Publications of the U.S. Geological Survey, 1984

DEPARTMENT OF THE INTERIOR

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DONALD PAUL HODEL, *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, *Director*

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BOOKS

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Professional papers are mainly comprehensive scientific reports of wide and lasting interest and importance to professional scientists and engineers. Included are reports on the results of resource studies, and of topographic, hydrologic, and geologic investigations. They also include collections of related papers addressing different aspects of a single scientific topic.

- P 0437-I. CALIFORNIA. Land subsidence in the San Joaquin Valley, California, as of 1980, by R. L. Ireland, J. F. Poland, and F. S. Riley. 1984. p. I1-I93; 1 plate in pocket. (Studies of land subsidence.)
- P 0499. Interpretation of resistivity data, by R. G. Van Nostrand, and K. L. Cook. 1966. 310 p.; 5 plates in pocket. (Reprint.)
- P 0522. CALIFORNIA. Areal geology of the western Mojave Desert, California, by T. W. Dibblee, Jr. 1967. 153 p.; 4 plates in pocket. (Reprint.)
- P 0708. Ground-water hydraulics, by S. W. Lohman. 1979. 70 p.; 9 plates in pocket. (Reprint.)
- P 0904. The Cenozoic rocks; a discussion to accompany the geologic map of the United States, by P. B. King, and H. M. Beikman. 1978. 82 p. (Reprint.)
- P 0919. NEVADA. Volcanic suites and related cauldrons of Timber Mountain-Oasis Valley caldera complex, southern Nevada, by F. M. Byers, Jr., W. J. Carr, P. P. Orkild, W. D. Quinlivan, and K. A. Sargent. 1976. 70 p. (Reprint.)
- P 0946. CALIFORNIA. Geologic principles for prudent land use; a decisionmaker's guide for the San Francisco Bay region, by R. D. Brown, Jr., and W. J. Kockelman. 1983. 97 p. (Super-sedes Open-file report 80-124.)
- P 1066-I. KENTUCKY. Trepastome and cystoporate bryozoans from the Lexington Limestone and the Clays Ferry Formation (Middle and Upper Ordovician) of Kentucky, by O. L. Karklins. 1984. p. I1-I105; 3 plates in pocket. (Contributions to the Ordovician paleontology of Kentucky and nearby states.)
- P 1066-J. KENTUCKY. Leperditicopid ostracodes from Ordovician rocks of Kentucky and nearby states and characteristic features of the order Leperditicopida, by J. M. Berdan. 1984. p. J1-J40. (Contributions to the Ordovician paleontology of Kentucky and nearby states.)
- P 1085. NEW YORK. Leachate plumes in ground water from Babylon and Islip landfills, Long Island, New York, by G. E. Kimmel, and O. C. Braids. 1980. 38 p.; 3 plates in pocket. (Reprint.)
- P 1151-D. KENTUCKY. Stratigraphy and structure of the western Kentucky fluorspar district, by R. D. Trace, and D. H. Amos. 1984. p. D1-D41; 1 plate in pocket. (Contributions to the geology of Kentucky.)
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- P 1151-G. KENTUCKY. Sandstone units of the Lee Formation and related strata in eastern Kentucky, by C. L. Rice. 1984. p. G1-G53. (Contributions to the geology of Kentucky.)
- P 1173. ARIZONA. The Supai Group of Grand Canyon, by E. D. McKee. 1982. 504 p. (Reprint.)
- A. Introduction, by E. D. McKee. p. 1-19
- B. Introductory summary, by E. D. McKee. p. 21-27
- C. Stratigraphy and lithology, by E. D. McKee. p. 29-50
- D. Paleogeography, by E. D. McKee. p. 51-73
- E. Distribution and age of fauna and flora, by E. D. McKee. p. 75-112
- F. Biostratigraphy of the Watahomigi Formation, by Mackenzie Gordon, Jr. p. 113-135
- G. Pre-Supai buried valleys, by G. H. Billingsley, and E. D. McKee. p. 137-153
- H. Erosion surfaces, by E. D. McKee. p. 155-176
- I. Transgressions and regressions, by E. D. McKee. p. 177-186
- J. Conglomerates, by E. D. McKee. p. 187-203
- K. Sandstones, by E. D. McKee. p. 205-243
- L. Environment of deposition of sandstone bodies, by E. D. McKee. p. 245-262
- M. Insoluble residue patterns, by Walter Pierce, A. J. Gude, III, and E. D. McKee. p. 263-272
- N. Minor sedimentary features, contorted structures, and homogeneous sedimentary rocks, by E. D. McKee. p. 273-285
- O. Clay mineralogy, by P. L. Hauff, and E. D. McKee. p. 287-331
- P. Petrography of the Supai Group and Pakoon Limestone, by E. D. McKee, and Walter Pierce. p. 333-359
- Q. Stable isotope analyses, by E. D. McKee. p. 361-364
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- S. Evaporite deposits and magnesian carbonate rocks, by E. D. McKee. p. 375-385
- P 1200-DE. DELAWARE. The National Gazetteer of the United States of America; Delaware 1983. 1983 (1984). 101 p.
- P 1228-A. CALIFORNIA. Tertiary marine pelecypods of California and Baja California; Nuculidae through Malleidae, by E. J. Moore. 1983. p. A1-A108. (Paleontology of California and Baja California.)
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- P 1229. PENNSYLVANIA. Landslides in the Greater Pittsburgh region, Pennsylvania, by J. S. Pomeroy. 1982. 48 p. (Reprint.)
- P 1230. COLORADO. Environmental geology of the Front Range urban corridor and vicinity, Colorado, by W. R. Hansen and E. J. Crosby, *with a section on* Physical properties and performance characteristics of surficial deposits and rock units in the Greater Denver area, by R. R. Shroba. 1982. 99 p.
- P 1241-A. Introduction to correlation of Precambrian rock sequences, by J. E. Harrison, and Z. E. Peterman. 1984. p. A1-A7. (Correlation of Precambrian rocks of the United States and Mexico.)

- P 1244. MONTANA, WYOMING. Floods of May 1978 in southeastern Montana and northeastern Wyoming, by Charles Parrett, D. D. Carlson, and G. S. Craig, Jr., U.S. Geological Survey, and E. H. Chin, National Oceanic and Atmospheric Administration. 1984. 74 p.
- P 1245. CALIFORNIA. Historical surface deformation near Oildale, California, by R. O. Castle, J. P. Church, R. F. Yerkes, U.S. Geological Survey, and J. C. Manning, California State College. 1983. 42 p.; 2 plates in pocket.
- P 1247. Revision of *Lithostrotionella* (Coelenterata, Rugosa) from the Carboniferous and Permian, by W. J. Sando. 1983. 52 p.; 20 plates in book. (Reprint.)
- P 1249. WASHINGTON. Volcanic eruptions of 1980 at Mount St. Helens; the first 100 days, by B. L. Foxworthy, and Mary Hill. 1982. 125 p. (Reprint.)
- P 1259. NEVADA, ARIZONA. Nonmarine sedimentary rocks of Tertiary age in the Lake Mead region, southeastern Nevada and northwestern Arizona, by R. G. Bohannon. 1984. 72 p.; 1 plate in pocket.
- P 1260. WASHINGTON. Geophysical interpretation of the gneiss terrane of northern Washington and southern British Columbia, and its implications for uranium exploration, by J. W. Cady, and K. F. Fox, Jr. 1984. 29 p.; 1 plate in pocket.
- P 1263. VIRGINIA. Application of total-count aeroradiometric maps to the exploration for heavy-mineral deposits in the coastal plain of Virginia, by A. E. Grosz, *with a section on* Field-spectrometer-data reduction, by K. L. Kosanke. 1983. 20 p.; 5 plates in pocket.
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- P 1272. IDAHO. High-temperature, large-volume, lavalike ash-flow tuffs without calderas in southwestern Idaho, by E. B. Ekren, D. H. McIntyre, U.S. Geological Survey, and E. H. Bennett, Idaho Bureau of Mines and Geology. 1984. 76 p.; 2 plates in pocket.
- P 1273-A. MONTANA, NEBRASKA, NORTH DAKOTA, SOUTH DAKOTA, WYOMING. Stratigraphy and sedimentary facies of the Madison Limestone and associated rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming, by J. A. Peterson. 1984. p. A1-A34; 20 plates in pocket. (Geology and hydrology of the Madison Limestone and associated rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming.)
- P 1273-D. MONTANA, NEBRASKA, NORTH DAKOTA, SOUTH DAKOTA, WYOMING. Apparent water resistivity, porosity, and water temperature of the Madison Limestone and underlying rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming, by L. M. MacCary. 1984. p. D1-D14; 20 plates in pocket. (Geology and hydrology of the Madison Limestone and associated rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming.)
- P 1273-G. MONTANA, NORTH DAKOTA, SOUTH DAKOTA, WYOMING, NEBRASKA. Geohydrology of the Madison and associated aquifers in parts of Montana, North Dakota, South Dakota, and Wyoming, by J. S. Downey. 1984. p. G1-G47; 1 plate in pocket. (Geology and hydrology of the Madison Limestone and associated rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming.) (Supersedes Open-file report 82-914)
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- A. Fault scarps formed during the earthquakes of October 2, 1915, in Pleasant Valley, Nevada, and some tectonic implications, by R. E. Wallace. p. A1-A33
- B. Exploratory trench across the Pleasant Valley Fault, Nevada, by M. G. Bonilla, H. A. Villalobos, and R. E. Wallace. p. B1-B14
- P 1277. Hydrologic and geomorphic studies of the Platte River basin. 1983. 258 p.
- A. Hydrologic and morphologic changes in channels of the Platte River basin in Colorado, Wyoming, and Nebraska; a historical perspective, by T. R. Eschner, R. F. Hadley, and K. D. Crowley. p. A1-A39
- B. Effects of water development on surface-water hydrology, Platte River basin in Colorado, Wyoming, and Nebraska upstream from Duncan, Nebraska, by J. E. Kircher, and M. R. Karlinger. p. B1-B49
- C. Hydraulic geometry of the Platte River near Overton, south-central Nebraska, by T. R. Eschner. p. C1-C32
- D. Interpretation of sediment data for the South Platte River in Colorado and Nebraska, and the North Platte and Platte rivers in Nebraska, by J. E. Kircher. p. D1-D25
- E. Relation of channel-width maintenance to sediment transport and river morphology; Platte River, south-central Nebraska, by M. R. Karlinger, T. R. Eschner, R. F. Hadley, and J. E. Kircher. p. E1-E19
- F. A stochastic streamflow model and precipitation model for the Platte River from Gothenburg to Grand Island, Nebraska, by A. V. Vecchia, Jr. p. F1-F36
- G. Simulated hydrologic effects of possible ground-water and surface-water management alternatives in and near the Platte River, south-central Nebraska, by A. W. Burns. p. G1-G30
- H. Ground-water hydrology of the Mormon Island Crane Meadows Wildlife Area near Grand Island, Hall County, Nebraska, by R. T. Hurr. p. H1-H12

- P 1278. MONTANA, IDAHO. The thrust belt in Southwest Montana and east-central Idaho, by E. T. Ruppel, and D. A. Lopez. 1984. 41 p.; 1 plate in pocket.
- P 1279. NEW YORK. Mineralization, mining, and mineral resources in the Beaver Creek area of the Grenville Lowlands in St. Lawrence County, New York, by C. E. Brown. 1983. 21 p.; 1 plate in pocket.
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- P 1281. Palynological evaluation of Cedar Mountain and Burro Canyon formations, Colorado Plateau, by R. H. Tschudy, B. D. Tschudy, and L. C. Craig. 1984. 24 p.
- P 1284. CALIFORNIA. Batholithic rocks of Southern California; a model for the petrochemical nature of their source materials, by A. K. Baird, and A. T. Miesch. 1984. 42 p.
- P 1286. Downstream effects of dams on alluvial rivers, by G. P. Williams, and M. G. Wolman. 1984. 83 p.
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- P 1288. An analytical treatment of channel-morphology relations, by W. R. Osterkamp, L. J. Lane, and G. R. Foster. 1983. 21 p. (Reprint.)
- P 1289. MONTANA. Ecology and distribution of major diatom ecotypes in the southern Fort Union coal region of Montana, by L. L. Bahls, E. E. Weber, and J. O. Jarvie, Montana Department of Health and Environmental Sciences. 1984. 151 p.
- P 1291. The triangular stress diagram; a graphical representation of crustal stress measurements, by H. S. Swolfs. 1984. 19 p.
- P 1292-A,B. MICHIGAN. Geology, geochemistry, and age of Archean and early Proterozoic rocks in the Marenisco-Watersmeet area, northern Michigan, by P. K. Sims, Z. E. Peterman, W. C. Prinz, and F. C. Benedict, and Geologic interpretation of gravity data, Marenisco-Watersmeet area, northern Michigan, by J. S. Klasner and P. K. Sims. 1984. 54 p. (Contributions to the geology of the Lake Superior region.) (Published as one volume.)
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- B. Geologic interpretation of gravity data, Marenisco-Watersmeet area, northern Michigan, by J. S. Klasner, and P. K. Sims. p. B1-B13
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- P 1295. MASSACHUSETTS, CONNECTICUT. Glastonbury Gneiss and mantling rocks (a modified Oliverian dome) in south-central Massachusetts and north-central Connecticut; geochemistry, petrogenesis, and isotopic age, by G. W. Leo, R. E. Zartman, and D. G. Brookins. 1984. 45 p. (Supersedes Open-file report 77-544.)
- P 1296. Evidence of floods on the Potomac River from anatomical abnormalities in the wood of flood-plain trees, by T. M. Yanosky. 1983. 42 p.
- P 1297. DEPTH; a system for the display of elementary petroleum themes, by P. A. Fulton, R. W. Coffin, and M. S. Kutsko. 1983. 82 p.; 5 plates in pocket.
- P 1298. Clay mineralogy of Devonian shales in the Appalachian Basin, by J. W. Hosterman, and S. I. Whitlow. 1983. 31 p. 1 plate in pocket.
- P 1299-A,B. UTAH. Igneous activity and related ore deposits in the western and southern Tushar Mountains, Marysville volcanic field, west-central Utah, edited by T. A. Steven. 1984. 33 p. (Published as one volume.) (Supersedes Open-file reports 82-479 and 79-527.)
- A. Multiple episodes of igneous activity, mineralization, and alteration in the western Tushar Mountains, Utah, by C. G. Cunningham, T. A. Steven, D. L. Campbell, C. W. Naeser, J. A. Pitkin, and J. S. Duval. p. 1-21
- B. Geologic history and uranium potential of the Big John Caldera, southern Tushar Mountains, Utah, by T. A. Steven, C. G. Cunningham, and J. J. Anderson. p. 23-33
- P 1302. Basic concepts of kinematic-wave models, by J. E. Miller. 1984. 29 p.
- P 1306. HAWAII. Kaolin, refractory clay, ball clay, and halloysite in North America, Hawaii, and the Caribbean region, by S. H. Patterson, U.S. Geological Survey, and H. H. Murray, Indiana University. 1984. 56 p.
- P 1308. MASSACHUSETTS. Stratigraphic, paleoclimatic, and paleobiogeographic significance of Tertiary sporomorphs from Massachusetts, by N. O. Frederiksen. 1984. 25 p.
- P 1312. PENNSYLVANIA. The Richmond and Greenwich slices of the Hamburg Klippe in eastern Pennsylvania; stratigraphy, sedimentology, structure, and plate tectonic implications, by G. G. Lash, and A. A. Drake, Jr. 1984. 40 p.
- P 1315. TEXAS. Turonian (Eaglefordian) stratigraphy of the Atlantic Coastal Plain and Texas, by P. C. Valentine. 1984. 21 p.
- P 1337. PENNSYLVANIA. Onesquethawan stratigraphy (Lower and Middle Devonian) of northwestern Pennsylvania, by J. B. Epstein. 1984. 35 p.
- P 1375. Geological Survey research, fiscal year 1981. 1984. 424 p.
- P 1401-B. CALIFORNIA. Geochemistry of ground water in the Sacramento Valley, California, by L. C. Hull. 1984. p. B1-B36; 2 plates in pocket. (Central Valley of California RASA Project.)

BULLETINS

Bulletins contain significant data and interpretations that are of lasting scientific interest but are generally more limited in scope or geographic coverage than professional papers. They include the results of resource studies and of geologic and topographic investigations; as well as collections of short papers related to a specific topic.

B 1026. MONTANA, WYOMING. Geology of the Bighorn Canyon-Hardin area, Montana and Wyoming, by P. W. Richards. 1955. 93 p.; 7 plates in pocket (Reprint.)

B 1225. Construction of pressure-temperature diagrams for multicomponent systems after the method of Schreinemaker; a geometric approach, by E-an Zen. 1966. 56 p. (Reprint.)

B 1332-A. SOUTH DAKOTA. A preliminary report on the geology and gold deposits of the Rochford District, Black Hills, South Dakota, by R. W. Bayley. 1972. p. A1-A24; 4 plates in pocket. (Reprint.) (Contributions to economic geology.)

B 1356. NEVADA. Placer gold deposits of Nevada, by M. G. Johnson. 1973. 118 p.; 1 plate in pocket. (Reprint.)

B 1382-E. IDAHO. Gold in the Black Pine mining district, Southeast Cassia County, Idaho, by B. T. Brady. 1984. p. E1-E15. (Contributions to economic geology.)

B 1383-A. WASHINGTON. Pine Creek volcanic assemblage at Mount St. Helens, Washington, by D. R. Crandell, and D. R. Mullineaux. 1973. p. A1-A23. (Reprint.) (Geology of Mount St. Helens Volcano, Washington.)

B 1422-A. Changes in stratigraphic nomenclature by the U.S. Geological Survey, 1975, by G. V. Cohee, and W. B. Wright. 1976. p. A1-A84. (Contributions to stratigraphy.)

B 1452. Thermodynamic properties of minerals and related substances at 298.15 K and 1 bar (10⁵ pascals) pressure and at higher temperatures, by R. A. Robie, B. S. Hemingway, and J. R. Fisher. 1978. 456 p. (Reprint.)

B 1504. WASHINGTON. Mineral resources of the Cougar Lakes-Mount Aix Study Area, Yakima and Lewis counties, Washington, by G. C. Simmons, U.S. Geological Survey, and R. M. Van Noy and N. T. Zilka, U.S. Bureau of Mines. 1983 (1984). 81 p. 3 plates in pocket. (Studies related to wilderness-wilderness areas.) (Supersedes Open-file report 74-243.)

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United States Geological Survey yearbook, fiscal year 1983. 1984. 113 p.

GENERAL INTEREST PUBLICATIONS

General Interest Publications briefly summarize, for nontechnical readers, the latest information on major topics in the earth sciences about which the Survey receives frequent inquiries from the general public. This series of booklets, brochures, leaflets, and essay reprints are written by Survey scientists and cover topics such as earthquakes, energy resources, ground water, landforms and land use, marine geology, rain, rocks and mineral resources.

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Man against volcano; the eruption on Heimaey, Vestmannaeyjar, Iceland, by R. S. Williams, Jr., and J. G. Moore. 1983. 32 p.

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CALIFORNIA. The San Andreas Fault, by S. S. Schulz, and R. E. Wallace. 1984. 20 p. (Revision.)

U.S. Geological Survey; earth science in the public service. 1984. 10 p.

Water use in the United States, 1980, by Wayne Solley. 1984. 10 p.

Periodicals

EARTHQUAKE INFORMATION BULLETIN

For a complimentary copy write to Earthquake Information Bulletin, U.S. Geological Survey, 904 National Center, Reston, VA 22092.

Earthquake Information Bulletin, v. 15, no. 6, November-December 1983. p. 202-239

Earthquake Information Bulletin, v. 16, no. 1, January-February 1984. p. 3-39

Earthquake Information Bulletin, v. 16, no. 2, March-April 1984. p. 41-124

Earthquake Information Bulletin, v. 16, no. 3, May-June 1984. p. 126-151

Earthquake Information Bulletin, v. 16, no. 4, July-August 1984. p. 153-180

PRELIMINARY DETERMINATION OF EPICENTERS

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A primer on water quality, by H. A. Swenson, and H. L. Baldwin. 1965. 27 p. (Reprint.)

United States earthquakes, 1981, edited by C. W. Stover. 1984. 136 p.

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The Geographic Names Information System currently consists of approximately two million name entries with information about the feature name and category and its geographic location by coordinates, county, and USGS topographic maps. The name file was developed from published 7.5-minute topographic quadrangles. In areas where 7.5-minute quadrangles have not been published, 15-minute quadrangles or 1:250,000-scale maps provided basic name data.

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GNIS, developed by Geographic Names Information Section, Branch of Geographic Names, Office of Geographic Research, National Mapping Division, is the basis for Professional Paper 1200. The first chapter, P-1200-NJ (New Jersey) was published in 1982 (revised 1983) and the others will follow. The interim materials described may meet the needs of a wide variety of potential users until all chapters have been published.

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CATALOGS

Publications of the Geological Survey, 1983. 1984. 311 p.

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WATER-RESOURCES INVESTIGATIONS

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- WRI 82-4084. NEW YORK. Geohydrology of the Meadowbrook artificial-recharge site at East Meadow, Nassau County, New York, by D. A. Aronson, J. B. Lindner, and B. G. Katz. 1983. 50 p. (NC; USGS, WRD (P.O. Box 1350), 343 U.S. Post Office and Courthouse, Albany, NY 12201.)
- WRI 82-4103. WYOMING. Time of travel and dispersion of solutes in a 36.4-mile reach of the North Platte River downstream from Casper, Wyoming, by J. W. Armentrout, Jr., and L. R. Larson. 1984. 17 p. (NC, Da, M, Wb; USGS, WRD, 2120 Capitol Ave., Room 4007, Cheyenne, WY 82001.)
- WRI 83-4001. NEVADA. Flood potential of Fortymile Wash and its principal southwestern tributaries, Nevada Test Site, southern Nevada, by R. S. Squires, and R. L. Young. 1984. 33 p., 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (SF, LA, U, M, NC, Da, Wb; USGS, WRD, 833 Nevada Highway, Suite 3B, Boulder City, NV 89005; and 705 North Plaza St., Room 227, Carson City, NV 89701.)
- WRI 83-4004. TEXAS. Conveyance characteristics of the Nueces River, Cotulla to Simmons, Texas, by B. C. Massey, and W. E. Reeves. 1983. 45 p., 1 over-size sheet. (NC, M, Da, Wb, T; USGS Library, 300 East Eighth St., Room 651, Austin, TX 78701.)
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- WRI 83-4016. NEW MEXICO. Geohydrology of the proposed Waste Isolation Pilot Plant site, Los Medanos area, southeastern New Mexico, by J. W. Mercer. 1983. 121 p. (NC, Da, Db, T, Wb, M; USGS, WRD, Room 815, Western Bank Bldg., 505 Marquette, NW (P.O. Box 26659), Albuquerque, NM 87125.)
- WRI 83-4017. OREGON. Water resources of western Douglas County, Oregon, by D. A. Curtiss, C. A. Collins, and E. A. Oster. 1984. 81 p., 1 over-size sheet. (M, NC, Da, LA, S, Wb; Public Inquiries Office, 345 Middlefield Rd., Mail Stop 55, Menlo Park, CA 94025; USGS, WRD, 345 Middlefield Rd., Menlo Park, CA 94025.)
- WRI 83-4018. MAINE. Hydrology of the Little Androscoggin River valley aquifer, Oxford County, Maine, by D. J. Morrissy. 1983. 87 p., 8 over-size sheets, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M, Wb.)
- WRI 83-4019. WASHINGTON. Occurrence and quality of ground-water, San Juan County, Washington, by K. L. Whiteman, Dee Molenaar, J. M. Jacoby, and G. V. Bortleson. 1983. 12 over-size sheets (for example, larger than 8 1/2 by 11 inches), scale 1:62,500 (1 inch = about 1 mile). (NC, Da, M, SF, LA, S, Wb; USGS, WRD, 1201 Pacific Ave., Suite 600, Tacoma, WA 98402; USGS Library, West 920 Riverside, Room 656, Spokane, WA 99201.)

