

UNIVERSITY OF MINNESOTA  
MINNESOTA GEOLOGICAL SURVEY**GEOLOGIC MAP INDEX  
OF  
MINNESOTA**

By  
**Timothy E. Wahl, Mary Jo P. Kuhns, and G.B. Morey**

Second edition, March 1985



## GENERAL INFORMATION

The principal maps covering the entire state are: 77 (gravity); 208 (bedrock hydrogeology); 210 (Quaternary hydrogeology); 197 (Quaternary geology); 253 (peat deposits); 300 (geomorphic regions); 318 (bedrock geology); 309 (bedrock geology); 443 (hydrologic units); 76 (aeromagnetic intensity). Full references are given in the bibliography.

The geologic map index is divided into categories such as bedrock or surficial geology, and some categories are further divided into different scale ranges. The map areas in turn are keyed to one or more bibliographic citations. Considerable effort has been made to include in the citation list all primary source maps pertaining to the geology of Minnesota. However, only those references preceded by an asterisk are outlined on the index maps. These selected maps are either the most recent maps of a given area at the specified scale or are in our judgment the best maps available. Other references included in the citation list are believed either to have general interest or to be of historic value.

The formal publications cited in this index can be consulted in most university and state survey libraries or in the several libraries of the U.S. Geological Survey. Maps published by the Minnesota Geological Survey may be obtained from Map Sales, 2642 University Avenue, St. Paul, Minnesota 55114-1057. Inquiries about cost and availability of maps not published by the Minnesota Geological Survey should be directed to the individual publisher and not the Minnesota Geological Survey.

Open-file maps prepared by the Minnesota Geological Survey and cited in this index may be consulted in the Survey library at the above address or at the Department of Geology, University of Minnesota, Duluth 55812. Theses prepared under the auspices of the University of Minnesota may be consulted at the O. Meredith Wilson Library, 309-19th Avenue S., Minneapolis, Minnesota 55455, or at the University Archives in the Walter Library, University of Minnesota, Minneapolis, Minnesota, 55455. Inquiries regarding theses prepared at other institutions should be directed to those institutions.

The index was printed directly from data in a computer storage and retrieval system maintained by the Minnesota Geological Survey. This edition of the index includes maps available as of December 31, 1984. New entries are added to the computer system as they appear and will be included in future editions of the index. Considerable assistance in the editing and correction of the bibliographic citations for the current edition was provided by Lynn Swanson and Patrick C. Hess. Correspondence pertaining to possible omissions or errors in the contents of this index should be directed to the Minnesota Geological Survey, 2642 University Avenue, St. Paul, Minnesota 55114-1057 (telephone: 612-373-3372).

473. Winter, T.C., Cotter, R.D., and Young, H.L., 1974, Petrography and stratigraphy of glacial drift, Mesabi-Vermilion iron range area, northeastern Minnesota: U.S. Geological Survey Bulletin 1331-C, pl. 1, Maps showing geomorphic features and surficial geology, Mesabi-Vermilion iron range area, northeastern Minnesota, fig. A, Geomorphic features, fig. B, Surficial geology, 1:250,000.  
SURFICIAL
474. Winter, T.C., MacIay, R.W., and Pike, G.M., 1967, Water resources of the Roseau River watershed, northwestern Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-241, sheet 1, Physical setting and water management, 1:250,000.  
HYDROLOGIC
475. Wold, R.J., 1979, Maps showing bedrock topography of Lake Superior: U.S. Geological Survey Miscellaneous Field Studies Map MF-1174, 1:600,000.  
BEDROCK
476. Wold, R.J., and Berkson, J.M., 1977, Bouguer gravity anomaly map of Lake Superior: U.S. Geological Survey Miscellaneous Field Studies Map MF-884, 1:500,000.  
GRAVITY
477. Woyski, M.S., 1949, Intrusives of central Minnesota: Geological Society of America Bulletin, v. 60, pl. 1, Areal geologic map of central Minnesota, 1:1,250,000.  
BEDROCK
478. Wright, H.E., Jr., 1956, Glacial geology of eastern Minnesota, in Schwartz, G.M., and Wright, H.E., Jr., eds., Glacial geology of eastern Minnesota: Geological Society of America, 69th Annual Meeting, Minneapolis, Minnesota, 1956, Guidebook for field trip no. 3, fig. 1, Index map of eastern Minnesota showing certain glacial features, 1:1,647,000.  
SURFICIAL
479. Wright, H.E., Jr., 1962, Role of the Wadena lobe in the Wisconsin glaciation of Minnesota: Geological Society of America Bulletin, v. 73, p. 73-99, fig. 5, Wadena drumlin field, mapped from aerial photographs, 1:500,000, fig. 4, Wadena drumlin field and environs, approx. 1:1,426,000.  
SURFICIAL
- \*480. Wright, H.E., Jr., 1964, Wisconsin glaciation of Minnesota: Midwest Friends of the Pleistocene, 15th Annual Field Conference, Eastern Minnesota: Minnesota Geological Survey, and Department of Geology and Geophysics, University of Minnesota, Regional geomorphic map of parts of Carlton and St. Louis Counties, 1:250,000.  
SURFICIAL
481. Wright, H.E., Jr., 1972, Physiography of Minnesota, in Sims, P.K., and Morey, G.B., eds., Geology of Minnesota: A centennial volume: Minnesota Geological Survey, p. 561-578, fig. VII-28, Map of physiographic areas of Minnesota, 1:3,300,000.  
SURFICIAL
- \*482. Wright, H.E., Jr., Mattson, L.A., and Thomas, J.A., 1970, Geology of the Cloquet quadrangle, Carlton County, Minnesota: Minnesota Geological Survey, Geologic Map Series GM-3, pl. 1, Geologic map of Cloquet quadrangle, 1:24,000.  
BEDROCK, SURFICIAL
483. Wright, H.E., Jr., and Watts, W.A., 1969, Glacial and vegetational history of northeastern Minnesota: Minnesota Geological Survey Special Publication Series SP-11, pl. 1, Map of a part of northeastern Minnesota showing major geomorphic features, 1:317,000.  
SURFICIAL
- \*484. Zamzow, C.E., 1979, Early Precambrian bedrock geology of the Northwest Angle, Lake of the Woods County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Geologic map showing outcrops and sample locations, 1:24,000.  
BEDROCK
- \*485. Zarth, R.J., 1977, The Quaternary geology of Wrenshall and Frogner quadrangles, northeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, Quaternary geologic map of the Wrenshall quadrangle, 1:24,000.  
SURFICIAL
486. Zietz, I., 1964, A magnetic anomaly of possible economic significance in southeastern Minnesota: U.S. Geological Survey Circular 489, fig. 2, Aeromagnetic map of parts of Fillmore and Houston Counties, Minnesota, 1:250,000.  
MAGNETIC
487. Zietz, I., and Kirby, J.R., 1970, Aeromagnetic map of Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-725, 1:1,000,000.  
MAGNETIC

\* INDICATES OUTLINE IS PLOTTED

436. Teller, J.T. and Bluemle, J.P., 1983, Bedrock geology of the Lake Agassiz region: North Dakota Geological Survey Miscellaneous Map 24 (reproduced from Teller and Bluemle, fig. 1: Geological Association of Canada Special Paper 26), scale 1 cm = 50 km.  
BEDROCK
437. Thomas, J.A., 1959, Geology of the Cloquet area, northeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, fig. 8, Area relations of physiographic features of the Cloquet quadrangle, 1:270,000.  
BEDROCK, SURFICIAL
- \*438. Thompson, G., 1965, Hydrology of melt-water channels in southwest Minnesota: U.S. Geological Survey Water - Supply Paper 1809-K, pl. 3, Map of Marshall area, Minnesota, showing thickness of saturated coarse grained aquifer, 1:6,400.  
SURFICIAL, HYDROLOGIC
- \*439. Tyler, S.R., 1956, Geology of the Hudson quadrangle: M.S. thesis, University of Minnesota, Minneapolis, Bedrock geologic map of the Hudson quadrangle, 1:24,000.  
BEDROCK
- \*440. U.S. Geological Survey, 1968, Aeromagnetic map of central Pine County, Minnesota and adjacent parts of Wisconsin: U.S. Geological Survey Geophysical Investigations Map GP-636, 1:62,500.  
MAGNETIC
- \*441. U.S. Geological Survey, 1969, Aeromagnetic map of the McNair-Grand Portage area, northeastern Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-639, 1:62,500.  
MAGNETIC
- \*442. U.S. Geological Survey, 1970, Aeromagnetic map of a part of western Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-692, 1:250,000.  
MAGNETIC
443. U.S. Geological Survey, 1976, Hydrologic unit map 1974, State of Minnesota: U.S. Geological Survey and U.S. Water Resources Council, 1:500,000.  
HYDROLOGIC
444. Upham, W., 1900, Giants' kettles eroded by Moulin torrents: Geological Society of America Bulletin, v. 12, p.25 - 44, pl. 1, Map of St. Croix Interstate Park showing location of giants' kettles, 1:3,000.  
SURFICIAL
445. Vadis, M.K., Gladen, L.W., Meineke, D.G., 1981, Geological, geophysical, and geochemical surveys of Lake, St. Louis, and Cook Counties, Minnesota, for the 1980 drilling project: Minnesota Department of Natural Resources, Division of Minerals Report 201, fig. 12, General geology of the Greenwood Lake magnetic trend area, 1:62,500.  
BEDROCK, MAGNETIC, GEOCHEM.
446. Vadis, M.K., Meineke, D.G., 1978, Geophysical surveys of an area southwest of Indus, Koochiching County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Project 146, 7 sheets, map 1, Horizontal shootback electromagnetic survey, maps 2 and 3, Magnetic survey, maps 4 and 6, Fixed transmitter vertical loop EM survey, map 5, Fixed transmitter and broadside vertical loop EM survey, all maps 1:2,400 except map 3, 1:6,000.  
MAGNETIC
447. Vadis, M.K., Meineke, D.G., 1979, Chemical analysis of samples from McComber Mines, St. Louis County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Map 151, 1:24,000.  
GEOCHEM.
448. Vadis, M.K., Meineke, D.G., 1982, Lake sediment exploration geochemical survey of portions of Lake and St. Louis Counties, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Report 171; pl. 1, Preliminary Precambrian geology of portions of Lake and St. Louis Counties, Minnesota, 1:250,000; pl. 2, Lake sediment exploration geochemical survey of Lake and St. Louis Counties, Minnesota, 1:125,000.  
BEDROCK, GEOCHEM.
449. Vadis, M.K., Meineke, D.G., 1982, Lake sediment geochemical survey of Cook County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Report 138-2; pl. 1, Preliminary Precambrian geology of Cook County, Minnesota, 1:250,000; pl. 2, Lake sediment exploration geochemical survey of Cook County, Minnesota, 1:125,000.  
BEDROCK, GEOCHEM.
450. Van Hise, C.R., and Leith, C.K., 1911, The geology of the Lake Superior region: U.S. Geological Survey Monograph 52, pl. 1, Geologic map of the Lake Superior region, 1:1,000,000, pl. 6, Geologic map of the Vermilion iron-bearing district, Minnesota, 1:125,000, pl. 8, Geologic map of the Mesabi iron-bearing district, Minnesota, 1:62,500, pl. 12, Geologic map of Pigeon Point, Minnesota, 1:22,500.  
BEDROCK
451. Van Voast, W.A., 1971, Ground water for irrigation in the Brooten-Belgrade area, west-central Minnesota: U.S. Geological Survey Water-Supply Paper 1899-E, Hydrologic maps of the Brooten-Belgrade area, approx. 1:250,000.  
HYDROLOGIC
452. Van Voast, W.A., 1971, Ground water for irrigation near Lake Emily, Pope County, west-central Minnesota: U.S. Geological Survey Water-Supply Paper 1899-J, Hydrologic maps of the Lake Emily area, approx. 1:123,600.  
HYDROLOGIC
453. Van Voast, W.A., Broussard, W.L., and Wheat, D.E., 1972, Water resources of the Minnesota River - Hawk Creek watershed, southwestern Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-391, sheet 2, Surficial sand and gravels, 1:250,000.  
HYDROLOGIC
454. Van Voast, W.A., Jerabek, L.A., and Novitzki, R.P., 1970, Water resources of the Redwood River watershed, southwestern Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-345 sheet 2, Surficial sand deposits, 1:494,000.  
HYDROLOGIC
455. Veith, K.F., 1966, A geophysical study of a portion of the Midcontinent Gravity High: M.S. thesis, University of Minnesota, Minneapolis, pl. 1, Bouguer anomaly, approx. 1:2,250,000.  
GRAVITY
- \*456. Viswanathan, S., 1974, Reconnaissance geologic map of Dark Lake quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-23, 1:24,000.  
BEDROCK
- \*457. Viswanathan, S., 1974, Reconnaissance geologic map of Dewey Lake Northwest quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-18, 1:24,000.  
BEDROCK
- \*458. Viswanathan, S., 1974, Reconnaissance geologic map of O'Leary Lake quadrangle, Itasca County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-21, 1:24,000.  
BEDROCK
- \*459. Viswanathan, S., 1974, Reconnaissance geologic map of Side Lake quadrangle, Itasca and St. Louis Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-19, 1:24,000.  
BEDROCK
- \*460. Viswanathan, S., and Ojakangas, R.W., 1974, Reconnaissance geologic map of Dewey Lake quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-22, 1:24,000.  
BEDROCK
- \*461. Viswanathan, S., and Ojakangas, R.W., 1974, Reconnaissance geologic map of Stingy Lake quadrangle, Itasca and St. Louis Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-20, 1:24,000.  
BEDROCK
462. Weiblen, P.W., 1965, A funnel-shaped gabbro - troctolite intrusion in the Duluth Complex, Lake County, Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, fig. 4, Bedrock geologic map of the Bald Eagle intrusion, 1:63,360.  
BEDROCK
- \*463. Weiss, M.P., 1953, The stratigraphy and stratigraphic paleontology of the Upper Middle Ordovician rocks of Fillmore County, Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, Structural map of the Middle Ordovician of Fillmore County, Minnesota, approx. 1:125,700.  
BEDROCK
- \*464. Weiss, M.P., 1957, Upper Middle Ordovician stratigraphy of Fillmore County, Minnesota: Geological Society of America Bulletin, v. 68, no. 8, p. 1027-1062, pl. 1, Bedrock geologic map, 1:250,000.  
BEDROCK
- \*465. White, D.A., 1954, The stratigraphy and structure of the Mesabi range, Minnesota: Minnesota Geological Survey Bulletin 38, pl. 2, Geologic map of the westernmost Mesabi district, Minnesota, 1:62,500, pl. 3, Structure contour map of the Mesabi range, 1:31,250.  
BEDROCK
- \*466. White, D. A., 1954, The stratigraphy and structure of the Mesabi range, Minnesota: Minnesota Geological Survey Bulletin 38, pl. 4, Map of the thickness of drift, Mesabi range, Minnesota, 1:125,000.  
SURFICIAL
467. White, W.S., 1966, Tectonics of the Keweenaw Basin, western Lake Superior Region: U.S. Geological Survey Professional Paper 524-E, map, approx. 1:1,125,000.  
GRAVITY, MAGNETIC
468. Winchell, N.H., 1901, The geology of Minnesota: Geological atlas with synoptical descriptions, volume 6; plate 8, Houston, 1:125,000; plate 9, Winona, 1:125,000; plate 10, Fillmore, 1:250,000; plate 11, Olmsted, 1:250,000; plate 12, Mower, 1:250,000; plate 13, Dodge, 1:200,000; plate 14, Freeborn, 1:250,000; plate 15, Steele, 1:250,000; plate 16, Blue Earth, 1:250,000; plate 17, Faribault, 1:250,000; plate 18, Watonwan and Martin, 1:250,000; plates 19 and 20, Cottonwood and Jackson, 1:250,000; plates 21 and 22, Murray and Nobles, 1:250,000; plate 23, Pipestone and Rock, 1:348,000; plates 25 and 26, Brown and Redwood, 1:250,000; plates 27 and 28, Yellow Medicine, Lyon, and Lincoln, 1:317,000; plate 29, Big Stone and Lac Qui Parle, 1:317,000; plate 30, Le Sueur, 1:190,000; plate 31, Rice, 1:190,000; plate 32, Wabasha, 1:250,000; plate 33, Goodhue, 1:317,000; plate 34, Dakota, 1:270,000; plate 35, Carver and Scott, 1:250,000; plate 36, Sibley and Nicollet, 1:317,000; plate 37, McLeod, 1:220,000; plate 38, Renville, plate 39, Swift and Chippewa, 1:380,000; plate 40, Kandiyohi and Meeker, 1:317,000; plate 41, Wright, 1:250,000; plate 42, Hennepin, 1:250,000; plate 43, Ramsey, 1:100,000; plate 44, Washington, 1:190,000; plate 45, Chisago, Isanti and Anoka, 1:380,000; plate 46, Benton and Sherburne, 1:360,000; plate 47, Stearns, 1:348,000; plate 48, Douglas and Pope, 1:380,000; plate 49, Grant and Stevens, 1:380,000; plate 50, Wilkin and Traverse, 1:500,000; plate 51, Otter Tail, 1:412,000; plate 52, Wadena and Todd, 1:500,000; plate 53, Crow Wing and Morrison, 1:380,000; plate 54, Mille Lacs and Kanabec, 1:360,000; plate 55, Pine, 1:380,000; plate 56, Carlton, 1:250,000; plate 57, Aitkin, 1:348,000; plate 58, Cass and part of Crow Wing, 1:475,000; plate 59, Hubbard and the northwestern portion of Cass, 1:270,000; plate 60, Becker, 1:360,000; plate 61, Clay, 1:317,000; plate 62, Polk and Norman, 1:412,000; plate 63, Kittson, Roseau and Marshall, 1:380,000; plate 64, Beltrami, 1:500,000; plate 65, Itasca, 1:500,000; plate 66, South part of St. Louis, 1:380,000; plate 67, North part of St. Louis, 1:380,000; plate 68, Lake, 1:380,000; plate 69, Cook, 1:330,000.  
Counties, Minnesota.  
BEDROCK, SURFICIAL
469. Winchell, N.H., 1901, Glacial lakes of Minnesota: Geological Society of America Bulletin, v. 12, pl. 1, Glacial lakes of Minnesota, 1:3,800,000.  
BEDROCK, SURFICIAL
470. Winter, T.C., 1973, Hydrogeology of glacial drift, Mesabi iron range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 2029-A, fig. 3, Surficial geology, 1:1,000,000, pl. 1, Maps showing bedrock geology and thickness of glacial drift, 1:250,000, pl. 2, Geohydrologic maps of the basal till and glaciofluvial sediments between basal till or bedrock and bouldery till, 1:250,000, pl. 3, Geohydrologic maps of glaciofluvial sediments between bouldery and surficial tills, 1:250,000.  
HYDROLOGIC
471. Winter, T.C., Bidwell, L.E., and Maclay, R.W., 1969, Water resources of the Otter Tail River watershed, west-central Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-296, sheet 3, Ground water, 1:250,000.  
HYDROLOGIC
472. Winter, T.C., Bidwell, L.E., and Maclay, R.W., 1970, Water resources of the Wild Rice River watershed, northwestern Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-339, sheet 2, Availability map, 1:250,000.  
HYDROLOGIC

