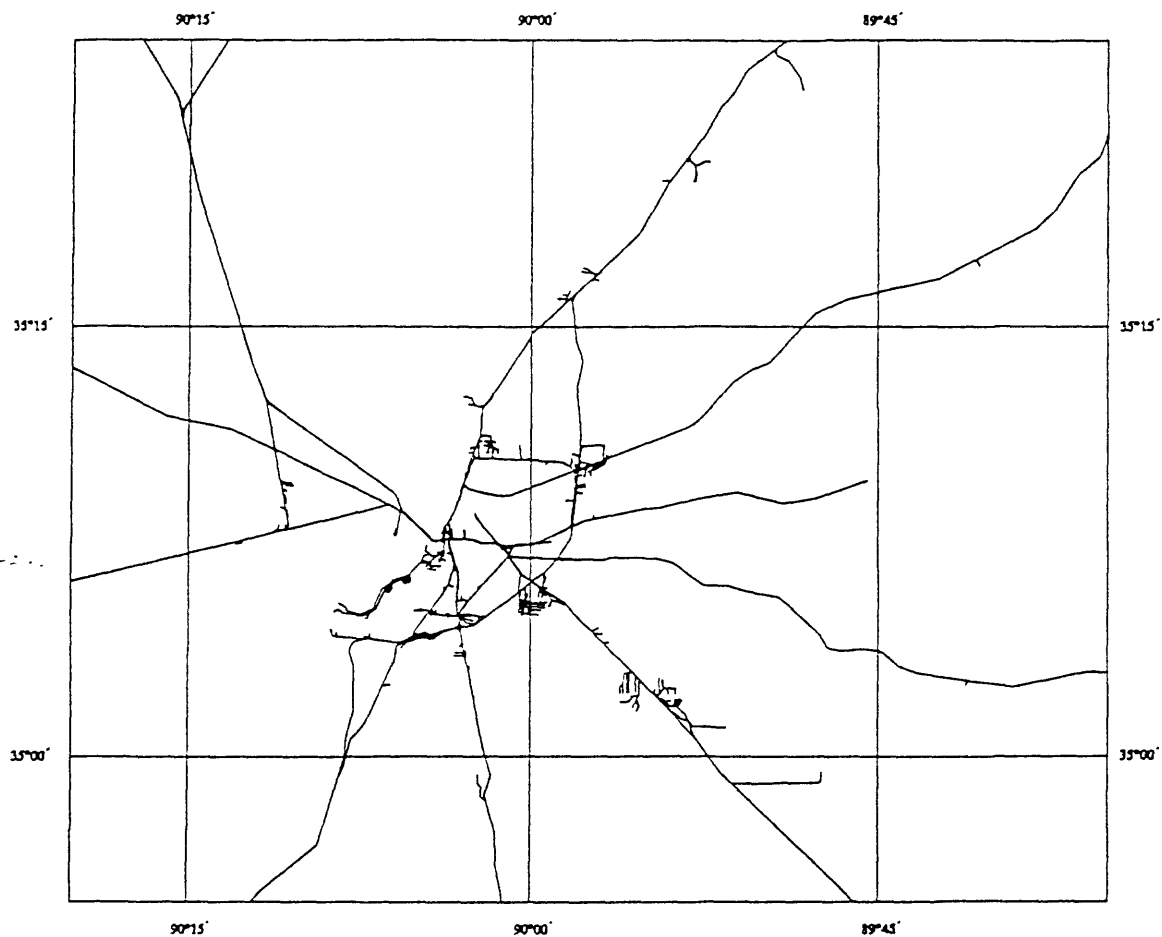
shelbypga -- Peak ground acceleration contours in the Shelby County, Tennessee area.