- WRI 83-4021. COLORADO. A reconnaissance of ground-water contamination at selected landfills in Colorado, by P. A. Schneider, Jr., and J. T. Turk. 1983. 33 p. (Db, Da, NC, M, Wb; USGS, WRD, Box 25046, Mail Stop 415, Federal Ctr., Denver, CO 80225.)
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- Asphalt Ridge-Whiterocks Special Tar Sand Area, by H. F. McCormack, Willis Dorman-Ligh, and G. E. Pyper. p. 8-27
- Raven Ridge-Rim Rock Special Tar Sand Area, by H. F. McCormack, and G. E. Pyper. p. 28-39
- Pariette Special Tar Sand Area, by G. E. Pyper. p. 40-51
- Argyle Canyon-Willow Creek and Sunnyside Special Tar Sand Areas, by Willis Dorman-Ligh. p. 52-71
- Hill Creek and P R Spring Special Tar Sand Areas, by H. F. McCormack, and G. E. Pyper. p. 72-85
- San Rafael Swell Special Tar Sand Area, by H. F. McCormack. p. 86-97
- Tar Sand Triangle and White Canyon Special Tar Sand Areas, by G. E. Pyper. p. 98-113
- Circle Cliffs Special Tar Sand Area, by H. F. McCormack. p. 114-121
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- OF 84-0300-F. ALASKA. Preliminary geomagnetic data, College Observatory, Fairbanks, Alaska, June 1984, by J. B. Townshend, J. E. Papp, E. A. Sauter, L. Y. Torrence, and P. A. Franklin. 23 p. (NC, Da, M, A; USGS, College Observatory, 800 Yukon Dr., Fairbanks, AK 99701.)
- OF 84-0300-G. ALASKA. Preliminary geomagnetic data, College Observatory, Fairbanks, Alaska, July 1984, by J. B. Townshend, J. E. Papp, E. A. Sauter, L. Y. Torrence, and P. A. Franklin. 22 p. (NC, Da, M, A; USGS, College Observatory, 800 Yukon Dr., Fairbanks, AK 99701.)
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- OF 84-0629-B. NEW MEXICO, ARIZONA. Mineral resource potential of the Silver City 1° by 2° Quadrangle, New Mexico-Arizona; Map B, Copper resource potential, by D. H. Richter, and W. N. Sharp. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Db, U, T, SF, LA; New Mexico Bur. of Mines and Mineral Resources, Campus Station, Socorro, NM 87801; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.)
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- OF 84-0629-D. NEW MEXICO, ARIZONA. Mineral resource potential of the Silver City 1° by 2° Quadrangle, New Mexico-Arizona; Map D, Zinc and lead resource potential, by D. H. Richter, and W. N. Sharp. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Db, U, T, SF, LA; New Mexico Bur. of Mines and Mineral Resources, Campus Station, Socorro, NM 87801; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.)
- OF 84-0629-E. NEW MEXICO, ARIZONA. Mineral resource potential of the Silver City 1° by 2° Quadrangle, New Mexico-Arizona; Map E, Gold and silver resource potential, by D. H. Richter, and W. N. Sharp. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Db, U, T, SF, LA; New Mexico Bur. of Mines and Mineral Resources, Campus Station, Socorro, NM 87801; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.)
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- OF 84-0629-H. NEW MEXICO, ARIZONA. Mineral resource potential of the Silver City 1° by 2° Quadrangle, New Mexico-Arizona; Map H, Manganese and manganese-iron resource potential, by D. H. Richter, and W. N. Sharp. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Db, U, T, SF, LA; New Mexico Bur. of Mines and Mineral Resources, Campus Station, Socorro, NM 87801; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.)
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- OF 84-0629-M. NEW MEXICO, ARIZONA. Mineral resource potential of the Silver City 1° by 2° quadrangle, New Mexico-Arizona; Map M, Area in which resource potentials are designated; area in which no resource potential is designated, by D. H. Richter, and W. N. Sharp. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Db, U, T, SF, LA; New Mexico Bur. of Mines and Mineral Resources, Campus Station, Socorro, NM 87801; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.)

- OF 84-0630. CALIFORNIA. Mineral resources of the North Algodones Dunes Wilderness Study Area (CDCA-360), Imperial County, California, by R. S. U. Smith, W. E. Yeend, J. C. Dohrenwend, U.S. Geological Survey, and D. D. Gese, U.S. Bureau of Mines. 13 p. (NC, Da, M, SF, LA; California Dep. of Conservation, Div. of Mines and Geol., 2815 O St., Sacramento, CA 95816; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.)
- OF 84-0631. CALIFORNIA. Mineral resource potential of the Eagle Mountains Wilderness Study Area (CDCA-334), Riverside County, California, by R. E. Powell, C. L. Whittington, V. J. S. Grauch, U.S. Geological Survey, and R. A. McColly, U.S. Bureau of Mines. 25 p., 1 over-size sheet, scale 1:62,500 (1 inch = about 1 mile). (NC, Da, M, SF, LA; California Dep. of Conservation, Div. of Mines and Geol., 2815 O St., Sacramento, CA 95816; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.)
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- OF 84-0638. CALIFORNIA. Mineral resources and resource potential of the Hunter Mountain Wilderness Study Area, Inyo County, California, by E. H. McKee, J. E. Kilburn, J. E. Conrad, and J. H. McCarthy, U.S. Geological Survey, and J. D. Causey, D. A. Benjamin and C. M. Rumsey, U.S. Bureau of Mines. 12 p., 1 over-size sheet, scale 1:62,000 (1 inch = about 1 mile). (NC, Da, M, SF, LA; California Dep. of Conservation, Div. of Mines and Geol., 2815 O St., Sacramento, CA 95816; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.)
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- OF 84-0660. UTAH. Geologic map of the Lynndyl 30 by 60 minute Quadrangle, Tooele, Juab, Utah, and Millard counties, Utah, by E. H. Pampeyan. 22 p., 1 over-size sheet, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M, U, Db; Utah Geol. and Mineral Surv., 606 Black Hawk Way, Salt Lake City, UT 84108.)
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- OF 84-0665. CALIFORNIA. Mineral resources and resource potential of the Wildrose Canyon Wilderness Study Area, Inyo County, California, by J. E. Conrad, J. E. Kilburn, E. H. McKee, and J. H. McCarthy, U.S. Geological Survey and S. L. Willet, U.S. Bureau of Mines. 8 p., 1 over-size sheet, scale 1:62,500 (1 inch = about 1 mile). (NC, Da, M, SF, LA; California Dep. of Conservation, Div. of Mines and Geol., 2815 O St., Sacramento, CA 95816; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.)
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- Air Force assistance available if an earthquake occurs in the vicinity of Little Rock, Arkansas, by R. L. English. p. 184-185
- Role of American Red Cross in earthquake planning and response, by R. S. Popkin. p. 186-191
- The utility's role in preparing for recovery from a major earthquake, by S. M. Robinson. p. 192-195
- Gas pipeline policy on pipeline emergencies, by Mike Means. p. 196-202
- The role of architectural practice in earthquake-resistant design, by H. J. Lagorio. p. 203-207
- Seismically safe structures and their cost-effectiveness, by O. C. Mann. p. 208-214
- Integrated emergency management and the earthquake threat, by Leon McGoogan. p. 215-219
- Plans of the U.S. Geological Survey for evaluation of regional and urban earthquake hazards, by W. W. Hays. p. 220-229
- OF 83-0946. IOWA. Bedrock topography of central Iowa, by R. E. Hansen. 2 p. (NC, Da, M, Wb.) †A limited number of copies of this report are available from USGS, WRD, Iowa District (P.O. Box 1230), Iowa City, IA 52244.
- OF 84-0606. Debris-flow dynamics, by J. E. Costa, and G. P. Williams. (videotape.) †The videotape can be viewed at the following office: U.S. Geological Survey Training Ctr., Denver Federal Ctr., Mail Stop 414, Lakewood, CO 80225.
- OF 84-0708. State hydrologic unit maps, by P. R. Seaber, F. P. Kapinos, and G. L. Knapp. 175 p. (NC, Da, M, Wb; USGS, WRD, 417 National Ctr., 12201 Sunrise Valley Dr., Reston, VA 22092.) †A limited number of copies of this report are available from USGS, WRD, 417 National Ctr., 12201 Sunrise Valley Dr., Reston, VA 22092.
- OF 84-0717. MISSISSIPPI, ALABAMA. Hydrologic monitoring in the area of the Tennessee-Tombigbee Waterway, Mississippi-Alabama, fiscal year 1983, by Fred Morris, III. (NC, Da, M, Wb; USGS, WRD, 520 19th Ave., Tuscaloosa, AL 35401.) †A limited number of copies of this report are available from USGS, WRD, Suite 710, Federal Bldg., 100 West Capitol St., Jackson, MS 39269.

MAPS

GEOLOGIC QUADRANGLE MAPS

Multicolor geologic maps on topographic bases in 7 1/2- or 15-minute quadrangle units; scales mainly 1:24,000 or 1:62,500; show bedrock, surficial, or engineering geology. Maps are accompanied by brief texts and some maps by structure and columnar sections also.

GQ-1569. WEST VIRGINIA. Geologic map of the Ripley Quadrangle, Jackson County, West Virginia, by C. R. Meissner, Jr. 1983. Lat 38°45' to 38°52'30", long 81°37'30" to 81°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 34 by 35 inches.

GQ-1572. MASSACHUSETTS. Bedrock geologic map of the Monterey Quadrangle, Berkshire County, Massachusetts, by N. M. Ratcliffe. 1984. Lat 42°07'30" to 42°15', long 73°07'30" to 73°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 40 by 57 inches.

GQ-1576. WEST VIRGINIA. Geologic map of the Mammoth Quadrangle, Kanawha and Clay counties, West Virginia, by T. W. Henry. 1984. Lat 38°15' to 38°22'30", long 81°15' to 81°22'30". Scale 1:24,000 (1 inch = about 2,000 feet). Sheet 34 by 36 inches.

GQ-1578. COLORADO. Geologic map of the Barcus Creek Quadrangle, Rio Blanco County, Colorado, by W. J. Hail, Jr. 1984. Lat 40° to 40°07'30", long 108°22'30" to 108°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 41 inches. (Supersedes MF-619.)

GQ-1579. SOUTH CAROLINA. Geologic map of the Mount Holly Quadrangle, Berkeley and Charleston counties, South Carolina, by R. E. Weems, and E. M. Lemon, Jr. 1984. Lat 33° to 33°07'30", long 80° to 80°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 37 by 47 inches.

GQ-1581. SOUTH CAROLINA. Geologic map of the Stallville Quadrangle, Dorchester and Charleston counties, South Carolina, by R. E. Weems, and E. M. Lemon, Jr. 1984. Lat 32°52'30" to 33°, long 80°07'30" to 80°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 42 by 58 inches.

GEOFYSICAL INVESTIGATIONS MAPS

Maps on topographic or planimetric bases; various scales; show results of surveys using geophysical techniques, such as gravity, magnetic, seismic, or radioactivity, which reflect subsurface structures that are of economic or geologic significance. Many maps are correlated with the geology.

GP-0953-A. Digital colored residual and regional Bouguer gravity maps of the conterminous United States with cut-off wavelengths of 250 km and 1000 km, by T. G. Hildenbrand, R. W. Simpson, R. H. Godson, and M. F. Kane. 1982. Two sheets. Scale 1:7,500,000 (1 inch = about 118 miles). Sheet 1, 29 by 42 inches; sheet 2, 29 by 37 inches. (Reprint.)

GP-0954-B. ALASKA, HAWAII. Composite magnetic anomaly map of the United States; Part B, Alaska and Hawaii, compiled under the direction of R. H. Godson. 1984. Two sheets. Lat about 49° to about 73°, long about 130° to about 174°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 1, 43 by 48 inches; sheet 2, 28 by 47 inches. (Accompanied by 8-page text.) (Available unfolded only.)

GP-0958. NORTH CAROLINA. Aeromagnetic map of North Carolina, by Isidore Zietz, F. E. Riggle, and F. P. Gilbert. 1984. Lat about 34° to about 36°, long about 76° to about 84°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 23 by 34 inches.

GP-0959. TENNESSEE, KENTUCKY. Aeromagnetic map of Tennessee and Kentucky, by Isidore Zietz, and Kevin Bond. 1984. Lat about 35° to about 39°, long about 82° to about 90°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 34 inches.

GP-0961. OHIO. Residual total intensity magnetic map of Ohio, by T. G. Hildenbrand, and R. P. Kucks. 1984. Lat about 39° to about 42°, long about 81° to about 84°. Sheet 30 by 42 inches.

GP-0962. OHIO. Complete Bouguer gravity anomaly map of Ohio, by T. G. Hildenbrand. 1984. Lat about 39° to about 42°, long about 81° to about 84°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 32 by 38 inches.

MISCELLANEOUS INVESTIGATIONS SERIES MAPS

Maps on planimetric or topographic bases; regular and irregular areas; various scales; a wide variety of format and subject matter. The series also includes 7 1/2-minute quadrangle photogeologic maps on planimetric bases which show geology as interpreted from aerial photographs. Series also includes maps of Mars and the Moon.

I-0566. Geologic map of the Ptolemaeus Quadrangle of the Moon, by K. A. Howard, and Harold Masursky. 1968. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 30 by 53 inches. (Reprint.)

I-0934. SOUTH DAKOTA. Geologic map of the Badlands National Monument and vicinity, west-central South Dakota, by W. H. Raymond, and R. U. King. 1976. Lat 43°40' to 43°56', long 101°52'30" to 102°37'30". Scale 1:62,500 (1 inch = about 1 mile). Sheet 29 by 42 inches. (Reprint.)

I-1033-K. UTAH. Map showing geology-related science features in the Kaiparowits Plateau area, Utah, by L. M. Carter, and K. A. Sargent. 1983 (1984). Lat 37° to 38°, long 111° to 112°. Scale 1:125,000 (1 inch = about 2 miles). Sheet 40 by 56 inches.

I-1143-A. Geographic map of the Yemen Arab Republic. 1978. Lat 12°30' to 17°45', long 42°30' to 46°30'. Scale 1:500,000 (1 inch = about 8 miles). Sheet 37 by 52 inches. (Reprint.)

I-1143-B. Geologic map of the Yemen Arab Republic, by M. J. Grolier, and W. C. Overstreet. 1978. Lat 12°30' to 17°45', long 42°30' to 46°30'. Scale 1:500,000 (1 inch = about 8 miles). Sheet 43 by 52 1/2 inches. (Reprint.)

I-1313-G. VIRGINIA, MARYLAND. Map showing planar and linear features in the Culpeper Basin and vicinity, Virginia and Maryland, by B. D. Leavy. 1984. Lat about 38°15' to about 39°15', long about 77°15' to about 78°15'. Scale 1:125,000 (1 inch = about 2 miles). Sheet 32 by 49 inches.

I-1323. HAWAII. Generalized geologic map of the southwest rift zone of Mauna Loa Volcano, Hawaii, by P. W. Lipman, and Alan Swenson. 1984. Lat 18°52'30" to 19°30', long 155°22'30" to 156°05'. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 34 by 54 inches.

I-1360-H. MICHIGAN, WISCONSIN. Copper distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by H. V. Alminas, J. D. Hoffman, and R. T. Hopkins. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 31 by 39 inches.

I-1360-I. MICHIGAN, WISCONSIN. Chromium distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by H. V. Alminas, J. D. Hoffman, and R. T. Hopkins. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 31 by 39 inches.

I-1360-J. MICHIGAN, WISCONSIN. Cobalt distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by J. D. Hoffman, H. V. Alminas, and R. T. Hopkins. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 39 inches.

I-1360-K. MICHIGAN, WISCONSIN. Nickel distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by J. D. Hoffman, H. V. Alminas, and R. T. Hopkins. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 39 inches.

I-1360-L. MICHIGAN, WISCONSIN. Silver distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by R. T. Hopkins, H. V. Alminas, and J. D. Hoffman. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 35 inches.

I-1360-M. MICHIGAN, WISCONSIN. Molybdenum distribution in B-horizon soils, Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by R. T. Hopkins, H. V. Alminas, and J. D. Hoffman. 1984. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 35 inches.

I-1360-N. MICHIGAN, WISCONSIN. Interpretive geochemical map of the Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by H. V. Alminas, J. D. Hoffman, and R. T. Hopkins. 1984. Two sheets. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 40 miles). Sheet 1, 30 by 35 inches.

I-1406. NEVADA. Geologic map, tectonic map and structure sections of the Muddy and northern Black Mountains, Clark County, Nevada, by R. G. Bohannon. 1983 (1984). Two sheets, Lat about 36°10' to 36°30', long about 114°25' to about 114°50'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 37 by 55 inches; sheet 2, 32 by 44 inches.

- I-1407. UTAH, COLORADO. Geologic map of Dinosaur National Monument and vicinity, Utah and Colorado, by W. R. Hansen, P. D. Rowley, and P. E. Carrara. 1983 (1984). Lat 40°22'30" to 40°45', long 108°30' to 109°22'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 38 by 61 inches.
- I-1410. NEVADA. Geologic map of the Cockalorum Wash Quadrangle, Eureka and Nye counties, Nevada, by R. K. Hose. 1983 (1984). Lat 39° to 39°15', long 116° to 116°15'. Scale 1:31,680 (1 inch = one-half mile). Sheet 40 by 45 inches.
- I-1421. VIRGINIA. Map showing geologic provinces, landforms, drainage basin characteristics, and flooding in Fairfax County and vicinity, Virginia, by A. J. Froelich, and W. H. Langer. 1983 (1984). Lat about 38°45' to about 39°, long about 77°15' to about 77°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 38 by 53 inches.
- I-1430-B. UTAH. Map of argillic and advanced argillic alteration and principal hydrothermal quartz and alunite veins in the Tushar Mountains and adjoining areas, Maryvale volcanic field, Utah, by C. G. Cunningham, T. A. Steven, P. D. Rowley, L. B. Glassgold, and J. J. Anderson. 1984. Lat 38°15' to 38°42'30", long 112° to 112°37'30". Scale 1:50,000 (1 inch = 4,200 feet). Sheet 43 by 57 inches.
- I-1446. ARIZONA. Maps showing geology, structure, and uranium deposits of the Flagstaff 1° by 2° Quadrangle, Arizona, compiled by G. E. Ulrich, G. H. Billingsley, Richard Hereford, E. W. Wolfe, L. D. Nealey, and R. L. Sutton. 1984. Two sheets. Lat 35° to 36°, long 110° to 112°. Scale 1:250,000 (1 inch = about 4 miles).
- I-1447. UTAH. Reconnaissance geologic map of the Precambrian Farmington Canyon Complex and surrounding rocks in the Wasatch Mountains between Ogden and Bountiful, Utah, by Bruce Bryant. 1984. Lat about 40°49' to about 41°15', long about 111°42'30" to about 111°55'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 35 by 41 inches.
- I-1455. ARIZONA. Geologic map of the Guthrie Quadrangle, Graham and Greenlee counties, Arizona, by D. H. Richter, B. B. Houser, and P. E. Damon. 1983 (1984). Lat 32°45' to 33°, long 109°15' to 109°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 33 by 42 inches.
- I-1456. NEW MEXICO. Geologic map and cross sections of the Mora River area, Sangre de Cristo Mountains, Mora County, New Mexico, by E. H. Baltz, and J. M. O'Neill. 1984. Two sheets. Lat 35°52'30" to 36°, long 105°12'30" to 105°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 28 by 44 inches; sheet 2, 29 by 34 inches.
- I-1457. The magnetic field of the Earth, 1980; magnetic declination, compiled by E. B. Fabiano, N. W. Peddie, and A. K. Zunde. 1983 (1984). Sheet 34 by 48 inches. (Available unfolded only.)
- I-1458. The magnetic field of the Earth, 1980; magnetic inclination, compiled by E. B. Fabiano, N. W. Peddie, and A. K. Zunde. 1983 (1984). Sheet 34 by 48 inches. (Available unfolded only.)
- I-1459. The magnetic field of the Earth, 1980; magnetic horizontal intensity, compiled by E. B. Fabiano, N. W. Peddie, and A. K. Zunde. 1983 (1984). Sheet 34 by 48 inches. (Available unfolded only.)
- I-1460. The magnetic field of the Earth, 1980; magnetic vertical intensity, compiled by E. B. Fabiano, N. W. Peddie, and A. K. Zunde. 1983 (1984). Sheet 34 by 48 inches. (Available unfolded only.)
- I-1461. The magnetic field of the Earth, 1980; magnetic total intensity, compiled by E. B. Fabiano, N. W. Peddie, and A. K. Zunde. 1983 (1984). Sheet 34 by 48 inches. (Available unfolded only.)
- I-1462. WYOMING. Map showing fission-track ages of clinker in the Rochelle Hills, southern Campbell and Weston counties, Wyoming, by D. A. Coates, and C. W. Naeser. 1984. Lat 43°30' to 43°47'30", long 105° to 105°20'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 33 by 36 inches.
- I-1472. SOUTH CAROLINA. Geologic map of the area between Charleston and Orangeburg, South Carolina, by Lucy McCartan, E. M. Lemon, Jr., and R. E. Weems. 1984. Two sheets. Lat about 32°15' to 33°30', long about 79° to about 81°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 38 by 52 inches; sheet 2, 26 by 36 inches.
- I-1474. CALIFORNIA. Geologic map of the Markleeville 15-minute Quadrangle, Alpine County, California, by R. A. Armin, D. A. John, and W. J. Moore with Quaternary geology, by J. C. Dohrenwend. 1984. Lat 38°30' to 38°45', long 119°45' to 120°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 28 by 36 inches.
- I-1475. Shaded relief map of the Cebrenia Quadrangle of Mars. 1984. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 31 by 34 inches.
- I-1479. UTAH. Geologic map of the Pine Grove-Blawn Mountain area, Beaver County, Utah, by J. T. Abbott, M. G. Best, and H. T. Morris. 1983 (1984). Two sheets. Lat 38°15' to 38°25', long 113°22'55" to 113°40'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 36 by 55 inches; sheet 2, 39 by 43 inches.
- I-1481. UTAH. Geologic map of the Cove Fort Quadrangle, west-central Utah, by T. A. Steven, and H. T. Morris. 1983 (1984). Lat 38°30' to 38°45', long 112°30' to 112°45'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 33 by 36 inches.
- I-1482. UTAH. Map showing selected surface-water data for the Manti 30 by 60-minute Quadrangle, Utah, by Don Price. 1984. Lat 39° to 39°30', long 111° to 112°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 33 by 41 inches.
- I-1483. CALIFORNIA. Map showing recently active breaks along the San Andreas Fault and associated faults between Salton Sea and Whitewater River-Mission Creek, California, by M. M. Clark. 1984. Two sheets. Sheet 1, lat about 33°45' to about 34°, long about 116°22'30" to about 116°37'30"; sheet 2, lat about 33°45', long about 115°45' to about 116°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 40 by 51 inches; sheet 2, 40 by 51 inches. (Accompanied by 6-page text.)
- I-1490. ARKANSAS. Stratigraphic framework and distribution of lignite in the Claiborne Group, Calhoun County, Arkansas, by B. S. Hackman. 1984. Lat about 33°30' to about 33°45', long about 92°30' to about 92°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 42 by 57 inches.