393. Schneider, R., and Rodis, H.G., 1959, Aquifers in melt-water channels along the southwest flank of the Des Moines lobe, Lyon County, Minnesota: U.S. Geological Survey Water - Supply Paper 1539-F, fig. 3, Map of Lyon County showing drainage pattern and surficial glacial deposits, 1:316,800. HYDROLOGIC
394. Schulz, K.J., 1974, Differentiated mafic-ultramafic sills in Archean Vermilion district, northeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Geologic map of a part of the Newton Lake Formation, 1:12,000. BEDROCK
395. Schulz, K.J., 1977, The petrology and geochemistry of Archean volcanics, western Vermilion district, northeastern Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, fig. 4, Outcrop and lithologic maps for two traverses in the lower Ely Greenstone member, 1:24,000, fig. 18, Geologic map and sample locations of the geochemical samples, Cedar Lake area, Newton Lake Formation, approx. 1:30,000. BEDROCK
396. Schwartz, G.M., 1925, A guidebook to Minnesota trunk highway no. 1: Minnesota Geological Survey Bulletin 20; Route map no. 1, Highway 1 through Freeborn and Steele Counties, 1:440,000; Route map no. 2, Highway 1 through Rice and Dakota Counties, 1:440,000; Route map no. 3, the Twin City region, 1:160,000; Route map no. 4, Highway 1 from St. Paul through Chisago County, 1:412,000; Route map no. 5, Highway 1 through Pine County, 1:380,000; Route map no. 6, Highway 1 through Carlton County, 1:350,000; Route map no. 7, The Duluth region, 1:160,000; Route map no. 8, Highway 1 along the North Shore...near Two Harbors, 1:160,000; Route map no. 9, Highway 1 along the North Shore...near Beaver Bay, 1:160,000; Route map no. 10, Highway 1 along the North Shore...near Little Marais and Tofte, 1:160,000; Route map no. 11, Highway 1 along the North Shore...near Lutsen and Grand Marais, 1:160,000; Route map no. 12, Highway 1 along the North Shore...near Grand Portage, 1:160,000; Route map no. 13, North end of the Gunflint Trail, 1:160,000. BEDROCK
397. Sharma, B., 1964, The vertical gradient of gravity in gravitational interpretation: M.S. thesis, University of Minnesota, Minneapolis, 1:60,000. GRAVITY
398. Sharp, R. P., 1953, Shorelines of the Glacial Great Lakes in Cook County, Minnesota: American Journal of Science, v. 251, p. 109-139, fig. 4, Shoreline features in Good Harbor Bay area, 1:750,000. SURFICIAL
399. Siegel, D.L., and Ericson, D.W., 1980, Hydrology and water quality of the copper - nickel study region, northeastern Minnesota: U.S. Geological Survey Water-Resources Investigations Open-File Report 80-739, 1:500,000. HYDROLOGIC
400. Sims, P.K., 1970, Geologic map of Minnesota, bedrock geology: Minnesota Geological Survey Miscellaneous Map Series M-14, 1:1,000,000. BEDROCK
- \*401. Sims, P.K., 1973, Geologic map of western part of Vermilion district, northeastern Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-13, 1:48,000. BEDROCK
- \*402. Sims, P.K., 1974, Reconnaissance geologic map of Biwabik N.W. quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-15, 1:24,000. BEDROCK
- \*403. Sims, P.K., and Austin, G.S., 1963, Geologic interpretation of magnetic map of McLeod County, Minnesota: Minnesota Geological Survey Report of Investigations 1, pl. 1, Magnetic map of McLeod County, approx. 1:78,700. BEDROCK, MAGNETIC
- \*404. Sims, P.K., and Austin, G.S., 1963, Geologic interpretation of magnetic map of McLeod County, Minnesota: Minnesota Geological Survey Report of Investigations 1, pl. 2, Magnetic map of the Hutchinson area, Minnesota, approx. 1:43,140. BEDROCK, MAGNETIC
- \*405. Sims, P.K., Austin, G.S., and Ikola, R.J., 1965, Interpretation of Lake Washington magnetic anomaly, Meeker County, Minnesota: Minnesota Geological Survey Report of Investigations 4, Magnetic map of southeastern part of Meeker County, approx. 1:48,650. BEDROCK, MAGNETIC
- \*406. Sims, P.K., Morey, G.B., Ojakangas, R.W., and Griffin, W.L., 1968, Preliminary geologic map of the Vermilion district and adjacent areas, northern Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-5, 1:125,000. BEDROCK
- \*407. Sims, P.K., Morey, G.B., Ojakangas, R.W., and Viswanathan, S., 1970, Geologic map of Minnesota, Hibbing sheet: Minnesota Geological Survey, 1:250,000. BEDROCK
- \*408. Sims, P.K., and Mudrey, M.G., Jr., 1978, Geologic map of the Shagawa Lake quadrangle, St. Louis County, Minnesota: U.S. Geological Survey Geologic Quadrangle Map GQ-1423, 1:24,000. BEDROCK
- \*409. Sims, P.K., and Southwick, D.L., 1980, Geologic map of the Soudan quadrangle, St. Louis County, Minnesota: U.S. Geological Survey Geologic Quadrangle Map GQ-1540, 1:24,000. BEDROCK
- \*410. Sims, P.K., and Viswanathan, S., 1974, Reconnaissance geologic map of the Britt quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-16, 1:24,000. BEDROCK
- \*411. Sims, P.K., and Zietz, I., 1967, Aeromagnetic and inferred Precambrian paleogeologic map of east-central Minnesota and part of Wisconsin: U.S. Geological Survey Geophysical Investigations Map GP-563, 1:250,000. MAGNETIC
412. Skillman, M.W., 1945, Some silicic intrusives of eastern central Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl. 1, Surficial geology of a part of east-central Minnesota, 1:500,000, pl. 2, Areal geology of a part of east-central Minnesota, 1:500,000. BEDROCK
413. Sloan, R.E., 1964, The Cretaceous system in Minnesota: Minnesota Geological Survey Report of Investigations 5, pl. 1, Map showing approximate border of Cretaceous rocks, 1:2,000,000, pl. 2, Map showing contour of the pre-Cretaceous unconformity in Minnesota, 1:2,000,000. BEDROCK
- \*414. Sloan, R.E., and Austin, G.S., 1966, Geologic map of Minnesota, St. Paul sheet: Minnesota Geological Survey, 1:250,000. BEDROCK
415. Sloan, R.E., and Danes, Z.F., 1962, A geologic and gravity survey of the Belle Plaine area, Minnesota: Minnesota Academy of Science Proceedings, v. 30, no. 1, p. 49-52, figs. 3 and 4, gravity maps, 1:1,000,000. GRAVITY
416. Snider, H.L., 1962, Subsurface geology of the Mt. Simon - Precambrian contact in southeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Structural maps of the Mt. Simon - Precambrian contact, approx. 1:507,000. BEDROCK
417. Soper, E.K., 1914, The buried rock surface and pre-glacial river valleys of Minneapolis and vicinity: M.A. thesis, University of Minnesota, Minneapolis, Topographic map of Minneapolis showing buried rock surface and pre-glacial river channels, approx. 1:14,500. BEDROCK
418. Soper, E. K., 1915, The buried rock surface and pre-glacial river valleys of Minneapolis and vicinity: Journal of Geology, v. 23, p. 444-460, fig. 1, topographic map, city of Minneapolis, showing buried rock surface and pre-glacial river channels, 1:100,000. BEDROCK
419. Soper, E.K., 1919, The peat deposits of Minnesota: Minnesota Geological Survey Bulletin 16, pl. 1, Peat deposits of the northern half of Minnesota, 1:1,000,000, pl. 2, Peat deposits of Beltrami County, Minnesota, 1:300,000, pl. 3, Peat deposits of Koochiching County, Minnesota, 1:250,000, pl. 4, Peat deposits of Itasca County, Minnesota, 1:300,000. SURFICIAL
420. Soukup, W.G., 1980, Ground-water appraisal of northwestern Big Stone County, west-central Minnesota: U.S. Geological Survey Water-Resources Investigations Open-File Report 80-568, approx. 1:160,000. HYDROLOGIC
421. Souris-Red-Rainy River Basins Commission, 1972, Souris-Red-Rainy River Basins comprehensive study, v. 2: Souris-Red-Rainy River Basins Commission, pl. 6, Generalized map of glacial geology, Red River Basin, 1:1,200,000. SURFICIAL, HYDROLOGIC
- \*422. Southwick, D.L., Morey, G.B., Lively, R.S., and Beltrame, R.J., 1982, National uranium resource evaluation, New Ulm quadrangle, Minnesota: U.S. Department of Energy Open-File Report PGJ/F-52(82), pl. 6, Geologic map - Quaternary geology, pl. 9, Geologic map - bedrock geology, 1:500,000. BEDROCK, SURFICIAL, GEOCHEM.
- \*423. Southwick, D.L., and Ojakangas, R.W., 1979, Geologic map of Minnesota, International Falls sheet: Minnesota Geological Survey, 1:250,000. BEDROCK
424. Stark, J.R., 1974, Reconnaissance surficial geologic map of the Hoyt Lakes - Kawishiwi area, St. Louis and Lake Counties, Minnesota: Minnesota Geological Survey file map, 1:48,000. SURFICIAL
425. Stark, J.R., 1977, Surficial geology and ground water geology of the Babbitt-Kawishiwi area, northeastern Minnesota, with planning implications: M.S. thesis, University of Wisconsin, Madison, pl. 1, Surficial geology of the Babbitt-Kawishiwi area, pl. 2, Geomorphologic features of the Babbitt-Kawishiwi area, 1:48,000. SURFICIAL
426. Stevenson, R.J., 1974, A mafic layered intrusion of Keweenaw age near Finland, Lake County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Bedrock geologic map of the Sonju Lake intrusion and surrounding rock, 1:12,000. BEDROCK
427. Stevenson, R. J., Kreisman, P. J., and Sather, N.P., 1979, Geology and Mineralogy, v. 3, chapter 1 of Regional copper-nickel study: Minnesota Environmental Quality Board, fig. 4, Bedrock geology of mapped troctolite intrusions, 1:422,400. BEDROCK
428. Stevenson, R. J., Kreisman, P. J. and Sather, N. P., 1979, Mineral resource potential, v. 3, chapter 2 of Regional copper-nickel study: Minnesota Environmental Quality Board, 1:422,400. ECONOMIC
429. Stone, D.J., 1980, Geology of the upper Dunleith Formation (Prosser Member, Galena Formation) of Middle Ordovician age in southeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, fig. 7, Isopach map of the Rivoli Member, fig. 13, Isopach map of the Sherwood Member, fig. 17, Isopach map of the Wall Member, approx. 1:1,000,000. BEDROCK
430. Stone, J.E., 1965, Reconnaissance map of the surficial geology of the Minneapolis - St. Paul area: Minnesota Geological Survey Open - File Map, 1:254,000. SURFICIAL
- \*431. Stone, J.E., 1966, Surficial geology of the New Brighton quadrangle, Minnesota: Minnesota Geological Survey Geologic Map Series GM-2, fig. 2, Generalized map of the present surface morphology of the New Brighton quadrangle, 1:89,000. SURFICIAL
432. Stover, C.W., Reager, B.G., and Algermissen, S.T., 1981, Seismicity map of the state of Minnesota: U.S. Geological Survey Miscellaneous Field Studies Map MF-1323, 1:1,000,000. STRUCTURAL
433. Tasker, D.R., 1983, High-grade metamorphism of the Hillman Migmatite, east-central Minnesota: M.A. thesis, University of Missouri, Columbia, fig. 9, Geologic sketch map of the Christmas Lake location, 1:6,000, fig. 10, Geologic sketch map of the Skunk River location, 1:1,200. BEDROCK
- \*434. Taylor, R.B., 1963, Bedrock geology of Duluth and vicinity, St. Louis County, Minnesota: Minnesota Geological Survey Geologic Map Series GM-1, 1:24,000. BEDROCK
435. Taylor, R.B., 1964, Geology of the Duluth Gabbro Complex near Duluth, Minnesota: Minnesota Geological Survey Bulletin 44, pl. 1, 1:24,000. BEDROCK

347. Oakes, E.L., and Bidwell, L.E., 1968, Water resources of the Mississippi Headwaters watershed, north-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-278, sheet 2, Surficial (Pleistocene) geology, 1:250,000. HYDROLOGIC
348. O'Hara, N.W., 1981, compiler, Great Lakes region gravity and magnetic map sequence - Great Lakes area: Geological Society of America Map and Chart Series MC-41, sheet 1, Great Lakes region Bouguer gravity map, sheet 2, Great Lakes region total magnetic intensity map, sheet 3, Great Lakes region free air gravity map, 1:2,500,000. GRAVITY
349. O'Hara, N.W., 1981, compiler, Great Lakes region gravity and magnetic map sequence - Lake Superior area: Geological Society of America Map and Chart Series MC-37, sheet 1, Bouguer gravity anomaly map-Lake Superior, sheet 2, Total magnetic intensity anomaly map-Lake Superior, 1:750,000. GRAVITY, MAGNETIC
- \*350. Ojakangas, R.W., Meineke, D.G., and Listerud, W.H., 1977, Geology, sulfide mineralization and geochemistry of the Birchdale-Indus area, Koochiching County, northwestern Minnesota: Minnesota Geological Survey Report of Investigations 17, pl. 1, Bedrock geologic map of the Birchdale-Indus area, Minnesota, 1:31,680. BEDROCK
- \*351. Ojakangas, R.W., Mossler, J.H., and Morey, G.B., 1979, Geologic map of Minnesota, Roseau sheet, bedrock geology: Minnesota Geological Survey, 1:250,000. BEDROCK
- \*352. Ojakangas, R.W., and Sims, P.K., 1976, Geologic map of Lost Lake quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-17, 1:24,000. BEDROCK
- \*353. Ojakangas, R.W., Sims, P.K., and Hooper, P.R., 1978, Geologic map of the Tower quadrangle, St. Louis County, Minnesota: U.S. Geological Survey Map GQ-1457, 1:24,000. BEDROCK
354. Olcott, P.G., Ericson, D.W., Felsheim, P.E., and Broussard, W.L., 1976, Water resources of the Lake Superior watershed, northeastern Minnesota: U.S. Geological Survey Open-File Report 76-276, sheet 1, Geology and ground water, 1:500,000. HYDROLOGIC
355. Olcott, P.G., Ericson, D.W., Felsheim, P.E., Broussard, W.L., 1978, Water resources of the Lake Superior watershed, northeastern Minnesota: U.S. Geological Survey Hydrological Investigations Atlas HA-582, sheet 1, Geology and ground water, 1:500,000. HYDROLOGIC
- \*356. Olcott, P.G., Siegel, D.L., 1978, Physiography and surficial geology of the Copper-Nickel study region, northeastern Minnesota: U.S. Geological Survey Water-Resources Investigations Open-File Report 78-51, pl. 2, Distribution of surficial materials in the Copper-Nickel region, northeastern Minnesota, pl. 3, Thickness of surficial materials in the Copper-Nickel region, northeastern Minnesota, 1:125,000. SURFICIAL
- \*357. Olsen, B.M., 1982, Bedrock geology, pl. 5 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas, Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000. BEDROCK
358. Olsen, B.M., 1982, Bedrock topography, from Bedrock topography, pl. 4 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000. BEDROCK
359. Olsen, B.M., 1982, Thickness of unconsolidated surficial materials, from Surficial sections and thickness, pl. 3 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000. SURFICIAL
360. Olsen, B.M., and Mossler, J.H., 1982, Geologic map of Minnesota, bedrock topography: Minnesota Geological Survey State Map Series S-15, 1:1,000,000. BEDROCK
361. Olsen, B.M., and Mossler, J.H., 1982, Geologic map of Minnesota, depth to bedrock: Minnesota Geological Survey State Map Series S-14, 1:1,000,000. BEDROCK
362. Osterholm, M.T., 1980, Ground water in southeastern Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, fig. 3, Fairview Blind Valley, 1:24,000. HYDROLOGIC
363. Parham, W.E., and Hogberg, R.K., 1964, Kaolin clay resources of the Minnesota River valley, Brown, Redwood and Renville Counties, a preliminary report: Minnesota Geological Survey Report of Investigations 3, Map of sample locations and described sections, 1:62,500. BEDROCK
364. Payne, C.M., 1965, Bedrock geologic map, Minneapolis, St. Paul, and vicinity: Minnesota Geological Survey Miscellaneous Map Series M-1, 1:24,000. Withdrawn-additional data since compilation. BEDROCK
- \*365. Perkins, R.L., 1977, The Late Cenozoic geology of west-central Minnesota from Moorhead to Park Rapids: M.A. thesis, University of North Dakota, Grand Forks, pl. 1, Geology of the Moorhead to Park Rapids area, west-central Minnesota, 1:250,000. SURFICIAL
366. Perry, E.C., Jr., Tan, F.C., and Morey, G.B., 1973, Geology and stable isotope geochemistry of the Biwabik Iron Formation, northern Minnesota: Economic Geology, v. 68, no. 7, p. 1110-1125, fig. 1, Generalized geologic map of the Mesabi range, 1:1,000,000. BEDROCK
- \*367. Philbin, P.W., and Gilbert, F.P., 1966, Aeromagnetic map of southeastern Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-559, 1:250,000. MAGNETIC
- \*368. Philbin P.W., and Gilbert, F.P., 1966, Aeromagnetic map of southwestern Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-560, 1:250,000. MAGNETIC
369. Pierson, W.R., 1984, A geophysical study of the contact between the greenstone-granite terrain and the gneiss terrain in central Minnesota: M.S. thesis, University of Wyoming, Laramie, pl. 3, Geological and geophysical survey map, approx. 1:250,000. BEDROCK, MAGNETIC
- \*370. Quaschnick, R.K., 1959, The geology of the Marine quadrangle and the Falls Creek area: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Marine quadrangle, 1:24,000; Outcrop map of the Falls Creek area, approx. 1:4,750. BEDROCK
371. Radbruch-Hall, D.H., 1982, Landslide overview map of the conterminous United States: U.S. Geological Survey Professional Paper 1183, 1 pl., 1:7,500,000. SURFICIAL
372. Reeder, H.O., 1972, Availability of ground water for irrigation in the Parham area, Otter Tail County, Minnesota: U.S. Geological Survey Water-Supply Paper 2003, Hydrologic maps of the Parham area, 1:125,000. HYDROLOGIC
- \*373. Reid, D.F., 1974, The Quaternary geology of the Lake Johanna region, west-central Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Areal geology of the Lake Johanna region, Minnesota, 1:125,000, fig. 22, Distribution of eskers in the Lake Johanna quadrangle, 1:24,000. SURFICIAL
374. Ripley, E.M., 1973, The ore petrology and structural geology of the Lower Precambrian Deer Lake mafic-ultramafic complex, Effie, Itasca County, Minnesota: M.S. thesis, University of Minnesota, Duluth, Bedrock geologic and ground magnetic maps of a portion of the Deer Lake complex, 1:4,800. BEDROCK, MAGNETIC
375. Ripley, E.M., 1978, Sulfide minerals in the layered sills of the Deer Lake Complex, Itasca County, Minnesota: Minnesota Geological Survey Report of Investigations 20B, fig. 2, Geologic map of part of the Deer Lake Complex, 1:40,000. BEDROCK
376. Rodis, H.G., 1961, Availability of ground water, Lyon County, Minnesota: U.S. Geological Survey Circular 444, 1:300,000. HYDROLOGIC
377. Rodis, H.G., and Schneider, R., 1960, Occurrence of ground waters of low hardness and of high chloride content in Lyon County, Minnesota: U.S. Geological Survey Circular 423, 1:125,000. HYDROLOGIC
378. Ropes, L.H., 1969, Ground water resources of the St. James area, south-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-334, 1:62,500. HYDROLOGIC
379. Ropes, L.H., Brown, R.F., and Wheat, D.E., 1969, Reconnaissance of the Red Lake River, Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-299, sheet 1, Surficial geologic map, 1:250,000. HYDROLOGIC
380. Ruhe, R.V., and Gould, L.M., 1954, Glacial geology of the Dakota County area, Minnesota: Geological Society of America Bulletin, v. 65, p. 769-792, pl. 1, Glacial drifts of the Dakota County area, Minnesota, pl. 2, Outwash terraces of the Dakota County area, Minnesota, 1:400,000, fig. 3, Drift distribution in southeastern Minnesota, 1:2,000,000. SURFICIAL
- \*381. Sackreiter, D.K., 1975, Quaternary geology of the southern part of the Grand Forks and Bemidji quadrangles: Ph.D. dissertation, University of North Dakota, Grand Forks, pl. 1, Surficial sediments of the southern part of the Grand Forks and Bemidji quadrangles, 1:250,000. SURFICIAL
382. Sanders, C.W., Jr., 1926, The composite stock of Snowbank Lake in northeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl. 3, Bedrock geologic map of the Snowbank Lake area, 1:31,250, fig. 1, Geologic map of Snowbank Lake and vicinity, 1:62,500. BEDROCK
- \*383. Sansome, C.J., 1972, Minnesota geology: A laboratory and field manual for a first course in geology with an elaboration on the Ordovician stratigraphy of Sogn quadrangle, Goodhue County: M.S. thesis, University of Minnesota, Minneapolis, Bedrock geologic map of the Sogn quadrangle, 1:24,000. BEDROCK
384. Savina, M., Jacobson, R., and Rodgers, D., 1979, Outwash deposits of central Dakota County, Minnesota: Unpublished study, Carlton College, pl. 1, Outwash deposits of central Dakota County, Minnesota, 1:24,000. SURFICIAL
385. Schiner, G.R., and Schneider, R., 1964, Geology and ground-water conditions of the Redwood Falls area, Redwood County, Minnesota: U.S. Geological Survey Water-Supply Paper 1669-R, pl. 2, Map of Redwood Falls area, Redwood County, Minnesota, showing surficial geology and Precambrian basement rock, 1:34,000. HYDROLOGIC
386. Schmidt, R.G., 1958, Bedrock geology of the southwestern part of the North Range, Cuyuna district, Minnesota: U.S. Geological Survey Mineral Investigations Field Studies Map MF-181, 1:7,200. BEDROCK
- \*387. Schmidt, R.G., 1959, Bedrock geology of the northern and eastern parts of the North Range, Cuyuna district, Minnesota: U.S. Geological Survey Mineral Investigations Field Studies Map MF-182, 1:7,200. BEDROCK
388. Schmidt, R.G., 1963, Geology and ore deposits of the Cuyuna North range, Minnesota: U.S. Geological Survey Professional Paper 407, pl. 2, 1:31,680. BEDROCK
389. Schmidt, R.G., and Dutton, C.E., 1957, Bedrock geology of the south-central part of the North Range, Cuyuna district, Minnesota: U.S. Geological Survey Mineral Investigations Field Studies Map MF-99, 1:7,200. BEDROCK
390. Schneider, A.F., 1956, Pleistocene geology of central Minnesota, in Schwatrz, G.M., and Wright, H.E., Jr., eds., Glacial geology of eastern Minnesota: Geological Society of America, 69th Annual Meeting, Minneapolis, Guidebook for field trip no. 3, fig. 4, End moraines and drumlins of central Minnesota, 1:1,000,000. SURFICIAL
391. Schneider, A.F., 1957, Pleistocene geology of part of central Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, Map of the Pleistocene geology of the Randall region, 1:62,500. SURFICIAL
- \*392. Schneider, A.F., 1961, Pleistocene geology of the Randall region, central Minnesota: Minnesota Geological Survey Bulletin 40, pl. 1, The Pleistocene geology of the Randall region, Minnesota, 1:62,500. SURFICIAL