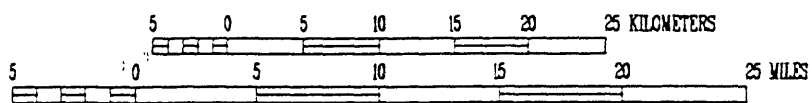
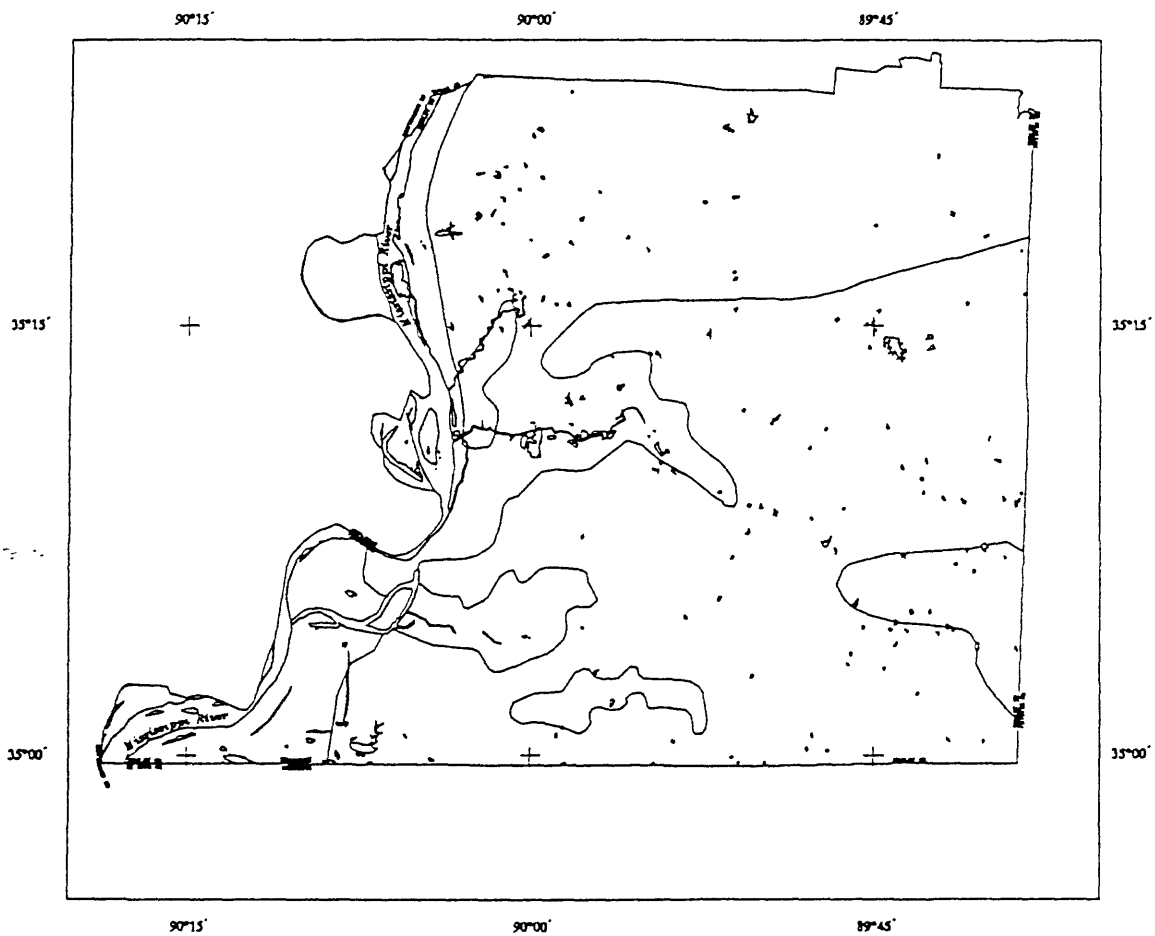
shelbypipes – Pipelines of the Shelby County, Tennessee area.



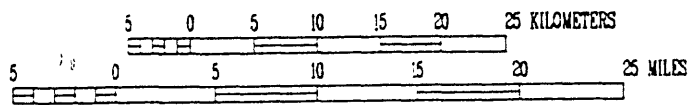
