

<i>Data Set Name</i>	gemdhl
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	gemdhl
<i>Title</i>	
<i>Unique Identifier</i>	water well, scientific, and exploration hole point locations
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	drill hole point data, locations
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	gemdhl
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	built point data, no topological problems
<i>Completeness</i>	all field located data in MGS files
<i>Horizontal Positional Accuracy</i>	approx. 40 meters
<i>Vertical Positional Accuracy</i>	no Z values
<i>Lineage</i>	point data digitized off USGS 1:24,000 topographic quadrangles, digitizing table via PC ARC/INFO
<i>Source Scale Denominator</i>	1:24,000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	Point

<i>Data Set Name</i>	gemdhl
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	point
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	feet
<i>Depth Datum</i>	mean sea level
<i>Depth Units</i>	feet
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (extended)
<i>UTM Coordinate Offsets or Adjustments</i>	none

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	gemdhl
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

<i>Map Projection Name</i>	Nad83
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Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

<i>Entity and Attribute Overview</i>	see MGS data standards for points, plus additional listed below, cwi etc.
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<i>Entity and Attribute Detailed Citation</i>	see MGS data standards
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Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	gemdhl
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	gemstr
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	gemstr
<i>Title</i>	
<i>Unique Identifier</i>	structure data points
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	structural data, point locations
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	gemstr
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	built point data, no topological problems
<i>Completeness</i>	all field located data in MGS files
<i>Horizontal Positional Accuracy</i>	approx 40 meters
<i>Vertical Positional Accuracy</i>	no Z factor
<i>Lineage</i>	point data digitized off USGS 1:24,000 topographic quadrangles, digitizing table via PC ARC/INFO
<i>Source Scale Denominator</i>	1:24,000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	point

<i>Data Set Name</i>	gemstr
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	point
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	feet
<i>Depth Datum</i>	mean sea level
<i>Depth Units</i>	feet
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	gemstr
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

<i>Map Projection Name</i>	Nad83
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Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

<i>Entity and Attribute Overview</i>	point locations of structural measurements
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Entity and Attribute Detailed Citation

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	gemstr
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	gemoc
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	ocpg
<i>Title</i>	
<i>Unique Identifier</i>	outcrop area boundary
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	bedrock, outcrop areas
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	gemoc
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
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<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	build polygon data, no topological problems
<i>Completeness</i>	all field located data in MGS files
<i>Horizontal Positional Accuracy</i>	approx 40 meters
<i>Vertical Positional Accuracy</i>	no Z factor
<i>Lineage</i>	data digitized off USGS 1:24,000 topographic quadrangles, digitizing table via PC ARC/INFO
<i>Source Scale Denominator</i>	1:24,000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	polygon

<i>Data Set Name</i>	gemoc
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	polygon
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	meters
<i>Depth Datum</i>	msl
<i>Depth Units</i>	meters
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	gemoc
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview Mapped areas of bedrock exposed at the surface as outcrops.

Entity and Attribute Detailed Citation

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	gemoc
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	bgnt
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	bgpg
<i>Title</i>	
<i>Unique Identifier</i>	bedrock geology
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	bedrock geology
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	bgnt
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	built polygon/line data
<i>Completeness</i>	This is a net coverage of polys and line elements. Any arc danglers are intentional and are of structural data extended from shared contact with geology polys.
<i>Horizontal Positional Accuracy</i>	approx 40 meters
<i>Vertical Positional Accuracy</i>	no Z factor
<i>Lineage</i>	data compiled on stable base, scanned, registered to nad83 tics, vectorized, and coded to internal MGS standards.
<i>Source Scale Denominator</i>	1:100000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	net

<i>Data Set Name</i>	bgnt
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	polygon, arcs
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	meters
<i>Depth Datum</i>	mean sea level
<i>Depth Units</i>	meters
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	none

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	bgnt
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview Bedrock geology and linear structural elements of study area.

Entity and Attribute Detailed Citation Bedrock geology based on interpretation of field mapping, water well logs, seismic data, and gravity data. Includes linear features, such as faults.