- I-1492. ARIZONA. Geologic map and sections of the Bowie Mountain North Quadrangle, Cochise County, Arizona, by Harald Drewes. 1984. Lat 32°07'30" to 32°15', long 109°22'30" to 109°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 39 inches.
- I-1493. Shaded relief and surface markings of the Pelorus Linea region of Europa (sheet 1); airbrush base for the Pelorus Linea region of Europa (sheet 2). 1984. Two sheets. Scale 1:15,000,000 (1 inch = about 80 miles).
- I-1496. CALIFORNIA. Geologic map and cross sections of the southeastern margin of the San Joaquin Valley, California, by J. A. Bartow. 1984. Two sheets. Lat 35° to 35°52'30", long 118°30' to 119°15'. Scale 1:125,000 (1 inch = about 2 miles). Sheet 1, 34 by 43 inches; sheet 2, 33 by 44 inches. (Supersedes MF-944.)
- I-1498. Shaded relief and surface markings of the Memphis Facula Quadrangle of Ganymede (sheet 1); airbrush base for the Memphis Facula Quadrangle of Ganymede (sheet 2). 1984. Two sheets. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 1, 28 by 28 inches; sheet 2, 23 by 28 inches.
- I-1499. Shaded relief and surface markings of the Sidon Flexus region of Europa (sheet 1); airbrush base for the Sidon Flexus region of Europa (sheet 2). 1984. Two sheets. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 1, 25 by 33 inches; sheet 2, 23 by 27 inches.
- I-1501. WYOMING, MONTANA. Lithofacies map, cross section, and favorable areas for uranium deposits, Powder River basin, Wyoming and Montana, by G. L. Raines, and R. W. Marrs. 1983. Lat 42°30' to 46°45', long 104° to 108°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 32 by 42 inches.
- I-1505. Metallogenetic maps of the ophiolite belts of the Western United States, by J. A. Peterson. 1984. Lat about 36° to about 44°, long about 116° to about 124°. Scale 1:2,500,000 (1 inch = about 40 miles). (Accompanied by 16-page text.) (Supersedes Open-file report 80-1273.)
- I-1507. Map showing distribution, composition, and age of late Cenozoic volcanoes and volcanic rocks of the Cascade Range and vicinity, Northwestern United States, by R. G. Luedke, R. L. Smith, and S. L. Russell-Robinson. 1983 (1984). Lat 39° to 49°, long 120° to 123°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 41 by 53 inches.
- I-1511. Shaded relief map of the Lunae Palus Quadrangle of Mars. 1984. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 26 by 34 inches.
- I-1512. UTAH. Map showing selected surface-water data for the Nephi 30 by 60-minute Quadrangle, Utah, by Don Price. 1984. Lat 39°30' to 40°, long 111° to 112°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 34 by 41 inches.
- I-1513. UTAH. Map showing selected surface-water data for the Price 30 by 60-minute Quadrangle, Utah, by Don Price. 1984. Lat 39°30' to 40°, long 110° to 111°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 32 by 41 inches.
- I-1514. UTAH. Map showing selected surface-water data for the Huntington 30 by 60-minute Quadrangle, Utah, by Don Price. 1984. Lat 39° to 39°30', long 110° to 111°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 32 by 41 inches.
- I-1515. Viking Lander 2 rectified photomosaics (morning scene, camera 1). 1984. Five sheets. Sheet 1, 30 by 40 inches; sheet 2, 31 by 37 inches; sheet 3, 31 by 37 inches; sheet 4, 31 by 37 inches; sheet 5, 31 by 37 inches.
- I-1516. Viking Lander 2 rectified photomosaics (morning scene, camera 2). 1984. Five sheets. Sheet 1, 30 by 40 inches; sheet 2, 31 by 37 inches; sheet 3, 31 by 37 inches; sheet 4, 31 by 37 inches; sheet 5, 31 by 37 inches.
- I-1517. Viking Lander 2 rectified photomosaics (evening scene, camera 1). 1984. Five sheets. Sheet 1, 30 by 40 inches; sheet 2, 31 by 37 inches; sheet 3, 31 by 37 inches; sheet 4, 31 by 37 inches; sheet 5, 31 by 37 inches.
- I-1518. Viking Lander 2 rectified photomosaics (evening scene, camera 2). 1984. Five sheets. Sheet 1, 30 by 40 inches; sheet 2, 31 by 37 inches; sheet 3, 31 by 37 inches; sheet 4, 31 by 37 inches; sheet 5, 31 by 37 inches.
- I-1520. UTAH. Geologic map of the Beaver Quadrangle, Beaver and Piute counties, Utah, by M. N. Machette, T. A. Steven, C. G. Cunningham, and J. J. Anderson. 1984. Lat 38°15' to 38°30', long 112°30' to 112°45'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 43 inches. (Supersedes Open-file report 81-951, MF-1191 and MF-1274.)
- I-1522-E. Selected geologic and hydrologic characteristics of the Basin and Range Province, western United States; coal, oil and gas wells, seeps and tar sandstone occurrences, by B. T. Brady. 1984. Lat about 29° to about 44°, long about 102° to about 123°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 35 by 35 inches.
- I-1528. Map showing world distribution of carbon-dioxide springs and major zones of seismicity, by Ivan Barnes, W. P. Irwin, and D. E. White. 1984. Scale 1:40,000,000 (1 inch = 640 miles). Sheet 32 by 33 inches. (Accompanied by 10-page text.)
- I-1536. Shaded relief and surface markings of the Vruk Sulcus Quadrangle of Ganymede (sheet 1); airbrush base for the Vruk Sulcus Quadrangle of Ganymede (sheet 2). 1984. Two sheets. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 1, 28 by 28 inches; sheet 2, 23 by 28 inches.
- I-1537. ARIZONA. Petroleum potential of wilderness lands, Arizona, by R. T. Ryder and edited by B. M. Miller. 1982 (1984). Lat about 32° to about 37°, long about 109° to about 115°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 33 inches. (Accompanied by Circular 902-C; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1538. CALIFORNIA. Petroleum potential of wilderness lands, California, by E. W. Scott and edited by B. M. Miller. 1982 (1984). Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 39 by 49 inches. (Accompanied by Circular 902-D; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1539. COLORADO. Petroleum potential of wilderness lands, Colorado, by C. W. Spencer and edited by B. M. Miller. 1982 (1984). Lat about 37° to about 41°, long about 102° to about 109°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 27 inches. (Accompanied by Circular 902-E; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)

- I-1540. IDAHO. Petroleum potential of wilderness lands, Idaho, by C. A. Sandberg and edited by B. M. Miller. 1982 (1984). Lat about 42° to about 49°, long about 111° to about 117°. Scale 1:1,000,000 (1 inch = about 16 miles). (Accompanied by Circular 902-F; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1541. MONTANA. Petroleum potential of wilderness lands, Montana, by W. J. Perry, Jr., D. D. Rice, and E. K. Maughan and edited by B. M. Miller. 1982 (1984). Lat 45° to about 49°, long about 105° to about 116°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 39 inches. (Accompanied by Circular 902-G; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1542. NEVADA. Petroleum potential of wilderness lands, Nevada, by C. A. Sandberg and edited by B. M. Miller. 1982 (1984). Lat about 35° to about 42°, long about 114° to about 120°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 23 by 37 inches. (Accompanied by Circular 902-H; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1543. NEW MEXICO. Petroleum potential of wilderness lands, New Mexico, by R. T. Ryder and edited by B. M. Miller. 1982 (1984). Lat about 31° to about 37°, long about 103° to about 109°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 32 inches. (Accompanied by Circular 902-I; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1544. OREGON. Petroleum potential of wilderness lands, Oregon, by T. D. Fouch and edited by B. M. Miller. 1982 (1984). Lat about 42° to about 46°10', long about 116°30' to about 124°50'. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 34 inches. (Accompanied by Circular 902-J; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1545. UTAH. Petroleum potential of wilderness lands, Utah, by C. A. Molenaar, C. A. Sandberg, and R. B. Powers and edited by B. M. Miller. 1982 (1984). Lat about 37° to about 42°, long about 109° to about 114°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 20 by 29 inches. (Accompanied by Circular 902-K; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1546. WASHINGTON. Petroleum potential of wilderness lands, Washington, by T. D. Fouch and edited by B. M. Miller. 1982 (1984). Lat about 46° to about 49°, long about 117° to about 124°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 23 by 30 inches. (Accompanied by Circular 902-L; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1547. WYOMING. Petroleum potential of wilderness lands, Wyoming, by C. W. Spencer and R. B. Bowers and edited by B. M. Miller. 1982 (1984). Lat 41° to 45°, long 104° to 111°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 24 by 30 inches. (Accompanied by Circular 902-M; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the Western United States.)
- I-1548. Shaded relief and surface markings of the Tiamat Sulcus Quadrangle of Ganymede (sheet 1); airbrush base for the Tiamat Sulcus Quadrangle of Ganymede (sheet 2). 1984. Two sheets. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 1, 28 by 28 inches; sheet 2, 23 by 28 inches.
- I-1551. Shaded relief map of the Oxia Palus Quadrangle of Mars. 1984. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 26 by 34 inches.
- I-1552. Shaded relief map of the Aeolis Quadrangle of Mars. 1984. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 27 by 34 inches.
- I-1553. Controlled photomosaic of the Phaethontis Northwest Quadrangle of Mars. 1983 (1984). Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1554. Shaded relief map of the Memnonia Quadrangle of Mars. 1984. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 27 by 34 inches.
- I-1555. Controlled photomosaic of the Phaethontis North-central Quadrangle of Mars. 1983 (1984). Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1557. Geologic map of the Cabo Rojo and Parguera quadrangles, Southwest Puerto Rico, by R. P. Volckmann. 1984. Lat 17°55' to 18°, long 67° to 67°15'. Scale 1:20,000 (1 inch = 1,667 feet). Sheet 39 by 56 inches. (Supersedes Open-file report 77-183.)
- I-1558. Geologic map of the San German Quadrangle, Southwest Puerto Rico, by R. P. Volckmann. 1984. Lat 18° to 18°07' 30", long 67° to 67°07'30". Scale 1:20,000 (1 inch = 1,667 feet). Sheet 39 by 51 inches. (Supersedes Open-file report 77-182.)
- I-1559. Geologic map of the Puerto Real Quadrangle, Southwest Puerto Rico, by R. P. Volckmann. 1984. Lat 18° to 18°07'30", long 67°07'30" to 67°15'. Scale 1:20,000 (1 inch = 1,667 feet). Sheet 39 by 45 inches.
- I-1562. Topographic map of Venus (sheet 1); shaded relief map of Venus (sheet 2). 1984. Two sheets. Scale 1:50,000,000 (1 inch = about 800 miles). Sheet 1, 25 by 35 inches; sheet 2, 34 by 35 inches.
- I-1563. Controlled photomosaic of the Casius Northeast Quadrangle of Mars. 1983 (1984). Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1564. Controlled photomosaic of the Cebrenia Southwest Quadrangle of Mars. 1983 (1984). Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1572. UTAH. Geologic map of the Beaver Lake Mountains Quadrangle, Millard and Beaver counties, Utah, by D. M. Lemmon, and H. T. Morris. 1984. Lat 38°30' to 38°45', long 113° to 113°15'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 28 by 33 inches.
- I-1573. UTAH. Geologic map of the Frisco Peak Quadrangle, Millard and Beaver counties, Utah, by L. F. Hintze, D. M. Lemmon, and H. T. Morris. 1984. Lat 38°30' to 38°45', long 113°15' to 113°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 28 by 33 inches.

- I-1581. Controlled photomosaic of the Elysium Northwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1583. Controlled photomosaic of the Eridania Southwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1584. Controlled photomosaic of the Noachis Southwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1585. Controlled photomosaic of the Noachis Northeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1586. Controlled photomosaic of the Noachis Southeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1587. Controlled photomosaic of part of the Lunae Planum region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1588. Controlled photomosaic of part of the Lunae Planum region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by inches.
- I-1589. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1590. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1591. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 27 inches.
- I-1592. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1593. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1597. Controlled photomosaic of the Arcadia Southwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1598. Controlled photomosaic of the Diacria Southwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1599. Controlled photomosaic of part of the Valles Marineris region of Mars. 1984. Scale 1:500,000 (1 inch = about 8 miles). Sheet 27 by 37 inches.
- I-1600. Controlled photomosaic of the Thaumasia Southeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1601. Controlled photomosaic of the Phaethontis Northeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1602. Controlled photomosaic of the Thaumasia Northeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1603. Controlled photomosaic of the Phaethontis Southeast Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1604. Controlled photomosaic of the Thaumasia Southwest Quadrangle of Mars. 1984. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 26 by 34 inches.
- I-1612. CALIFORNIA. Landslides from the May 25-27, 1980, Mammoth Lakes, California, earthquake sequence, by E. L. Harp, Kohei Tanaka (National Research Center for Disaster Prevention, Japan), J. Sarmiento, and D. K. Keefer. 1984. Lat 37°18' to 37°45', long 118°30' to 119°05'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 40 by 41 inches.
- I-1616. Landsat thematic mapper (TM) color combinations, Washington, D.C. and vicinity. 1984. Sheet 37 by 49 inches. (Accompanied by 6-page text.)

MISCELLANEOUS INVESTIGATION SERIES MAPS—QUATERNARY GEOLOGICAL ATLAS OF THE UNITED STATES

- I-1420 (NK-16). Quaternary geologic map of the Chicago 4° by 6° Quadrangle, United States, State compilations by J. A. Lineback, N. K. Bleuer, D. M. Mickelson, W. R. Farrand, and R. P. Goldthwait. Edited and integrated by G. M. Richmond and D. S. Fullerton. 1983 (1984). Lat 40° to 44°, long 84° to 90°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 29 by 54 inches.
- I-1420 (NL-15). Quaternary geologic map of the Minneapolis 4° by 6° Quadrangle, United States, State compilations by J. E. Goebel, D. M. Mickelson, W. R. Farrand, Lee Clayton, J. C. Knox, Adam Cachow, H. C. Hobbs, and M. S. Walton, Jr. Edited and integrated by G. M. Richmond and D. S. Fullerton. 1983 (1984). Lat 44° to 48°, long 90° to 96°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 29 by 46 inches.
- I-1420 (NL-16). Quaternary geologic map of the Lake Superior 4° by 6° Quadrangle, United States and Canada, State and province compilations by W. R. Farrand, D. M. Mickelson, W. R. Cowan, and J. E. Goebel. Edited and integrated by G. M. Richmond and D. S. Fullerton. 1984. Lat 44° to 48°, long 84° to 90°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 29 by 41 inches.

COAL INVESTIGATIONS MAPS

Geologic maps on topographic or planimetric bases; various scales; show bedrock geology, stratigraphy, and structural relations in certain coal-resource areas.

- C-0081-F. WYOMING, MONTANA. Surficial geologic map of the Recluse 30' by 60' Quadrangle, Wyoming and Montana, by M. C. Reheis, and V. S. Williams. 1984. Lat 44°30' to 45°, long 105° to 106°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 33 by 44 inches. (Supersedes Open-file report 79-1315.)
- C-0092-B. NEW MEXICO. Map showing structure contours on top of the Pictured Cliffs Sandstone and depths to the base of the Fruitland Formation, Chaco Canyon 30' by 60' Quadrangle, San Juan, Rio Arriba, and Sandoval counties, New Mexico, by N. W. Sweatt, and J. W. Mytton. 1983 (1984). Lat 36° to 36°30', long 107° to 108°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 28 by 45 inches.

C-0095. UTAH. Geologic map and coal sections of the Butler Valley Quadrangle, Kane County, Utah, by W. E. Bowers. 1983 (1984). Lat 37°22'30" to 37°30', long 111°45' to 111°52' 30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 34 by 43 inches.

C-0096-A. MONTANA. Structure contour map on top of the Canyon Coal Bed, Birney 30' by 60' Quadrangle, Big Horn, Rosebud, and Powder River counties, Montana, by L. N. Robinson, and W. C. Culbertson. 1984. Lat 45° to 45°30', long 106° to 107°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 28 by 39 inches.

C-0096-B. MONTANA. Map showing isopachs of coal and overburden of the Canyon Coal Bed, Birney 30' by 60' Quadrangle, Big Horn, Rosebud, and Powder River counties, Montana, by L. N. Robinson, and W. C. Culbertson. 1984. Lat 45° to 45°30', long 106° to 107°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 28 by 42 inches.

OIL AND GAS INVESTIGATIONS CHARTS

Charts show stratigraphic information for certain oil and gas fields and other areas having hydrocarbon potential.

OC-0124. UTAH, COLORADO. Stratigraphic sections of Middle Jurassic San Rafael Group and related rocks from Dewey Bridge, Utah, to Uravan, Colorado, by R. B. O'Sullivan. 1984. Lat about 38°30' to about 38°45', long about 108°45' to about 109°15'.

MISCELLANEOUS FIELD STUDIES MAPS

Multicolor or black and white maps on topographic or planimetric bases; quadrangle or irregular areas; various scales. Pre-1971 maps show bedrock geology in relation to specific mining or mineral-deposit problems; post-1971 maps are preliminary black and white maps on various subjects such as environmental studies or Wilderness mineral investigations.

Unless otherwise indicated these maps are printed in a very limited edition; therefore, no automatic distribution will be made.

MF-0347. COLORADO. Preliminary geologic map of the Barcus Creek SE Quadrangle, Rio Blanco County, Colorado, by W. J. Hail, Jr. 1972. Two sheets. Lat 40° to 40°07'30", long 108°15' to 108°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 19 by 26 inches; sheet 2, 21 by 28 inches. (Reprint.)

MF-0380. ALASKA. Metallic mineral resources map of the Middleton Island Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 59° to 60°, long 144° to 147°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 33 inches. (Reprint.)

MF-0423. ALASKA. Metallic mineral resources map of the Nulato Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 64° to 65°, long 156° to 159°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 33 inches. (Reprint.)

MF-0427. ALASKA. Metallic mineral resources map of the Unalakleet Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 63° to 64°, long 159° to 162°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 26 inches. (Reprint.)

MF-0442. ALASKA. Metallic mineral resources map of the Naknek Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 58° to 59°, long 156° to 158°. Scale 1:250,000 (1 inch = 4 miles). Sheet 23 by 27 inches. (Reprint.)

MF-0460. ALASKA. Metallic mineral resources map of the Kodiak Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 57° to 58°, long 152° to 154°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 27 inches. (Reprint.)

MF-0462. ALASKA. Metallic mineral resources map of the Mt. Michelson Quadrangle, Alaska, compiled by E. H. Cobb. 1972. Lat 69° to 70°, long 144° to 147°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 25 inches. (Reprint.)

MF-0483. CALIFORNIA. Preliminary geologic map of eastern Sonoma County and western Napa County, California, compiled by K. F. Fox, Jr., J. D. Sims, J. A. Bartow, and E. J. Helley. 1973. 4 sheets. Sheet 1, lat 38°15' to about 38°45', long 122°15' to 122°45'; sheet 2, lat 38°15' to 38°30', long 122°15' to 122°45'; sheet 3, lat 38°30' to 38°45', long 122°15' to 122°45'; sheet 4, lat 38°45' to 39°, long 122°15' to 122°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 26 by 37 inches; sheet 2, 24 by 32 inches; sheet 3, 23 by 30 inches; sheet 4, 23 by 31 inches. (Reprint.)

MF-0488. MONTANA. Reconnaissance geologic map of the Mount Douglas Quadrangle, Montana, compiled by N. J. Page, F. S. Simons, and J. C. Dohrenwend. 1973. Lat 45°15' to 45°30', long 110° to 110°15'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 23 by 32 inches. (Reprint.)

MF-0507. NEVADA. Geochemical, aeromagnetic, and generalized geologic maps showing distribution and abundance of mercury, arsenic, antimony, and tungsten, Goldrun Creek Quadrangle, Humboldt County, Nevada, by R. L. Erickson, and S. P. Marsh. 1973. Two sheets. Lat 40°45' to 40°52'30", long 117°22'30" to 117°30'. Sheet 1, 21 by 34 inches; sheet 2, 21 by 35 inches. (Reprint.)

MF-0508. NEVADA. Geochemical, aeromagnetic, and generalized geologic maps showing distribution and abundance of molybdenum and zinc, Goldrun Creek Quadrangle, Humboldt County, Nevada, by R. L. Erickson, and S. P. Marsh. 1973. Lat 40°45' to 40°52'30", long 117°22'30" to 117°30'. Sheet 21 by 35 inches. (Reprint.)

MF-0533. CALIFORNIA. Map showing evidence for recent fault activity in the vicinity of Antioch, Contra Costa County, California, by D. B. Burke, and E. J. Helley. 1973. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 24 by 36 inches. (Reprint.)