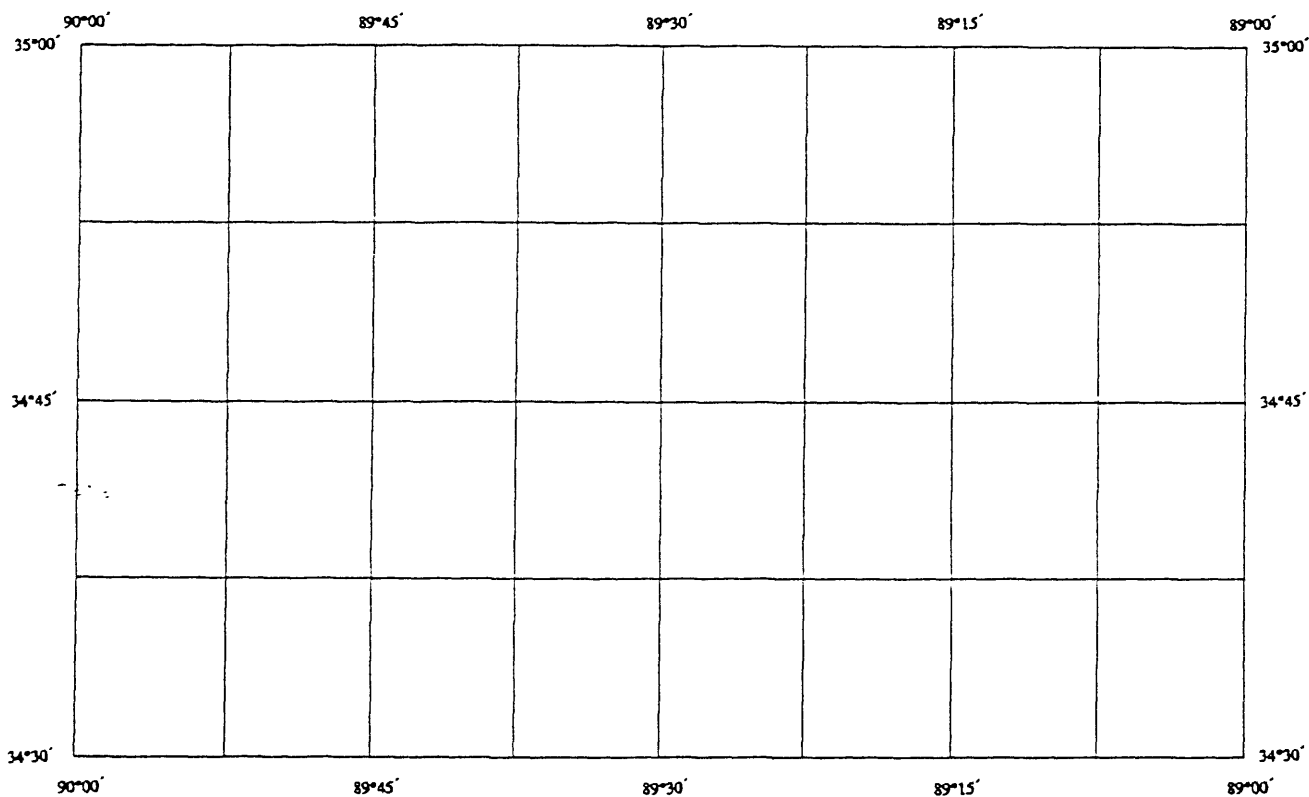
shelbyrds -- Roads and trails of the Shelby County, Tennessee area.



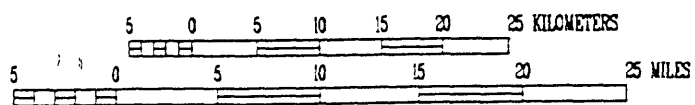
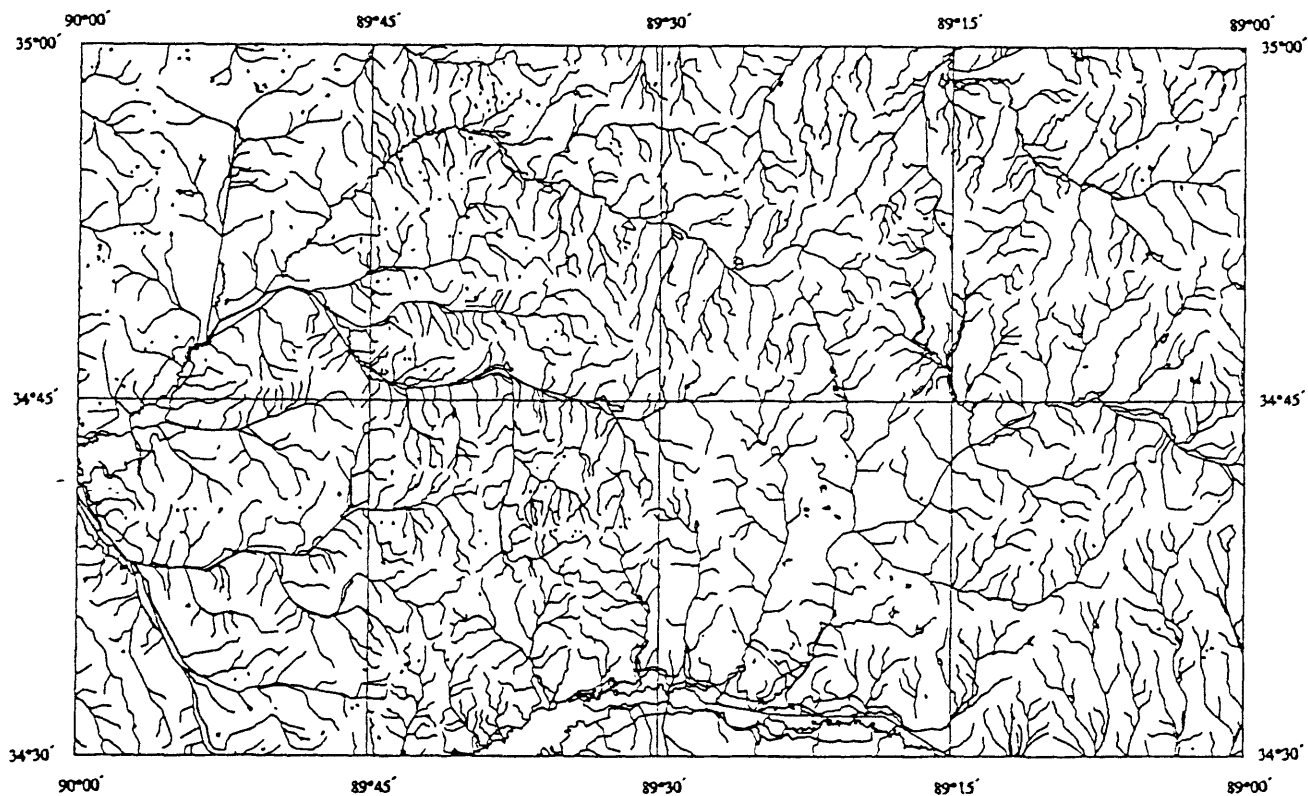