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
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<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	bgnt
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	bglInls
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	bglIn
<i>Title</i>	
<i>Unique Identifier</i>	geological linear features such as dikes, lineations, bands of iron formation
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete
<i>SPATIAL DOMAIN</i>	
<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000
<i>KEYWORDS</i>	
<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	bedrock linear elements
<i>Theme Keyword Thesaurus</i>	
<i>CONSTRAINTS</i>	
<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	bglInls
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	build line data, no topological problems
<i>Completeness</i>	complete as of the date June 1999
<i>Horizontal Positional Accuracy</i>	approx 40 meters
<i>Vertical Positional Accuracy</i>	no Z factor
<i>Lineage</i>	data compiled on stable base, scanned, registered to nad83 tics, vectorized, and coded to internal MGS standards.

<i>Source Scale Denominator</i>	1:100000
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Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	vector

<i>Data Set Name</i>	bglInls
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	arc
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	meters
<i>Depth Datum</i>	msl
<i>Depth Units</i>	meters
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	bglInls
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview Line cover of bedrock linear elements.

Entity and Attribute Detailed Citation Line cover also includes point data to be used as markersymbols denoting anticlinal or synclinal axes.

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	bglhls
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	bsan
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	bsan
<i>Title</i>	
<i>Unique Identifier</i>	annotation for township-range-section, lat. long. cities, rivers, and point cover for lat. lon. tics
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	July 1998
<i>Currentness Reference</i>	July 1998
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	geographic base annotation,
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	bsan
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780 ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked
<i>Logical Consistency</i>	point data built
<i>Completeness</i>	complete to date
<i>Horizontal Positional Accuracy</i>	
<i>Vertical Positional Accuracy</i>	
<i>Lineage</i>	

<i>Source Scale Denominator</i>	1:100000
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Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	annotation and point

<i>Data Set Name</i>	bsan
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	point
<i>Tiling Scheme</i>	USGS 30 x 60 minute quad

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	mean sea level
<i>Altitude Units</i>	
<i>Depth Datum</i>	msl
<i>Depth Units</i>	
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	bsan
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview annotation and lat. lon. point cover.

Entity and Attribute Detailed Citation

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	bsan
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	papg
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	papg
<i>Title</i>	
<i>Unique Identifier</i>	30 x 60 minute outline, Mille Lacs quad
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 field data location and digitization
<i>Progress</i>	complete

SPATIAL DOMAIN

<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota
<i>West Bounding Coordinate</i>	-94.00000
<i>East Bounding Coordinate</i>	-93.00000
<i>North Bounding Coordinate</i>	46.50000
<i>South Bounding Coordinate</i>	46.00000

KEYWORDS

<i>Place Keywords</i>	East central Minnesota, Mille Lacs 30 x 60 minute quadrangle
<i>Theme Keywords</i>	Mille Lacs quad outline
<i>Theme Keyword Thesaurus</i>	

CONSTRAINTS

<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	papg
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	visually checked, as good as possible
<i>Logical Consistency</i>	built polygon cover, no topological problems
<i>Completeness</i>	complete to date
<i>Horizontal Positional Accuracy</i>	approx 40 meters
<i>Vertical Positional Accuracy</i>	no Z factor
<i>Lineage</i>	polygon data from USGS 1:100,000 topographic quadrangles

<i>Source Scale Denominator</i>	100000
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Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	polygon

<i>Data Set Name</i>	papg
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Vendor Specific Object Types</i>	polygon
<i>Tiling Scheme</i>	USGS 30 x 60 minute quadrangle

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	
<i>Altitude Datum</i>	
<i>Altitude Units</i>	
<i>Depth Datum</i>	msl
<i>Depth Units</i>	
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	pagp
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview polygon boundary of Mille Lacs 30 x 60 minute quadrangle