MF-0553-C. CONNECTICUT. Map showing depth to bedrock, Clinton Quadrangle, Connecticut, by M. H. Ginsberg. 1984. Lat 41°15' to 41°22'30", long 72°30' to 72°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 30 inches.

MF-0561-E. CONNECTICUT. Map showing depth to bedrock, Glastonbury Quadrangle, Connecticut, by J. E. Palmer, W. H. Langer, J. H. Jansky, and J. W. Bingham. 1984. Lat 41°37'30" to 41°45', long 72°30' to 72°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 30 inches.

MF-0635. UTAH. Preliminary geologic map of the Crystal Peak Quadrangle, Millard County, Utah, by L. F. Hintze. 1974. Two sheets. Lat 38°45' to 39°, long 113°30' to 113°45'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 1, 20 by 33 inches; sheet 2, 20 by 33 inches. (Reprint.)

- MF-0650. CALIFORNIA. Map showing recently active breaks along the San Andreas Fault between the central Santa Cruz Mountains and the northern Gabilan Range, California, by A. M. Sarna-Wojcicki, E. H. Pampeyan, and N. T. Hall. 1975. Two sheets. Sheet 1, lat about 37° to about 37°07'30", long about 121°45' to about 122°07'30"; sheet 2, lat about 36°52'30" to about 37°, long 121°22'30" to 121°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 37 by 47 inches; sheet 2, 42 by 52 inches. (Reprint.)
- MF-0655-B. ALASKA. Geochemical and generalized geologic map showing distribution and abundance of copper in the Nabesna Quadrangle, Alaska, by S. P. Marsh. 1975. Lat 62° to 63°, long 141° to 144°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 26 by 49 inches. (Reprint.)
- MF-0655-F. ALASKA. Geochemical and generalized geologic map showing distribution of cobalt in the Nabesna Quadrangle, Alaska, by S. P. Marsh. 1975. Lat 62° to 63°, long 141° to 143°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 25 by 49 inches. (Reprint.)
- MF-0657. COLORADO. Reconnaissance geologic map of the Buena Vista Quadrangle, Chaffee and Park counties, Colorado, by G. R. Scott. 1975. Lat 38°45' to 39°, long 106° to 106°15'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 26 by 38 inches. (Reprint.)
- MF-0661-B. CONNECTICUT. Map showing depth to bedrock, Meriden Quadrangle, Connecticut, by M. H. Ginsberg. 1984. Lat 41°30' to 41°37'30", long 72°45' to 72°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 30 inches.
- MF-0669-A. ALASKA. Map showing distribution of permafrost in the Fairbanks D-2 SE Quadrangle, Alaska, by T. L. Péwé, and J. W. Bell. 1975. Lat 64°45' to 64°52'30", long 147°30' to 147°45'. Scale 1:24,000 (1 inch = about 2,000 feet). Sheet 30 by 41 inches. (Reprint.)
- MF-0669-B. ALASKA. Map showing ground water conditions in the Fairbanks D-2 SE Quadrangle, Alaska, by T. L. Péwé, and J. W. Bell. 1975. Lat 64°45' to 64°52'30", long 147°30' to 147°45'. Scale 1:24,000 (1 inch = about 2,000 feet). Sheet 29 by 36 inches. (Reprint.)
- MF-0681. NEVADA. Preliminary geologic map of the Goldfield mining district, Nevada, by R. P. Ashley. 1975. Two sheets. Lat 37°40' to about 37°45', long 117°05' to 117°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 28 by 40 inches; sheet 2, 24 by 36 inches. (Reprint.)
- MF-0695. COLORADO. Reconnaissance map showing relative amounts of soil and bedrock in the mountainous part of the Eldorado Springs Quadrangle, Boulder and Jefferson counties, Colorado, by K. L. Pierce, and P. W. Schmidt. 1975. Lat 39°52'30" to 40°, long 105°15' to about 105°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 36 inches. (Reprint.)
- MF-0723. WYOMING. Preliminary geologic map and coal sections of the WYarno Quadrangle, Sheridan County, Wyoming, by W. C. Culbertson. 1975. Two sheets. Lat 44°45' to 44°52'30", long 106°45' to 106°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 25 by 33 inches; sheet 2, 24 by 36 inches. (Reprint.)
- MF-0726. WYOMING. Preliminary geologic map and coal sections of the Jones Draw Quadrangle, Sheridan County, Wyoming, by W. C. Culbertson, and M. C. Klett. 1975. Two sheets. Lat 44°45' to 44°52'30", long 106°37'30" to 106°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 24 by 36 inches; sheet 2, 27 by 27 inches. (Reprint.)
- MF-0731. WYOMING. Preliminary geologic map and coal sections, Ulm Quadrangle, Sheridan County, Wyoming, by W. J. Mapel, and B. W. Dean. 1976. Two sheets. Lat 44°37'30" to 44°45', long 106°30' to 106°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 28 by 29 inches; sheet 2, 25 by 29 inches. (Reprint.)
- MF-0744. ALASKA. Lithofacies fence diagram of Sadlerochit Group for Philip Smith Mountains Quadrangle and adjacent areas, northeastern Alaska, by R. L. Detterman. 1976. Lat about 68° to about 70°, long about 141° to about 150°. Sheet 21 by 31 inches. (Reprint.)
- MF-0754. COLORADO. Preliminary geologic map of Square S Ranch Quadrangle, Rio Blanco County, Colorado, by D. C. Duncan. 1976. Lat 39°52'30" to 40°, long 108°15' to 108°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 30 inches. (Reprint.)
- MF-0756. COLORADO. Preliminary geologic map of Jessup Gulch Quadrangle, Rio Blanco County, Colorado, by D. C. Duncan. 1976. Lat 39°45' to 39°52'30", long 108°07'30" to 108°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 30 inches. (Reprint.)
- MF-0758. COLORADO. Preliminary geologic map of Yankee Gulch Quadrangle, Rio Blanco County, Colorado, by D. C. Duncan. 1976. Lat 39°45' to 39°52'30", long 108°22'30" to 108°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 30 inches. (Reprint.)
- MF-0759. COLORADO. Reconnaissance geologic map of the Glentivar Quadrangle, Park County, Colorado, by R. A. Wobus. 1976. Lat 39° to 39°07'30", long 105°30' to 105°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 31 inches. (Reprint.)
- MF-0766. CALIFORNIA. Geologic map of the San Andreas fault zone, Leona Valley, California, by J. G. Evans. 1976. Scale 1:10,000 (1 inch = about 830 feet). Sheet 35 by 46 inches. (Reprint.)
- MF-0769. ARIZONA. Reconnaissance geologic map of the Vicente and Cocoraque Butte 15' quadrangles, Arizona, by W. J. Keith. 1976. Lat 32° to 32°15', long 111°15' to 111°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 23 by 39 inches. (Reprint.)
- MF-0778. ARIZONA. Reconnaissance geologic map of the Picacho Mountains, Arizona, by W. E. Yeend. 1976. Lat about 32°40' to 33°, long 111°15' to 111°30'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 25 by 31 inches. (Reprint.)
- MF-0784. CALIFORNIA. Geologic map of the San Simeon-Piedras Blancas region, San Luis Obispo County, California, by C. A. Hall. 1976. Lat 35°37'30" to about 35°45', long about 121°02'30" to 121°20'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 42 by 56 inches. (Reprint.)

- MF-0785. Free-air gravity anomaly map of the eastern Chukchi and southern Beaufort seas, by B. D. Ruppel, and A. G. McHendrie. 1976. Lat about 68° to about 72°, long about 140° to about 170°. Scale 1:2,000,000 (1 inch = about 32 miles). Sheet 22 by 34 inches. (Reprint.)
- MF-0801. WYOMING. Preliminary surficial and bedrock geologic map of the Big Horn Quadrangle, Sheridan County, Wyoming, by W. F. Ebaugh. 1976. Lat 44°37'30" to 44°45', long 106°52'30" to 107°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 38 inches. (Reprint.)
- MF-0810. COLORADO. Geologic map and details of the beryllium and molybdenum occurrences, Mount Antero, Chaffee County, Colorado, by W. N. Sharp. 1976. Two sheets. Lat about 38°35' to about 38°42'30", long about 106°10' to about 106°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 32 by 42 inches; sheet 2, 23 by 43 inches. (Reprint.)
- MF-0833. NEVADA. Preliminary generalized geologic map of the Round Mountain Quadrangle, Nye County, Nevada, by D. R. Shawe. 1977. Lat 38°37'30" to 38°45', long 117° to 117°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 45 inches. (Reprint.)
- MF-0837. COLORADO. Preliminary geologic map of the White Rock Quadrangle, Rio Blanco and Moffat counties, Colorado, by G. N. Pipiringos, and G. C. Rosenlund. 1977. Lat 40°07'30" to 40°15', long 108° to 108°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 40 inches. (Reprint.)
- MF-0847. ALASKA. Preliminary geologic and metamorphic-isograd map of northern parts of the Juneau A-1 and A-2 quadrangle, Alaska, by A. B. Ford, and D. A. Brew. 1977. Lat 58° to 58°30', long 134° to 134°40'. Scale 1:31,680 (1 inch = one-half mile). Sheet 33 by 52 inches. (Reprint.)
- MF-0860. COLORADO. Preliminary geologic map of the McCarthy Gulch Quadrangle, Rio Blanco and Garfield counties, Colorado, by R. B. O'Sullivan, Frances Wahl-Pierce, and S. J. Arbelbide. 1981. Lat 39°37'30" to 39°45', long 108° to 108°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 29 by 49 inches. (Reprint.)
- MF-0870-D. ALASKA. Mineral resources map of the Talkeetna Quadrangle, Alaska, by B. L. Reed, S. W. Nelson, G. C. Curtin, and D. A. Singer. 1978. Lat 62° to 63°, long 150° to 153°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 43 by 52 inches. (Reprint.)
- MF-0870-J. ALASKA. Surficial deposits of the Talkeetna Quadrangle, Alaska, by S. W. Nelson, and B. L. Reed. 1978. Lat 62° to 63°, long 150° to 153°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 32 by 46 inches. (Reprint.)
- MF-0878-A. ALASKA. Surficial geologic map of the Chandalar Quadrangle, Alaska, by T. D. Hamilton. 1978. Lat 67° to 68°, long 147° to 150°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 26 by 39 inches. (Reprint.)
- MF-0892. COLORADO. Reconnaissance geologic map of the Canon City Quadrangle, Fremont County, Colorado, by G. R. Scott. 1977. Lat 38°22'30" to 38°30', long 105°07'30" to 105°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 29 by 38 inches. (Reprint.)
- MF-0895. WYOMING. Surficial geologic map of the Coyote Draw Quadrangle, Campbell County, Wyoming, by D. S. Fullerton. 1977. Lat 44°07'30" to 44°15', long 105°15' to 105°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 34 inches. (Reprint.)
- MF-0898. WYOMING. Surficial geologic map of the Saddle Horse Butte Quadrangle, Campbell County, Wyoming, by R. M. Kirkham, and D. S. Fullerton. 1977. Lat 44° to 44°07'30", long 105°15' to 105°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 39 inches. (Reprint.)
- MF-0917. WYOMING. Geologic map and coal sections of the Truman Draw Quadrangle, Campbell County, Wyoming, by B. H. Kent, D. R. Haddock, and B. F. Bohor. 1977. Two sheets. Lat 44°30' to 44°37'30", long 105°45' to 105°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 30 by 48 inches; sheet 2, 26 by 41 inches. (Reprint.)
- MF-0928-C. ALASKA. Generalized structure map of top of the Colville Group, eastern North Slope petroleum province, Alaska, by G. H. Pessel, I. L. Tailleir, and K. J. Bird. 1978. Scale 1:500,000 (1 inch = about 8 miles). Sheet 25 by 31 inches. (Reprint.)
- MF-0928-H. ALASKA. Generalized structure map of the Lower Cretaceous unconformity, eastern North Slope petroleum province, Alaska, by G. H. Pessel, J. A. Levorsen, and I. L. Tailleir. 1978. Scale 1:500,000 (1 inch = about 8 miles). Sheet 24 by 31 inches. (Reprint.)
- MF-0928-I. ALASKA. Subcrop map at Lower Cretaceous unconformity, and maps of Jurassic and Lower Cretaceous seismic horizons, eastern North Slope petroleum province, Alaska, compiled by I. L. Tailleir, G. H. Pessel, and S. E. Engwicht. 1978. Scale 1:500,000 (1 inch = about 8 miles). Sheet 24 by 31 inches. (Reprint.)
- MF-0928-K. ALASKA. Generalized isopach map of Jurassic and possibly Lower Cretaceous shale, including Kingak Shale, eastern North Slope petroleum province, Alaska, by G. H. Pessel, J. A. Levorsen, and I. L. Tailleir. 1978. Scale 1:500,000 (1 inch = about 8 miles). Sheet 25 by 31 inches. (Reprint.)
- MF-0968. WASHINGTON. Geologic map of the Tieton River area, Yakima County, south-central Washington, by D. A. Swanson. 1978. Lat about 32°30" to about 40°37'30", long about 120°55' to about 121°. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 34 by 47 inches. (Reprint.)
- MF-1001-A. MISSOURI. Structure contour map of buried Precambrian basement-rock surface, eastern part of the Rolla 1° by 2° Quadrangle and adjacent areas, Missouri, by E. B. Kisvarsanyi, Missouri Division of Geology and Land Survey. 1979. Lat about 37° to about 38°15', long 90° to about 91°15'. Scale 1:125,000 (1 inch = about 2 miles). Sheet 39 by 54 inches. (Reprint.)
- MF-1002-B. MISSOURI. Preliminary maps of sand/shale ratio in the Cambrian Bonnetterre Formation, Rolla 1° by 2° Quadrangle, Missouri, by J. L. Thacker and K. H. Anderson, Missouri Division of Geology and Land Survey. 1979. Two sheets. Sheet 1, Lat 36°45' to 38°15', long 90° to 92°; sheet 2, Lat 36°45' to 38°15', long 90° to 92°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 28 by 34 inches; sheet 2, 29 by 34 inches. (Reprint.)

- MF-1002-J. MISSOURI. Isopach and selected lithofacies map of the Cambrian Bonnetterre Formation, Rolla 1° by 2° Quadrangle, Missouri, by K. H. Anderson, Missouri Division of Geology and Land Survey. 1983. Lat 37° to 38°, long 90° to 92°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 23 by 38 inches. (Reprint.)
- MF-1005-A. MISSOURI. Maps showing areas of significant metallic mineral-resource potential in the Rolla 1° by 2° Quadrangle, Missouri, as appraised in September 1980, W. P. Pratt and R. L. Erickson, U.S. Geological Survey, and E. B. Kisvarsanyi and H. M. Wharton, Missouri Geological Survey. 1984. Lat 37° to 38°, long 90° to 92°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 38 by 55 inches.
- MF-1005-B. MISSOURI. Mines, prospects, and occurrences of metallic minerals in the Rolla 1° by 2° Quadrangle, Missouri, by M. H. Miller. 1982. Two sheets. Lat 37° to 38°, long 90° to 92°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 22 by 34 inches; sheet 2, 24 by 36 inches. (Accompanied by 31-page text.) (Reprint.)
- MF-1033. NEW MEXICO. Geologic map of the Soldiers Farewell Hill Quadrangle, Grant County, New Mexico, by D. C. Hedlund. 1978. Lat 32°15' to 32°22'30", long 108°15' to 108°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 31 by 35 inches. (Reprint.)
- MF-1034. NEW MEXICO. Geologic map of the Ninetysix Ranch Quadrangle, Grant County, New Mexico, by D. C. Hedlund. 1978. Lat 32°15' to 32°22'30", long 108°22'30" to 108°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 32 inches. (Reprint.)
- MF-1039. NEW MEXICO. Geologic map of the C Bar Ranch Quadrangle, Grant County, New Mexico, by D. C. Hedlund. 1978. Lat 32°22'30" to 32°30', long 108°22'30" to 108°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 34 by 40 inches. (Reprint.)
- MF-1040. NEW MEXICO. Geologic map of the Burro Peak Quadrangle, Grant County, New Mexico, by D. C. Hedlund. 1978. Lat 32°30' to 32°37'30", long 108°22'30" to 108°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 44 inches. (Reprint.)
- MF-1041. NEW MEXICO. Geologic map of the White Signal Quadrangle, Grant County, New Mexico, by D. C. Hedlund. 1978. Lat 32°30' to 32°37'30", long 108°15' to 108°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 40 inches. (Reprint.)
- MF-1053-M. ALASKA. Map and tables showing geochronology and whole-rock geochemistry, Chignik and Sutwik Island quadrangles, Alaska, by F. H. Wilson, W. C. Gaum, and P. L. Herzon. 1981. Three sheets. Lat 56° to 57°, long 156° to 160°30'. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 36 by 56 inches; sheet 2, 30 by 36 inches; sheet 3, 31 by 44 inches. (Reprint.)
- MF-1053-O. ALASKA. Maps showing interpretation of Landsat imagery of the Chignik and Sutwik Island quadrangles, Alaska, by J. R. Le Compte, and W. C. Steele. 1981. Two sheets. Sheet 1, lat 56° to 57°, long about 156°30' to about 160°30'; sheet 2, lat 56° to 57°, long about 156°30' to about 160°30'. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 36 by 54 inches; sheet 2, 36 by 56 inches. (Reprint.)
- MF-1079. NEVADA. Geologic map of the lithium-bearing rocks in parts of the Frenchman Mountain and Henderson quadrangles, Clark County, Nevada, by E. F. Brenner-Tourtelot. 1979. Lat about 36°05' to about 36°10', long 114°52'30" to 115°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 35 inches. (Reprint.)
- MF-1101-B. CALIFORNIA. Summary geochemical maps, Hoover Wilderness and adjacent study area, Mono and Tuolumne counties, California, by M. A. Chaffee, R. H. Hill, and S. J. Sutley. 1984. Three sheets. Lat about 38° to about 38°20', long about 119°15' to 119°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 38 by 43 inches; sheet 2, 38 by 43 inches; sheet 3, 38 by 43 inches.
- MF-1105. UTAH. Geologic map of the Delano Peak NE Quadrangle, west-central Utah, by C. G. Cunningham, and T. A. Steven. 1979. Lat 38°22'30" to 38°30', long 112°15' to 112°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 31 inches. (Reprint.)
- MF-1106. UTAH. Geologic map of the Marysvale NW Quadrangle, west-central Utah, by C. G. Cunningham, and T. A. Steven. 1979. Lat 38°22'30" to 38°30', long 112°07'30" to 112°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 27 inches. (Reprint.)
- MF-1108. UTAH. Geologic map of volcanic rocks in the Sevier NE Quadrangle, west-central Utah, by T. A. Steven. 1979. Lat 38°37'30" to 38°45', long 112°15' to 112°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 27 inches. (Reprint.)
- MF-1109. UTAH. Geologic map of the Sevier SE Quadrangle, west-central Utah, by T. A. Steven, and C. G. Cunningham. 1979. Lat 38°30' to 38°37'30", long 112°15' to 112°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 30 inches. (Reprint.)
- MF-1129-A. COLORADO. Cross section A-A' of Upper Cretaceous and lower Tertiary rocks, northern Piceance Creek basin, Colorado, by R. C. Johnson. 1979. Two sheets. Lat about 39°15' to about 40°, long about 108° to about 108°45'. Sheet 1, 27 by 34 inches; sheet 2, 18 by 21 inches. (Reprint.)
- MF-1129-B. COLORADO. Cross sections of B-B' of Upper Cretaceous and lower Tertiary rocks, northern Piceance Creek basin, Colorado, by R. C. Johnson. 1979. Two sheets. Sheet 1, 32 by 43 inches; sheet 2, 18 by 21 inches. (Reprint.)
- MF-1136. TEXAS. Faults in parts of north-central and western Houston metropolitan area, Texas, by E. R. Verbeek, K. W. Ratzlaff, and U. S. Clanton. 1979. Lat about 29°40' to about 29°42'30", long about 95°22'30" to about 95°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 42 by 58 inches. (Reprint.)
- MF-1156. ARIZONA. Reconnaissance maps of earth fissures and land subsidence, Bowie and Willcox areas, Arizona, by T. L. Holzer. 1980. Two sheets. Sheet 1, Lat 32°15', to 32°22'30", long 109°17'30" to about 109°30'; sheet 2, lat 32°15' to 32°22'30", long 109°45' to 110°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 35 by 41 inches; sheet 2, 36 by 43 inches. (Reprint.)
- MF-1160-A. ARIZONA. Geologic map of the Paiute Primitive Study Area, Mohave County, Arizona, by H. A. Villalobos. 1980. Lat 36°45' to 36°55', long 113°45' to about 113°55'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 40 by 52 inches. (Reprint.)