shelbyrr -- Railroads of the Shelby County, Tennessee area.



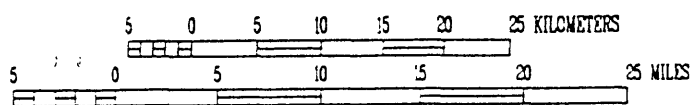
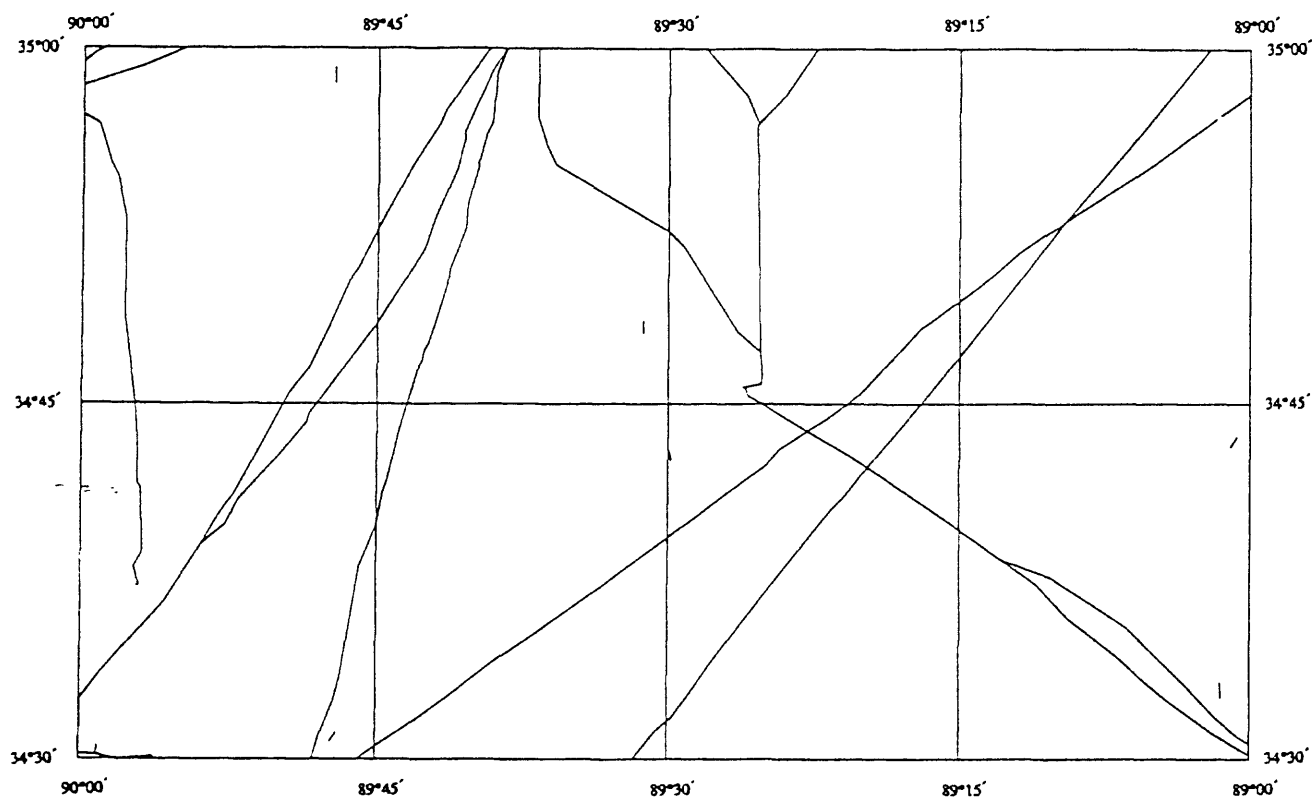
shelbysoil -- Soil profile types of the Shelby County, Tennessee area.