304. Morey, G.B., 1974, Cyclic sedimentation of the Solor Church Formation, southeastern Minnesota: *Journal of Sedimentary Petrology*, v. 44, p. 872-884, fig. 1, Generalized bedrock geologic map of east-central Minnesota and the inferred sub-Paleozoic rocks in southeastern Minnesota, 1:1,689,000. BEDROCK
305. Morey, G. B., 1976, Geologic map of Minnesota, bedrock geology: Minnesota Geological Survey Miscellaneous Map Series M-24, 1:3,168,000. BEDROCK
306. Morey, G.B., 1977, Geology and mineral resources of east-central Minnesota -- some new perspectives: Minnesota Geological Survey Reprint Series 37, reprinted from the Proceedings of the 38th Annual Mining Symposium, University of Minnesota, January 13-14, 1977, fig. 1, Generalized bedrock geologic map of east-central Minnesota, 1:900,000; fig. 6, Generalized geologic map showing the location of identified, hypothetical, and speculative mineral resources in east-central Minnesota, 1:1,250,000. BEDROCK
307. Morey, G.B., 1977, Revised Keweenaw subsurface stratigraphy, southeastern Minnesota: Minnesota Geological Survey Report of Investigations 16, fig. 2, Pre-Paleozoic geologic map of the southern part of the Hudson-Afton horst, 1:380,000. BEDROCK
308. Morey, G.B., 1978, Lower and Middle Precambrian stratigraphic nomenclature for east-central Minnesota: Minnesota Geological Survey Report of Investigations 21, pl. 1, Generalized bedrock geologic map of east-central Minnesota, 1:500,000. BEDROCK
309. Morey, G.B., 1981, Geologic map of Minnesota, bedrock outcrops: Minnesota Geological Survey State Map Series S-10, 1:3,168,000. BEDROCK
310. Morey, G.B., 1981, Lineament map, Two Harbors sheet, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-45, 1:250,000. STRUCTURAL
- \*311. Morey, G.B., and Cooper, R.W., 1977, Hoyt Lakes - Kawishiwi area, St. Louis and Lake Counties, northeastern Minnesota, bedrock geology: Minnesota Geological Survey Open-File Map, 1:48,000. BEDROCK
- \*312. Morey, G.B., Green, J.C., Ojakangas, R.W., and Sims, P.K., 1970, Stratigraphy of the Lower Precambrian rocks in the Vermilion district, northeastern Minnesota: Minnesota Geological Survey Report of Investigations 14, pl. 2, Geology of western part of Vermilion district, Minnesota, 1:250,000; pl. 3, Geology of central part of Vermilion district, Minnesota, 1:125,000. BEDROCK
313. Morey, G.B., and Heutmaker, J.F., 1982, Lineament map, International Falls sheet, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-47, 1:250,000. STRUCTURAL
- \*314. Morey, G.B., and Lively, R.S., 1980, Detailed geochemical survey for east-central Minnesota, geology and geochemistry of selected uranium targets: U.S. Department of Energy Open-File Report GJBX-60(80), approx. 1:500,000. GEOCHEM.
- \*315. Morey, G.B., and Nathan, H.D., 1977, Reconnaissance geologic map of South Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-38, 1:24,000. BEDROCK
- \*316. Morey, G.B., and Nathan, H.D., 1978, Geologic map of the Gunflint Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-42, 1:24,000. BEDROCK
- \*317. Morey, G.B., Olsen, B.M., and Southwick, D.L., 1981, Geologic map of Minnesota, east-central Minnesota (includes Duluth, Stillwater, and parts of St. Cloud and Brainerd geologic map sheets), bedrock geology: Minnesota Geological Survey, 1:250,000. BEDROCK
318. Morey, G.B., Sims, P.K., Cannon, W.F., Mudrey, M.G., Jr., and Southwick, D.L., 1982, Geologic map of the Lake Superior region: Minnesota, Wisconsin, and northern Michigan: Minnesota Geological Survey State Map Series S-13, 1:1,000,000. BEDROCK
- \*319. Morey, G.B., Southwick, D.L., Lively, R.S., and Beltrame, R.J., 1982, National uranium resource evaluation, St. Cloud quadrangle, Minnesota: U.S. Department of Energy Open-File Report PGJ/F-48(82); pl. 6, Geologic map - Quaternary geology; pl. 9, Geologic map - bedrock geology; 1:500,000. BEDROCK, SURFICIAL, GEOCHEM.
- \*320. Morey, G.B., Weiblen, P.W., Papike, J.J., and Anderson, D.H., 1981, Geologic map of the Long Island Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-46, 1:24,000. BEDROCK
- \*321. Moss, C.M., 1977, The surficial and environmental geology of the French River quadrangle, St. Louis County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Quaternary geology, 1:24,000; pl. 2, Surficial materials and economic geology, 1:24,000; pl. 3, Depth to bedrock, 1:24,000. SURFICIAL
322. Mossler, J. H., 1978, Results of subsurface investigations in northwestern Minnesota, 1972: Minnesota Geological Survey Report of Investigations 19, 19, fig. 1, Generalized bedrock geologic map of northwestern Minnesota, 1:1,250,000. BEDROCK
- \*323. Mossler, J.H., 1983, Bedrock topography and isopachs of Cretaceous and Quaternary strata, east-central and southeastern Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-52, 1:500,000. BEDROCK
- \*324. Mossler, J.H., 1983, Paleozoic lithostratigraphy of southeastern Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-51, 1:500,000. BEDROCK
- \*325. Mossler, J.H., and Book, P.R., 1984, Bedrock geology, pl. 2 of Balaban, N.H., and Olsen, B.M., eds., Geologic atlas of Winona County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-2, 1:100,000. BEDROCK
- \*326. Mossler, J.H., and Walton, M.S., 1979, Surficial geology, pl. 2 of Norvitch, R.F., and Walton, M.S., Geologic and hydrologic aspects of tunnelling in the Twin Cities area, Minnesota: U.S. Geological Survey Miscellaneous Investigations Series I-1157, 1:24,000. SURFICIAL
327. Motamedi, S., 1984, The Keweenaw lavas in the city of Duluth: M.S. thesis, University of Minnesota, Duluth, Geologic map of Duluth, 1:12,000. BEDROCK
- \*328. Mudrey, M.G., 1977, Reconnaissance geology of the Pigeon Point quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-36, 1:24,000. BEDROCK
329. Nathan, H.D., 1969, The geology of a portion of the Duluth Complex, Cook County: Ph.D. dissertation, University of Minnesota, Minneapolis; pl. 1, Geologic map of the Duluth Complex in the Gunflint quadrangle, 1:24,000; pl. 2, Geologic map of the Duluth Complex in the South Lake quadrangle, 1:24,000; pl. 3, Geologic map of the Duluth Complex in the Hungry Jack Lake quadrangle, 1:24,000. BEDROCK
330. Neuschel, S.K., 1969, Natural gamma aeroradioactivity map of the Minneapolis-St. Paul area, Minnesota-Wisconsin: U.S. Geological Survey Geophysical Investigations Map GP-658, 1:250,000. RADIOMETRIC
- \*331. Norton, A.R., 1982, Quaternary geology of the Itasca-St. Croix moraine interlobate area, north-central Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Quaternary geology of the Itasca-St. Croix moraine interlobate area, north central Minnesota, 1:126,720. SURFICIAL
- \*332. Norvitch, R.F., 1962, Geology of the Vermilion end moraine, Nett Lake Indian Reservation, Minnesota: U.S. Geological Survey Professional Paper 450-D, fig. 158.1, Surficial geology of the Nett Lake Indian Reservation, 1:200,000. SURFICIAL
333. Norvitch, R. F., 1964, Geology and ground water resources of Nobles and part of Jackson Counties, Minnesota: U.S. Geological Survey Water-Supply Paper 1749, pl. 1, Map of the Nobles-Jackson County area, Minnesota, 1:125,000. HYDROLOGIC
334. Norvitch, R. F., Schneider, R., and Godfrey, R. G., 1963, Geology and hydrology of the Elk River, Minnesota, nuclear-reactor site: U.S. Geological Survey Bulletin 1133-C, pl. 1, 1:24,000. HYDROLOGIC
335. Norvitch, R.F., and Walton, M.S., 1979, Geologic and hydrologic aspects of tunnelling in the Twin Cities area, Minnesota: U.S. Geological Survey Miscellaneous Investigations Series I-1157, pl. 2, Surficial geology, 1:24,000, pl. 3, Bedrock geology, 1:24,000; pl. 7, Dewatering characteristics, 1:48,000. BEDROCK, SURFICIAL, HYDROLOGIC
336. Novitzki, R.P., Van Voast, W.A., and Jerabek, L.A., 1969, Water resources of the Yellow Medicine River watershed, southwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-320, sheet 2, Sand and gravel deposits, 1:500,000. HYDROLOGIC
- \*337. Oak Ridge Gaseous Diffusion Plant, 1979, Hydrogeochemical and stream sediment reconnaissance basic data for Ashland NTMS Quadrangle, Wisconsin, Michigan, Minnesota: U.S. Department of Energy Open-File Report GJBX-61(79), 1:250,000. GEOCHEM.
- \*338. Oak Ridge Gaseous Diffusion Plant, 1979, Hydrogeochemical and stream sediment reconnaissance basic data for New Ulm NTMS Quadrangle, Minnesota: U.S. Department of Energy Open-File Report GJBX-120(79), 1:250,000. GEOCHEM.
- \*339. Oak Ridge Gaseous Diffusion Plant, 1979, Hydrogeochemical and stream sediment reconnaissance basic data for St. Cloud NTMS Quadrangle, Minnesota: U.S. Department of Energy Open-File Report GJBX-55(79); 1:250,000. GEOCHEM.
- \*340. Oak Ridge Gaseous Diffusion Plant, 1981, Hydrogeochemical and stream sediment reconnaissance basic data for Fargo NTMS Quadrangle, North Dakota; Minnesota: U.S. Department of Energy Open-File Report GJBX-167(81); pl. 7, Generalized surface geologic map of the Fargo quadrangle; pl. 8, Generalized bedrock geologic map of the Fargo quadrangle; 1:250,000. BEDROCK, GEOCHEM.
- \*341. Oak Ridge Gaseous Diffusion Plant, 1981, Hydrogeochemical and stream sediment reconnaissance basic data for Grand Forks NTMS Quadrangle, North Dakota; Minnesota: U.S. Department of Energy Open-File Report GJBX-169(81), pl. 7, Generalized surface geologic map of the Grand Forks quadrangle; pl. 8, Generalized bedrock geologic map of the Grand Forks quadrangle; 1:250,000. BEDROCK, GEOCHEM.
- \*342. Oak Ridge Gaseous Diffusion Plant, 1981, Hydrogeochemical and stream sediment reconnaissance basic data for Milbank NTMS Quadrangle, Minnesota; North Dakota; South Dakota: U.S. Department of Energy Open-File Report GJBX-271(81); pl. 7, Generalized surface geologic map of the Milbank quadrangle; pl. 8, Generalized bedrock geologic map of the Milbank quadrangle; 1:250,000. BEDROCK, GEOCHEM.
- \*343. Oak Ridge Gaseous Diffusion Plant, 1981, Hydrogeochemical and stream sediment reconnaissance basic data for Thief River Falls NTMS Quadrangle, Minnesota; North Dakota: U.S. Department of Energy Open-File Report GJBX-168(81); pl. 7, Generalized surface geologic map of the Thief River Falls quadrangle; pl. 8, Generalized bedrock geologic map of the Thief River Falls quadrangle; 1:250,000. BEDROCK, GEOCHEM.
- \*344. Oak Ridge Gaseous Diffusion Plant, 1981, Hydrogeochemical and stream sediment reconnaissance basic data for Watertown NTMS Quadrangle, South Dakota; Minnesota: U.S. Department of Energy Open-File Report GJBX-219(81); pl. 7, Generalized surface geologic map of the Watertown quadrangle; pl. 8, Generalized bedrock geologic map of the Watertown quadrangle; 1:250,000. BEDROCK, GEOCHEM.
- \*345. Oakes, Edward L., 1964, Bedrock topography of the eastern and central Mesabi Range, northeastern Minnesota: U.S. Geological Survey Miscellaneous Geological Investigations Map I-389, 1:24,000. BEDROCK
346. Oakes, E.L., 1970, Geology and ground-water resources of the Grand Rapids area, north-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-322, sheet 1, Geology and ground-water occurrence, 1:48,000. HYDROLOGIC