Entity and Attribute Detailed Citation contact USGS

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Miscellaneous Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	papg
<i>Date</i>	6-18-99
<i>Metadata Entered By</i>	J. P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-18-99
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext. 214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	amgd1vrp.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	amgd1vrp.tif
<i>Title</i>	
<i>Unique Identifier</i>	Aeromagnetic anomaly, gridded, reduced to pole, 1st vertical derivative packaged as tif image
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 data compilation and analysis
<i>Progress</i>	complete
<i>SPATIAL DOMAIN</i>	
<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota, Aitken and Mille Lacs 30 x 60 minute quadrangles
<i>West Bounding Coordinate</i>	-94.249660
<i>East Bounding Coordinate</i>	-92.736749
<i>North Bounding Coordinate</i>	47.036915
<i>South Bounding Coordinate</i>	45.979239
<i>KEYWORDS</i>	
<i>Place Keywords</i>	Aitken and Mille Lacs quadrangles
<i>Theme Keywords</i>	aeromag anomaly
<i>Theme Keyword Thesaurus</i>	
<i>CONSTRAINTS</i>	
<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software, any software capable of reading a TIFF
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	amgd1vrp.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780, ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100 and M-99

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	approx. 50 meters
<i>Logical Consistency</i>	grid
<i>Completeness</i>	complete to date
<i>Horizontal Positional Accuracy</i>	approx. 50 meters
<i>Vertical Positional Accuracy</i>	within 2 nanoTeslas
<i>Lineage</i>	aeromagnetic anomaly flight line data was merged, gridded, reduced to pole, and 1st vertical derivative calculated.

<i>Source Scale Denominator</i>	100000
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Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	raster

<i>Data Set Name</i>	amgd1vrp.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Vendor Specific Object Types</i>	cell
<i>Tiling Scheme</i>	

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	approx. 50 meters
<i>Altitude Datum</i>	
<i>Altitude Units</i>	nanoTesla/km
<i>Depth Datum</i>	
<i>Depth Units</i>	
<i>Cell Width</i>	200 meters
<i>Cell Height</i>	200 meters

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	amgd1vrp.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview

Aeromagnetic flight line data was merged, gridded, and various analytical techniques were applied to data, i.e., reduction to nole and 1st vertical derivative.

Entity and Attribute Detailed Citation

see Chandler, V.W., and Schaap, B.D., 1991, Bouguer gravity anomaly map of Minnesota, MGS State Map S-16, scale 1:500,000.

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Misc. Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	amgd1vrp.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-30-1999
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext.214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	grgd2vu2.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	grgd2vu2.tif
<i>Title</i>	
<i>Unique Identifier</i>	Bouguer gravity anomaly grid packaged as tif image
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 data compilation and analysis
<i>Progress</i>	complete
<i>SPATIAL DOMAIN</i>	
<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota, Aitken and Mille Lacs 30 x 60 minute quadrangles
<i>West Bounding Coordinate</i>	-94.249660
<i>East Bounding Coordinate</i>	-92.736749
<i>North Bounding Coordinate</i>	47.036915
<i>South Bounding Coordinate</i>	45.979239
<i>KEYWORDS</i>	
<i>Place Keywords</i>	Aitken and Mille Lacs quadrangles
<i>Theme Keywords</i>	Bouguer gravity
<i>Theme Keyword Thesaurus</i>	
<i>CONSTRAINTS</i>	
<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software, any software capable of reading a TIFF
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	grgd2vu2.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780, ext 214
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100 and M-99

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	approx. 200 meters
<i>Logical Consistency</i>	
<i>Completeness</i>	complete to date
<i>Horizontal Positional Accuracy</i>	approx. 200 meters
<i>Vertical Positional Accuracy</i>	within .3 milligals
<i>Lineage</i>	Gravity station data was gridded using MINC, filtered to 2nd vertical derivative, upward continued to 2 km
<i>Source Scale Denominator</i>	100000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	raster

<i>Data Set Name</i>	grgd2vu2.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Vendor Specific Object Types</i>	cell
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Tiling Scheme

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	approx. 200 meters
<i>Altitude Datum</i>	milligal/km2
<i>Altitude Units</i>	
<i>Depth Datum</i>	
<i>Depth Units</i>	
<i>Cell Width</i>	200 meters
<i>Cell Height</i>	200 meters