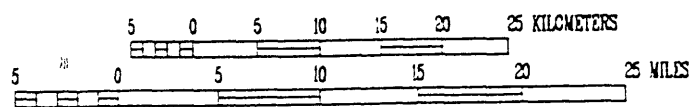
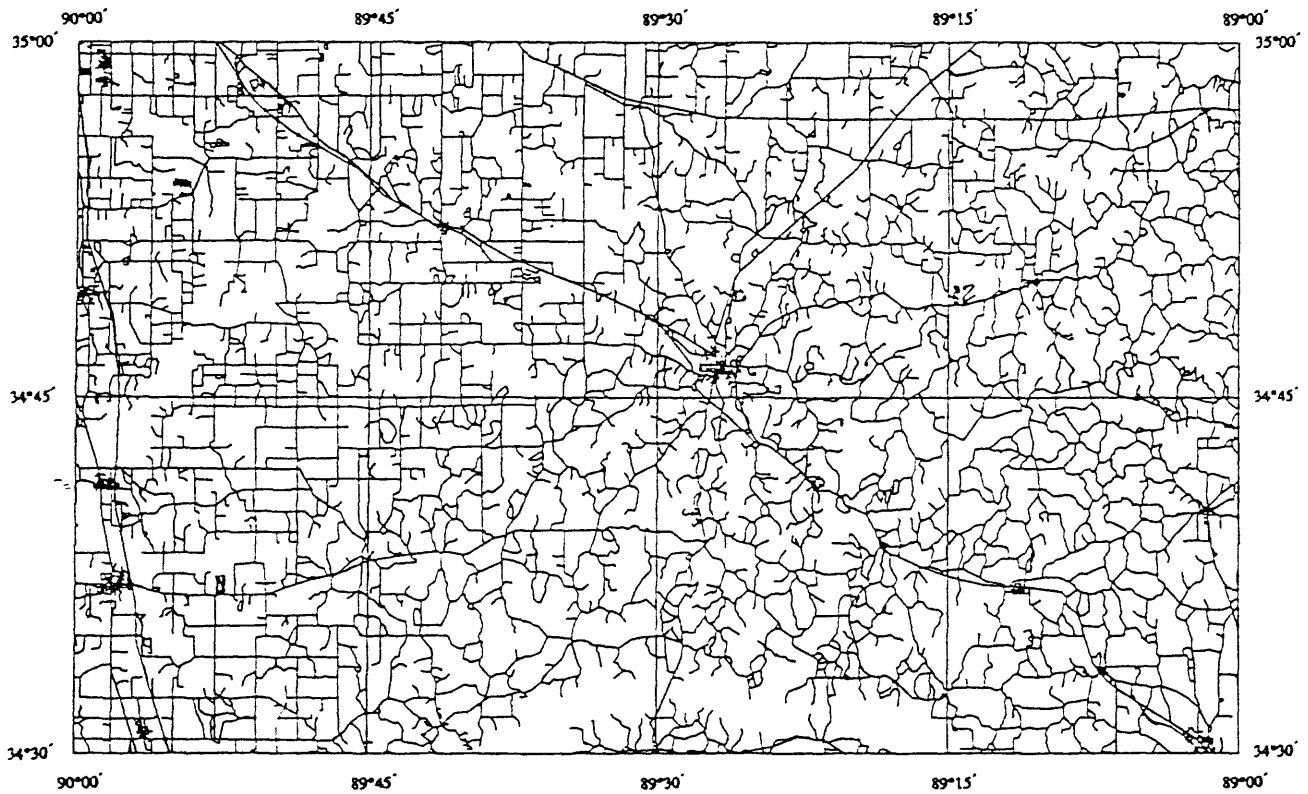
tq1grat -- Graticule of the Holly Springs 30' x 60' (1:100,000-scale) quadrangle.