- MF-1166. ARIZONA. Reconnaissance bedrock geologic map of the Sells Quadrangle, Pima County, Arizona, by D. L. May, and Gordon Haxel. 1980. Lat 31°45' to 32°, long 111°45' to 112°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 35 by 42 inches. (Reprint.)
- MF-1175. NEW MEXICO. Geologic map of the Victorio Mountains, Luna County, southwestern New Mexico, by C. H. Thorman, and Harald Drewes. 1980. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 40 inches. (Reprint.)
- MF-1176-A. ALASKA. Geologic map of the Survey Pass Quadrangle, Brooks Range, Alaska, by S. W. Nelson, and Donald Grybeck. 1980. Two sheets. Lat 67° to 68°, long 153° to 156°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 32 by 42 inches; sheet 2, 32 by 42 inches. (Reprint.)
- MF-1183-Q. ARIZONA, NEW MEXICO. Preliminary map showing limonitic areas in the Silver City 1° by 2° Quadrangle, Arizona and New Mexico, by G. L. Raines. 1984. Lat 32° to 33°, long 108° to 110°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 22 by 36 inches.
- MF-1235-D. MONTANA. Mineral resource potential map of the Rattlesnake Roadless Area, Missoula County, Montana, by C. A. Wallace, D. J. Lidke, D. M. Kulik, W. L. Campbell, and J. C. Antweiler, U.S. Geological Survey, and R. T. Mayerle, U.S. Bureau of Mines. 1983 (1984). Lat 46°52'30" to 47°07'30", long 113°45' to 114°. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 27 by 52 inches. (Accompanied by 13-page text.)
- MF-1244-B. NEVADA. Mineral resource potential map of the Mount Moriah Roadless Area, White Pine County, Nevada, by R. A. Carlson and R. A. Martin, U.S. Geological Survey, and R. H. Wood, II, U.S. Bureau of Mines. 1984. Scale 1:62,500 (1 inch = about 1 mile). Sheet 21 by 28 inches. (Accompanied by 7-page text.)
- MF-1246-L. UTAH. Maps showing distribution of pH, copper, zinc, fluoride, uranium, molybdenum, arsenic, and sulfate in water, Richfield 1° by 2° Quadrangle, Utah, by J. B. McHugh, W. R. Miller, and W. H. Ficklin. 1984. Lat 38° to 39°, long 112° to 114°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 31 by 39 inches.
- MF-1268. NEVADA. Geologic map of the Powell Mountain Quadrangle, Mineral County, Nevada, by J. H. Stewart and D. C. Johannesen, *with* Surficial geology, by J. C. Dohrenwend. 1981. Lat 38°15' to 38°30', long 118°30' to 118°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 33 by 42 inches. (Reprint.)
- MF-1271-C. WEST VIRGINIA. Maps showing mines, quarries, prospects, and exposures in the Cheat Mountain Roadless Area, Randolph County, West Virginia, by P. T. Behum and R. W. Hammack, U.S. Bureau of Mines. 1984. Lat 38°42'30" to 38°52'30", long 79°42'30" to 79°52'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 23 by 40 inches.
- MF-1277. NEVADA. Geologic map of the Hawthorne Quadrangle, Mineral County, Nevada, by J. H. Stewart and D. C. Johannesen, *with* Surficial geology, by T. C. Dohrenwend. 1981. Lat 38°30' to 38°45', long 118°30' to 118°45'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 28 by 34 inches. (Reprint.)
- MF-1278. NEVADA. Geologic map of the Mount Grant Quadrangle, Lyon and Mineral counties, Nevada, by J. H. Stewart, M. W. Reynolds, and D. C. Johannesen, *with* Surficial geology, by J. C. Dohrenwend. 1981. Lat 38°30' to 38°45', long 118°45' to 119°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 25 by 37 inches. (Reprint.)
- MF-1283. CONNECTICUT, RHODE ISLAND. Seismicity map of the states of Connecticut and Rhode Island, by C. W. Stover, L. M. Barnhard, B. G. Reagor, and S. T. Algermissen. 1981. Lat about 41° to about 42°, long about 71° to about 73°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 25 by 25 inches. (Reprint.)
- MF-1286. MISSOURI. Geology and mineral resource potential of the Paddy Creek Wilderness Study Area, Texas County, Missouri, by W. P. Pratt and E. L. Mosier, U.S. Geological Survey, and Clarence Ellis, U.S. Bureau of Mines. 1981. Lat 37°30' to about 37°35', long 92° to about 92°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 22 by 31 inches. (Accompanied by 6-page text.) (Reprint.)
- MF-1289. WASHINGTON. Physiographic diagrams of the May 18, 1980, landslide-eruption of Mount St. Helens, Washington, by T. R. Alpha, and J. G. Moore. 1981. Sheet 24 by 39 inches. (Reprint.)
- MF-1305. Map showing the oxygen isotope composition of granitoid rocks of the Basin-Range Province, by D. E. Lee, Irving Friedman, and J. D. Gleason. 1981. Lat 31° to 43°, long 109° to 121°. Scale 1:3,168,000 (1 inch = 50 miles). Sheet 21 by 32 inches. (Reprint.)
- MF-1315-C. ARIZONA. Geophysical maps of the Gila-San Francisco Wilderness Study Area, Graham and Greenlee counties, Arizona, by D. P. Klein. 1984. Lat 32°50' to about 33°05', long 109°15' to 109°35'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 39 by 52 inches.
- MF-1338-C. TENNESSEE. Mineral resource potential map of the Little Frog Roadless Area, Polk County, Tennessee, by E. R. Force, U.S. Geological Survey, and G. C. Gazdik, U.S. Bureau of Mines. 1983 (1984). Lat 35° to about 35°05', long 84°22'30" to about 84°27'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 40 inches. (Accompanied by 8-page text.)
- MF-1347-D. GEORGIA. Mineral resource potential map of the Tray Mountain Roadless Area, northern Georgia, by A. E. Nelson and R. P. Koeppen, U.S. Geological Survey, and M. L. Chatman, U.S. Bureau of Mines. 1983 (1984). Lat 34°45' to about 34°55', long about 83°32'30" to 83°45'. Scale 1:30,000 (1 inch = 2,500 feet). Sheet 32 by 32 inches. (Accompanied by 10-page text.)
- MF-1354-F. MONTANA, IDAHO. Maps showing mineral occurrence data for the Wallace 1° by 2° Quadrangle, Montana and Idaho, by Sharon Chesson and Thomas Griffith, U.S. Geological Survey, and R. R. Wallace, U.S. Forest Service. 1984. Lat 47° to 48°, long 114° to 116°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 32 by 54 inches.
- MF-1354-G. MONTANA, IDAHO. Geochronometric and lead isotope data on samples from the Wallace 1° by 2° Quadrangle, Montana and Idaho, by R. F. Marvin, R. E. Zartman, J. D. Obradovich, and J. E. Harrison. 1984. Lat 47° to 48°, long 114° to 116°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 39 inches.

- MF-1360. A compilation of subsea energy and mineral resources of the United States including its possessions and trust territory of the Pacific Islands, by A. F. Holser, R. W. Rowland, and M. R. Goud. 1981. Lat 20° south to 70° north, long 50° west across 180° meridian to 120° east. Scale 1:20,000,000 (1 inch = 320 miles). Sheet 30 by 48 inches. (Reprint.)
- MF-1361-D. CALIFORNIA, NEVADA. Mineral resource potential map of the White Mountains and Birch Creek Roadless Areas, White Mountains, California and Nevada, by M. F. Diggles and R. J. Blakely, U.S. Geological Survey, and S. W. Schmauch, R. L. Rains, D. A. Lipton, R. A. Winters, and S. R. L. Iverson, U.S. Bureau of Mines. 1983 (1984). Lat about 37°15' to 37°55', long 118° to 118°30'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 36 by 58 inches. (Accompanied by 25-page text.)
- MF-1380-C. WASHINGTON. Mineral resource potential map of the Glacier Peak Roadless Area, Snohomish County, Washington, by S. E. Church and R. W. Tabor, U.S. Geological Survey, and F. L. Johnson, U.S. Bureau of Mines. 1983 (1984). Lat 47°52'30" to 48°07'30", long about 121°15' to about 121°30'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 33 by 44 inches. (Accompanied by 15-page text.)
- MF-1382-A. CALIFORNIA, NEVADA. Geologic map of the Walker Lake 1° by 2° Quadrangle, California and Nevada, by J. H. Stewart, J. E. Carlson, and D. C. Johannesen. 1982. Lat 38° to 39°, long 118° to 120°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 43 by 45 inches. (Reprint.)
- MF-1382-O. NEVADA, CALIFORNIA. Map showing localities and correlation of age-diagnostic lower Mesozoic megafossils, Walker Lake 1° by 2° Quadrangle, Nevada and California, by N. J. Silberling. 1984. Lat 38° to 39°, long 118° to 120°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 36 by 39 inches.
- MF-1382-P. CALIFORNIA, NEVADA. Map of the Walker Lake 1° by 2° Quadrangle, California and Nevada, showing the regional distribution of linear features, by L. C. Rowan, and T. L. Purdy. 1984. Lat 38° to 39°, long 118° to 120°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 25 by 30 inches. (Accompanied by 28-page text.)
- MF-1382-Q. CALIFORNIA, NEVADA. Map of the Walker Lake 1° by 2° Quadrangle, California and Nevada, showing the regional distribution of hydrothermally altered rocks, by L. C. Rowan, and T. L. Purdy. 1984. Lat 38° to 39°, long 118° to 120°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 25 by 30 inches. (Accompanied by 10-page text.)
- MF-1382-R. CALIFORNIA, NEVADA. Mineral occurrence map and tabulation of properties and names and commodity and production data, Walker Lake 1° by 2° Quadrangle, California-Nevada, by F. J. Kleinhampl, J. B. Fiebelkorn, D. A. John, and W. J. Moore. 1984. Lat 38° to 39°, long 118° to 120°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 32 by 40 inches. (Accompanied by 11-page text.)
- MF-1412-D. ARIZONA. Mineral resources potential map of the North End Roadless Area, Chiricahua Mountains, Cochise County, Arizona, by Harald Drewes, C. K. Moss, K. C. Watts, Jr. and C. L. Forn, U.S. Geological Survey, and P. R. Bigsby, U.S. Bureau of Mines. 1983 (1984). Lat about 32° to about 32°10', long about 109°15' to about 109°20'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 24 by 39 inches. (Accompanied by 9-page text.)
- MF-1418-C. WASHINGTON. Geochemical maps of the Wonder Mountain Roadless Area, Mason County, Washington, by J. G. Frisken, S. E. Church, E. L. Mosier, and A. D. McCollum. 1984. Lat about 47°15' to about 47°30', long about 123°15' to about 123°30'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 30 by 31 inches.
- MF-1420. WASHINGTON. Physiographic diagrams of Mount St. Helens, Washington, showing changes in its summit crater, 1981, by T. R. Alpha, J. M. Morley, Bobbie Myers, and Terry Leighley. 1982. Lat 42° to about 48°, long about 118° to about 122°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 40 inches. (Reprint.)
- MF-1422. CALIFORNIA. Map showing recently active and dormant landslides near La Honda, central Santa Cruz Mountains, California, by G. F. Wiczorek. 1982. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 41 by 54 inches. (Reprint.)
- MF-1423-A. CALIFORNIA, OREGON. Geologic map of the North Fork Smith River Roadless Area, Del Norte County, Northern California, and Curry County, Oregon, by Floyd Gray, N. J. Page, H. R. Cornwall, and D. F. Huber. 1983. Lat 41°50' to about 42°, long 123°45' to 124°05'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 23 by 37 inches. (Reprint.)
- MF-1423-B. CALIFORNIA, OREGON. Mineral resource potential maps of the North Fork Smith River Roadless Areas, Del Norte County, California, Curry and Josephine counties, Oregon, by Floyd Gray and N. J. Page, U.S. Geological Survey, and M. M. Hamilton, A. R. Buehler, and P. N. Gabby, U.S. Bureau of Mines. 1983 (1984). Lat 41°50' to about 42°, long about 123°50' to about 124°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 36 by 47 inches. (Accompanied by 22-page text.)
- MF-1426-B. CALIFORNIA. Mineral resource potential map of the Coyote SE and Table Mountain Roadless Areas, Inyo County, California, by G. S. Elliott and M. A. Chaffee, U.S. Geological Survey, and D. O. Capstick, U.S. Bureau of Mines. 1983 (1984). Lat 37°05' to about 37°20', long 118°15' to 118°40'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 28 by 38 inches. (Accompanied by 11-page text.)
- MF-1427-B. CALIFORNIA. Mineral resource potential map of the Bald Rock and Middle Fork Feather River Roadless Areas, Butte and Plumas counties, California, by M. L. Sorensen and Andrew Griscom, U.S. Geological Survey, and M. D. Conyac, A. R. Buehler, D. E. Graham, and T. M. Sweeney, U.S. Bureau of Mines. 1983 (1984). Lat about 39°35' to 39°55', long 120°50' to about 121°20'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 31 by 43 inches. (Accompanied by 14-page text.)
- MF-1429. CALIFORNIA. Maps showing geomorphic and geologic evidence for late Quaternary displacement along the Surprise Valley and associated faults, Modoc County, California, by C. W. Hedel. 1984. Two sheets. Sheet 1, lat 41°30' to 42°, long 120° to 120°15'. Sheet 2, lat 41°07'30" to 41°30', long 120° to 120°15'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 41 by 50 inches (northern portion); sheet 2, 33 by 37 inches (southern portion).

- MF-1434. IDAHO. Geologic map of Mt. Jordan and vicinity, Custer County, Idaho, by Fess Foster. 1982. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 29 by 39 inches. (Reprint.)
- MF-1444-B. PENNSYLVANIA. Mineral resource potential map of the Clarion River Roadless Area, Elk County, Pennsylvania, by S. P. Schweinfurth and Wallace de Witt, Jr., U.S. Geological Survey, and R. A. Welsh, Jr. and P. T. Behum, U.S. Bureau of Mines. 1983 (1984). Lat 41°21'30" to 41°25'30", long 78°45' to 78°51'. Scale 1:500,000 (1 inch = about 8 miles). Sheet 35 by 40 inches. (Accompanied by 12-page text.)
- MF-1453-B. CALIFORNIA. Mineral resource potential map of the Tioga Lake-Hall Natural Area, Log Cabin-Saddlebag, and Horse Meadows Roadless Areas, Mono County, California, by J. F. Sietz, M. A. Chaffee, and H. W. Oliver, U.S. Geological Survey, and F. E. Federspiel, D. F. Scott, E. E. Cather, N. T. Zilka, and A. M. Leszczykowski, U.S. Bureau of Mines. 1983 (1984). Lat about 37°50' to about 38°, long 119°05' to about 119°20'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 25 by 35 inches. (Accompanied by 9-page text.)
- MF-1464-C. NEW MEXICO. Mineral resource potential map of the Manzano Wilderness, Valencia and Torrance counties, New Mexico, by C. H. Maxwell and R. A. Wobus, U.S. Geological Survey and T. D. Light, U.S. Bureau of Mines. 1983 (1984). Lat about 34°30' to about 34°47'30", long about 106°22'30" to about 106°30'. Scale 1:50,000 (1 inch = about 4,200 feet). (Accompanied by 6-page text.)
- MF-1465-B. NEW MEXICO. Map of Quaternary and Pliocene faults in the eastern part of the Aztec 1° by 2° Quadrangle and the western part of the Raton 1° by 2° Quadrangle, northern New Mexico, by M. N. Machette, and S. F. Personius. 1984. Lat 36° to 37°, long about 105°30' to 107°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 22 by 35 inches. (Accompanied by 14-page text.)
- MF-1466-B. IDAHO. Geophysical map of the Jerry Peak Wilderness Study Area, Custer County, Idaho, by T. G. Hildenbrand, and D. R. Mabey. 1983 (1984). Lat 44° to 44°15', long 114° to 114°22'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 41 by 52 inches.
- MF-1466-C. IDAHO. Mineral resource potential maps of the Jerry Park, Jerry Park West, and Boulder Creek Wilderness Study Areas, Custer County, Idaho, by D. H. McIntyre, and F. L. Johnson. 1984. Lat 44° to 44°15', long 114° to 114°30'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 34 by 51 inches.
- MF-1495-B. IDAHO, MONTANA. Reconnaissance geologic map of the Selway-Bitterroot Wilderness, Idaho County, Idaho, and Missoula and Ravalli counties, Montana, by M. L. Toth. 1983. Lat 45°40' to 46°45', long 114° to 115°30'. Scale 1:125,000 (1 inch = about 2 miles). Sheet 38 by 55 inches. (Reprint.)
- MF-1502-C. GEORGIA. Mineral resource potential map of the Chattahoochee Roadless Area, Towns, Union, and White counties, Georgia, by A. E. Nelson and R. P. Koeppen, U.S. Geological Survey, and R. A. Welsh, Jr. and R. W. Mikolajczyk, U.S. Bureau of Mines. 1983 (1984). Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 23 by 40 inches. (Accompanied by 9-page text.)
- MF-1503-A. GEORGIA. Geologic map of the Blood Mountain Roadless Area, Union and Lumpkin counties, Georgia, by A. E. Nelson. 1983 (1984). Lat about 34°40' to about 34°45', long about 83°55' to 84°. Scale 1:30,000 (1 inch = 2,500 feet). Sheet 24 by 40 inches.
- MF-1503-C. GEORGIA. Mineral resource potential map of the Blood Mountain Roadless Area, Union and Lumpkin counties, Georgia, by R. P. Koeppen and A. E. Nelson, U.S. Geological Survey, and M. K. Armstrong and A. E. Sabin, U.S. Bureau of Mines. 1983 (1984). Lat about 34°40' to about 34°45', long about 83°55' to 84°. Scale 1:30,000 (1 inch = 2,500 feet). Sheet 24 by 30 inches. (Accompanied by 9-page text.)
- MF-1510-A. PENNSYLVANIA. Geologic map of the Cornplanter Roadless Area, Warren County, Pennsylvania, by F. G. Lesure. 1984. Lat 41°55' to 42°, long about 78°55' to 79°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 38 inches.
- MF-1510-B. PENNSYLVANIA. Geochemical maps of the Cornplanter Roadless Area, Warren County, Pennsylvania, by F. G. Lesure, and G. W. Day. 1984. Lat 41°55' to 42°, long about 78°55' to 79°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 38 by 50 inches.
- MF-1511-B. MISSOURI. Geophysical map of the Irish Wilderness Roadless Area, Oregon and Ripley counties, Missouri, by C. K. Moss. 1984. Lat about 36°40' to about 36°50', long about 91°05' to about 91°15'. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 23 by 32 inches.
- MF-1519. CONNECTICUT. Surficial geologic map of the Bethel Quadrangle, Connecticut, by E. H. London. 1984. Lat 41°15' to 41°22'30", long 73°22'30" to 73°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 42 inches.
- MF-1520. CONNECTICUT. Surficial geologic map of the Norwalk Quadrangle, Connecticut, by E. H. London. 1984. Lat 41°07'30" to 41°15', long 73°22'30" to 73°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 41 inches.
- MF-1521-D. ARIZONA. Reconnaissance geochemical maps of mineralized rocks in the Dragoon Mountains Roadless Area, Cochise County, Arizona, by Harald Drewes. 1984. Lat about 31°55' to about 32°, long about 109°55' to about 110°. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 36 by 45 inches.
- MF-1521-E. ARIZONA. Geochemical and mineralogic maps of the Dragoon Mountains Roadless Area, Cochise County, Arizona, by K. C. Watts, J. R. Hassemer, M. S. Erickson, and Harald Drewes. 1984. Two sheets; Lat about 31°55' to about 32°, long 109°55' to about 110°. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 1, 39 by 49 inches; sheet 2, 31 by 51 inches.
- MF-1521-F. ARIZONA. Mine and prospect map of the Dragoon Mountains Roadless Area, Cochise County, Arizona, by T. J. Kreidler, U.S. Bureau of Mines. 1984. Lat about 31°50' to about 32°05', long about 109°55' to about 110°. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 37 by 55 inches.
- MF-1531. Submarine topography, surficial geology, and fauna of Oceanographer Canyon, northern part, by P. C. Valentine, U.S. Geological Survey and J. R. Uzzmann and R. A. Cooper, National Marine Fisheries Service. 1984. Five sheets. Sheet 1, Lat about 40° to about 41°, long about 66° to about 71°. Sheet 2, Lat about 40°24' to about 40°30', long about 68°06' to about 68°12'. Sheet 3, Lat about 40°24' to about 40°30', long about 68°06' to about 68°12'. Scale 1:10,000 (1 inch = about 800 feet). Sheet 1, 39 by 52 inches; sheet 2, 40 by 55 inches; sheet 3, 40 by 55 inches; sheet 4, 37 by 38 inches; sheet 5, 37 by 40 inches. (Accompanied by 7-page text.)

- MF-1532-A. CALIFORNIA. Mineral resource potential map of the Cypress Roadless Area, southern Sierra Nevada, California, by G. L. Kennedy, M. A. Chaffee, J. F. Seitz, and J. L. Harner, U.S. Geological Survey, and D. O. Capstick, U.S. Bureau of Mines. 1983 (1984). Lat about 35°30' to about 35°35', long about 118°25' to about 118°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 24 by 35 inches. (Accompanied by 7-page text.)
- MF-1534-A. MONTANA. Geologic map of the Mount Henry Roadless Area, Lincoln County, Montana, by R. E. Van Loenen. 1984. Lat 48°48'28" to 48°57'04", long 115°24'44" to 115°40'07". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 31 by 38 inches.
- MF-1534-B. MONTANA. Reconnaissance geochemical map of the Mount Henry Roadless Area, Lincoln County, Montana, by D. F. Siems, R. W. Leinz, R. E. Van Loenen, G. A. Wadsworth, and C. M. McDougal. 1984. Lat 48°48'28" to 48°57'04", long 115°24'44" to 115°40'07". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 39 inches.
- MF-1534-D. MONTANA. Mineral resource potential map of the Mount Henry Roadless Area, Lincoln County, Montana, by R. E. Van Loenen, D. F. Siems, and Viki Bankey, U.S. Geological Survey, and M. D. Conyac, U.S. Bureau of Mines. 1983 (1984). Lat 48°48'28" to 48°57'04", long 115°24'44" to 115°40'07". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 21 by 35 inches. (Accompanied by 5-page text.)
- MF-1535-A. CALIFORNIA, NEVADA. Mineral resource potential map of the Sweetwater Roadless Area, Mono County, California, and Lyon and Douglas counties, Nevada, by G. F. Brem, M. A. Chaffee, and Donald Plouff, U.S. Geological Survey, and R. H. Lambeth, H. W. Campbell, D. F. Scott, and J. M. Spear, U.S. Bureau of Mines. 1983 (1984). Lat 38°15' to 38°40', long 119°05' to 119°30'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 37 by 44 inches. (Accompanied by 26-page text.)
- MF-1535-B. CALIFORNIA, NEVADA. Geologic map of the Sweetwater Roadless Area, Mono County, California, and Lyon and Douglas counties, Nevada, by G. F. Brem. 1984. Lat 38°15' to 38°40', long 119°05' to 119°30'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 28 by 39 inches.
- MF-1538. SOUTH CAROLINA, GEORGIA. Map showing distribution of small-scale deformation structures in a part of the upper coastal plain of South Carolina and adjacent Georgia, by R. C. McDowell, and B. B. Houser. 1983 (1984). Lat 33° to 34°, long about 81° to 82°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 46 inches.
- MF-1541. WASHINGTON. Geologic map of the Edmonds East and part of the Edmonds West quadrangles, Washington, by J. P. Minard. 1983 (1984). Lat 47°45' to 47°52'30", long 122°15' to 122°25'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 35 inches.
- MF-1551. GEORGIA. Maps, auger hole logs, and trench summaries from sedimentary deposits near Warm Springs, Georgia, by Juergen Reinhardt, J. R. Estabrook, and D. C. Prowell. 1984. Two sheets. Sheet 1, 38 by 44 inches; sheet 2, 38 by 40 inches.
- MF-1552. TEXAS. Geology and mineral resource potential map of the Graham Creek Roadless Area, Angelina and Jasper counties, Texas, by B. B. Houser, U.S. Geological Survey, and G. S. Ryan, U.S. Bureau of Mines. 1983 (1984). Lat 31° to 31°07'30", long 94°17' to 94°26'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 23 by 28 inches. (Accompanied by 9-page text.)
- MF-1553. TEXAS. Geologic and mineral resource potential map of the Chambers Ferry Roadless Area, Sabine National Forest, Sabine County, Texas, by B. B. Houser, U.S. Geological Survey, and G. S. Ryan, U.S. Bureau of Mines. 1983. Lat 31°30' to about 31°35', long about 93°50' to about 93°55'. Scale 1:50,000 (1 inch = about 4,200 feet). (Accompanied by 9-page text.)
- MF-1556-A. SOUTH CAROLINA. Geologic map of the Hell Hole Bay, Wambaw Swamp, Little Wambaw Swamp, and Wambaw Creek Wildernesses, Berkeley and Charleston counties, South Carolina, by C. C. Cameron, E. R. Force, and A. E. Grosz. 1984. Lat 33° to 33°15', long 79°22'30" to 79°45'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 45 by 46 inches.
- MF-1557-D. MONTANA, IDAHO. Geophysical maps of the Blue Joint Wilderness Study Area, Ravalli County, Montana, and the Blue Joint Roadless Area, Lemhi County, Idaho, by M. D. Kleinkopf, Viki Bankey, and M. R. Brickey. 1984. Two sheets. Lat about 45°35' to about 45°45', long about 114°15' to about 114°35'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 1, 37 by 38 inches; sheet 2, 29 by 38 inches.
- MF-1561-A. ALABAMA. Geologic map of the Adams Gap and Shinbone Creek Roadless Areas, Clay County, Alabama, by G. R. Robinson, Jr., T. L. Klein, and F. G. Lesure. 1984. Lat about 33°22'30" to 33°30', long 85°45' to about 85°55'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 24 by 32 inches.
- MF-1561-B. ALABAMA. Geochemical survey of the Adams Gap and Shinbone Creek Roadless Areas, Clay County, Alabama, by G. R. Robinson, Jr., T. L. Klein, F. G. Lesure, and J. T. Hanley. 1984. Lat about 33°22'30" to 33°30', long 85°45' to about 85°55'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 34 by 37 inches.
- MF-1565-A. ILLINOIS. Geologic map of the Burden Falls Roadless Area, Pope County, Illinois, by J. S. Klasner. 1983 (1984). Scale 1:24,000 (1 inch = 2,000 feet). Sheet 21 by 33 inches.
- MF-1567-A. ARIZONA. Mineral resource potential and geologic map of the Rattlesnake Roadless Area, Coconino and Yavapai counties, Arizona, T. N. V. Karlstrom and G. H. Billingsley, U.S. Geological Survey, and Robert McColly, U.S. Bureau of Mines. 1983 (1984). Lat 34°40' to 34°52'30", long 111°37'30" to 111°47'30". Scale 1:24,000 (1 inch = 2,000 feet). (Accompanied by 9-page text.)
- MF-1568-A. ARIZONA. Mineral resource potential map of the Fossil Springs Roadless Area, Yavapai, Gila, and Coconino counties, Arizona, by G. W. Weir and L. S. Beard, U.S. Geological Survey, and C. E. Ellis, U.S. Bureau of Mines. 1983 (1984). Lat 34°23'43" to about 34°30', long 111°27'30" to about 111°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 43 inches. (Accompanied by 12-page text.)

