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**New Mexico Bureau of Mines & Mineral Resources**

A DIVISION OF  
NEW MEXICO INSTITUTE OF MINING & TECHNOLOGY

# Bibliography of New Mexico geology and mineral technology 1984

by Carol A. Hjellming, Jane Calvert Love, and Theresa A. Borzillo

*New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico 87801*

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## Preface

Bulletin 120 is a compilation of references to New Mexico geology published during 1984. This volume supplements other bibliographies in the bulletin series of the New Mexico Bureau of Mines and Mineral Resources with approximately 1,000 additional references. The bibliographies comprise a comprehensive body of references to the geologic literature of the state since the middle of the 19th century (see listing on reverse side of front cover).

The bibliography cites literature that (1) deals directly with the geology of New Mexico, (2) describes geology outside of the state pertinent to New Mexico, and (3) includes New Mexico in a southwest regional study. Bureau bibliographies reflect the growth of the geosciences, expanding to include geophysical, geochemical, geothermal, and paleontological investigations; the quantity, quality, and protection of water resources; geologic hazards and engineering geology; the safe disposal of hazardous and radioactive wastes; technology supporting economical and enhanced recovery of mineral and energy resources; and site reclamation.

References include articles published in scientific journals; reports, serials, and monographs published by federal and state agencies, professional societies, research institutions, and scientific publishers; abstracts of papers presented at professional meetings; and research papers, theses, and dissertations completed as part of M.S. and Ph.D. degree requirements. Information regarding publication elsewhere of the same paper or its abstract and information regarding the availability of a report through a distributing agency were included when known.

This volume comprises (1) a list of publications, from which references were compiled, and their abbreviations

and a guide to the identification of acronyms that the reader may encounter; (2) the references arranged alphabetically by senior author; junior authors with cross references to the senior author are included in this alphabetical arrangement; and (3) an index, in which each reference is listed one or more times by subject, geographic location, age, and/or rock-stratigraphic unit.

The New Mexico Bureau of Mines and Mineral Resources periodically publishes annual bibliographies from its own annual bibliographic computer-data files, which it has compiled and maintained since 1981. These data files are continuously updated, and retrieval of data not yet published can be requested through the Bureau's Editing Department.

**Acknowledgments**—Significant contributions were made by many at the New Mexico Bureau of Mines and Mineral Resources. We are grateful to the geologists who brought to our attention those items not widely known or distributed. The cooperative exchange of information with other agencies of the State of New Mexico as well as those of neighboring states was an important contribution. We are grateful to the librarians on the campus of New Mexico Institute of Mining and Technology for alerting us to acquisitions relevant to our volume. Without this kind of support the thoroughness of our work would be jeopardized. We also thank Darcy Boyle, Michael Coburn, Nicky Fatheryly, Jim Gridley, Dan McKay, Diane Murray, Beth Seagren, Deborah Shaw, Deane Steffans, and Cara Wilson.

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New Mexico Bureau of Mines and  
Mineral Resources