259. Mattson, L. A., 1959, Structure and stratigraphy of the Thomson formation, Carlton-Thomson area, Carlton County, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Carlton-Thomson area, Carlton County, Minnesota, 1:12,000.  
BEDROCK
- \*260. Mathez, E.A., Nathan, H.D., and Morey, G.B., 1977, Reconnaissance geology of the Hungry Jack Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-39, 1:24,000.  
BEDROCK
- \*261. McGinnis, L.D., Carlson, D.R., Pederson, R., and Schafersman, J.S., 1977, Simple Bouguer gravity map of Minnesota, Stillwater sheet: Minnesota Geological Survey Miscellaneous Map Series M-35, 1:250,000.  
GRAVITY
- \*262. McGinnis, L.D., Durfee, G., and Ikola, R.J., 1973, Simple Bouguer gravity map of Minnesota, Roseau sheet: Minnesota Geological Survey Miscellaneous Map Series M-12, 1:250,000.  
GRAVITY
- \*263. McGinnis, L.D., Jackson, J.K., and Ervin, C.P., 1978, Simple Bouguer gravity map of Minnesota, Brainerd sheet: Minnesota Geological Survey Miscellaneous Map Series M-40, 1:250,000.  
GRAVITY
- \*264. McGinnis, L.D., Steffy, D.A., and Ervin, C.P., 1978, Simple Bouguer gravity map of Minnesota, Bemidji sheet: Minnesota Geological Survey Miscellaneous Map Series M-41, 1:250,000.  
GRAVITY
265. Meineke, D.G., Butz, T.R., and Vadis, M.K., 1977, Pilot survey of uranium in organic-rich lake sediment, Ely region, northeastern Minnesota: Minnesota Department of Natural Resources, Division of Minerals Project 148, 1:125,000.  
GEOCHEM.
266. Meineke, D.G., Gilgosh, M.A., and Vadis, M.K., 1976, Exploration geochemistry of Quaternary deposits in northwestern Koochiching County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Report 36-7, fig. 4, High metal values in Ah, B, or C-horizon samples, Pilot Reconnaissance Soil Survey, approx. 1:250,000.  
GEOCHEM.
267. Meineke, D.G., and Listerud, W.H., 1976, Mineral compilation of southern Beltrami County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Map 86; sheets 1 and 2, 1:125,000; sheet 3, 1:24,000.  
ECONOMIC
268. Meineke, D.G., and Listerud, W.H., 1976, Mineral compilation of southwestern Koochiching County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Map 87, 1:250,000, 2 sheets.  
ECONOMIC
269. Meineke, D.G., and Listerud, W.H., 1978, Mineral compilation of eastern Marshall County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Map 153, 1:125,000, 2 sheets.  
ECONOMIC
270. Meineke, D.G., and Listerud, W.H., 1978, Mineral compilation of eastern Roseau County: Minnesota Department of Natural Resources, Division of Minerals Map 143, 1:125,000, 2 sheets.  
ECONOMIC
271. Meineke, D.G., and Vadis, M.K., 1977, Geophysical and geochemical surveys, Indus School site: Minnesota Department of Natural Resources, Division of Minerals Project 149, Geophysical grid map, 1:24,000.  
GEOPHYSICS
272. Meineke, D.G., Vadis, M.K., and Klaysmat, A.W., 1976, Gytta lake sediment exploration geochemical survey of eastern Lake Vermilion-Ely area, St. Louis and Lake Counties, Minnesota: Minnesota Department of Natural Resources, Division of Minerals Report 73-3-1, pl. 1, Eastern Lake Vermilion - Ely area gytta lake sediment geochemical survey--lakes surveyed, pl. 2, arsenic, pl. 3, cobalt, pl. 4, copper, pl. 5, pl. 5, nickel, pl. 6, lead, pl. 7, silver, pl. 8, zinc, pl. 9, chromium, pl. 10, magnesium, pl. 11, titanium, 1:24,000.  
GEOCHEM.
273. Meineke, D.G., Vadis, M.K., and Klaysmat, A.W., 1979, Organic-rich sediment exploration geochemistry pilot survey of southern Crow Wing and Morrison Counties, central Minnesota: Minnesota Department of Natural Resources, Division of Minerals Map 152, 1:250,000.  
GEOCHEM.
- \*274. Melchoir, R., 1976, Field trip guide to the glacial geology of the Bemidji region: First Annual Minnesota State University Field Conference, Bemidji State University, pl.1, Glacial features of the Bemidji area, 1:63,000.  
SURFICIAL
- \*275. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of north-central Beltrami and northeastern Clearwater Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-130, 1:63,360.  
MAGNETIC
- \*276. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of northeastern Koochiching County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-133, 1:63,360.  
MAGNETIC
- \*277. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of northern Lake of the Woods and northeastern Roseau Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-128, 1:63,360.  
MAGNETIC
- \*278. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of northern Beltrami and southern Lake of the Woods Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-129, 1:63,360.  
MAGNETIC
- \*279. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of northwestern Koochiching County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-131, 1:63,360.  
MAGNETIC
- \*280. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of southeastern Koochiching County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-134, 1:63,360.  
MAGNETIC
- \*281. Meuschke, J.L., Books, K.G., Henderson, J.R., Jr., and Schwartz, G.M., 1957, Aeromagnetic and geologic map of southwestern Koochiching County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-132, 1:63,360.  
MAGNETIC
- \*282. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of east-central St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-92, 1:63,360.  
MAGNETIC
- \*283. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of part of northeastern St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-93, 1:63,360.  
MAGNETIC
- \*284. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of part of northwestern St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-96, 1:63,360.  
MAGNETIC
- \*285. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of part of southeastern St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-91, 1:63,360.  
MAGNETIC
- \*286. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of part of southwestern St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-94, 1:63,360.  
MAGNETIC
- \*287. Meuschke, J.L., and Henderson, J.R., Jr., 1952, Total intensity aeromagnetic and geologic map of west-central St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-95, 1:63,360.  
MAGNETIC
- \*288. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of east-central Itasca County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-98, 1:63,360.  
MAGNETIC
- \*289. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of northeastern Itasca and southeastern Koochiching Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-97, 1:63,360.  
MAGNETIC
- \*290. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of northern Aitkin County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-100, 1:63,360.  
MAGNETIC
- \*291. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of parts of Kanabec, Mille Lacs, and Pine Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-102, 1:63,360.  
MAGNETIC
- \*292. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of southeastern Itasca County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-99, 1:63,360.  
MAGNETIC
- \*293. Meuschke, J.L., and Henderson, J.R., Jr., 1953, Total intensity aeromagnetic and geologic map of southern Aitkin County and northern Mille Lacs County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-101, 1:63,360.  
MAGNETIC
- \*294. Meuschke, J.L., Tyson, N.S., and others, 1963, Aeromagnetic map of the northern part of Lake County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-360, 1:63,360.  
MAGNETIC
- \*295. Meyer, G.N., and Jirsa, M.A., 1984, Aggregate resources inventory, Twin Cities metropolitan area, Minnesota: Minnesota Geological Survey Information Circular 20, pl. 1, Sand and gravel aggregate resources, 1:250,000, pl. 2, Bedrock aggregate resources, 1:250,000.  
BEDROCK, SURFICIAL
296. Miller, T.P., 1961, A study of the Sioux formation of the New Ulm area: M.S. thesis, University of Minnesota, Minneapolis, pl. 2, Outcrop map of New Ulm area, approx. 1:5,000.  
BEDROCK
- \*297. Minnesota Department of Natural Resources, Division of Minerals, Peat Inventory Project, 1980, Peat resources, Koochiching County, Minnesota: Accompanies Severson, L. S., Mooers, H. D., and Malterer, T.J., 1980, Inventory of peat resources, Koochiching County, Minnesota: scale approx. 1 inch = 2 miles.  
SURFICIAL
- \*298. Minnesota Department of Natural Resources, Division of Minerals, Peat Inventory Project, 1982, Inventory of peat resources, Aitkin County, Minnesota, scale approx. 1 inch = 2 miles.  
SURFICIAL
- \*299. Minnesota Department of Natural Resources, Division of Minerals, Peat Inventory Project, 1984, Inventory of peat resources, an area of Beltrami and Lake of the Woods Counties, Minnesota, scale approx. 1 inch = 2 miles.  
SURFICIAL
300. Minnesota, University of, Soil Science Department, 1975, Geomorphic regions map of Minnesota: Soil Science Department, Agriculture Experimental Station, University of Minnesota, St. Paul, unpublished map, 1:500,000.  
SURFICIAL
301. Mooney, H.M., and Morey, G.B., 1981, Seismic history of Minnesota and its geological significance: Seismological Society of America Bulletin, v. 71, no. 1, p. 199-210, fig. 1, Tectonic map of Minnesota, approx. 1:4,500,000.  
STRUCTURAL
302. Morey, G.B., 1965, The sedimentology of the Precambrian Rove formation in north-eastern Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, pl. 1, Geology of a part of Cook County, Minnesota, approx. 1:184,320.  
BEDROCK
303. Morey, G.B., 1967, Stratigraphy and petrology of the type Fond du Lac Formation, Duluth, Minnesota: Minnesota Geological Survey Report of Investigations 7, pl. 1, 1:22,000.  
BEDROCK

- \*216. Kilburg, J.A., and Morey, G.B., 1974, Reconnaissance geologic map of the Esko quadrangle, St. Louis and Carlton Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-25, 1:24,000. BEDROCK
217. King, E.R., Zietz, I., 1971, Aeromagnetic study of the midcontinent gravity high of the central United States: Geological Society of America Bulletin, v. 82, no. 8, p. 2187-2208, fig. 2, Composite aeromagnetic map, 1:1,500,000. MAGNETIC
- \*218. Kirby, J.R., and Petty, A.J., 1966, Regional aeromagnetic map of western Lake Superior and adjacent parts of Minnesota, Michigan and Wisconsin: U.S. Geological Survey Geophysical Investigations Map GP-556, 1:250,000. MAGNETIC
219. Kirwin, P.H., 1963, Subsurface stratigraphy of the upper Keweenaw redbeds in southeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Basement structural contour map of southeastern Minnesota, approx. 1:497,000. BEDROCK
220. Klasner, J.S., Wold, R.J., Hinze, W.J., Bacon, L.D., O'Hara, N.W., and Berkson, J.M., 1978, Bouguer gravity anomaly map of the northern Michigan - Lake Superior region: U.S. Geological Survey Open-File Report 78-211, 1:500,000. GRAVITY
- \*221. Kohls, D.W., 1958, Geology of the Prescott quadrangle: M.S. thesis, University of Minnesota, Minneapolis, Surficial geologic and bedrock outcrop maps, 1:24,000. BEDROCK, SURFICIAL
- \*222. Krenz, K.A., and Ervin C.P., 1977, Simple Bouguer gravity map of Minnesota, Duluth sheet: Minnesota Geological Survey Miscellaneous Series Map M-37, 1:250,000. GRAVITY
- \*223. Krizman, R.W., and Kruger, C.L., 1968, Aeromagnetic map of the Kabetogama Lake-Grassy Lake area, St. Louis County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-616, scale 1:250,000. MAGNETIC
224. Larson-Higdem, D.C., 1976, Map showing altitude of bedrock surface in Minnesota: U.S. Geological Survey Open-File Report 76-788, 1:1,000,000. BEDROCK
225. Lehman, G.A., 1980, The bedrock geology of a portion of the Cramer 15-minute quadrangle, Lake County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Geologic map of a portion of the Cramer 15-minute quadrangle, 1:31,680. BEDROCK
226. Leverett, F., 1915, Surface formations and agricultural conditions in northwestern Minnesota: Minnesota Geological Survey Bulletin 12, sheet 1, Map of the surface formations of Minnesota (northwest quarter of state -- published in 1914), 1:500,000. SURFICIAL
227. Leverett, F., 1929, Moraines and shorelines of the Lake Superior region: U.S. Geological Survey Professional Paper 154-A, pl. 1, Map of the surficial deposits of the Lake Superior region, pl. 2, Map showing areas formerly covered by glacial lakes of northern Minnesota, northern Wisconsin, and the northern peninsula of Michigan, 1:1,000,000. SURFICIAL
228. Leverett, F., 1932, Quaternary geology of Minnesota and parts of adjacent states: U.S. Geological Survey Professional Paper 161, pl. 1, Map of the northern part of Minnesota showing surficial deposits, pl. 2, Map of southern part of Minnesota showing surficial deposits, 1:500,000. SURFICIAL
229. Leverett, F., and Sardeson, F.W., 1917, Surface formations and agricultural conditions of northeastern Minnesota: Minnesota Geological Survey Bulletin 13, sheet 2, Map of surface formations of Minnesota (northeastern quarter of state), 1:500,000. SURFICIAL
230. Leverett, F. and Sardeson, F.W., 1917, Surface formations and agricultural conditions of the south half of Minnesota: Minnesota Geological Survey Bulletin 14, sheet 3, Surface formations of Minnesota (southern half of state), 1:500,000. SURFICIAL
231. Lindholm, G. F., 1968, Geology and water resources of the Hibbing area, northeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-280, sheet 2, Ground water, 1:250,000. HYDROLOGIC
232. Lindholm, G. F., 1970, An appraisal of ground water for irrigation in the Wadena area, central Minnesota: U.S. Geological Survey Water - Supply Paper 1983, Hydrologic maps of the Wadena area, 1:63,360. HYDROLOGIC
233. Lindholm, G.F., 1980, Ground - water appraisal of sand plains in Benton, Sherburne, Stearns, and Wright Counties, central Minnesota: U.S. Geological Survey Water-Resources Investigations Open-File Report 80 - 1285, 4 pls., 1:126,720. HYDROLOGIC
234. Lindholm, G.F., Ericson, D.W., Broussard, W.L., and Hult, M.F., 1979, Water resources of the St. Louis River watershed, northeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-586, sheet 2, Ground water and geology, 1:500,000. HYDROLOGIC
235. Lindholm, G. F., Farrell, D. F., and Helgesen, J.O., 1974, Water resources of the Crow River watershed, south-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-528, sheet 2, Glacial drift, 1:500,000. HYDROLOGIC
236. Lindholm, G. F., Helgesen, J. O., Broussard, W.L., and Ericson, D.W., 1974, Water resources of the Snake River watershed, east-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-488, sheet 2, Surficial geology, 1:250,000. HYDROLOGIC
237. Lindholm, G. F., Helgesen, J. O., Broussard, W.L., and Farrell, D.F., 1974, Water resources of the Lower St. Croix River watershed, east-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-490, sheet 2, Glacial deposits, 1:250,000. HYDROLOGIC
238. Lindholm, G.F., Helgesen, J.O., and Ericson, D.W., 1974, Water resources of the Big Fork River watershed, north-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-549, sheet 1, Ground water, 1:500,000. HYDROLOGIC
239. Lindholm, G.F., Oakes, E.L., Ericson, D.W., and Helgesen, J.O., 1972, Water resources of the Crow Wing River watershed, central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-380, sheet 2, Ground water, 1:250,000. HYDROLOGIC
240. Listerud, W.H., 1974, Geology of a sulfide deposit in lower Precambrian meta-volcanic - metasedimentary rocks near Birchdale, Koochiching County, Minnesota: M.S. thesis, University of Minnesota, Duluth, fig. 4, Outcrop map of Birchdale area, 1:6,000. BEDROCK
241. Listerud, W.H., and McKenna, M.P., 1977, Outcrop map of Manitou Rapids area, Koochiching County: Minnesota Department of Natural Resources, Division of Minerals Project 41, 1:24,000. BEDROCK
242. Little, R.L., and Olsen, B.M., 1982, Data base map, from Physiography and data base, pl. 1 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000. BEDROCK
243. Lucia, F.J., 1954, Igneous geology of the Enger Tower area, Duluth, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Enger Tower area, approx. 1:7,100. BEDROCK
- \*244. Lund, E.H., 1956, Igneous and metamorphic rocks of the Minnesota River valley: Geological Society of America Bulletin, v. 67, no. 11, p. 1475-1490, pls. 1, 2, and 3, 1:24,000. BEDROCK
- \*245. Maclay, R. W., 1966, Reconnaissance of the geology and ground-water resources in the Aurora area, St. Louis County, Minnesota: U.S. Geological Survey Water-Supply Paper 1809-U, pl. 1, Geology and ground-water occurrence near Aurora, St. Louis County, Minnesota, 1:48,000. SURFICIAL, HYDROLOGIC
246. Maclay, R. W., Bidwell, L. E., and Winter, T.C., 1969, Water resources of the Buffalo River watershed, west-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-307, sheet 1, Physical setting, 1:250,000. HYDROLOGIC
247. Maclay, R. W., and Schiner, G. R., 1962, Aquifers in buried shore and glaciofluvial deposits along the Gladstone beach of Glacial Lake Agassiz near Stephen, Minnesota, in Geological Survey research 1962: U.S. Geological Survey Professional Paper 450 - D, p. D170-D172, fig. 170.1, Map of northwestern Minnesota showing areas of ground water investigations and trends of several beaches of Glacial Lake Agassiz, 1:500,000. SURFICIAL, HYDROLOGIC
248. Maclay, R.W., Winter, T.C., and Bidwell, L.E., 1968, Water resources of the Mustinka-Bois de Sioux Rivers watershed west-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-272, sheet 3, Geology and ground water, 1:500,000. HYDROLOGIC
249. Maclay, R. W., Winter, T. C., and Bidwell, L.E., 1972, Water resources of the Red River of the North drainage basin in Minnesota: U.S. Geological Survey Water-Resources Investigations 1-72, fig. 5, Glacial deposits, fig. 14, Thickness of glacial drift, 1:2,000,000. SURFICIAL, HYDROLOGIC
250. Maclay, R. W., Winter, T. C., and Pike, G.M., 1965, Water resources of the Middle River watershed, northwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-201 sheet 1, Ground water, 1:250,000. HYDROLOGIC
251. Maclay, R. W., Winter, T. C., and Pike, G.M., 1967, Water resources of the Two Rivers watershed, northwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-237, sheet 1, Physical setting and water budget, 1:250,000. HYDROLOGIC
252. Mainwaring, P.R., 1975, The petrology of a sulfide-bearing layered intrusion at the base of the Duluth Complex, St. Louis County, Minnesota: Ph.D. dissertation, University of Toronto, fig. 4, Geology of the thesis area as interpreted from drill core logging, 1:4,800. BEDROCK
253. Malterer, T.F., compiler, 1978, Minnesota peatlands: Minnesota Department of Natural Resources, Division of Minerals, scale 1 inch = approx. 20 miles. SURFICIAL
254. Marmaduke, R.C., 1941, The geology of Grand Marais Township: M.S. thesis, University of Minnesota, Minneapolis, pl. 3, Bedrock geologic map of Grand Marais Township, 1:15,840. BEDROCK
- \*255. Matsch, C. L., 1962, Pleistocene geology of the St. Paul Park and Prescott quadrangles, southeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Bedrock geologic maps, 1:24,000. BEDROCK
256. Matsch, C.L., 1971, Pleistocene stratigraphy of the New Ulm region, southwestern Minnesota: Ph.D. dissertation, University of Wisconsin, Madison, fig. 3, Glacial map of southern Minnesota and adjacent South Dakota moraines selected and modified from Leverett, 1:2,800,000. SURFICIAL
257. Matsch, C. L., 1972, Quaternary geology of southwestern Minnesota, in Sims, P. K., and Morey, G. B., eds., The geology of Minnesota: A centennial volume: Minnesota Geological Survey, fig. VII-23, Areal geology of southwestern Minnesota, 1:2,500,000. SURFICIAL
258. Matsch, C. L., Rutherford, R. H., and Tipton, M.J., 1972, Quaternary geology of northeastern South Dakota and southwestern Minnesota, in Field trip guidebook for geomorphology and Quaternary stratigraphy of western Minnesota and eastern South Dakota: Minnesota Geological Survey Guidebook Series 7, fig. 2, Generalized configuration of the top of the bedrock of northeastern South Dakota and southwestern Minnesota, 1:500,000; fig. 3, Glacial lobes and moraines of eastern South Dakota, southern Minnesota, and northern Iowa, 1:250,000. SURFICIAL