- MF-1568-B. ARIZONA. Aeromagnetic map of the Fossil Springs Roadless Area, Yavapai, Gila, and Coconino counties, Arizona, by W. E. Davis, and G. W. Weir. 1984. Lat 34°22'30" to about 34°30', long about 111°27'30" to about 111°40'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 28 by 41 inches.
- MF-1568-C. ARIZONA. Geologic map of the Fossil Springs Roadless Area, Yavapai, Gila, and Coconino counties, Arizona, by G. W. Weir, and L. S. Beard. 1984. Lat 34°23'43" to 34°30', long 111°27'30" to about 111°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 31 by 36 inches.
- MF-1569-C. MONTANA. Geochemical maps of the Gallatin Divide Roadless Area, Gallatin and Park counties, Montana, by F. S. Simons, R. E. Van Loenen, and S. L. Moore. 1984. Two sheets. Sheet 1, Lat about 45°05' to about 45°30', long 110°45' to about 111°15'; sheet 2, Lat about 45°10' to about 45°30', long about 110°50' to about 111°10'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 36 by 47 inches; sheet 2, 29 by 31 inches.
- MF-1571. COLORADO. Maps showing geology and mineral resource potential of the Wheeler Wilderness Study Area, Mineral County, Colorado, by W. H. Raymond and J. G. Crock, U.S. Geological Survey, and C. L. Bieniewski, U.S. Bureau of Mines. 1983 (1984). Lat about 37°50' to about 37°55', long about 106°44' to about 106°51'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 40 inches. (Accompanied by 12-page text.)
- MF-1572-A. FLORIDA. Geologic map of the Big Gum Swamp and Natural Area Roadless Areas, Osceola National Forest, Columbia and Baker counties, Florida, by S. H. Patterson, J. B. Cathcart, C. C. Cameron, and P. G. Schruben. 1984. Lat about 30°20' to about 30°22'30", long about 82°22'30" to about 82°27'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 40 by 41 inches.
- MF-1573-A. ARIZONA. Mineral resource potential map of the Mazatzal Wilderness and contiguous roadless area, Gila, Maricopa, and Yavapai counties, Arizona, by C. T. Wrucke, S. P. Marsh, C. M. Conway, D. M. Kulik, C. K. Moss, and G. L. Raines, U.S. Geological Survey, and C. E. Ellis, U.S. Bureau of Mines. 1983 (1984). Lat 33°52'30" to about 34°22'30", long about 111°25' to about 111°47'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 42 by 58 inches. (Accompanied by 15-page text.)
- MF-1577-B. ARIZONA. Geologic map of the Arnold Mesa Roadless Area, Yavapai County, Arizona, by E. W. Wolfe. 1983 (1984). Lat about 34°20' to 34°30', long about 111°45' to 112°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 42 by 58 inches.
- MF-1577-C. ARIZONA. Geochemical map of the Arnold Mesa Roadless Area, Yavapai County, Arizona, by E. W. Wolfe. 1983 (1984). Lat about 34°20' to 34°30', long about 111°45' to 112°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 39 by 57 inches.
- MF-1577-D. ARIZONA. Aeromagnetic map of the Arnold Mesa Roadless Area, Yavapai County, Arizona, by W. E. Davis, and E. W. Wolfe. 1983 (1984). Lat about 34°20' to 34°30', long about 111°45' to 112°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 35 by 47 inches.
- MF-1580. IDAHO. Mineral resource potential, geologic, and geochemical maps of part of the White Cloud-Boulder Roadless Areas, Custer County, Idaho, by F. S. Fisher, G. D. May, and D. H. McIntyre, U.S. Geological Survey and F. L. Johnson, U.S. Bureau of Mines. 1983 (1984). Scale 1:62,500 (1 inch = about 1 mile). Sheet 36 by 39 inches. (Accompanied by 8-page text.)
- MF-1583. WISCONSIN. Geologic, aeromagnetic, and mineral resource potential maps of the Whisker Lake Wilderness, Florence County, Wisconsin, by K. J. Schulz. 1983 (1984). Lat about 45°55' to 46°, long about 88°25' to 88°30'. Sheet 26 by 30 inches.
- MF-1586-C. GEORGIA. Mineral resource potential map of the Rich Mountain Roadless Area, Fannin and Gilmer counties, Georgia, by M. F. Foose, U.S. Geological Survey, and R. M. Thompson, U.S. Bureau of Mines. 1983 (1984). Lat about 34°42'30" to about 35°, long about 84°17'30" to about 84°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 27 by 35 inches. (Accompanied by 8-page text.)
- MF-1588-A. COLORADO. Mineral resource potential map of the Vasquez Peak Wilderness Study Area, and the St. Louis Peak and Williams Fork Roadless Areas, Clear Creek, Grand, and Summit counties, Colorado, by P. K. Theobald, R. G. Eppinger, C. K. Moss, and H. N. Barton, U.S. Geological Survey, and A. M. Bielski and T. J. Kreidler, U.S. Bureau of Mines. 1983 (1984). Lat 39°38' to 39°57', long 105°45' to 106°08'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 33 by 53 inches. (Accompanied by 13-page text.)
- MF-1589-A. MONTANA. Mineral resource potential map of the Ten Lakes Wilderness Study Area, Lincoln County, Montana, by J. W. Whipple, W. J. Perry, Jr., and R. W. Leinz, U.S. Geological Survey, and M. M. Hamilton and D. W. Avery, U.S. Bureau of Mines. 1983 (1984). Lat about 48°52'30" to about 49°, long 114°45' to about 115°. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 22 by 39 inches. (Accompanied by 7-page text.)
- MF-1589-B. MONTANA. Geologic map of the Ten Lakes Wilderness Study Area, Lincoln County, Montana, by J. W. Whipple. 1984. Lat about 48°52'30" to about 49°, long 114°45' to about 115°. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 24 by 39 inches.
- MF-1590-C. MONTANA. Mineral resource potential map of the Middle Mountain-Tobacco Root Roadless Area, Madison County, Montana, by J. M. O'Neill, U.S. Geological Survey, and Eric Cather and J. M. Linne, U.S. Bureau of Mines. 1983 (1984). Lat 45°30' to 45°45', long about 111°55' to 112°15'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 49 inches. (Accompanied by 17-page text.)
- MF-1591-B. FLORIDA. Mineral resource potential map of the Farles Paririe and Buck Lake Roadless Areas, Marion County, Florida, by J. B. Cathcart and S. H. Patterson, U.S. Geological Survey, and T. M. Crandall, U.S. Bureau of Mines. 1983 (1984). Scale 1:24,000 (1 inch = 2,000 feet). Sheet 42 by 43 inches. (Accompanied by 20-page text.)

- MF-1592. WISCONSIN. Geologic and aeromagnetic maps and mineral resource potential survey of the Blackjack Springs Wilderness, Vilas County, Wisconsin, by K. J. Schulz. 1983 (1984). Lat 45°55' to about 46°, long about 89°02'30" to 89°07'30". Sheet 24 by 26 inches.
- MF-1593-B. VERMONT. Mineral resource potential map of the British Cliffs Wilderness, Addison County, Vermont, by J. F. Slack, U.S. Geological Survey, and P. C. Mory, U.S. Bureau of Mines. 1983 (1984). Lat about 44°05' to about 44°07'30", long 73° to about 73°05'. Scale 1:24,000 (1 inch = 2,000 feet). (Accompanied by 7-page text.)
- MF-1594-B. NEW HAMPSHIRE. Mineral resource potential map of the wilderness and roadless areas of the White Mountain National Forest, Coos, Grafton, and Carroll counties, New Hampshire, by R. H. Moench and F. C. Canney, U.S. Geological Survey, and G. C. Gazdik, U.S. Bureau of Mines. 1984. Lat 43°45' to 44°30', long about 71° to 72°. Scale 1:125,000 (1 inch = about 2 miles). Sheet 31 by 57 inches. (Accompanied by 12-page text.)
- MF-1596-A. WYOMING. Mineral resource potential map of the Snowy Range Wilderness, Albany and Carbon counties, Wyoming, by R. S. Houston, K. E. Karlstrom, L. R. Lanthier, and W. R. Miller, U.S. Geological Survey, and P. R. Bigsby, U.S. Bureau of Mines. 1983 (1984). Lat about 41°20' to about 41°27'30", long 106°12'30" to about 106°22'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 20 by 31 inches. (Accompanied by 12-page text.)
- MF-1600-A. CALIFORNIA. Geologic map of part of the Orleans Mountain Roadless Area, Siskiyou and Trinity counties, California, compiled by A. S. Jayko, and M. C. Blake, Jr. 1984. Lat 41° to about 41°15', long about 122°40' to 123°15'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 41 by 53 inches.
- MF-1600-B. CALIFORNIA. Mineral resource potential map of parts of the Orleans Mountain Roadless Area, Siskiyou and Trinity counties, California, by A. S. Jayko and M. C. Blake, Jr., U.S. Geological Survey and L. Y. Marks, H. K. Thurber, and R. K. Evans, U.S. Bureau of Mines. 1983 (1984). Lat 41° to about 41°15', long about 122°40' to 123°15'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 36 by 51 inches. (Accompanied by 9-page text.)
- MF-1601-A. MONTANA, IDAHO. Mineral resource potential map of the Italian Peak and Italian Peak Middle Roadless Areas, Beaverhead County, Montana, and Clark and Lemhi counties, Idaho, by Betty Skipp, J. C. Antweiler, and D. M. Kulik, U.S. Geological Survey and R. H. Lambeth and R. T. Mayerle, U.S. Bureau of Mines. 1983 (1984). Lat 44°15' to 44°30', long 112°35' to 113°05'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 36 by 48 inches. (Accompanied by 13-page text.)
- MF-1601-B. MONTANA, IDAHO. Geologic map and cross sections of the Italian Peak and Italian Peak Middle Roadless areas, Beaverhead County, Montana, and Clark and Lemhi counties, Idaho, by Betty Skipp. 1984. Lat 44°15' to 44°30', long 112°35' to 113°05'. Scale 1:62,500 (1 inch = about 1 mile). Sheet 38 by 58 inches.
- MF-1605-A. MONTANA. Mineral resource potential map of the Madison Roadless Area, Gallatin and Madison counties, Montana, by F. S. Simons, R. G. Tysdal, and R. E. Van Loenen, U.S. Geological Survey, and R. H. Lambeth, S. W. Schmauch, R. T. Mayerle, and M. M. Hamilton, U.S. Bureau of Mines. 1983 (1984). Lat about 44°50' to about 45°30', long about 111°05' to about 111°35'. Scale 1:96,000 (1 inch = 8,000 feet). Sheet 41 by 45 inches. (Accompanied by 7-page text.)
- MF-1606-A. CALIFORNIA. Mineral resource potential map of the Sugarloaf Roadless Area, San Bernardino County, California, by R. E. Powell, J. C. Matti, B. F. Cox, H. W. Oliver, and Alexander Wagini, U.S. Geological Survey, and H. W. Campbell, U.S. Bureau of Mines. 1983 (1984). Lat about 34°10' to about 34°12'30", long 116°45' to 116°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 34 inches. (Accompanied by 9-page text.)
- MF-1607-A. CALIFORNIA. Mineral resource potential map of the Arroyo Seco Roadless Area, Los Angeles County, California, by R. E. Powell, B. F. Cox, and J. C. Matti, U.S. Geological Survey, and P. N. Gabby, U.S. Bureau of Mines. 1983 (1984). Lat 34°12'30" to 34°17'30", long 118°05' to 118°12'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 24 by 37 inches. (Accompanied by 7-page text.)
- MF-1609-C. VERMONT. Mineral resource potential map of the Lye Brook Wilderness, Bennington and Windham counties, Vermont, by R. A. Ayuso, U.S. Geological Survey, and D. K. Harrison, U.S. Bureau of Mines. 1983 (1984). Lat 43° to about 43°10', long about 72°57'30" to 73°07'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 22 by 30 inches. (Accompanied by 8-page text.)
- MF-1610-B. NORTH CAROLINA. Mineral resource potential map of the Linville Gorge Wilderness and proposed extensions, Burke and McDowell counties, North Carolina, by J. P. D'Agostino and J. W. Whitlow, U.S. Geological Survey and G. C. Gazdik and D. K. Harrison, U.S. Bureau of Mines. 1983 (1984). Lat 35°48' to 35°58'15", long 81°51'30" to 81°56'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 33 by 35 inch). (Accompanied by 9-page text.)
- MF-1611-C. VIRGINIA. Mineral resource potential map of the Devils Fork Roadless Area, Scott County, Virginia, by K. J. England and W. R. Sigleo, U.S. Geological Survey and P. T. Behum, U.S. Bureau of Mines. 1983 (1984). Two sheets. Lat 36°46'30" to 36°51'30", long 82°37'30" to 82°43'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 1, 32 by 39 inches; sheet 2, 37 by 41 inches. (Accompanied by 12-page text.)
- MF-1611-D. VIRGINIA. Maps showing mines, quarries, prospects, and exposures in the Devils Fork Roadless Area, Scott County, Virginia, by P. T. Behum, U.S. Bureau of Mines. 1984. Lat about 36°45'57" to about 36°52'30", long about 82°35'47" to about 82°42'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 27 by 40 inches.
- MF-1614-A. ARIZONA. Mineral resource potential map of the Whetstone Roadless Area, Cochise and Pima counties, Arizona, by C. T. Wrucke, R. S. Werschky, V. L. Bankey, M. D. Kleinkopf, M. H. Staatz, and A. K. Armstrong, U.S. Geological Survey, and R. A. McColly, and D. C. Scott, U.S. Bureau of Mines. 1983 (1984). Lat about 31°40' to about 31°55', long about 110°20' to 110°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 35 by 35 inches. (Accompanied by 10-page text.)

- MF-1614-B. ARIZONA. Geologic map of the Whetstone Roadless Area and vicinity, Cochise and Pima counties, Arizona, by C. T. Wrucke, and A. K. Armstrong. 1984. Lat $31^{\circ}40'$ to about $31^{\circ}55'$, long $110^{\circ}20'$ to $110^{\circ}30'$. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 34 by 37 inches.
- MF-1615-A. CALIFORNIA. Geologic map of the Sheep Hole-Cadiz Wilderness Study Area, San Bernardino County, California, by K. A. Howard, and B. E. John. 1984. Lat about $34^{\circ}05'$ to $34^{\circ}30'$, long $115^{\circ}20'$ to $115^{\circ}45'$. Scale 1:62,500 (1 inch = about 1 mile). Sheet 42 by 54 inches.
- MF-1616-A. CALIFORNIA. Mineral resource potential map of the Pyramid Roadless Area, El Dorado County, California, by A. K. Armstrong and M. A. Chaffee, U.S. Geological Survey, and D. F. Scott, U.S. Bureau of Mines. 1983 (1984). Lat about $38^{\circ}50'$ to about 39° , long 120° to about $120^{\circ}20'$. Scale 1:62,500 (1 inch = about 1 mile). Sheet 29 by 36 inches. (Accompanied by 5-page text.)
- MF-1617-A. CALIFORNIA. Mineral resource potential map of the Tuolumne River Roadless Areas, Tuolumne County, California, by J. L. Harner, J. F. Seitz, and Donald Plouff, U.S. Geological Survey and P. C. Hyndman, U.S. Bureau of Mines. 1983 (1984). Lat about $37^{\circ}50'$ to about $37^{\circ}55'$, long 120° to about $120^{\circ}15'$. Scale 1:62,500 (1 inch = about 1 mile). Sheet 24 by 34 inches. (Accompanied by 13-page text.)
- MF-1618-A. GEORGIA, NORTH CAROLINA. Mineral resource potential map of the Overflow Roadless Area, Rabun County, Georgia, and Macon County, North Carolina, by R. P. Koeppen and A. E. Nelson, U.S. Geological Survey, and M. P. Davis, U.S. Bureau of Mines. 1983. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 27 by 39 inches. (Accompanied by 9-page text.)
- MF-1620-A. MONTANA. Mineral resource potential map of the Welcome Creek Wilderness, Granite County, Montana, by D. J. Lidke, C. A. Wallace, J. C. Antweiler, W. L. Campbell, J. H. Hassemer, and W. F. Hanna, U.S. Geological Survey and T. J. Close, U.S. Bureau of Mines. 1983 (1984). Lat $46^{\circ}30'$ to $46^{\circ}45'$, long $113^{\circ}30'$ to 114° . Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 36 by 54 inches. (Accompanied by 13-page text.)
- MF-1621. RHODE ISLAND, NEW YORK. Geology and structure of Block Island Sound, Rhode Island and New York, by S. W. Needell, U.S. Geological Survey, and R. S. Lewis, Connecticut Geological and Natural History Survey, Department of Environmental Protection. 1984. Four sheets. Lat about 41° to about 42° , long about 70° to about 73° . Scale 1:125,000 (1 inch = about 2 miles). Sheet 1, 32 by 46 inches; sheet 2, 35 by 47 inches; sheet 3, 37 by 47 inches; sheet 4, 36 by 43 inches.
- MF-1622-A. COLORADO. Principal reference section for the Sangre de Cristo Formation (Pennsylvanian and Permian), northern Sangre de Cristo Range, Saguache County, Colorado, by D. A. Lindsey, and R. A. Schaefer. 1984. Two sheets. Sheet 2, Lat about $37^{\circ}52'30''$ to about $38^{\circ}07'30''$, long about $105^{\circ}30'$ to about $105^{\circ}45'$. Scale 1:96,000 (1 inch = 8,000 feet). Sheet 1, 35 by 36 inches; sheet 2, 29 by 40 inches.
- MF-1622-B. COLORADO. Measured sections and discussion of the Main Turbidite Member, Middle Pennsylvanian Minturn Formation, northern Sangre de Cristo Range, Custer and Saguache counties, Colorado, by S. J. Soulliere, B. L. de Angelis, and D. A. Lindsey. 1984. Sheet 36 by 51 inches.
- MF-1623. COLORADO. Geologic map of the Horn Peak Quadrangle, Custer and Saguache counties, Colorado, by D. A. Lindsey, G. R. Scott, S. J. Soulliere, and B. L. De Angelis. 1984. Lat 38° to $38^{\circ}07'30''$, long $105^{\circ}30'$ to $105^{\circ}37'30''$. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 33 inches.
- MF-1625-A. VERMONT. Mineral resources potential map of the Bread Loaf Roadless Area, Addison and Washington counties, Vermont, by J. F. Slack, U.S. Geological Survey and R. F. Bitar, U.S. Bureau of Mines. 1983 (1984). Lat $43^{\circ}52'30''$ to $44^{\circ}07'30''$, long $72^{\circ}45'$ to 73° . Scale 1:48,000 (1 inch = 4,000 feet). Sheet 31 by 33 inches. (Accompanied by 12-page text.)
- MF-1626-A. VERMONT. Mineral resource potential map of the Devils Den Roadless Area, Rutland and Windsor counties, Vermont, by J. F. Slack, U.S. Geological Survey, and A. E. Sabin, U.S. Bureau of Mines. 1983. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 24 by 28 inches. (Accompanied by 8-page text.)
- MF-1627-A. ARIZONA. Mineral resource potential map of the Kanab Creek Roadless Area, Coconino and Mohave counties, Arizona, by G. H. Billingsley and J. C. Antweiler, U.S. Geological Survey, and C. E. Ellis, U.S. Bureau of Mines. 1983 (1984). Lat about $36^{\circ}40'$ to $36^{\circ}45'$, long about $112^{\circ}25'$ to about $112^{\circ}35'$. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 27 by 36 inches. (Accompanied by 10-page text.)
- MF-1628-A. COLORADO. Mineral resource potential map of the Buffalo Peaks Wilderness Study Area, Lake, Park, and Chaffee counties, Colorado, by D. C. Hedlund and G. A. Nowlan, U.S. Geological Survey, and R. H. Wood, II, U.S. Bureau of Mines. 1983 (1984). Lat about 39° to about $39^{\circ}07'30''$, long 106° to $106^{\circ}15'$. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 30 by 40 inches. (Accompanied by 18-page text.)
- MF-1630-A. COLORADO. Mineral resource potential map of the Piedra Wilderness Study Area, Archuleta and Hinsdale counties, Colorado, by A. L. Bush, S. M. Condon, and K. J. Franczyk, U.S. Geological Survey, and S. D. Brown, U.S. Bureau of Mines. 1983 (1984). Lat $37^{\circ}15'$ to $37^{\circ}30'$, long $107^{\circ}12'30''$ to $107^{\circ}25'$. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 34 inches. (Accompanied by 7-page text.)
- MF-1630-B. COLORADO. Geologic map of the Piedra Wilderness Study Area, Archuleta and Hinsdale counties, Colorado, by S. M. Condon, K. J. Franczyk, and A. L. Bush. 1984. Lat $30^{\circ}15'$ to $37^{\circ}30'$, long $107^{\circ}12'30''$ to $107^{\circ}25'$. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 30 by 33 inches.
- MF-1631-A. NEW MEXICO. Mineral resource potential map of the Sandia Mountain Wilderness, Bernalillo and Sandoval counties, New Mexico, by D. C. Hedlund and D. E. Hendzel, U.S. Geological Survey, and R. F. Kness, U.S. Bureau of Mines. 1984. Lat about $35^{\circ}07'30''$ to about $35^{\circ}20'$, long $106^{\circ}22'30''$ to $106^{\circ}30''$. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 31 by 31 inches. (Accompanied by 15-page text.)