IF GEOGRAPHIC

Latitude Resolution

Longitude Resolution

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
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UTM Coordinate Offsets or Adjustments

IF STATE PLANE

SPCS Zone Identifier

SPCS Coordinate Offsets or Adjustments

IF COUNTY COORDINATES

County Zone ID

Co Coord offset

<i>Data Set Name</i>	grgd2vu2.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

Entity and Attribute Overview Bouguer gravity data enhanced by various analytical techniques, i.e., 2nd vertical derivative, upward continued to 2 km.

Entity and Attribute Detailed Citation see Chandler, V.W., and Schaap, B.D., 1991, Bouguer gravity anomaly map of Minnesota, MGS State Map S-16, scale 1:500,000.

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
<i>Distributor Organization</i>	Minnesota Geological Survey – Map Sales
<i>Distributor Position</i>	Map Sales Manager
<i>Distributor Street address</i>	2642 University Avenue
<i>Distributor City</i>	St. Paul
<i>Distributor State or Province</i>	MN
<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Misc. Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	grgd2vu2.tif
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-30-1999
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
<i>Metadata Contact State or Province</i>	MN
<i>Metadata Contact Postal Code</i>	55114
<i>Metadata Contact Voice Phone</i>	612-627-4780, ext.214
<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm

<i>Data Set Name</i>	grpt
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

Section 1. Identification Information

<i>CITATION</i>	Minnesota Geological Survey
<i>Originator</i>	grpt
<i>Title</i>	
<i>Unique Identifier</i>	Gravity station data
<i>Abstract</i>	
<i>Purpose</i>	Misc. map M-100, Bedrock geology of the Mille Lacs 30 x 60 minute quadrangle
<i>Time Period of Content</i>	June 1999
<i>Currentness Reference</i>	1998-1999 data compilation and analysis
<i>Progress</i>	complete
<i>SPATIAL DOMAIN</i>	
<i>Maintenance and Update Frequency</i>	none planned
<i>Spatial Extent of Data</i>	east central, Minnesota, Aitken and Mille Lacs 30 x 60 minute quadrangles
<i>West Bounding Coordinate</i>	-94.249660
<i>East Bounding Coordinate</i>	-92.736749
<i>North Bounding Coordinate</i>	47.036915
<i>South Bounding Coordinate</i>	45.979239
<i>KEYWORDS</i>	
<i>Place Keywords</i>	Aitken and Mille Lacs quadrangles
<i>Theme Keywords</i>	gravity station, point locations
<i>Theme Keyword Thesaurus</i>	
<i>CONSTRAINTS</i>	
<i>Access Constraints</i>	ESRI ARC/INFO and ARCVIEW software
<i>Use Constraints</i>	Credit Given to Minnesota Geological Survey

<i>Data Set Name</i>	grpt
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

OTHER

<i>Contact Person</i>	Joyce Meints
<i>Contact Organization</i>	Minnesota Geological Survey
<i>Contact Person Position</i>	GIS Staff
<i>Contact Street Address</i>	2642 University Avenue
<i>Contact City</i>	St. Paul
<i>Contact State or Province</i>	MN
<i>Contact Postal Code</i>	55114
<i>Contact Voice Phone</i>	612-627-4780
<i>Contact Fax Phone</i>	612-627-4778
<i>Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Browse Graphic</i>	http://geolab.geo.umn.edu/mgs
<i>Associated Data Sets</i>	other covers included in M-100 and M-99

Section 2. Data Quality Information

<i>Attribute Accuracy</i>	Field measurements by gravity meter within standard measurement techniques.
<i>Logical Consistency</i>	point data
<i>Completeness</i>	complete to date
<i>Horizontal Positional Accuracy</i>	approx. 200 meters
<i>Vertical Positional Accuracy</i>	
<i>Lineage</i>	Data compiled from a number of sources, see Chandler and Schapp, 1991 (entity and attribute detailed citation).
<i>Source Scale Denominator</i>	24000