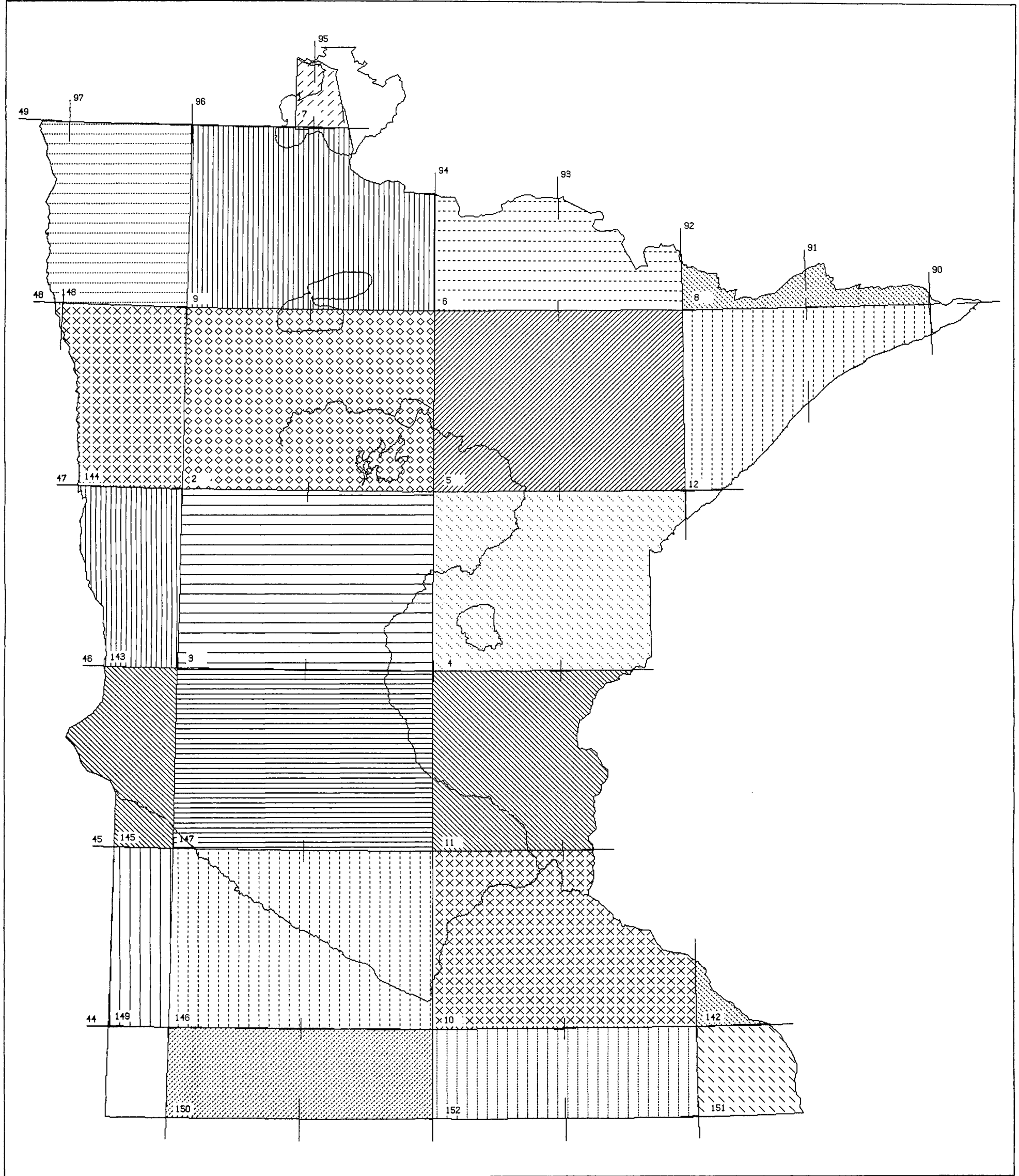
169. Grout, F.F., and Wolff, J.F., Sr., 1955, The geology of the Cuyuna district, Minnesota: Minnesota Geological Survey Bulletin 36, pl. 1, Map of known and probable formations around the Cuyuna district, approx. 1:1,000,000; pl. 2, Map of the Cuyuna iron district, North Range and part of South Range, Crow Wing County, 1:24,000; pl. 5, Map of west extension of South Range, Cuyuna iron district, 1:48,000.  
BEDROCK
- \*170. Gruner, J.W., 1941, Structural geology of the Knife Lake area of northeastern Minnesota: Geological Society of America Bulletin, v. 52, p. 1577-1642, Bedrock geologic map, 1:42,240.  
BEDROCK
- \*171. Gryc, G., 1942, The Keweenaw geology of the Grand Portage Indian Reservation: M.S. thesis, University of Minnesota, Minneapolis, pl. 1, Bedrock geologic map of the area, 1:15,840.  
BEDROCK
172. Hall, C.W., 1900, Keewatin of eastern and central Minnesota: Geological Society of America Bulletin, v. 12, pl. 29, Map of east-central Minnesota, 1:750,000.  
BEDROCK
173. Hall, C.W., Meinzer, O.E., and Fuller, M.L., 1911, Geology and underground waters of southern Minnesota: U.S. Geological Survey Water-Supply Paper 256, pl. 2, Map of southern Minnesota showing thickness and character of surficial deposits, 1:750,000.  
SURFICIAL, HYDROLOGIC
174. Hall, C.W., and Sardeson, F.W., 1892, Paleozoic formations of southeastern Minnesota: Geological Society of America Bulletin, v. 3, p. 331-368, pl. 10, Southeastern Minnesota, 1:2,300,000.  
BEDROCK
175. Hall, C.W., and Sardeson, F.W., 1895, The Magnesian series of the northwestern States: Geological Society of America Bulletin, v. 6, p. 167-198, pl. 12, Map showing distribution of the Magnesian series in the northwestern states, 1:3,000,000.  
BEDROCK
- \*176. Harris, K.L., 1975, Pleistocene geology of the Grand Forks-Bemidji area, northwest Minnesota: Ph.D. dissertation, University of North Dakota, Grand Forks, pl. 1, The surficial sediments of the Grand Forks-Bemidji area, Minnesota, 1:250,000.  
SURFICIAL
177. Harris, K.L., Moran, S.R., and Clayton, L., 1974, Late Quaternary stratigraphic nomenclature, Red River Valley, North Dakota and Minnesota: North Dakota Geological Survey Miscellaneous Series 52, figs. 6, 8-11, maps of distributions of Quaternary formations, approx. 1:2,000,000.  
SURFICIAL
178. Harrison, W., Edgar, D., Van Luik, A., Hinze, W., Braile, L., Kalliokoski, J., Pfannkuch, H., Wright, H., Jr., Tisue, M., and Sood, M., 1983, Geology, hydrology, and mineral resources of crystalline rock areas of the Lake Superior region, United States: Argonne National Laboratory ANL/ES-134, pl. 2, Seismotectonic map of the Lake Superior region, pl. 5, Distribution of described crystalline rock bodies of Minnesota, 1:1,000,000.  
BEDROCK, STRUCTURAL
179. Helgesen, J.O., 1973, Appraisal of ground water for irrigation in the Little Falls area, Morrison County, Minnesota: U.S. Geological Survey Water-Supply Paper 2009-D, Hydrologic maps of the Little Falls area, 1:126,720.  
HYDROLOGIC
180. Helgesen, J.O., Ericson, D.W., and Lindholm, G.F., 1975, Water resources of the Mississippi and Sauk Rivers watershed, central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-534, sheet 2, Surficial deposits, 1:250,000.  
HYDROLOGIC
181. Helgesen, J.O., Lindholm, G.F., Broussard, W.L., and Ericson, D.W., 1973, Water resources of the Kettle River watershed, east-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-437, sheet 2, Geology and ground water, 1:250,000.  
HYDROLOGIC
182. Helgesen, J.O., Lindholm, G.F., and Ericson, D.W., 1975, Water resources of the Lake of the Woods watershed, north-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-544, sheet 2, Geology and ground water, 1:500,000.  
HYDROLOGIC
183. Helgesen, J.O., Lindholm, G.F., and Ericson, D.W., 1976, Water resources of the Little Fork watershed, northeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-551, sheet 1, Ground water, 1:500,000.  
HYDROLOGIC
- \*184. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of part of Hubbard County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*185. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the central part of Cass County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*186. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the eastern part of Morrison County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*187. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the northern part of Cass County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*188. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the northern part of Crow Wing County and part of Cass County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*189. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the southern part of Beltrami County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*190. Henderson, J.R., Jr., Hill, M.E., Meuschke, J.L., 1949, Total intensity aeromagnetic map of the southern part of Cass County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*191. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the southern part of Crow Wing County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*192. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the western part of Itasca County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
- \*193. Henderson, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of the western part of Morrison County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360.  
MAGNETIC
194. Heutmaker, J.F., and Morey, G.B., 1982, Lineament map, Hibbing sheet, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-49, 1:250,000.  
STRUCTURAL
- \*195. Himmelberg, G.R., 1968, Geology of Precambrian rocks, Granite Falls-Montevideo area, southwestern Minnesota: Minnesota Geological Survey Special Publication Series SP-5, pl. 1, 1:24,000.  
BEDROCK
- \*196. Hobbs, H.C., 1984, Surficial geology, pl. 3 of Balaban, N.H., and Olsen, B.M., Geologic atlas of Winona County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-2, 1:100,000.  
SURFICIAL
197. Hobbs, H.C., and Goebel, J.E., 1982, Geologic map of Minnesota, Quaternary geology: Minnesota Geological Survey State Map Series Map S-1, 1:500,000.  
SURFICIAL
198. Hoefft, D.R., 1959, The lithostratigraphy of the Glenwood and Platteville formations of southeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl. 3, Isopach map of Glenwood formation, southeastern Minnesota, 1:500,000.  
BEDROCK
199. Hyrkas, G.L., 1982, Sedimentology and structural geology of the Middle Precambrian Thomson Formation, central Carlton County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Geologic map of the Thomson Formation, central Carlton County, Minnesota, approx. 1:24,000.  
BEDROCK
- \*200. Ikola, R.J., 1967, A geophysical investigation of the geologic structure of Carlton County, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, map, 1:253,440.  
GRAVITY
- \*201. Ikola, R.J., 1968, Simple Bouguer gravity map of Minnesota, Hibbing sheet: Minnesota Geological Survey Miscellaneous Map Series M-3, 1:250,000.  
GRAVITY
- \*202. Ikola, R.J., 1968, Simple Bouguer gravity map of southern part of the Duluth Complex and adjacent areas, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-4, 1:125,000.  
GRAVITY
- \*203. Ikola, R.J., 1970, Simple Bouguer gravity map of Minnesota, Two Harbors sheet: Minnesota Geological Survey Miscellaneous Map Series M-9, 1:250,000.  
GRAVITY
204. Irving, R.D., 1883, The copper-bearing rocks of Lake Superior: U.S. Geological Survey Monograph 5, pl. 1, Geologic map of the Lake Superior Basin, 1:2,000,000.  
BEDROCK
205. Isaacs, P., 1982, Modern physiography, from Physiography and data base, pl. 1 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000.  
SURFICIAL
206. Jirsa, M.A., 1980, The petrology and tectonic significance of interflow sediments in the Keweenaw North Shore Volcanic Group: M.S. thesis, University of Minnesota, Duluth, fig. 4, Map distribution of burial metamorphic minerals in sediments in the North Shore Volcanic Group, approx. 1:2,000,000.  
BEDROCK
207. Jones, J.R., Akin, P.D., and Schneider, R., 1963, Geology and ground-water conditions in the southern part of the Camp Ripley Military Reservation, Morrison County, Minnesota: U.S. Geological Survey Water-Supply Paper 1669-A, pl. 1, Surficial deposits in the southern part of the Camp Ripley Military Reservation, Minnesota, 1:24,000.  
HYDROLOGIC
208. Kanivetsky, R., 1978, Hydrogeologic map of Minnesota, bedrock hydrogeology: Minnesota Geological Survey State Map Series Map S-2, 1:500,000.  
BEDROCK, HYDROLOGIC
209. Kanivetsky, R., 1979, Hydrogeologic map of Minnesota, bedrock hydrogeology: Minnesota Geological Survey State Map Series S-5, 1:3,168,000.  
HYDROLOGIC
210. Kanivetsky, R., 1979, Hydrogeologic map of Minnesota, Quaternary hydrogeology: Minnesota Geological Survey State Map Series S-3, 1:500,000.  
SURFICIAL, HYDROLOGIC
211. Kanivetsky, R., 1979, Hydrogeologic map of Minnesota, Quaternary hydrogeology: Minnesota Geological Survey State Map Series S-6, 1:3,168,000.  
HYDROLOGIC
212. Kanivetsky, R., 1984, Hydrogeology, pl. 4 of Balaban, N.H., and Olsen, B.M., eds., Geologic atlas of Winona County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-2, 1:200,000.  
HYDROLOGIC
213. Kanivetsky, R., and Palen, B., 1982, Hydrogeology, pl. 6 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 1:100,000.  
HYDROLOGIC
214. Kendall, H.F., 1928, The Keweenaw diabase intrusives of northeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Rove Slate area, Minnesota, 1:31,680.  
BEDROCK
215. Ketner, K.B., 1979, Map showing high-purity silica sand of middle Ordovician age in the midwestern states: U.S. Geological Survey Miscellaneous Field Studies Map MF-1097, 1:1,000,000.  
BEDROCK

126. Ericson, D.W., Lindholm, G.F., and Helgesen, J.O., 1976, Water resources of the Rainy Lake watershed, northeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-556, sheet 1, Ground water, 1:500,000. HYDROLOGIC
- \*127. Ervin, C.P., 1980, Simple Bouguer gravity map of Minnesota, St. Cloud sheet: Minnesota Geological Survey Miscellaneous Map Series M-44, 1:250,000. GRAVITY
- \*128. Ervin, C.P., Ikola, R.J., and McGinnis, L.D., 1980, Simple Bouguer gravity map of Minnesota, New Ulm sheet: Minnesota Geological Survey Miscellaneous Map Series M-43, 1:250,000. GRAVITY
129. Ervin, C.P., and Mudrey, M.G., Jr., 1976, Extension of a northern Minnesota lamprophyre province by geophysical studies: Journal of Geophysical Research, v.81, no. 26, p.4917-4922, fig.2, Bouguer anomaly, fig.4, Total intensity anomaly, 1:150,000. GRAVITY, MAGNETIC
- \*130. Ervin, C.P., Van De Voorde, B.W., and Chandler, V.W., 1982, Simple Bouguer gravity map of Minnesota, St. Paul sheet: Minnesota Geological Survey Miscellaneous Map Series M-48, 1:250,000. GRAVITY
131. Farnham, R.S., 1956, Geology of the Anoka sand plain, in Schwartz, G.M., and Wright, H.E., Jr., eds., Glacial geology of eastern Minnesota: Geological Society of America, 69th Annual Meeting, Minneapolis, Minnesota, Guidebook for field trip no.3, fig.1, Anoka sand plain, 1:700,000. SURFICIAL
132. Farnham, R.S., 1964, A late-Wisconsin buried soil near Aitkin, Minnesota, and its paleo-botanical setting: American Journal of Science, v. 262, fig. 1, Map of part of northeastern Minnesota showing location of main Aitkin site, 1:3,000,000. SURFICIAL
133. Farrell, D.F., Broussard, W.L., Anderson, H.W., and Hult, M.F., 1975, Water resources of the Cedar River watershed, southeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-552, sheet 3, Surficial deposits, 1:500,000. HYDROLOGIC
- \*134. Feirn, W.C., 1977, The geology of the early Precambrian rocks of the Jasper Lake area, Cook County, northeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, Bedrock geologic map of the Jasper Lake area, 1:3,765. BEDROCK
135. Flood, T.P., 1981, Geology of the Cypress, Hanson, and South Arm of Knife Lake area, BWCA: Eastern Vermilion District, northeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Geologic map of the Cypress, Hanson, and South Arm of Knife Lake area, 1:1,000. BEDROCK
- \*136. Fogelson, D.E., 1956, A gravity survey of a portion of the Redwood Falls area, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl.1, Bouguer anomaly map, 1:63,360. GRAVITY
137. Foote, M.P., and Cooper, R.W., 1978, Preliminary geologic report on the Harris Lake area, northeastern Minnesota: U.S. Geological Survey Open-File Report 78-385, map, 1:12,000. BEDROCK
138. Frey, M.G., 1937, Geology of the Red Wing District: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Red Wing region, 1:12,672. BEDROCK
- \*139. Friedman, A.L., 1980, Surficial geology of the Isabella quadrangle, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl. 1, Surficial geologic map of the Isabella quadrangle, pl. 2, Geomorphology summary map, 1:62,5000 SURFICIAL
140. Gable, D.J., and Hatton, T., 1983, Maps of vertical crustal movements in the conterminous United States over the last 10 million years: U.S. Geological Survey Miscellaneous Investigations Series Map I-1315, 1:5,000,000, 2 sheets; Map A, Data sources for vertical movements, Map B, Neotectonics, rates, and magnitudes of vertical movements, Map C, Rates and relative magnitudes of post-glacial vertical movements, 1:5,000,000; Map D, preliminary interpretation of rates of vertical movements, 1:10,000,000: STRUCTURAL
- \*141. Gelineau, W.J., 1959, Pleistocene geology of the Inver Grove and St. Paul SW quadrangles, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Pleistocene geologic map of the Inver Grove and St. Paul SW quadrangles, 1:24,000. SURFICIAL
- \*142. geoMetrics, 1978, Aerial gamma ray and magnetic survey, Rice Lake quadrangle, Wisconsin, Iron Mountain quadrangle, Wisconsin/Michigan, Eau Claire quadrangle, Wisconsin/Minnesota, and Green Bay quadrangle, Wisconsin: U.S. Department of Energy Open-File Report GJBX-26(78); fig. 25, Uranium anomaly/interpretation map - Eau Claire quadrangle; figs. 26-29, Eau Claire quadrangle Potassium, Uranium, Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*143. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, Fargo quadrangle of Minnesota/North Dakota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, Fargo; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*144. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, Grand Forks quadrangle of Minnesota/North Dakota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, Grand Forks; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*145. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, Milbank quadrangle of South Dakota, North Dakota, and Minnesota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, Milbank; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*146. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, New Ulm quadrangle of Minnesota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, New Ulm; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*147. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, St. Cloud quadrangle of Minnesota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, St. Cloud; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*148. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, Thief River Falls quadrangle of Minnesota/North Dakota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, Thief River Falls; fig.3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*149. geoMetrics, 1980, Aerial gamma ray and magnetic survey, Minnesota project, Watertown quadrangle of South Dakota/Minnesota: U.S. Department of Energy Open-File Report GJBX-13(80) v.2, Watertown; fig. 3, Uranium anomaly/interpretation map; appendix F - Potassium, Uranium, Thorium, Thorium/Potassium, Uranium/Potassium, Uranium/Thorium, and Magnetic pseudo-contour maps; 1:500,000. GAMMA SPEC
- \*150. geoMetrics, 1981, Aerial gamma ray and magnetic survey, Fairmont quadrangle, Minnesota, Iowa: U.S. Department of Energy Open-File Report GJBX-63(81). GAMMA SPEC
- \*151. geoMetrics, 1981, Aerial gamma ray and magnetic survey, LaCrosse quadrangle, Iowa, Minnesota, Wisconsin: U.S. Department of Energy Open-File Report GJBX-60(81). GAMMA SPEC
- \*152. geoMetrics, 1981, Aerial gamma ray and magnetic survey, Mason City quadrangle, Iowa, Minnesota: U.S. Department of Energy Open-File Report GJBX-65(81). GAMMA SPEC
153. Giangrande, P.A., 1982, Geology and mineralization of the Skeleton Lake Prospect, St. Louis County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Outcrop location map, pl. 2, Geologic map of the Skeleton Lake Prospect, pl. 3, Alternation zones and mineral assemblages, 1:1,000 BEDROCK
154. Gladen, L.W., 1978, Geology of lower Precambrian rocks and associated sulfide mineralization in area south of Indus, Koochiching County, northern Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Bedrock geologic map of an area south of Indus, 1:12,000. BEDROCK
155. Goebel, J.E., and others, compilers, 1983, Quaternary geologic map of the Minneapolis 4 X 6 degree quadrangle, United States, sheet NL-15 of Richmond, G.M., and Fullerton, D.S., eds., Quaternary geologic atlas of the United States: U.S. Geological Survey Miscellaneous Investigations Series Map I-1420, 1:1,000,000. SURFICIAL
156. Goebel, J.E., and Walton, M.S., 1979, Geologic map of Minnesota, Quaternary geology: Minnesota Geological Survey State Map Series S-4, 1:3,168,000. SURFICIAL
- \*157. Green, J.C., 1982, Geologic map of Minnesota, Two Harbors sheet: Minnesota Geological Survey, 1:250,000. BEDROCK
- \*158. Green, J.C., 1982, Geology of the Milepost 7 area, Lake County, Minnesota: Minnesota Geological Survey Report of Investigations 26, pl. 1, Geologic map of the Milepost 7 area, Lake County, Minnesota, approx. 1:38,000. BEDROCK
- \*159. Green, J.C., Jirsa, M.A., and Moss, C.M., 1977, Environmental geology of the North Shore: Minnesota Geological Survey, Bedrock geologic, Surficial geologic and economic geologic maps, approx. 1:72,000. BEDROCK, SURFICIAL
- \*160. Green, J.C., Phinney, W.C., and Weiblen, P.W., 1966, Geologic map of the Gabbro Lake quadrangle, Lake County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-2, 1:31,680. BEDROCK
- \*161. Green, J.C., and Schulz, K.J., 1982, Geologic map of the Ely quadrangle, St. Louis and Lake Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-50, 1:24,000. BEDROCK
162. Griffin, W.L., 1967, Geology of the Babbitt - Embarrass area, St. Louis County, Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, Geologic map of the Babbitt-Embarrass area, BEDROCK
- \*163. Griffin, W.L., 1969, Geologic map of the Embarrass quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-6, 1:24,000. BEDROCK
- \*164. Griffin, W.L., Morey, G.B., 1969, The geology of the Isaac Lake quadrangle, St. Louis County, Minnesota: Minnesota Geological Survey Special Publication Series SP-8, pl. 1, Geologic map of the Isaac Lake quadrangle, 1:24,000. BEDROCK
165. Gross, L.B., 1983, The stratigraphy and lithology of the glaciogenic sediments of the Two Harbors area, northeastern Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, Quaternary geology of the Two Harbors quadrangle, pl. 2, Quaternary geology of the Whyte quadrangle, 1:62,500. SURFICIAL
- \*166. Grout, F.F., Sharp, R.P., and Schwartz, G.M., 1959, The geology of Cook County, Minnesota: Minnesota Geological Survey Bulletin 39; pl. 1, Glacial features of Cook County, Minnesota, pl.2, Geology of Cook County, 1:316,000. BEDROCK
167. Grout, F.F., Sharp, R.P., and Schwartz, G.M., 1959, The geology of Cook County, Minnesota: Minnesota Geological Survey Bulletin 39, pls. 6-16, 1:31,680. BEDROCK
168. Grout, F.F., and Soper, E.K., 1914, Preliminary report on the clays and shales of Minnesota: Minnesota Geological Survey Bulletin 11, pl. 1, Map of Minnesota showing the distribution of the clay minerals and points at which worked, 1:1,500,000. BEDROCK