- MF-1632-A. COLORADO. Mineral resource potential map of the West Needle Wilderness Study Area, San Juan and La Plata counties, Colorado, by R. E. Van Loenin, U.S. Geological Survey, and D. C. Scott, U.S. Bureau of Mines. 1983 (1984). Lat 37°35' to 37°45', long 107°37'30" to 107°49'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 24 by 28 inches. (Accompanied by 8-page text.)
- MF-1634-A. NEW MEXICO. Mineral resource potential map of the Ryan Hill Roadless Area, Socorro County, New Mexico, C. H. Maxwell and A. V. Heyl, U.S. Geological Survey, and C.E. Ellis and D.C. Scott, U.S. Bureau of Mines. 1984. Lat 33°52'30" to 34°07'30", long 107° to 107°15'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 25 by 39 inches. (Accompanied by 7-page text.)
- MF-1635-A. COLORADO. Mineral resource potential map of the Sangre de Cristo Wilderness Study Area, south-central Colorado, by B. R. Johnson and D. A. Lindsey, U.S. Geological Survey and C. E. Ellis, B. J. Hannigan, and J. R. Thompson, U.S. Bureau of Mines. 1984. Two sheets. Sheet 1, lat 38° to about 38°22'30", long about 105°30' to about 106°30'. Sheet 2, lat about 37°37'30" to 38°, long about 105°15' to 106°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, 38 by 39 inches (Map A, northern half); sheet 2, 25 by 35 inches (Map B, southern half). (Accompanied by 13-page text.)
- MF-1636-A. WYOMING. Mineral resource potential map of the Bridger Wilderness and the Green-Sweetwater Roadless Area, Sublette and Fremont counties, Wyoming, by R. G. Worl, G. K. Lee, and C. L. Long, U.S. Geological Survey, and G. S. Ryan, U.S. Bureau of Mines. 1984. Lat 42°15' to 43°30', long 108°30' to 110°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 27 by 45 inches. (Accompanied by 12-page text.)
- MF-1637. WYOMING. Mineral resource potential and geologic map of the Huston Park Roadless Area, Carbon County, Wyoming, by R. S. Houston and T. G. Schmidt, U.S. Geological Survey, and M. E. Lane, U.S. Bureau of Mines. 1983 (1984). Lat 41° to 41°07'30", long about 106°57'30" to 107°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 41 inches. (Accompanied by 8-page text.)
- MF-1638-A. WYOMING. Mineral resource potential map of the Savage Run Wilderness, Carbon and Albany counties, Wyoming, by M. E. McCallum, U.S. Geological Survey, and S.E. Kluender, U.S. Bureau of Mines. 1983 (1984). Lat 41°07'30" to 41°15', long 106°15' to 106°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 28 by 52 inches. (Accompanied by 10-page text.)
- MF-1639. COLORADO. Geologic and mineral resource potential map of the Service Creek Roadless Area, Routt County, Colorado, by P. W. Schmidt, and T. G. Lovering, U.S. Geological Survey and S.E. Kluender, U.S. Bureau of Mines. 1984. Lat 40°07'30" to 40°22'30", long 106°37'30" to 106°52'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 27 by 38 inches. (Accompanied by 10-page text.)
- MF-1640-A. MONTANA. Mineral resources potential and geologic map of the Dolus Lakes Roadless Area, Powell and Granite counties, Montana, by J. E. Elliott, M. R. Waters, and W. L. Campbell, U.S. Geological Survey, and D. W. Avery, U.S. Bureau of Mines. 1984. Lat 46°22'30" to 46°30', long 112°52'30" to 113°07'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 26 by 38 inches. (Accompanied by 16-page text.)
- MF-1644-A. ARIZONA. Mineral resource potential map of the Hells Gate Roadless Area, Gila County, Arizona, by C. M. Conway, S. P. Marsh, D. M. Kulik, R. A. Martin, and J. E. Kilburn, U.S. Geological Survey, and R. A. McColly, U.S. Bureau of Mines. 1983 (1984). Lat about 34°07'30" to about 34°15', long about 111° to about 111°15'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 36 by 47 inches. (Accompanied by 10-page text.)
- MF-1646-A. CALIFORNIA. Mineral resource potential map of the Cucamonga Roadless Areas, San Bernardino County, California, by D. M. Morton, E. A. Rodriguez, C. M. Obi, and R. W. Simpson, Jr., U.S. Geological Survey, and T. J. Peters, U.S. Bureau of Mines. 1983 (1984). Lat 34°10' to 34°20', long 117°25' to 117°42'30". Scale 1:31,680 (1 inch = one-half mile). Sheet 35 by 47 inches. (Accompanied by 9-page text.)
- MF-1650-A. CALIFORNIA. Mineral resource potential map of the Cactus Spring Roadless Area, Riverside County, California, by J. C. Matti, B. F. Cox, R. E. Powell, and H. W. Oliver, U.S. Geological Survey, and Lucia Kuizon, U.S. Bureau of Mines. 1983 (1984). Lat about 33°30' to about 33°35', long about 116°17'30" to about 116°27'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 30 by 46 inches. (Accompanied by 10-page text.)
- MF-1652-A. WASHINGTON. Mineral resource potential map of the Glacier Peak Wilderness and adjacent areas, Chelan, Skagit, and Snohomish counties, Washington, by S. E. Church, A. B. Ford, and V. J. Flanagan, U.S. Geological Survey, and R. B. Stotelmeyer, U.S. Bureau of Mines. 1984. Lat 47°45' to 48°30', long about 120°30' to about 121°30'. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 41 by 53 inches. (Accompanied by 33-page text.)
- MF-1653-C. WASHINGTON. Gravity and aeromagnetic maps of the Goat Rocks Wilderness and adjacent roadless areas, Lewis and Yakima counties, Washington, by D. L. Williams, Carol Finn, D. R. Spydell, and Frank Danes. 1984. Two sheets; Lat about 46°30' to about 46°40', long about, 121°20' to about 121°30'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 1, 32 by 39 inches; sheet 2, 33 by 39 inches.
- MF-1657-A. CALIFORNIA. Mineral resource potential map of the Weaver Bally Roadless Area, Trinity County, California, by M. C. Blake, Jr., U.S. Geological Survey, and T. J. Peters, U.S. Bureau of Mines. 1983 (1984). Lat 40°45' to about 40°55', long about 122°55' to about 123°05'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 24 by 30 inches. (Accompanied by 7-page text.)
- MF-1661-A. ALASKA. Preliminary surficial geologic map of the northern part of the Tyonek B-5 Quadrangle, south-central Alaska, by L. A. Yehle, H. R. Schmoll, and C. A. Gardner. 1983 (1984). Lat about 61°25' to 61°30', long 151°30' to 151°52'30". Scale 1:31,680 (1 inch = one-half mile). Sheet 26 by 37 inches.
- MF-1661-B. ALASKA. Preliminary surficial geologic map of the southwestern part of the Tyonek B-5 Quadrangle, south-central Alaska, by L. A. Yehle, H. R. Schmoll, and A. F. Chleborad. 1983 (1984). Lat 61°15' to about 61°20', long about 151°45' to 151°52'30". Scale 1:31,680 (1 inch = one-half mile). Sheet 27 by 34 inches.

- MF-1661-C. ALASKA. Preliminary surficial geology map of the southeastern part of the Tyonek B-5 Quadrangle, south-central Alaska, by L. A. Yehle, H. R. Schmoll, and A. F. Chleborad. 1983 (1984). Lat 61°15' to about 61°20', long 151°30' to about 151°40'. Scale 1:31,680 (1 inch = one-half mile). Sheet 26 by 36 inches.
- MF-1668. ALASKA. Geologic map of the western Kukpowruk-Nuka rivers region, northwestern Alaska, by E. G. Sable, R. M. Chapman, and I. L. Tailleir. 1984. Two sheets. Sheet 1, lat 68°20' to 69°, long about 163° to 163°30'. Sheet 2, lat about 68°30' to 69°, long about 160° to about 163°. Scale 1:63,360 (1 inch = 1 mile). Sheet 1, 24 by 50 inches; sheet 2, 39 by 30 inches.
- MF-1669. ALASKA. Geologic map of the west-central Kukpowruk-Nuka rivers region, northwestern Alaska, by E. G. Sable, and M. D. Mangus. 1984. Two sheets. Sheet 1, Lat 68°20' to 69°, long about 161°30' to about 162°30'. Sheet 2, Lat about 68°30' to 69°, long about 160° to about 163°. Scale 1:63,360 (1 inch = 1 mile). Sheet 1, 32 by 48 inches; sheet 2, 30 by 39 inches.
- MF-1670. ALASKA. Geologic map of the east-central Kukpowruk-Nuka rivers region, northwestern Alaska, by E. G. Sable, M. D. Mangus, R. H. Morris, and J. T. Dutro, Jr. 1984. Two sheets. Lat about 68°30' to 69°, long about 160°30' to about 161°. Scale 1:63,360 (1 inch = 1 mile). Sheet 1, 32 by 48 inches; sheet 2, 30 by 39 inches.
- MF-1671. ALASKA. Geologic map of the eastern Kukpowruk-Nuka rivers region, northwestern Alaska, by E. G. Sable, J. T. Dutro, Jr., R. H. Morris, and I. L. Tailleir. 1984. Two sheets. Sheet 1, lat 68°30' to about 69°, long about 159°30' to about 160°. Sheet 2, lat about 68°30' to 69°, long about 160° to about 163°. Sheet 1, Scale 1:63,360 (1 inch = 1 mile). Sheet 2, Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 27 by 43 inches; sheet 2, 30 by 39 inches.
- MF-1672. ALASKA. Maps showing the coastal morphology of the Bristol Bay coast of the Alaska Peninsula, by A. H. Salenger, Jr., and R. E. Hunter. 1984. Two sheets. Lat about 55° to about 58°, long about 157° to about 163°. Scale 1:400,000 (1 inch = about 7 miles). Sheet 1, 26 by 33 inches; sheet 2, 26 by 42 inches.
- MF-1673. NEW MEXICO, ARIZONA, COLORADO, UTAH. Preliminary structure contour map on the base of the Cretaceous Dakota Sandstone in the San Juan Basin and vicinity, New Mexico, Arizona, Colorado, and Utah, by R. E. Thaden, and R. S. Zech. 1984. Lat about 34°45' to 37°30', long about 106° to 110°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 29 by 51 inches.
- MF-1674. MISSOURI. Geologic maps of the Sedgewickville Quadrangle, Bollinger and Perry counties, Missouri, by D. H. Amos. 1984. Lat 37°30' to 37°37'30", long 89°52'30" to 90°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 39 inches.
- MF-1675. MONTANA, NORTH DAKOTA, SOUTH DAKOTA. Climate appraisal maps of the rehabilitation potential of strippable coal lands in the Williston Basin, Montana, North Dakota, and South Dakota, by T. J. Toy, and D. S. Grim. 1984. Three sheets. Lat 45° to 49°, long 99° to 108°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 1, 41 by 54 inches; sheet 2, 39 by 43 inches; sheet 3, 39 by 48 inches.
- MF-1675-A. CONNECTICUT. Map showing depth to bedrock, Rockville Quadrangle, Connecticut, by R. C. Hyde, and R. B. Colton. 1984. Lat 41°45' to 41°52'30", long 72°22'30" to 72°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 30 inches.
- MF-1677. ALASKA. Surficial geologic map of Howard Pass Quadrangle, Alaska, by T. D. Hamilton. 1984. Lat 68° to 69°, long 156° to 159°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 30 by 47 inches.
- MF-1678. ALASKA. Surficial geologic map of the Ambler River Quadrangle, Alaska, by T. D. Hamilton. 1984. Lat 67° to 68°, long 156° to 159°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 29 by 47 inches.
- MF-1679. MONTANA. Photogeologic and reconnaissance geologic map of the Big Hill Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and G. P. Cormier. 1984. Lat 46°22'30" to 46°30', long 105°52'30" to 106°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 28 inches.
- MF-1682. MONTANA. Photogeologic and reconnaissance geologic map of the Miles City Quadrangle, Custer County, Montana, by R. B. Colton, S. J. Luft, and G. P. Cormier. 1984. Lat 46°22'30" to 46°30', long 105°45' to 105°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 28 inches.
- MF-1683. MONTANA. Photogeologic and reconnaissance geologic map of the Paddy Fay Creek Quadrangle, Custer County, Montana, by S. J. Luft, and R. B. Colton. 1984. Lat 46°15' to 46°22'30", long 105°45' to 105°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 28 inches.
- MF-1685. MONTANA. Photogeologic and reconnaissance geologic map of the Hogan Creek Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°22'30" to 46°30', long 105°07'30" to 105°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 28 inches.
- MF-1686. MONTANA. Photogeologic and reconnaissance geologic map of the Red Knob Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°15' to 46°22'30", long 105°07'30" to 105°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 27 inches.
- MF-1687. MONTANA. Photogeologic and reconnaissance geologic map of the Locate SE Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°15' to 46°22'30", long 105°15' to 105°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 28 inches.
- MF-1688. ARIZONA. Geologic map of the Railroad Pass Quadrangle, Cochise County, Arizona, by R. C. Erickson, and Harald Drewes. 1984. Lat 32°15' to 32°22'30", long 109°37'30" to 109°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 43 inches.
- MF-1689. NEW MEXICO. Stratigraphic framework structure, and general geology of the Salt Lake coal field, Cibola and Catron counties, New Mexico, by M. W. McLellan, L. R. Biewick, and E. R. Landes. 1984. Lat 34°30' to 34°45', long 108°37'30" to 108°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 35 by 38 inches.

- MF-1690. COLORADO. Preliminary geologic map of the Calamity Ridge Quadrangle, Rio Blanco County, Colorado, by J. R. Donnell, and W. J. Hail, Jr. 1984. Lat 40° to 40°07'30", long 108°30' to 108°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 40 inches.
- MF-1691. ILLINOIS. Illinois landslide inventory map, compiled by M. M. Killey, J. K. Hines, P. B. Du Montelle, Illinois State Geological Survey, and Earl Braff, U.S. Geological Survey. 1984. Lat about 37° to about 42°, long about 88° to about 91°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 31 by 53 inches.
- MF-1693. WYOMING, MONTANA. Surficial geologic map of the Sheridan 30' by 60' Quadrangle, Wyoming and Montana, by E. N. Hinrichs. 1984. Lat 44°30' to 45°, long 106° to 107°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 27 by 42 inches.
- MF-1694. COLORADO. Seismicity map of the State of Colorado, by C. W. Stover, B. G. Reagor, and S. T. Algermissen. 1984. Lat about 37° to about 41°, long about 102° to about 109°. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 34 by 48 inches.
- MF-1695. MONTANA. Geologic map of the Wisdom Quadrangle, Beaverhead County, Montana, by D. L. Hanneman. 1984. Lat 45°30' to 45°37'30", long 113°22'30" to 113°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 23 by 26 inches.
- MF-1696. MONTANA. Geologic map of the Mud Lake Quadrangle, Beaverhead County, Montana, by D. L. Hanneman. 1984. Lat 45°37'30" to 45°45', long 113°22'30" to 113°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 22 by 26 inches.
- MF-1697. MONTANA. Photogeologic and reconnaissance geologic map of the Knowlton Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°15' to 46°22'30", long 105° to 105°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 27 by 29 inches.
- MF-1698. COLORADO. Preliminary geologic map of the Mesa Quadrangle, Mesa County, Colorado, by J. R. Donnell, W. E. Yeend, and M. C. Smith. 1984. Lat 39°07'30" to 39°15', long 108°07'30" to 108°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 31 by 34 inches.
- MF-1699. Map showing recomputed hypocenters of earthquakes in the eastern and central United States and adjacent Canada, by J. W. Dewey, and D. W. Gordon. 1984. Lat about 27° to about 48°, long about 66° to about 108°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 43 by 54 inches. (Accompanied by 39-page text.)
- MF-1700. MONTANA. Photogeologic and reconnaissance geologic map of the Locate SW Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°15' to 46°22'30", long 105°22'30" to 105°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 28 inches.
- MF-1701. CONNECTICUT. Map showing depth to bedrock, Rockville Quadrangle, Connecticut, by R. C. Hyde, and R. B. Colton. 1984. Lat 41°51' to 41°52'30", long 72°22'30" to 72°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 30 inches. (Supersedes MF-1675-A.)
- MF-1702. MONTANA. Photogeologic and reconnaissance geologic map of the Knob Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°22'30" to 46°30', long 105°30' to 105°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 28 inches.
- MF-1703. MONTANA. Photogeologic and reconnaissance geologic map of the Buck Mountain Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°22'30" to 46°30', long 105°22'30" to 105°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 26 by 28 inches.
- MF-1704. MONTANA. Photogeologic and reconnaissance geologic map of the Montague Butte Quadrangle, Custer County, Montana, by S. J. Luft, and R. B. Colton. 1984. Lat 46°22'30" to 46°30', long 105° to 105°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 28 by 30 inches.
- MF-1705. MONTANA. Photogeologic and reconnaissance geologic map of the Government Hill Quadrangle, Custer County, Montana, by S. J. Luft, G. P. Cormier, E. L. Heffern, and R. B. Colton. 1984. Lat 46°22'30" to 46°30', long 105°37'30" to 105°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 28 by 31 inches.
- MF-1707. MONTANA. Photogeologic and reconnaissance geologic map of the Whitney Creek Quadrangle, Custer County, Montana, by S. J. Luft, R. B. Colton, and E. L. Heffern. 1984. Lat 46°15' to 46°22'30DP, long 105°37'30" to 105°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 28 by 29 inches.
- MF-1713. MISSOURI. Types of damage that could result from a great earthquake in the New Madrid, Missouri, seismic zone, by M. G. Hopper, and S. T. Algermissen. 1984. Sheet 27 by 40 inches.
- MF-1717. UTAH. Geologic map of the Agency Draw NW Quadrangle, Uintah County, Utah, by W. B. Cashion. 1984. Lat 39°37'30" to 39°45', long 109°37'30" to 109°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 33 inches.
- MF-1721. ARIZONA. Geologic map of the Luzena Quadrangle, Cochise County, Arizona, by R. C. Erickson, and Harald Drewes. 1984. Lat 32°15' to 32°22'30", long 109°30' to 109°37'30". Scale 1:24,000 (1 inch = about 2,000 feet). Sheet 29 by 42 inches.

MINERAL INVESTIGATIONS RESOURCES MAPS

Mineral distribution and classification maps; scales from 1:250,000 to 1:5,000,000; show geographic distribution and grade of mineral-resource commodities. Brief accompanying text may include a general description of the geologic occurrences, a locality index, and a bibliography.

- MR-0073. IDAHO. Maps showing selected geology and phosphate resources of the Sage Valley Quadrangle, Caribou County, Idaho, by P. D. Derkey, Bea Johnston, Pamela Palmer, Idaho Bureau of Mines and Geology, and R. D. Hovland, Bureau of Land Management. 1984. Three sheets. Lat 42°37'30" to 42°45', long 111° to 111°07'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 26 by 31 inches; sheet 2, 26 by 29 inches; sheet 3, 26 by 31 inches. (Accompanied by 6-page text.)
- MR-0078. IDAHO. Maps showing selected geology and phosphate resources of the Diamond Flat Quadrangle, Caribou County, Idaho, by P. D. Derkey, Bea Johnston, Pamela Palmer, and Alexandra Zemanek, Idaho Bureau of Mines and Geology. 1984. Three sheets. Lat 42°45' to 42°52'30", long 111°07'30" to 111°15'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 26 by 34 inches; sheet 2, 26 by 31 inches; sheet 3, 26 by 31 inches. (Accompanied by 6-page text.)

MR-0081. IDAHO. Map showing selected geology and phosphate resources of the Henry Quadrangle, Caribou County, Idaho, by P. D. Derkey and Pamela Palmer, Idaho Bureau of Mines and Geology. 1984. Three sheets. Sheet 1, Lat 42°52' to 43°, long 111°30' to 111°37'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 26 by 33 inches; sheet 2, 26 by 31 inches; sheet 3, 26 by 31 inches. (Accompanied by 6-page text.)

MR-0082. IDAHO. Maps showing selected geology and phosphate resources of the Fossil Canyon Quadrangle, Bear Lake and Caribou counties, Idaho, by P. D. Derkey and Pamela Palmer, Idaho Bureau of Mines and Geology, and S. T. Miller, Bureau of Land Management. 1984. Lat 42°30' to 42°37'30", long 111°22'30" to 111°30'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 26 by 33 inches; sheet 2, 26 by 31 inches; sheet 3, 26 by 31 inches. (Accompanied by 6-page text.)

MR-0083. ALASKA. Map showing occurrences of placer gold in Alaska, compiled by E. H. Cobb. 1984. Lat about 54° to about 70°, long about 114° to about 180°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 48 by 57 inches. (Accompanied by 18-page text.)