Section 3. Spatial Data Organization Information

<i>Native Data Set Environment</i>	ARC/INFO 7.04
<i>Geographic Reference for Tabular Data</i>	UTM Coordinates
<i>Spatial Object Type</i>	point

<i>Data Set Name</i>	grpt
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Vendor Specific Object Types</i>	point
<i>Tiling Scheme</i>	

Section 4. Spatial Reference Information

<i>Horizontal Coordinate Scheme</i>	UTM
<i>Ellipsoid</i>	GRS 1980
<i>Horizontal Datum</i>	NAD83
<i>Horizontal Units</i>	meters
<i>Distance Resolution</i>	approx. 200 meters
<i>Altitude Datum</i>	
<i>Altitude Units</i>	
<i>Depth Datum</i>	
<i>Depth Units</i>	
<i>Cell Width</i>	
<i>Cell Height</i>	

IF GEOGRAPHIC

<i>Latitude Resolution</i>	
<i>Longitude Resolution</i>	

IF UTM

<i>UTM Zone Number</i>	15 (expanded)
<i>UTM Coordinate Offsets or Adjustments</i>	

IF STATE PLANE

<i>SPCS Zone Identifier</i>	
<i>SPCS Coordinate Offsets or Adjustments</i>	

IF COUNTY COORDINATES

<i>County Zone ID</i>	
<i>Co Coord offset</i>	

<i>Data Set Name</i>	grpt
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

IF USER SPECIFIED PROJECTION

Map Projection Name

Map Projection Parameters

IF OTHER

Other Coordinate System's Definition

Section 5. Entity and Attribute Information

<i>Entity and Attribute Overview</i>	Point - gravity station locations containing elevation, absolute, free air, and Bouguer gravity data.
<i>Entity and Attribute Detailed Citation</i>	see Chandler, V.W., and Schaap, B.D., 1991, Bouguer gravity anomaly map of Minnesota, MGS State Map S-16, scale 1:500,000.

Section 6. Distribution Information

<i>Publisher</i>	Minnesota Geological Survey
<i>Publication Date</i>	June 30, 1999
<i>Online Linkage</i>	via anonymous FTP from 156.98.153.1
<i>Distributor Contact Person</i>	Lori day
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<i>Distributor City</i>	St. Paul
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<i>Distributor Postal Code</i>	55114
<i>Distributor Voice Phone</i>	612-627-4780 ex. 238
<i>Distributor Fax Phone</i>	612-627-4778
<i>Distributor E-mail Address</i>	dayxx006@maroon.tc.umn.edu
<i>Distributors Data Set Identifier</i>	Misc. Map M-100
<i>Distribution Liability</i>	
<i>Transfer Format Name</i>	ARC export format (.e00)

<i>Data Set Name</i>	grpt
<i>Date</i>	6-30-1999
<i>Metadata Entered By</i>	J.P. Meints

<i>Transfer Format Version Number</i>	ARC/INFO 7.04
<i>Transfer Size</i>	9.3 MB for entire export package
<i>Ordering Instructions</i>	Contact MGS Map Sales

Section 7. Metadata Reference Information

<i>Metadata Date</i>	6-30-1999
<i>Metadata Contact Person</i>	Joyce Meints
<i>Metadata Contact Organization</i>	Minnesota Geological Survey
<i>Metadata Contact Position</i>	GIS Staff
<i>Metadata Contact Street Address</i>	2642 University Avenue
<i>Metadata Contact City</i>	St. Paul
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<i>Metadata Contact Postal Code</i>	55114
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<i>Metadata Contact Fax Phone</i>	612-627-4778
<i>Metadata Contact E-mail Address</i>	meint002@maroon.tc.umn.edu
<i>Metadata Standard Name</i>	Minnesota Geographic Metadata Guidelines
<i>Metadata Standard Version</i>	v. 1.1
<i>Metadata Standard Online Linkage</i>	http://www.lmic.state.mn.us/gc/stds/metadata.htm