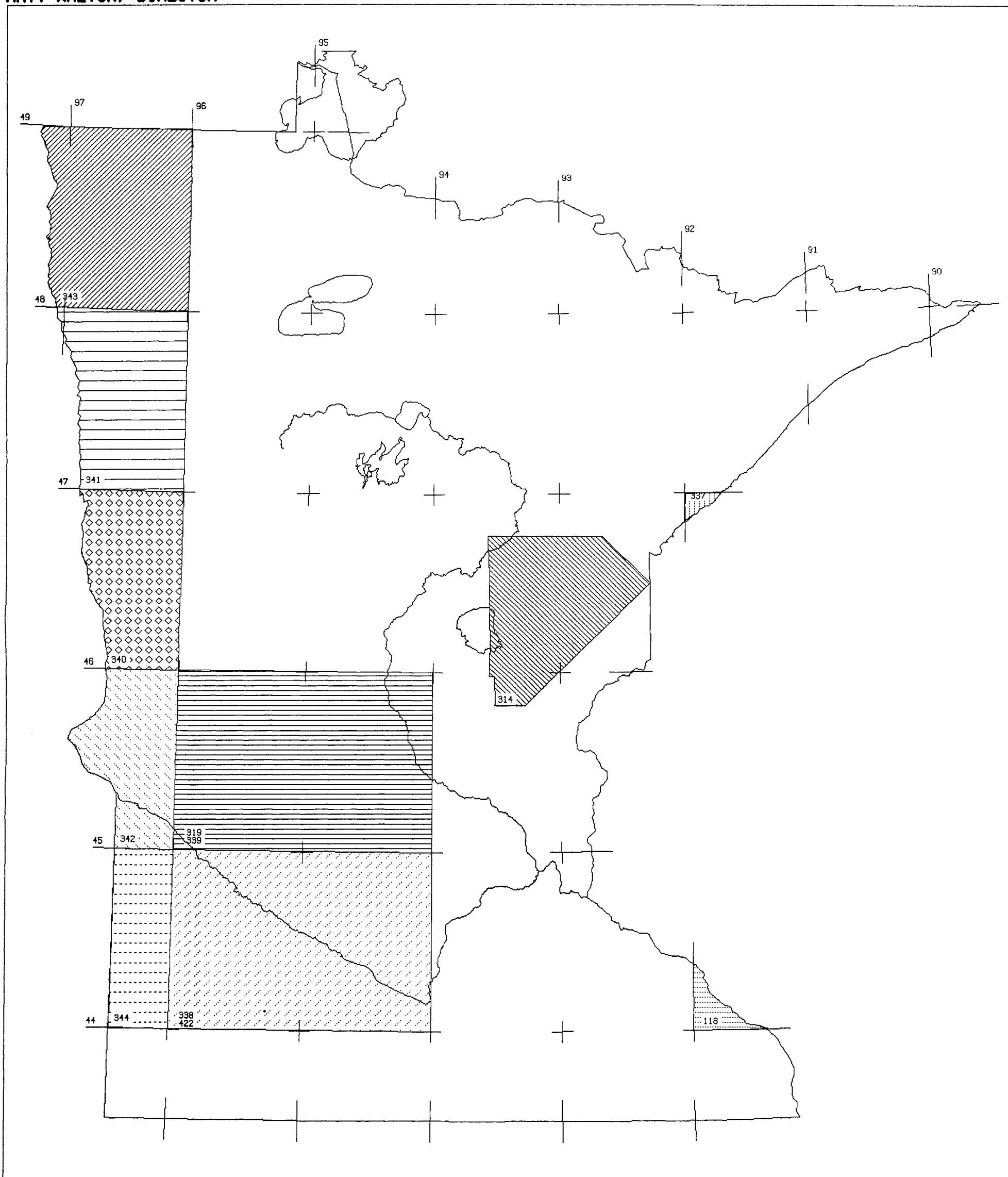
- \* 81. Chandler, V.W., 1983, Aeromagnetic map of Minnesota, St. Louis County: Minnesota Geological Survey Aeromagnetic Map Series A-2, 1:250,000. MAGNETIC
- \* 82. Chandler, V.W., compiler, 1984, Simple Bouguer gravity map of Minnesota, International Falls sheet (preliminary): Minnesota Geological Survey Open-File Map, 1:250,000. GRAVITY
83. Chandler, V.W., Nordstrand, E., and Anderson, S., 1984, Shaded-relief aeromagnetic anomaly map of northeastern and east-central Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-53, 1:1,000,000. MAGNETIC
84. Clements, J.M., 1903, The Vermilion iron-bearing district of Minnesota: U.S. Geological Survey Monograph 45, pl. 2, General geologic map of the Vermilion iron-bearing district of Minnesota, 1:125,000. BEDROCK
85. Connolly, M.R., 1981, The geology of the Middle Precambrian Thomson Formation in southern Carlton County, Minnesota: M.S. thesis, University of Minnesota, Duluth, pl. 1, The geology of the Middle Precambrian Thomson Formation, southern Carlton County, east-central Minnesota, 1:12,600. BEDROCK
86. Cooper, R.W., 1977, Outcrop map of the Hoyt Lakes - Kawishiwi area, St. Louis and Lake Counties, Minnesota: Minnesota Geological Survey, file map, 1:48,000. BEDROCK
87. Cotter, R.D., and Bidwell, L.E., 1966, Water resources of the Pomme de Terre River watershed, west-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-220, sheet 2, Glacial drift, 1:250,000. HYDROLOGIC
88. Cotter, R.D., and Bidwell, L.E., 1968, Water resources of the Lac Qui Parle River watershed, southwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-269, sheet 2, Areas of sand and gravel, 1:250,000. HYDROLOGIC
89. Cotter, R.D., Bidwell, L.E., Oakes, E.L., and Hollenstein, G.H., 1966, Water resources of the Big Stone Lake watershed, west-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-213, sheet 1, Near surface sand and gravel, 1:250,000. HYDROLOGIC
90. Cotter, R.D., Bidwell, L.E., Van Voast, W.A., and Novitzki, R.P., 1968, Water resources of the Chippewa River watershed, west-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-286, sheet 2, Outwash and recent alluvium, 1:250,000. HYDROLOGIC
91. Cotter, R.D., and Rogers, J.E., 1961, Exploratory drilling for ground water in the Mountain Iron-Virginia area, St. Louis County Minnesota: U.S. Geological Survey Water-Supply Paper 1539-A, pl. 1, Map of the Mountain Iron-Virginia area, Minnesota, showing the approximate extent of thick water-bearing glacial deposits, 1:24,000. HYDROLOGIC
- \* 92. Cotter, R.D., and Rogers, J.E., 1964, Glacial geology of the Mountain Iron - Virginia - Eveleth area, Mesabi Iron Range, Minnesota: U.S. Geological Survey Professional Paper 501-C, fig. 1, Surficial geology of the Mountain Iron - Virginia - Eveleth area, St. Louis County, Minnesota, 1:250,000. SURFICIAL
93. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Ground and surface water in the Mesabi and Vermilion Iron Range area, northeastern Minnesota: U.S. Geological Survey, Water - Supply Paper 1759-A, pl. 1, Map showing physiographic regions, trace of geologic section, and hydrologic features, Mesabi-Vermilion Iron Range area, northeastern Minnesota, 1:300,000. HYDROLOGIC
94. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Water resources in the vicinity of municipalities on the central Mesabi Iron Range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 1759-D, pl. 1, 1:48,000. HYDROLOGIC
95. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Water resources in the vicinity of municipalities on the east - central Mesabi Iron Range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 1759-E, pl. 1, 1:48,000. HYDROLOGIC
96. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Water resources in the vicinity of municipalities on the eastern Mesabi Iron Range and the Vermilion Iron Range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 1759-F, pl. 1, 1:48,000. HYDROLOGIC
97. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Water resources in the vicinity of municipalities on the west-central Mesabi Iron Range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 1759-C, pl. 1, 1:48,000. HYDROLOGIC
98. Cotter, R.D., Young, H.L., Petri, L.R., and Prior, C.H., 1965, Water resources in the vicinity of municipalities on the western Mesabi Iron Range, northeastern Minnesota: U.S. Geological Survey Water-Supply Paper 1759-B, pl. 1, 1:48,000. HYDROLOGIC
- \* 99. Cotter, R.D., Young, H.L., and Winter, T.C., 1964, Preliminary surficial geologic map of the Mesabi-Vermilion Iron Range area, northeastern Minnesota: U.S. Geological Survey Miscellaneous Geological Investigations Map I-403, 1:125,000. SURFICIAL
100. Cowie, R.H., 1941, Geology of the Zumbro River valley, Goodhue and Wabasha Counties, Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, Magnetic and bedrock geologic maps of the Zumbro River valley, 1:63,360. BEDROCK, MAGNETIC
101. Craddock, C., 1972, Bouguer gravity map showing Midcontinent Gravity High, in Sims, P.K., and Morey, G.B., eds., Geology of Minnesota: A centennial volume, 1:3,000,000. GRAVITY
102. Craddock, C., Mooney, H.M., and Kolehmainen, V., 1970, Simple Bouguer gravity map of Minnesota and northwestern Wisconsin: Minnesota Geological Survey Miscellaneous Map Series M-10, 1:1,000,000. GRAVITY
103. Craddock, C., Thiel, E.C., and Gross, B., 1963, A gravity investigation of the Precambrian of southeastern Minnesota and Wisconsin: Journal of Geophysical Research, v.68, p.6015-6032, fig.3, Map of regional anomaly, 1:2,000,000. GRAVITY
- \* 104. Crain, W.E., 1957, Areal geology of the Red Wing quadrangle: M.S. thesis, University of Minnesota, Minneapolis, Areal geologic map of the Red Wing quadrangle, 1:62,500. SURFICIAL
105. Daggett, M.D., 1980, The structure and petrology of the Cedar Mountain Complex, Redwood County, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, pl. 1, Geologic map of the Cedar Mountain Complex, pl. 2, Sample locations and the distribution of felsic dikelets and country rock xenoliths, 1:2,500. BEDROCK
- \* 106. Davidson, D.M., Jr., 1969, Geologic map of the Kawishiwi Lake quadrangle, Lake and Cook Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-7, 1:24,000. BEDROCK
- \* 107. Davidson, D.M., Jr., 1969, Geologic map of the Perent Lake quadrangle, Lake County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-8, 1:24,000. BEDROCK
- \* 108. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Alice Lake quadrangle, Lake County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-33, 1:24,000. BEDROCK
- \* 109. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Beth Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-26, 1:24,000. BEDROCK
- \* 110. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Brule Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-29, 1:24,000. BEDROCK
- \* 111. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Cherokee Lake quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-30, 1:24,000. BEDROCK
- \* 112. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Eagle Mountain quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-28, 1:24,000. BEDROCK
- \* 113. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Kelso Mountain quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-27, 1:24,000. BEDROCK
- \* 114. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Lake Polly quadrangle, Lake and Cook Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-34, 1:24,000. BEDROCK
- \* 115. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Lima Mountain quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-32, 1:24,000. BEDROCK
- \* 116. Davidson, D.M., Jr., 1977, Reconnaissance geologic map of the Pine Mountain quadrangle, Cook County, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-31, 1:24,000. BEDROCK
117. Dawson, G. M., 1875, On the surficial geology of the central region of North America: Geological Society of London Quarterly Journal, v. 31, p. 603-623, pl. 32, Map and section of part of the interior of North America, 1:11,000,000. SURFICIAL
- \* 118. Delaney, H.J., Fitzsimonds, M.R., Bogart, L.E., Silling, R.M., and Readdy, L.A., 1982, National uranium resource evaluation, Eau Claire quadrangle, Wisconsin and Minnesota: U.S. Department of Energy Open-File Report PGJ/F-71(82), 22 pls., 1:500,000. GEOCHEM.
119. Dutch, S.I., 1981, Lineaments and faults of Wisconsin, Minnesota, and the western part of the northern peninsula of Michigan: U.S. Geological Survey Open - File Report 81 - 977, pl. 1, Lineament and fault map of Wisconsin, Minnesota, and the western part of the Northern Peninsula of Michigan, 1:1,000,000; pl. 2, Bedrock geology of Minnesota, Wisconsin, and surrounding region, pl. 3, Lineaments in Minnesota, Wisconsin, and surrounding region and their relation to basement structure, pl. 4, Structural and index map of Minnesota, Wisconsin, and surrounding region, 1:2,500,000. STRUCTURAL
- \* 120. Eginton, C. W., 1975, Geology of the White Bear Lake West quadrangle, Minnesota: M.S. thesis, Oklahoma State University, Stillwater, fig. 7, Generalized map of the present surface morphology of the White Bear Lake West quadrangle, Minnesota, 1:45,000. SURFICIAL
121. Ellis, M.J., Adolphson, D.G., and West, R.E., 1969, Hydrology of a part of the Big Sioux drainage basin, eastern South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-311, 1:125,000. HYDROLOGIC
- \* 122. Eng, M.T., 1979, An evaluation of the surficial geology and bog patterns of the Red Lake Bog, Beltrami and Lake of the Woods Counties, Minnesota: Minnesota Department of Natural Resources, Division of Minerals, 1:126,720. SURFICIAL
- \* 123. Eng, M.T., 1979, An evaluation of surficial geology and peat resources, southwest St. Louis County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals, 1:126,720. SURFICIAL
- \* 124. Eng, M.T., 1980, Surficial geology, Koochiching County, Minnesota: Minnesota Department of Natural Resources, Division of Minerals, Peat Inventory Project, 1:126,720. SURFICIAL
125. Ericson, D.W., Lindholm, G.F., and Helgesen, J.O., 1974, Water resources of the Rum River watershed, east-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-509, sheet 2, Surficial deposits, 1:250,000. HYDROLOGIC