MR-0084. ALASKA. Map showing occurrences of lode gold and silver in Alaska, compiled by E. H. Cobb. 1984. Lat about 54° to about 70°, long about 114° to about 180°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 48 by 57 inches. (Accompanied by 16-page text.)

MR-0085. ALASKA. Map showing occurrences of tungsten minerals in Alaska, compiled by E. H. Cobb. 1984. Lat 54° to 68°, long 114° West to 174° East. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 37 by 48 inches. (Accompanied by 6-page text.) (Supersedes Open-file report 82-785.)

MR-0086. ALASKA. Map showing occurrences of molybdenum minerals in Alaska, compiled by E. H. Cobb. 1984. Lat 54° to 68°, long 114° West to 174° East. Scale 1:2,500,000 (1 inch = about 4 miles). Sheet 37 by 48 inches. (Accompanied by 5-page text.) (Supersedes Open-file report 82-798.)

MR-0087. ALASKA. Map showing occurrences of mercury minerals in Alaska, compiled by E. L. Cruz, and E. H. Cobb. 1984. Lat 54° to 68°, long 114° West to 174° East. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 37 by 48 inches. (Accompanied by 4-page text.) (Supersedes MR-54.)

MR-0089. ALASKA. Map showing occurrences of tin minerals in Alaska, compiled by E. L. Cruz, and E. H. Cobb. 1984. Lat about 54° to about 68°, long about 114° to about 174°. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 37 by 48 inches. (Accompanied by 4-page text.)

SPECIAL GEOLOGIC MAPS

NEW MEXICO. Geologic map of New Mexico, by C. H. Dane, and G. O. Bachman. 1965. Two sheets. Lat 32° to 37°, long 103° to 109°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 1, 49 by 63 inches (map); sheet 2, 30 by 62 (explanation). (Available unfolded only.) (Reprint.)

STATE GEOLOGIC MAP INDEXES

CALIFORNIA. Geologic map index of California, compiled by W. L. McIntosh, and M. F. Eister. 1978. Free on application. (Reprint.)

KANSAS. Geologic map index of Kansas, compiled by W. L. McIntosh, and M. F. Eister. 1978. Free on application. (Reprint.)

MONTANA. Geologic map index of Montana, compiled by W. L. McIntosh, and M. F. Eister. 1979 (1984). Free on application. (Reprint.)

HYDROLOGIC INVESTIGATIONS ATLASES

Multicolored or black and white maps on topographic or planimetric bases presenting a wide range of geohydrologic data; both regular and irregular areas; principal scale 1:24,000, regional studies at 1:250,000 scale or smaller.

HA-0649. CALIFORNIA. Development of irrigation in the Central Valley of California, by Paul Nady, and L. L. Larragueta. 1983 (1984). Two sheets. Lat about 35° to about 40°, long about 119° to about 122°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 1, 35 by 51 inches; sheet 2, 29 by 51 inches.

HA-0660. ARIZONA. Geohydrology of the Papago, San Xavier, and Gila Bend Indian reservations, Arizona; 1978-81, by K. J. Hollett, and J. M. Garrett. 1984. Two sheets. Sheet 1, Lat about 31°30' to about 33°, long about 111° to about 112°45'. Sheet 2, Lat about 31°30' to about 33°, long about 111°15' to about 112°45'. Scale 1:250,000 (1 inch = about 4 miles). Sheet 1, 41 by 58 inches; sheet 2, 39 by 41 inches.

HA-0673. COLORADO. Geology, altitude, and depth of the bedrock surface; altitude of the water table in 1980; and saturated thickness of the Ogallala Aquifer in 1980 in the southern High Plains of Colorado, by R. G. Borman, T. S. Meredith, and S. M. Bryn. 1984. Lat 37° to 38°, long 102°03' to 103°25'. Scale 1:500,000 (1 inch = about 8 miles). Sheet 26 by 29 inches.

HA-0675. COLORADO. Location of irrigation wells and application rates for irrigated cropland during 1980 in the Northern High Plains of Colorado, by R. G. Borman, and R. L. Reed. 1984. Lat about 38°06' to 41°, long about 102°03' to about 103°50'. Scale 1:500,000 (1 inch = about 8 miles). Sheet 29 by 30 inches.

HA-0676. PENNSYLVANIA. Water-table map of Philadelphia, Pennsylvania, 1976-1980, by G. N. Paulachok, and C. R. Wood. 1984. Lat about 39°52'30" to about 40°07'30", long about 75° to about 75°15'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 28 by 33 inches.

STATE WATER-RESOURCES INVESTIGATIONS FOLDERS

Free on application
Florida (1982).
Georgia (1982).
Mississippi (1982).
Tennessee (1982).

SPECIAL MAPS

Generalized structural, lithologic and physiographic provinces in the fold and thrust belts of the United States, by K. C. Bayer. 1983 (1984). Two sheets. East half, lat about 23° to about 48°, long about 64° to 96°. West half, lat about 23° to about 48°, long about 97° to about 128°. Scale 1:2,500,000 (1 inch = 40 miles. East half, 41 by 52 inches. West half, 41 by 52 inches. Legend. (Available unfolded only.) (Exclusive of Alaska and Hawaii.)

OUTSIDE PUBLICATIONS

ARTICLES AND REPORTS

Articles by Geological Survey personnel in non-Geological Survey publications that came to our attention in 1984. Non-Geological Survey personnel who share authorship in articles with U.S. Geological Survey personnel are indicated by an asterisk (*) immediately following the name. These publications are not available from the U.S. Geological Survey.

- OP-1. J. F. Abel, Jr.* and F. T. Lee. Lithologic controls on subsidence. *Transactions of the Society of Mining Engineers of AIME*, v. 274, 1983. p. 2028-2034.
- OP-2. D. P. Adam, R. J. McLaughlin, D. H. Sorg, D. B. Adams*, R. M. Forester and C. A. Repenning. CALIFORNIA. An animal- and plant-fossil assemblage from the Santa Clara Formation (Pliocene and Pleistocene), Saratoga, California, in *Tectonics and sedimentation along faults of the San Andreas System* (D. W. Andersen, editor and others). Los Angeles, CA: Soc. Econ. Paleontol. and Mineral., Pac. Sect., 1983. p. 105-110.
- OP-3. M. A. Adelman*, J. C. Houghton, Gordon Kaufman* and M. B. Zimmerman*. Energy resources in an uncertain future; coal, gas, oil, and uranium supply forecasting. Cambridge, MA: Ballinger Publ. Co., 1983. 434 p.
- OP-4. Afifa Afifi, B. R. Doe, P. K. Sims and M. H. Delevaux. WISCONSIN. U-Th-Pb isotope chronology of sulfide ores and rocks in the early Proterozoic metavolcanic belt of northern Wisconsin. *Economic Geology and the Bulletin of the Society of Economic Geologists*, v. 79, no. 2, April 1984. p. 338-353.
- OP-5. T. A. Ager. Glacial and floral changes in southern Argentina since 14,000 years ago. *Research Reports - National Geographic Society*, v. 15, 1983. p. 457-479.
- OP-6. T. A. Ager. ALASKA. Holocene vegetational history of Alaska, in *The Holocene* (H. E. Wright, editor). Minneapolis, MN: Univ. Minn., v. 2, 1983. p. 128-141.
- OP-7. A. F. Agnew. WISCONSIN, ILLINOIS, IOWA. Application of geology to the discovery of zinc-lead ore in the Wisconsin-Illinois-Iowa district, in *Mineral exploration* (W. C. Lacy, editor). Stroudsburg, PA: Hutchinson Ross Publ. Co., v. 70, 1983. p. 116-130.
- OP-8. W. M. Ahr* and H. B. Hull. LOUISIANA. Burial diagenesis and reservoir development in the North Haynesville (Smackover) Field, Louisiana. *Transactions - Gulf Coast Association of Geological Societies*, v. 33, 1983. p. 1-9.
- OP-9. J. P. Albers. The role of the U.S. Geological Survey in meeting the nation's mineral and energy needs; 1879-1983, in *Revolution in the earth sciences; advances in the past half-century* (S. J. Boardman, editor). Dubuque, IA: Kendall/Hunt Publ. Co., 1983. p. 326-335.
- OP-10. J. P. Albers and L. A. Fraticelli. Metallogenic trends and oil and gas fields of the Northeast Quadrant, Circumpacific region. Stanford University Publications. Geological Sciences, v. 18, 1983. p. 10-16.
- OP-11. S. T. Algermissen. An introduction to the seismicity of the United States. Berkeley, CA: Earthquake Eng. Res. Inst., v. 7, 1987. 148 p.
- OP-12. L. R. Alldredge. Varying geomagnetic anomalies and secular variation. *JGR. Journal of Geophysical Research*. B, v. 88, no. 11, November 10, 1983. p. 9443-9451.
- OP-13. L. R. Alldredge. A discussion of impulses and jerks in the geomagnetic field. *JGR. Journal of Geophysical Research*. B, v. 89, no. 6, June 10, 1984. p. 4403-4412.
- OP-14. L. R. Alldredge. Harmonics required in main field and secular variation models. *Journal of Geomagnetism and Geoelectricity*, v. 36, no. 2, 1984. p. 63-72.
- OP-15. Gideon Almagor*, R. H. Bennett*, B. A. McGregor and L. E. Shephard*. Stability studies of surficial sediments in the Wilmington-Lindenkolh canyons area, Eastern U.S. margin. *Geo-Marine Letters*, v. 2, no. 3-4, December 1982. p. 129-134.
- OP-16. S. P. Altaner*, John Hower*, Gene Whitney and J. L. Aronson*. MONTANA. Model for K-bentonite formation; evidence from zoned K-bentonites in the Disturbed Belt, Montana. *Geology (Boulder)*, v. 12, no. 7, July 1984. p. 412-415.
- OP-17. Bruce Ambuter and J. H. Godley*. A flexible low-power data acquisition system, in *Proceedings of the workshop on portable digital seismograph development* (R. P. Meyer, convener and others). Int. Assoc. Seismol. and Phys. Earth's Int., Comm. Controlled Source Seismol., 1983. p. 34-42.
- OP-18. S. K. Anderholm. NEW MEXICO. Hydrogeology of the Socorro and La Jencia basins, Socorro County, New Mexico. *Guidebook - New Mexico Geological Society*, v. 34, 1983. p. 303-310.
- OP-19. D. W. Andersen, editor* and M. J. Rymer, editor. CALIFORNIA. Tectonics and sedimentation along faults of the San Andreas System. Los Angeles, CA: Soc. Econ. Paleontol. and Mineral., Pac. Sect., 1983. 110 p.
- OP-20. R. Y. Anderson*, E. B. Nuhfer* and W. E. Dean. WASHINGTON. Sinking of volcanic ash in uncompacted sediment in Williams Lake, Washington. *Science*, v. 225, no. 4661, August 3, 1984. p. 505-508.
- OP-21. W. A. Anderson*, J. T. Kelley*, W. B. Thompson*, H. W. Borns, Jr.*, David Sanger*, D. C. Smith*, D. A. Tyler*, R. S. Anderson*, A. E. Bridges*, K. J. Crossen*, J. W. Ladd*, B. G. Andersen* and F. T. Lee. MAINE. Crustal warping in coastal Maine. *Geology (Boulder)*, v. 12, no. 11, November 1984. p. 677-680.
- OP-22. E. D. Andrews. COLORADO. Bed-material entrainment and hydraulic geometry of gravel-bed rivers in Colorado. *Geological Society of America Bulletin*, v. 95, no. 3, March 1984. p. 371-378.

- OP-23. C. L. Appel, L. R. Herbert, D. A. Bischoff, M. E. Smith, R. L. Seiler, Kevin Guttormson, V. L. Jensen, Michael Enright, D. C. Ematt, Carole Burden, R. C. Beard, L. G. Sultz, M. R. Eckenwiler and G. W. Sandberg. UTAH. Developing a state water plan, ground-water conditions in Utah, Spring of 1983. Cooperative Investigations Report - Utah, Department of Natural Resources, v. 23, 1983. 96 p.
- OP-24. R. J. Archuleta. CALIFORNIA. A faulting model for the 1979 Imperial Valley earthquake. *JGR. Journal of Geophysical Research. B*, v. 89, no. 6, June 10, 1984. p. 4559-4585.
- OP-25. A. K. Armstrong, B. L. Mamet* and R. C. Burton*. ARIZONA, NEW MEXICO. The Mississippian-Pennsylvanian boundary in the Pedregosa Basin, southeastern Arizona and southwestern New Mexico. *International Congress on Carboniferous Stratigraphy and Geology*, 9 (Vol 2). 1984. p. 399-405.
- OP-26. R. W. Arnal. The Mohnian-Luisian boundary in the Coccoolithus miopelagicus subzone, with new and related species of foraminifers. *Journal of Foraminiferal Research*, v. 14, no. 1, January 1984. p. 1-15.
- OP-27. P. J. Aruscavage and E. Y. Campbell. Molybdenum content of 16 U.S. Geological Survey standard rocks. *Geo-standards Newsletter*, v. 5, no. 2, 1981. p. 171-173.
- OP-28. R. L. Atkins* and M. W. Higgins. GEORGIA. Superimposed folding and its bearing on geologic history of the Atlanta, Georgia, area, *in* *Excursions in Southeastern geology*; Volume 1 (R. W. Frey, editor and others). Falls Church, VA: Am. Geol. Inst., 1980. p. 19-40.
- OP-29. E. D. Attanasi. Government investment in mineral resource information on leasable public lands; the case of stripable coal. *Resources and Energy*, v. 6, no. 1, March 1984. p. 41-59.
- OP-30. B. F. Atwater. WASHINGTON. Periodic floods from glacial Lake Missoula into the Sanpoil Arm of glacial Lake Columbia, northeastern Washington. *Geology (Boulder)*, v. 12, no. 8, August 1984. p. 464-467.
- OP-31. R. A. Ayuso and C. E. Brown. NEW YORK. Manganese-rich red tourmaline from the Fowler talc belt, New York. *The Canadian Mineralogist*, v. 22, Part 2. May 1984. p. 327-331.
- OP-32. B. W. Bache. Soil-water interactions. *Philosophical Transactions of the Royal Society of London, Series B: Biological Sciences*, v. 305, no. 1124, May 1, 1984. p. 393-407.
- OP-33. L. J. Bachman. MARYLAND. Field and laboratory analyses of water from the Columbia Aquifer in eastern Maryland. *Ground Water*, v. 22, no. 4, August 1984. p. 460-467.
- OP-34. S. B. Bachman*, M. B. Underwood* and J. S. Menack. CALIFORNIA. Cenozoic evolution of coastal Northern California. *Field Trip Guidebook - Pacific Section, Society of Economic Paleontologists and Mineralogists*, v. 38, 1984. p. 55-66.
- OP-35. C. R. Bacon, Hajime Kurasawa*, M. H. Delevaux, R. W. Kistler and B. R. Doe. CALIFORNIA. Lead and strontium isotopic evidence for crustal interaction and compositional zonation in the source regions of Pleistocene basaltic and rhyolitic magmas of the Coso volcanic field, California. *Contributions to Mineralogy and Petrology*, v. 85, no. 4, April 1984. p. 366-375.
- OP-36. C. R. Bacon and Jenny Metz*. CALIFORNIA. Magmatic inclusions in rhyolites, contaminated basalts, and compositional zonation beneath the Coso volcanic field, California. *Contributions to Mineralogy and Petrology*, v. 85, no. 4, April 1984. p. 346-365.
- OP-37. M. J. Baedeker and M. A. Apgar*. DELAWARE. Hydrogeochemical studies at a landfill in Delaware, *in* *Groundwater contamination* (J. D. Bredehoeft, chairperson). Washington, DC: Natl. Acad. Press, 1984. p. 127-138.
- OP-38. G. B. Bailey, J. L. Dwyer*, J. R. Francica*, M. S. Feng*, W. Y. Wang*, J. G. Song*, J. Zhang*, C. W. Fan* and T. X. Wang*. Evaluation of image processing of Landsat data for geologic interpretations of the Qaidam Basin, China, *in* *Proceedings of the International symposium on remote sensing of environment; second thematic conference; "Remote sensing for exploration geology"*; Volume II (D. R. Morris-Jones, chairperson and others). Ann Arbor, MI: Environ. Res. Inst. Mich., 1982. p. 555-577.
- OP-39. G. B. Bailey, J. R. Francica*, J. L. Dwyer* and M. S. Feng*. UTAH, COLORADO. Extraction of geologic information from Landsat multispectral scanner and thematic mapper simulator data from the Uinta and Piceance basins, Utah and Colorado, *in* *Proceedings of the International symposium on remote sensing of environment; second thematic conference; "Remote sensing for exploration geology"*; Volume I (D. R. Morris-Jones, chairperson and others). Ann Arbor, MI: Environ. Res. Inst. Mich., 1982. p. 43-70.
- OP-40. W. H. Bakun. CALIFORNIA. Seismic moments, local magnitudes, and coda-duration magnitudes for earthquakes in central California. *Bulletin of the Seismological Society of America*, v. 74, no. 2, April 1984. p. 439-458.
- OP-41. W. H. Bakun, M. M. Clark, R. S. Cockerham, W. L. Ellsworth, A. G. Lindh, W. H. Prescott, A. F. Shakal* and Paul Spudich. CALIFORNIA. The 1984 Morgan Hill, California, earthquake. *Science*, v. 225, no. 4659, July 20, 1984. p. 288-291.
- OP-42. W. H. Bakun and T. V. McEvilly*. CALIFORNIA. Recurrence models and Parkfield, California, earthquakes. *JGR. Journal of Geophysical Research. B*, v. 89, no. 5, May 10, 1984. p. 3051-3058.
- OP-43. W. H. Bakun and Marcia McLaren. CALIFORNIA. Microearthquakes and the nature of the creeping-to-locked transition of the San Andreas fault zone near San Juan Bautista, California. *Bulletin of the Seismological Society of America*, v. 74, no. 1, February 1984. p. 235-254.
- OP-44. J. G. Baldauf. Identification of the Holocene-Pleistocene boundary in the Bering Sea by diatoms. *Boreas*, v. 11, no. 1, 1982. p. 113-118.
- OP-45. P. F. Ballance*, D. G. Howell and Kathleen Ort. CALIFORNIA. Late Cenozoic wrench tectonics along the Nacimiento, South Cuyama, and La Panza faults, California, indicated by depositional history of the Simmler Formation, *in* *Tectonics and sedimentation along faults of the San Andreas System* (D. W. Andersen, editor and others). Los Angeles, CA: Soc. Econ. Paleontol. and Mineral., Pac. Sect., 1983. p. 1-9.

- OP-46. K. E. Bargar and L. J. Muffler. WYOMING. Hydrothermal alteration in research drill hole Y-11 from a vapor-dominated geothermal system at Mud Volcano, Yellowstone National Park, Wyoming. Guidebook - Wyoming Geological Association, v. 33, 1982. p. 139-152.
- OP-47. C. E. Barker. A problem with estimating the pseudo-activation energy of kerogen thermal maturation from Connan's time-temperature relation in oil genesis. *Journal of Petroleum Geology*, v. 7, no. 1, January 1984. p. 109-112.
- OP-48. C. E. Barker and W. A. Elders. Vitrinite reflectance geothermometry and apparent heating duration in the Cerro Prieto geothermal field. *Geothermics*, v. 10, no. 3-4, 1981. p. 207-223.
- OP-49. C. E. Barker and T. J. Reynolds*. Preparing doubly polished sections of temperature sensitive sedimentary rocks. *Journal of Sedimentary Petrology*, v. 54, no. 2, June 1984. p. 635-636.
- OP-50. P. B. Barton, Jr. Unconventional mineral deposits; a challenge to geochemistry, in *Cameron volume on unconventional mineral deposits* (W. C. Shanks, editor). New York, NY: Am. Inst. Min., Metall. and Pet. Eng., Soc. Min. Eng., 1983. p. 3-14.
- OP-51. A. R. Basu, Eric Rubury*, H. H. Mehnert and Mitsunobu Tatsumoto. Sm-Nd, K-Ar and petrologic study of some kimberlites from eastern United States and their implication for mantle evolution. *Contributions to Mineralogy and Petrology*, v. 86, no. 1, April 11, 1984. p. 35-44.
- OP-52. P. C. Bateman, R. W. Kistler and J. V. DeGraff*. CALIFORNIA. Courtright intrusive zone, Sierra National Forest, Fresno County, California. *California Geology*, v. 37, no. 5, May 1984. p. 91-98.
- OP-53. Jacob Bear*, P. C. Menier*, C. Y. Wei*, M. M. Aral* and M. L. Maslia. GEORGIA. Unsteady seepage analysis of Wallace Dam; discussions and closure. *Journal of Hydraulic Engineering*, v. 110, no. 5, May 1984. p. 668-672.
- OP-54. M. S. Bedinger. Ground-water flow systems in the Basin and Range Province, United States of America. *Australian Water Resources Council Conference Series*, v. 8, 1983. p. 1-9.
- OP-55. J. C. Behrendt and George Gryc. In Washington D.C.; Survey's polar meeting was triple anniversary. *Geotimes*, v. 29, no. 3, March 1984. p. 10-11.
- OP-56. P. E. Belanger. Paleo-oceanography of the Norwegian Sea during the past 130,000 years; coccolithophorid and foraminiferal data. *Boreas*, v. 11, no. 1, 1982. p. 29-36.
- OP-57. H. E. Belkin, B. de Vivo* and Roberto Valera*. Fluid inclusion study of some Sarrabus fluorite deposits, Sardinia, Italy. *Economic Geology and the Bulletin of the Society of Economic Geologists*, v. 79, no. 2, April 1984. p. 409-414.
- OP-58. Henry Bell, R. H. Carpenter* and P. G. Feiss*. Volcanogenic ore deposits of the Carolina slate belt, in *Excursions in Southeastern geology; Volume 1* (R. W. Frey, editor and others). Falls Church, VA: Am. Geol. Inst., 1980. p. 149-178.
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- ABSTRACTS**
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ABBREVIATIONS USED

B	Bulletin	OF	Open-File Report
C	Circular	OP	Outside Publications
C-	Coal Investigations Map	P	Professional Paper
GP-	Geophysical Investigations Map	p.	Page number of publications having no series designation
GQ-	Geologic Quadrangle Map	PB-, ADA	Report available only through the National Technical Information Service
HA-	Hydrologic Investigations Atlas	TWI	Techniques of Water-Resources Investigations
I-	Miscellaneous Investigations Series	W	Water Supply Paper
L-	Land Use and Land Cover Map	WRI	Water-Resources Investigations
MF-	Miscellaneous Field Studies Map		
MR-	Mineral Investigations Resources Map		
OC-	Oil and Gas Investigations Chart		

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