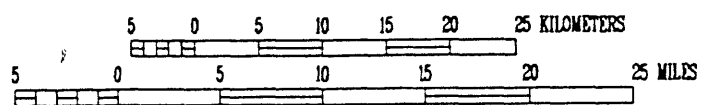
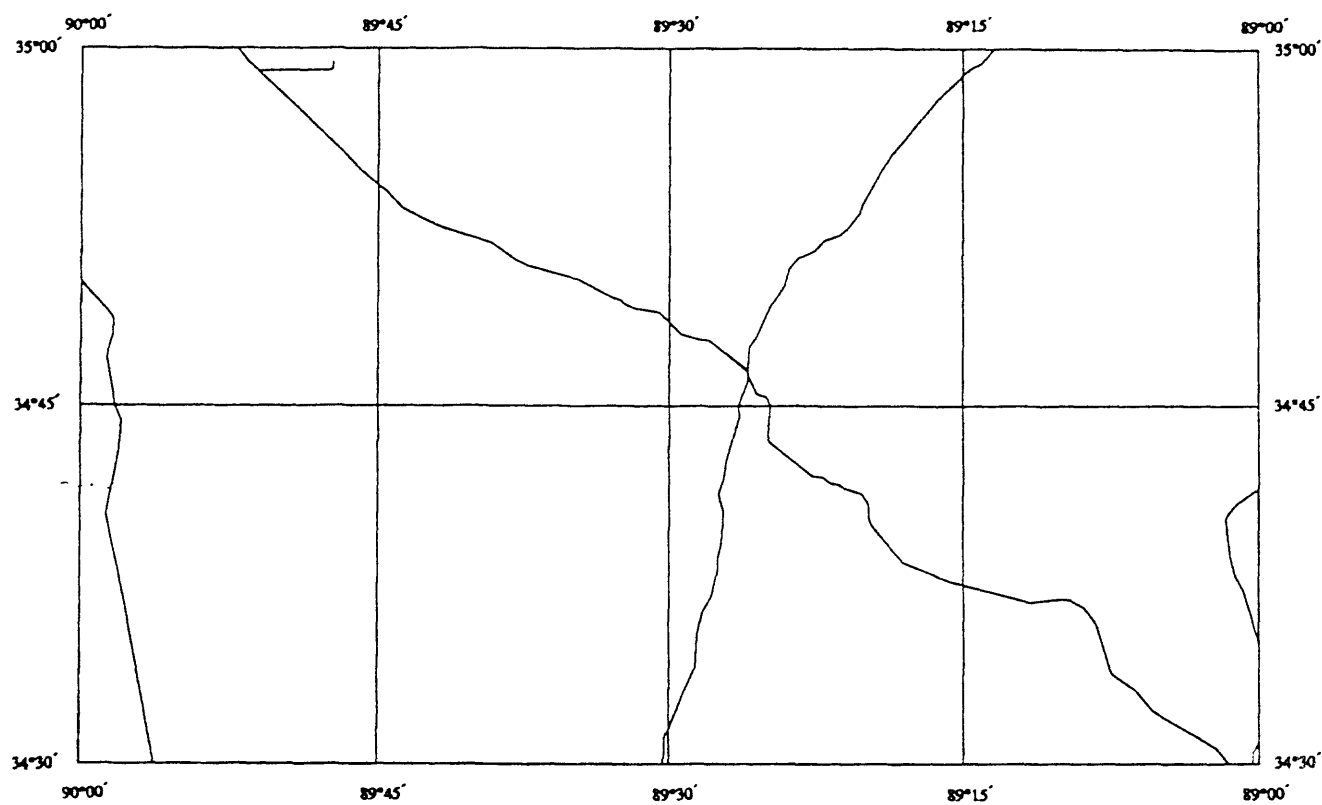
tq1hyd -- Hydrography of the Holly Springs 30' x 60' (1:100,000-scale) quadrangle.



tq1mt -- Miscellaneous transportation features of the Holly Springs 30' x 60' (1:100,000-scale) quadrangle.



tq1rds -- Roads and trails of the Holly Springs 30' x 60' (1:100,000-scale)
 quadrangle.



tq1rr -- Railroads of the Holly Springs 30' x 60' (1:100,000-scale) quadrangle.