- \* 33. Baker, R.G., 1964, Late Wisconsin glacial and vegetational history of the Alborn area, St. Louis County, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Quaternary geologic map of the Alborn and Brookston NW quadrangles, 1:24,000. SURFICIAL
- \* 34. Balaban, N.H., and McSwiggen, P.L., editors, 1982, Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-1, 6 pls., 1:100,000. BEDROCK, SURFICIAL, HYDROLOGIC
- \* 35. Balaban, N.H. and Olsen, B.M., editors, 1984, Geologic atlas of Winona County, Minnesota: Minnesota Geological Survey County Atlas Series Map C-2, 8 pls., 1:100,000. BEDROCK, SURFICIAL, HYDROLOGIC
- \* 36. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of Todd County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360. MAGNETIC
- \* 37. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1949, Total intensity aeromagnetic map of Wadena County and part of Hubbard County, Minnesota: U.S. Geological Survey Geophysical Investigations Map, 1:63,360. MAGNETIC
- \* 38. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of Douglas County and part of Grant County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-51, 1:63,360. MAGNETIC
- \* 39. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of part of Becker County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-48, 1:63,360. MAGNETIC
- \* 40. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of parts of Clearwater and Mahnomon Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-47, 1:63,360. MAGNETIC
- \* 41. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of parts of Clearwater, Polk, and Red Lake Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-46, 1:63,360. MAGNETIC
- \* 42. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of the northern part of Otter Tail County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-49, 1:63,360. MAGNETIC
- \* 43. Balsley, J.R., Jr., Hill, M.E., and Meuschke, J.L., 1951, Total intensity aeromagnetic map of the southern part of Otter Tail County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-50, 1:63,360. MAGNETIC
- \* 44. Barazangi, M.N., 1967, Geophysical investigation of the Hudson-Afton Horst, Dakota County, Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Total intensity magnetic map of Hastings area, Minnesota, approx. 1:12,500. MAGNETIC
45. Barton, R.H., 1957, Periglacial features in the Lake City area, southeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, fig. 3, Drift borders of southeastern Minnesota, 1:1,045,000. SURFICIAL
46. Bath, G.D., 1962, Magnetic anomalies and magnetizations of the Biwabik iron-formation, Mesabi area, Minnesota: Geophysics, v. 27, no. 5, p. 627-650, fig. 6, Aeromagnetic and geologic map of the western part of the Main Mesabi district, Minnesota, 1:253,440; fig. 11, Aeromagnetic and geologic map of the East Mesabi district, Minnesota, 1:230,400. MAGNETIC
- \* 47. Bath, G.D., Schwartz, G.M., and Gilbert, F.P., 1964, Aeromagnetic and geologic map of east-central Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-474, 1:250,000. MAGNETIC
- \* 48. Bath, G.D., Schwartz, G.M., and Gilbert, F.P., 1964, Aeromagnetic and geologic map of northwestern Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-471, 1:250,000. MAGNETIC
- \* 49. Bath, G.D., Schwartz, G.M., and Gilbert, F.P., 1965, Aeromagnetic and geologic map of northeastern Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-472, 1:250,000. MAGNETIC
- \* 50. Bath, G.D., Schwartz, G.M., and Gilbert, F.P., 1965, Aeromagnetic and geologic map of west-central Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-473, 1:250,000. MAGNETIC
51. Bayer, T.N., 1959, The subsurface bedrock stratigraphy of northeastern Minnesota: M.S. thesis, University of Minnesota, Minneapolis, Pre-Pleistocene topographic and geologic map of northwestern Minnesota, approx. 1:141,450. BEDROCK
52. Beltrame, R.J., Chandler, V.W., and Gulbranson, B.L., 1982, Geophysical investigation of the Cedar Mountain Complex, Redwood County, Minnesota: Minnesota Geological Survey Report of Investigations 27; fig. 3, Total magnetic intensity contour map of the Cedar Mountain study area, showing locations of profiles in figs. 8, 10, and 11; fig. 9, Simple Bouguer gravity contour map of the Cedar Mountain study area; 1:6,000. GRAVITY, MAGNETIC
- \* 53. Berkley, J.L., and Himmelberg, G.R., 1978, Cumulus mineralogy and petrology of the Deer Lake Complex, Itasca County, Minnesota: Minnesota Geological Survey Report of Investigations 20-A, fig. 2, Bedrock geologic map of the Deer Lake Complex approx. 1:38,170. BEDROCK
54. Bidwell, L.E., Winter, T.C., and Maclay, R.W., 1970, Water resources of the Red Lake River watershed, northwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-346, sheet 1, Physical setting, 1:500,000. HYDROLOGIC
- \* 55. Bloomgren, B.A., Olsen, B.M., and Walton, M.S., 1979, Bedrock geology, pl. 3 of Norvitch, R.F., and Walton, M.S., eds., Geologic and hydrologic aspects of tunnelling in the Twin Cities area, Minnesota: U.S. Geological Survey Miscellaneous Investigations Series I-1157, 1:24,000. BEDROCK
- \* 56. Bonnicksen, B., 1968, General geology and petrology of the metamorphosed Biwabik Iron Formation, Dunka River Area, Minnesota: Ph.D. dissertation, University of Minnesota, Minneapolis, Bedrock geologic map approx. 1:7,100. BEDROCK
- \* 57. Bonnicksen, B., 1971, Outcrop map of southern part of Duluth Complex and associated Keweenaw rocks, St. Louis and Lake Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series M-11, 1:125,000. BEDROCK
- \* 58. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of central Marshall and western Pennington Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-144, 1:63,360. MAGNETIC
- \* 59. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of eastern Marshall and northwestern Beltrami Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-143, 1:63,360. MAGNETIC
- \* 60. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of eastern Roseau County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-140, 1:63,360. MAGNETIC
- \* 61. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of Kittson County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-142, 1:63,360. MAGNETIC
- \* 62. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of parts of Pennington, Red Lake, Beltrami, Clearwater, and Polk Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-146, 1:63,360. MAGNETIC
- \* 63. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of western Marshall and northwestern Polk Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-145, 1:63,360. MAGNETIC
- \* 64. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of western Polk County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-148, 1:63,360. MAGNETIC
- \* 65. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of western Red Lake and central Polk Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-147, 1:63,360. MAGNETIC
- \* 66. Books, K.G., Schwartz, G.M., Meuschke, J.L., and Dempsey, W.J., 1958, Aeromagnetic map of western Roseau County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-141, 1:63,360. MAGNETIC
67. Broussard, W.L., Anderson, H.W., and Farrell, D.F., 1973, Water resources of the Cottonwood River watershed, southwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-466, sheet 2, Pleistocene glacial deposits, 1:500,000. HYDROLOGIC
68. Broussard, W.L., Farrell, D.F., Anderson, H.W., and Felsheim, P.E., 1975, Water resources of the Root River watershed, southeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-548, sheet 2, Glacial deposits, 1:500,000. HYDROLOGIC
- \* 69. Brown, N. J., 1956, The geology of the Stillwater, Minnesota quadrangle: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Stillwater quadrangle, 1:24,000. BEDROCK
70. Burnell, J.R., 1976, Petrology and structural relations of the Brule Lake intrusions, Cook County, Minnesota: M.S. thesis, University of Minnesota, Duluth, Bedrock geologic map of the Brule Lake area, 1:24,000. BEDROCK
71. Bury, C.A., 1958, The geology of the Cedar Mountain complex, Minnesota River valley: M.S. thesis, University of Minnesota, Minneapolis, Geologic map of the Cedar Mountain area, 1:7,920. BEDROCK
72. Cannon, W.F., and Davidson, D.M., Jr., 1982, Bedrock geologic map of the Lake Superior region, in Wold, R.J., and Hinze, W.J., eds., Geology and tectonics of the Lake Superior basin: Geological Society of America Memoir 156, 1:1,000,000. BEDROCK
- \* 73. Chamberlin, R.T., 1905, The glacial features of the St. Croix Dalles region: Journal of Geology, v. 13, p. 238-256, fig. 2, The geology of the St. Croix Dalles quadrangle, 1:250,000. SURFICIAL
74. Chamberlin, T.C., 1883, Preliminary paper on the terminal moraine of the second glacial epoch, section on Moraine of the Lake Superior Glacier: U.S. Geological Survey, Annual Report 3, 1881-1882, pl. 3, Map of a portion of the terminal moraine of the second glacial epoch, 1:3,800,000. SURFICIAL
75. Chamberlin, T.C., and Salisbury, R.D., 1885, The Driftless Area: U.S. Geological Survey, Annual Report 6, 1885, pl. 24, Geologic map of the driftless area and environs, 1:1,000,000; pl. 27, Quaternary map of the driftless area and environs, 1:1,000,000. SURFICIAL, HYDROLOGIC
76. Chandler, V.W., 1981, Aeromagnetic anomaly map of Minnesota: Minnesota Geological Survey State Map Series S-11, 1:3,168,000. MAGNETIC
77. Chandler, V.W., 1981, Simple Bouguer gravity anomaly map of Minnesota: Minnesota Geological Survey State Map Series S-12, 1:3,168,000. GRAVITY
- \* 78. Chandler, V.W., 1983, Aeromagnetic map of Minnesota, Carlton and Pine Counties: Minnesota Geological Survey Aeromagnetic Map Series A-3, 1:250,000. MAGNETIC
- \* 79. Chandler, V.W., 1983, Aeromagnetic map of Minnesota, Cook and Lake Counties: Minnesota Geological Survey Aeromagnetic Map Series A-1, 1:250,000. MAGNETIC
- \* 80. Chandler, V.W., 1983, Aeromagnetic map of Minnesota, east-central region: Minnesota Geological Survey Aeromagnetic Map Series A-4, 1:250,000. MAGNETIC

1. Ackroyd, E.A., Walton, W.C., and Hills, D.C., 1967, Ground-water contribution to streamflow and its relation to basin characteristics in Minnesota: Minnesota Geological Survey Report of Investigations 6, fig. 8, Map showing major glacial lakes and rivers, 1:5,000,000; fig. 9, Map showing major surficial deposits, 1:5,000,000; fig. 10, Map of major drainage basins, 1:5,000,000. SURFICIAL, HYDROLOGIC
- \* 2. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Bemidji quadrangle, Minnesota, final report: U.S. Department of Energy Open-File Report GJBX-331(81); fig. 8, Total magnetic field contour map; fig. 9, Potassium average contour map; fig. 10, Uranium average contour map; fig. 11, Thorium average contour map; fig. 12, Uranium/Potassium ratio map; fig. 13, Uranium/Thorium ratio map; fig. 14, Thorium/Potassium ratio map; fig. 15, Interpretation map; 1:500,000. GAMMA SPEC
- \* 3. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Brainerd quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-332(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 4. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Duluth quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-330(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 5. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Hibbing quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-355(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 6. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, International Falls quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-356(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 7. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Kenora quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-328(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; 1:500,000. GAMMA SPEC
- \* 8. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Quetico quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-335(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; 1:500,000. GAMMA SPEC
- \* 9. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Roseau quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-329(81); fig. 8, Total magnetic field contour map; fig. 9, Potassium average contour map; fig. 10, Uranium average contour map; fig. 11, Thorium average contour map; fig. 12, Uranium/Potassium ratio map; fig. 13, Uranium/Thorium ratio map; fig. 14, Thorium/Potassium ratio map; fig. 15, Interpretation map; 1:500,000. GAMMA SPEC
- \* 10. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, St. Paul quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-333(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 11. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Stillwater quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-334(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
- \* 12. Aero Service Division, Western Geophysical Company of America, 1981, Airborne gamma-ray spectrometer and magnetometer survey, Two Harbors quadrangle, Minnesota, Final Report: U.S. Department of Energy Open-File Report GJBX-336(81); fig. 7, Total magnetic field contour map; fig. 8, Potassium average contour map; fig. 9, Uranium average contour map; fig. 10, Thorium average contour map; fig. 11, Uranium/Potassium ratio map; fig. 12, Uranium/Thorium ratio map; fig. 13, Thorium/Potassium ratio map; fig. 14, Interpretation map; 1:500,000. GAMMA SPEC
13. Akin, P.D., and Jones, J.R., 1951, Geology and ground-water resources of the Cloquet area, Carlton County, Minnesota: Minnesota Department of Conservation Bulletin 6, fig. 2, Geologic map of the Cloquet area, Minnesota, 1:39,600. SURFICIAL, HYDROLOGIC
14. Allison, I.S., 1932, The geology and water resources of northwestern Minnesota: Minnesota Geological Survey Bulletin 22; maps showing glacial drift deposits and well records -- fig. 9, Becker, 1:570,000; fig. 10, Beltrami, 1:860,000; fig. 11, western Cass, 1:7,700,000; fig. 12, Clay, 1:490,000; fig. 13, Clearwater, 1:600,000; fig. 14, Douglas, 1:440,000; fig. 15, Grant, 1:400,000; fig. 16, Hubbard, 1:490,000; fig. 17, Kittson, 1:620,000; fig. 19, Lake of the Woods, 1:750,000; fig. 20, Mahanomen, 1:79,000; fig. 21, Marshall, 1:570,000; fig. 22, western Morrison, 1:79,000; fig. 23, Norman, 1:540,000; fig. 24, Otter Tail, 1:890,000; fig. 25, Pennington, Polk, and Red Lake, 1:1,045,000; fig. 27, Pope, 1:440,000; fig. 29, Roseau, 1:630,000; fig. 30, Stearns, 1:590,000; fig. 31, Stevens, 1:440,000; fig. 32, Todd and western Morrison, 1:630,000; fig. 33, Traverse, 1:480,000; fig. 34, Wadena, 1:380,000; fig. 35, Wilkin, 1:460,000, Counties, Minnesota. SURFICIAL, HYDROLOGIC, STRUCTURAL
- \* 15. Anderson, C.A., 1976, Pleistocene geology of the Comstock-Sebeka area, west-central Minnesota: M.S. thesis, University of North Dakota, Grand Forks, pl. 1, Surficial sediment of the Comstock-Sebeka area, west-central Minnesota, 1:250,000. SURFICIAL
16. Anderson, H.W., 1976, Surficial sand aquifers: St. Paul, U.S. Geological Survey, unpublished map, 1:1,000,000. SURFICIAL, HYDROLOGIC
17. Anderson, H.W., Broussard, W.L., Farrell, D.F., and Felsheim, P.E., 1975, Water resources of the Rock River watershed, southwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-555, sheet 2, Ground water, 1:500,000. HYDROLOGIC
18. Anderson, H.W., Broussard, W.L., Farrell, D.F., and Hult, M.F., 1976, Water resources of the Des Moines River watershed, southwestern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-553, sheet 2, Geology and ground water, 1:500,000. HYDROLOGIC
19. Anderson, H.W., Farrell, D.F., and Broussard, W.L., 1974, Water resources of the Blue Earth River watershed, south-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-525, sheet 2, Glacial deposits, 1:500,000. HYDROLOGIC
20. Anderson, H.W., Farrell, D.F., and Broussard, W.L., 1974, Water resources of the Lower Minnesota watershed, south-central Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-526, sheet 2, Glacial deposits, 1:500,000. HYDROLOGIC
21. Anderson, H.W., Farrell, D.F., Broussard, W.L., and Felsheim, P.E., 1974, Water resources of the Cannon River watershed, southeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-522, sheet 2, Glacial deposits, 1:500,000. HYDROLOGIC
22. Anderson, H.W., Farrell, D.F., Broussard, W.L., and Hult, M.F., 1975, Water resources of the Zumbro River watershed, southeastern Minnesota: U.S. Geological Survey Hydrologic Investigations Atlas HA-543, sheet 2, Surficial deposits, 1:500,000. HYDROLOGIC
- \* 23. Anderson, L.A., Hawkins, D., and others, 1963, Aeromagnetic map of parts of Wilkin, Otter Tail, Grant, and Traverse Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-328, 1:63,360. MAGNETIC
- \* 24. Anderson, L.A., Petrafeso, F., and others, 1962, Aeromagnetic map of parts of Clay, Wilkin, and Otter Tail Counties Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-327, 1:63,360. MAGNETIC
- \* 25. Anderson, L.A., Tyson, N.S., and others, 1963, Aeromagnetic map of the northwestern part of Cook County, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-361, 1:63,360. MAGNETIC
- \* 26. Anderson, L.A., Zandle, G.L., and others, 1962, Aeromagnetic map of Norman and part of Mahanomen Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-325, 1:63,360. MAGNETIC
- \* 27. Anderson, L.A., Zandle, G.L., and others, 1963, Aeromagnetic map of parts of Clay and Becker Counties, Minnesota: U.S. Geological Survey Geophysical Investigations Map GP-326, 1:63,360. MAGNETIC
28. Andrews, G.W., 1958, Windrow formation of upper Mississippi valley region -- a sedimentary and stratigraphic study: Journal of Geology, v. 66, no. 6, p. 597-621, fig. 1, Index map of localities of the Windrow formation and related deposits, 1:4,400,000. BEDROCK
29. Arndt, B.M., and Moran, S.R., 1974, Physical data for land-use planning, Cass County, North Dakota and Clay County, Minnesota: North Dakota Geological Survey Report of Investigations 54, map 2, Surface materials of Cass County, North Dakota, and Clay County, Minnesota, 1:250,000. SURFICIAL
- \* 30. Aronow, S., and Hobbs, H.C., 1982, Surficial geologic map, pl. 2 of Balaban, N.H., and McSwiggen, P.L., eds., Geologic atlas of Scott County, Minnesota: Minnesota Geological Survey County atlas Series Map C-1, 1:100,000. SURFICIAL
- \* 31. Austin, G.S., 1963, Geology of clay deposits, Red Wing area, Goodhue and Wabasha Counties, Minnesota: Minnesota Geological Survey Report of Investigations 2, pl. 1, Geologic map (bedrock geology) of Red Wing area, Goodhue and Wabasha Counties, 1:125,000. BEDROCK
- \* 32. Austin, G.S., Grant, J.A., Ikola, R.J., and Sims, P.K., 1970, Geologic map of Minnesota; New Ulm sheet: Minnesota Geological Survey, 1:250,000. BEDROCK

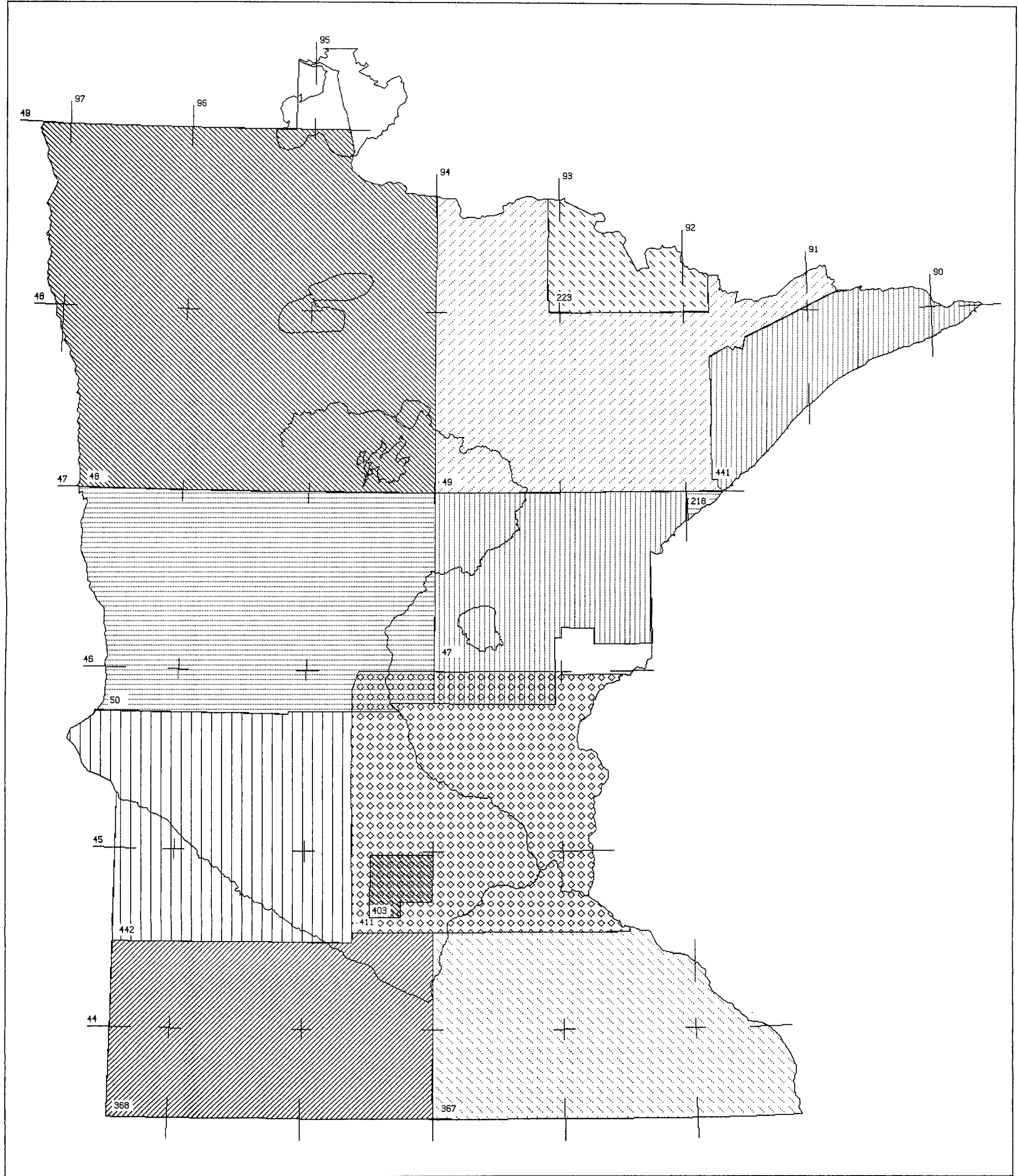


AERIAL GAMMA RAY SPECTROMETER SURVEY MAPS



GEOCHEMICAL MAPS

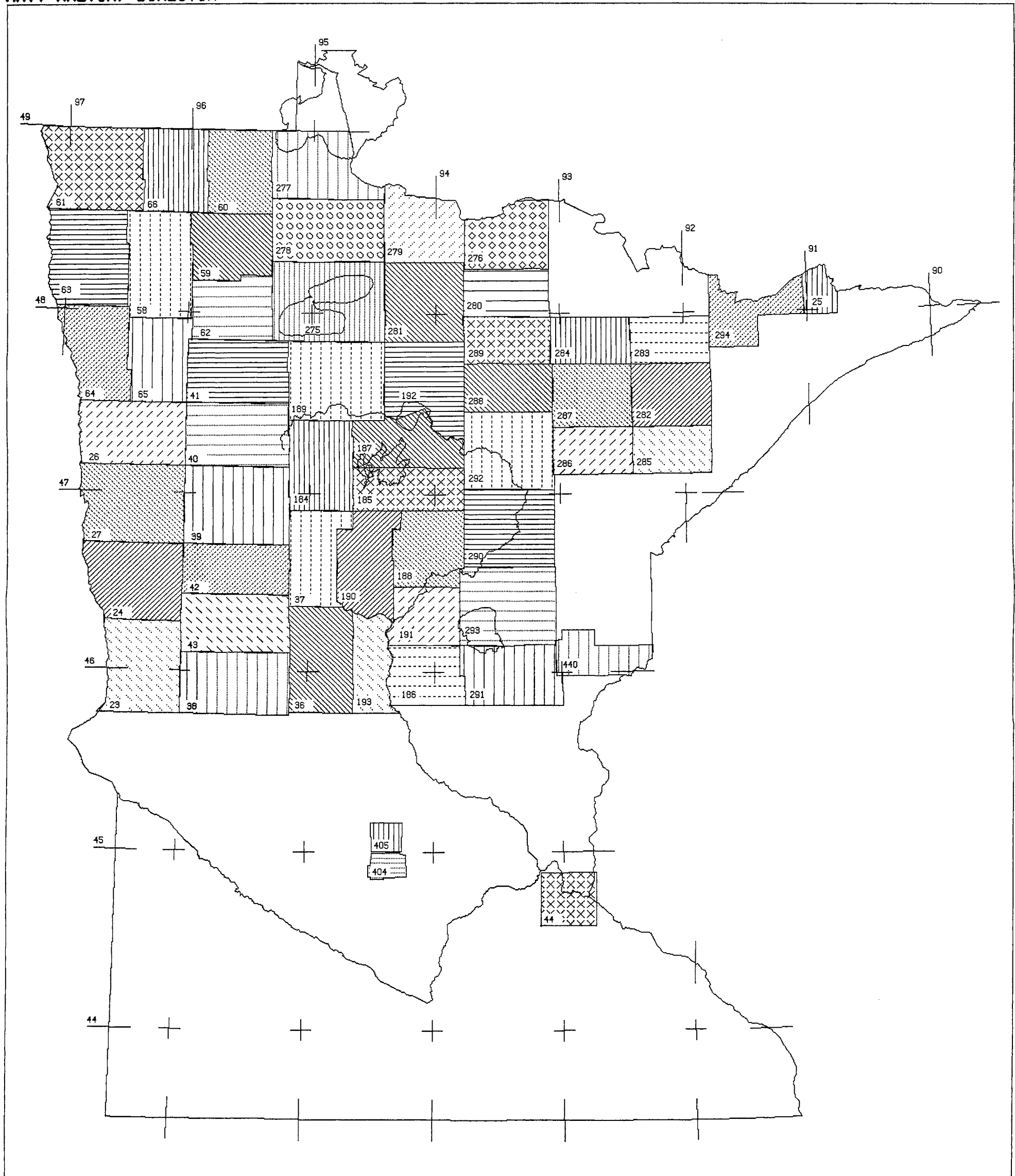
UNIVERSITY OF MINNESOTA  
MINNESOTA GEOLOGICAL SURVEY  
MATT WALTON, DIRECTOR



U.S. GEOLOGICAL SURVEY AEROMAGNETIC MAPS - 1:63,360 OR SMALLER

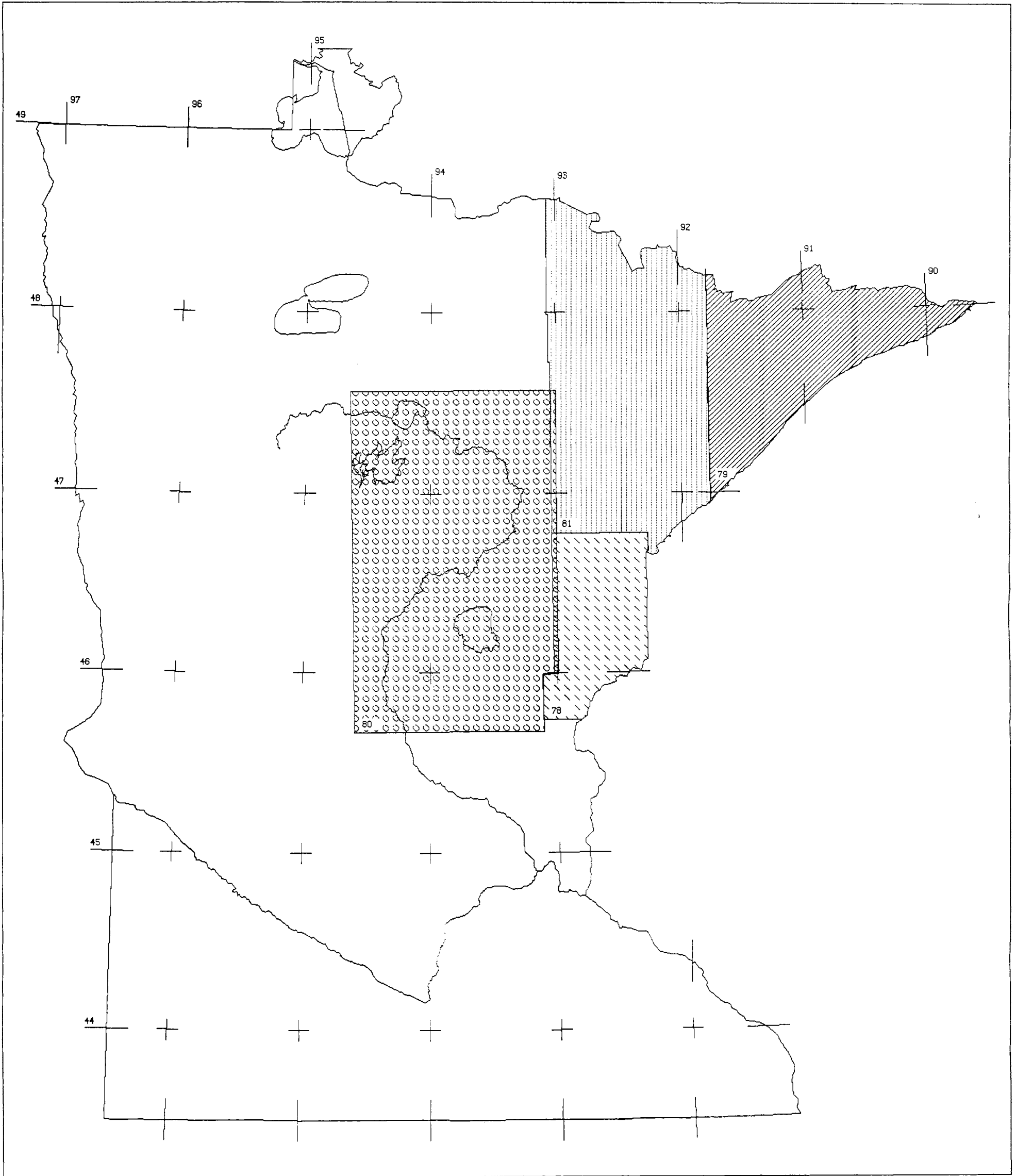


UNIVERSITY OF MINNESOTA  
MINNESOTA GEOLOGICAL SURVEY  
MATT WALTON, DIRECTOR

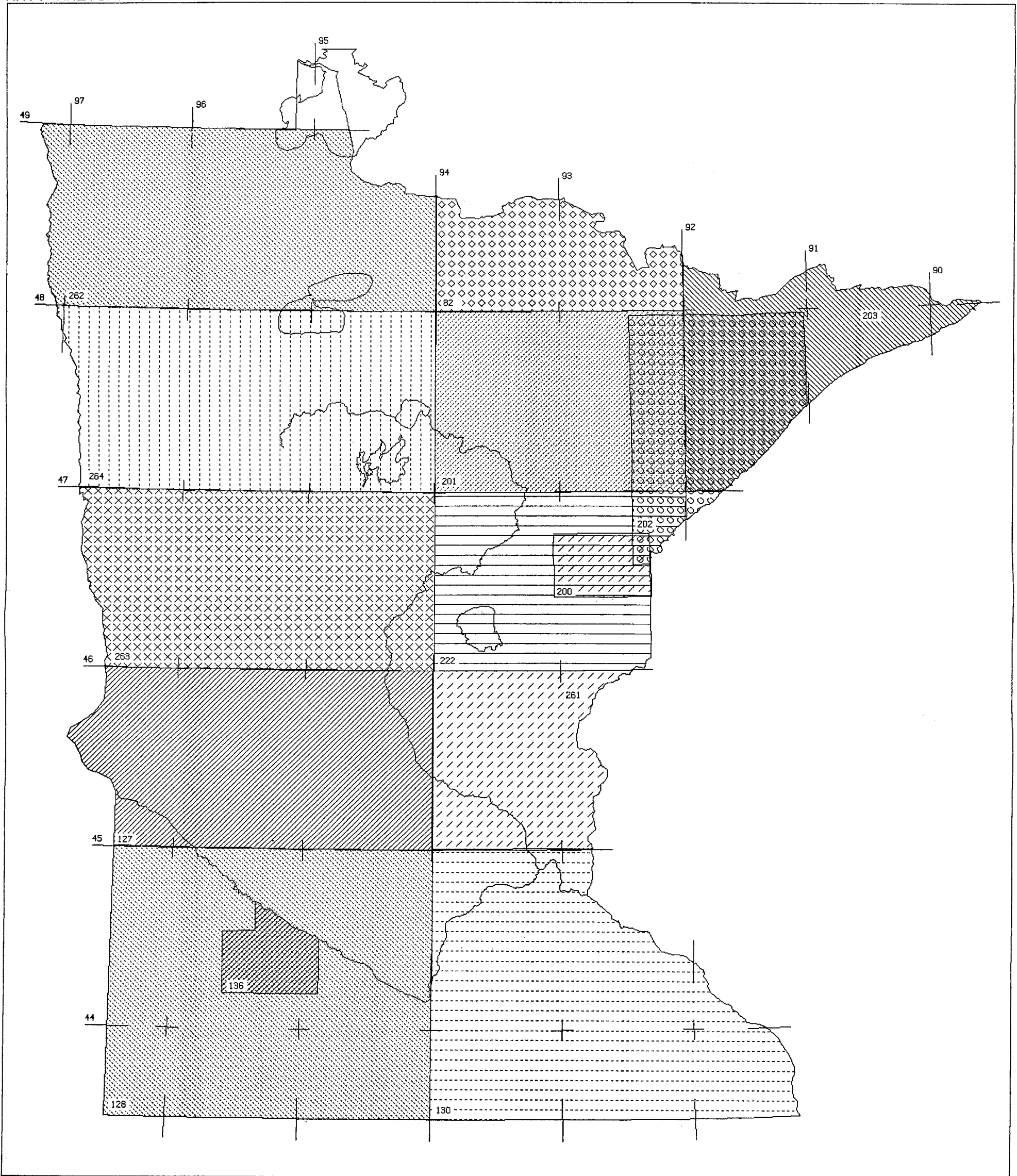


U.S. GEOLOGICAL SURVEY AEROMAGNETIC MAPS - 1:63,360 OR LARGER

UNIVERSITY OF MINNESOTA  
MINNESOTA GEOLOGICAL SURVEY  
MATT WALTON, DIRECTOR

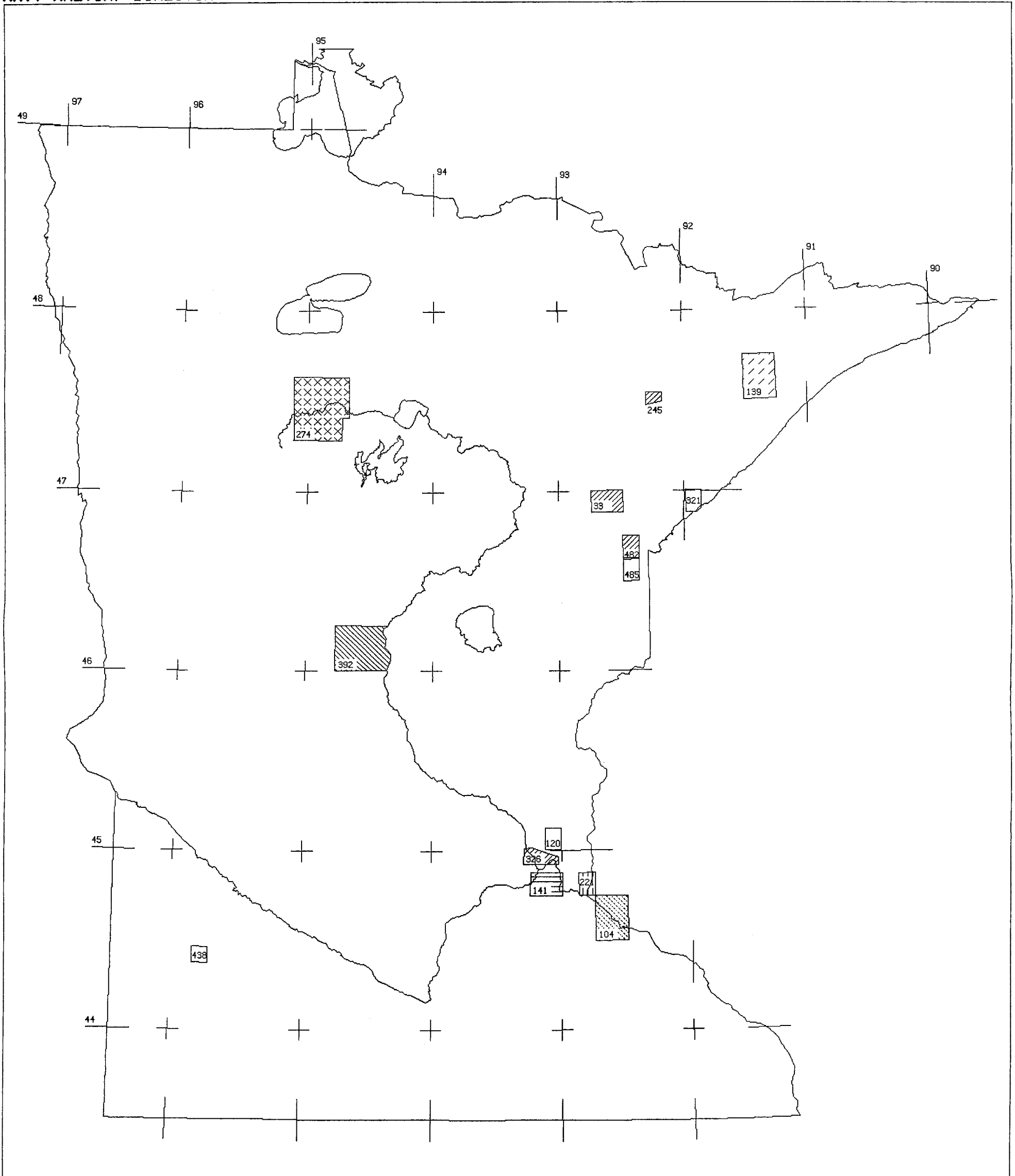


MINNESOTA GEOLOGICAL SURVEY HIGH RESOLUTION AEROMAGNETIC MAPS



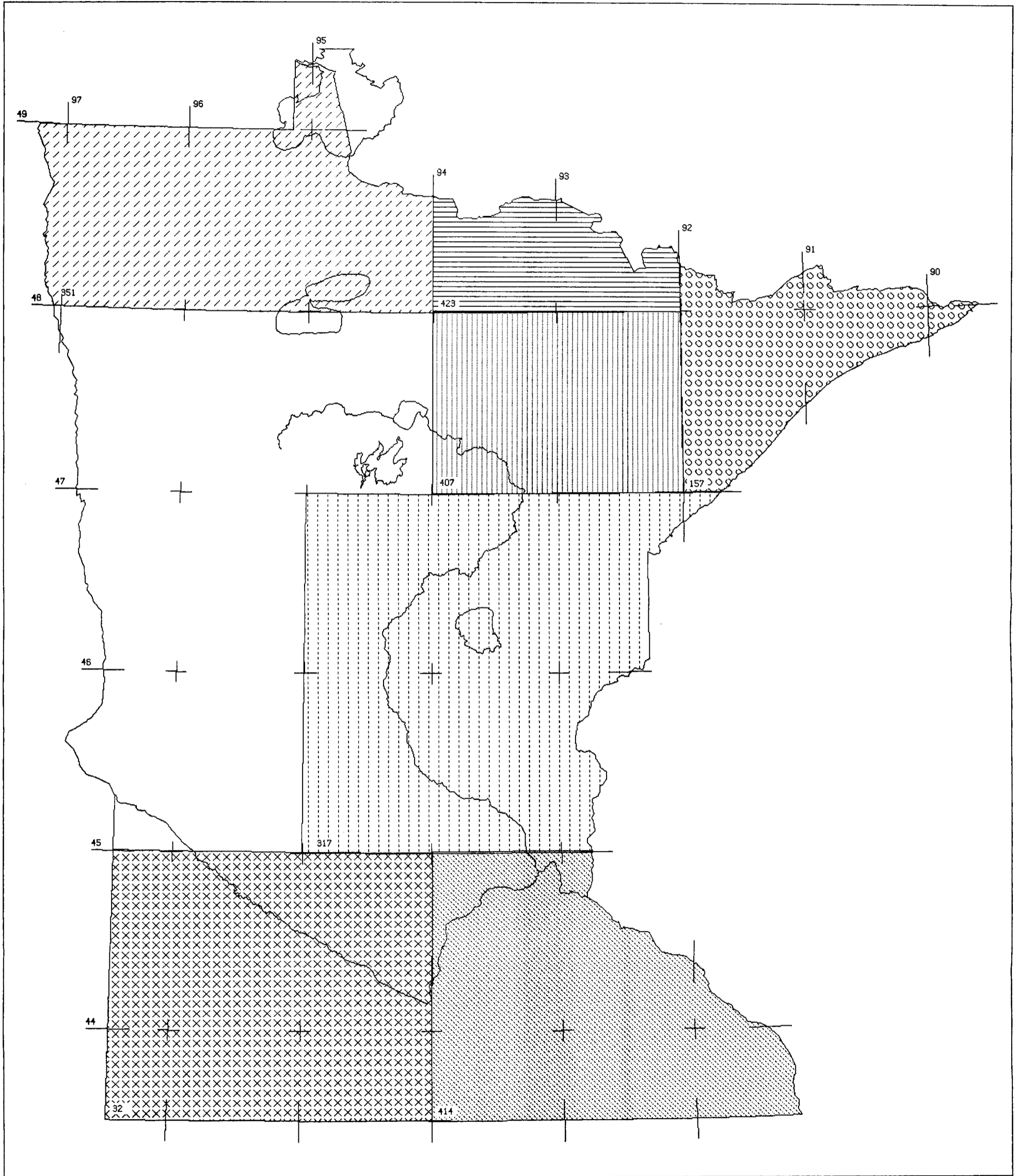
SIMPLE BOUGUER GRAVITY MAPS





SURFICIAL MAPS AT SCALES OF 1:63,360 OR LARGER

UNIVERSITY OF MINNESOTA  
MINNESOTA GEOLOGICAL SURVEY  
MATT WALTON, DIRECTOR



1:250,000 GEOLOGIC ATLAS SHEETS