## Publications and abbreviations

- Am. Assoc. Petroleum Geologists, Bull.; Studies in Geology Series: American Association of Petroleum Geologists, Bulletin; Studies in Geology Series. Tulsa, Oklahoma
- Am. Geophys. Union (EOS), Trans.: American Geophysical Union (EOS), Transactions. Washington, D.C.
- Am. Inst. Mining, Metall., and Petroleum Engineers, Soc. Petroleum Engineers, Proc.: American Institute of Mining, Metallurgical, and Petroleum Engineers, Society of Petroleum Engineers, Proceedings. New York, New York
- Am. Inst. Professional Geologists, Colorado Sec.: American Institute of Professional Geologists, Colorado Section. Arvada, Colorado
- Am. Mineralogist: American Mineralogist, Journal of the Mineralogical Society of America. Washington, D.C.
- Am. Museum Natural History, Am. Museum Novitates; Bull.: American Museum of Natural History, American Museum Novitates; Bulletin. New York, New York
- Am. Quaternary Assoc., Abs., 8th bienn. mtg.: American Quaternary Association, Abstracts, 8th biennial meeting, University of Michigan. Ann Arbor, Michigan
- Am. Scientist: American Scientist, Society of the Sigma Xi. New Haven, Connecticut
- Am. Soc. Civil Engineers, Jour. Energy Div.; Jour. Geotechnical Engineering Div.; Jour. Hydraulics Div.: American Society of Civil Engineers, Journal of the Energy Division; Journal of the Geotechnical Engineering Division; Journal of the Hydraulics Division. New York, New York
- Am. Soc. Photogrammetry, Proc.: American Society of Photogrammetry, Proceedings (after 1985, American Society of Photogrammetry and Remote Sensing). Falls Church, Virginia
- Am. Water Works Assoc., Jour.: American Water Works Association, Journal. Denver, Colorado
- Argonne Natl. Lab., Rept.: Argonne National Laboratory, Report. Argonne, Illinois
- Arizona Bureau Geology Mineral Tech., Map: Arizona Bureau of Geology and Mineral Technology, Map. Tucson, Arizona
- Arizona Geol. Soc., Digest: Arizona Geological Society, Digest. Tucson, Arizona
- Assoc. Eng. Geologists, 27th Ann. Mtg.; Bull.: Association of Engineering Geologists, 27th Annual Meeting; Bulletin. Sudbury, Massachusetts
- Baylor Geol. Studies, Bull.: Baylor Geological Studies, Bulletin, Baylor University. Waco, Texas
- California Mining Jour.: California Mining Journal. Aptos, California
- Canadian Soc. Petroleum Geologists, Mem.: Canadian Society of Petroleum Geologists, Memoir. Calgary, Alberta, Canada
- Cave Research Foundation, Ann. Rept.: Cave Research Foundation, Annual Report
- Chemical Geology: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Clays and Clay Minerals: Journal of the Clay Minerals Society. Oxford, England
- Coal Age: McGraw-Hill Company. New York, New York
- Colorado School Mines, Quart.: Colorado School of Mines, Quarterly. Golden, Colorado
- Contr. Mineralogy and Petrology: Contributions to Mineralogy and Petrology, Springer-Verlag. New York, New York
- Dissert. Abs. Internat.: Dissertation Abstracts International, University Microfilms. Ann Arbor, Michigan
- Drill Bit: Hart Publications. Denver, Colorado
- Earth and Planet. Sci. Letters: Earth and Planetary Science Letters, Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Earth Science: American Geological Institute. Alexandria, Virginia
- Earthquake Notes: Eastern Section, Seismological Society of America. Rockville, Maryland
- Econ. Geology: Economic Geology and the Bulletin of the Society of Economic Geologists. New Haven, Connecticut
- Environ. Sci. and Tech.: Environmental Science and Technology, American Chemical Society. Washington, D.C.
- EPA Jour.: EPA Journal, U.S. Environmental Protection Agency, Office of Public Awareness. Washington, D.C.
- Geochim. et Cosmochim. Acta: Geochimica et Cosmochimica Acta, Journal of the Geochemical Society and the Meteoritical Society, Pergamon Press. Oxford, England
- Geoforum: Pergamon Press. Oxford, England
- Geol. Assoc. Canada, Program with Abstracts; Spec. Paper: Geological Association of Canada, Program with Abstracts; Special Paper, University of Newfoundland. St. John's, Newfoundland, Canada
- Geol. Soc. America, Abs. with Programs; Bull.; Rocky Mtn. Sec., Guidebook: Geological Society of America, Abstracts with Programs; Bulletin; Rocky Mountain Section, Guidebook. Boulder, Colorado
- Geol. Soc. Denmark, Bull.: Geological Society of Denmark, Bulletin. Copenhagen K, Denmark
- Geology: Geological Society of America. Boulder, Colorado
- Geophys. Research Letters: Geophysical Research Letters, American Geophysical Union. Washington, D.C.
- Geophysics: Society of Exploration Geophysicists. Tulsa, Oklahoma
- Geothermal Energy Mag.: Geothermal Energy Magazine (currently Geothermal Energy), Geothermal Energy World. Camarillo, California
- Geothermal Resources Coun., Trans.: Geothermal Resources Council, Transactions. Davis, California
- Geotimes: American Geological Institute. Alexandria, Virginia
- Government Reports Announcements and Index: U.S. Department of Commerce, National Technical Information Service. Springfield, Virginia
- Green Mtn. Geologist: The Green Mountain Geologist
- Ground Water: Journal of Ground Water Technology, Division of the National Water Well Association. Dublin, Ohio
- Inst. for the Study of Earth and Man, conf. proc.: Institute for the Study of Earth and Man, conference proceedings

- Internat. Assoc. for Aerobiology, 6th Internat. Palynological Conf.: International Association for Aerobiology, 6th International Palynological Conference
- Internat. Assoc. Sediment., Spec. Publ.: International Association of Sedimentologists, Special Publication. Liège, Belgium
- Internat. Atomic Energy Agency, Rept.: International Atomic Energy Agency, Report. Vienna, Austria
- Internat. Conf. on Case Histories in Geotechnical Engineering: International Conference on Case Histories in Geotechnical Engineering
- Internat. Geol. Congress: International Geological Congress. Herndon, Virginia
- Internat. Jour. Rock Mechanics and Mining Sciences: International Journal of Rock Mechanics and Mining Sciences, Pergamon Press. Oxford, England
- Internat. Symp. Remote Sensing Environ., Proc.: International Symposium on Remote Sensing of the Environment, Proceedings, Environmental Institute of Michigan. Ann Arbor, Michigan
- Interstate Oil Compact Comm., Comm. Bull.: Interstate Oil Compact Commission, Committee Bulletin. Oklahoma City, Oklahoma
- Isochron/West: Nevada Bureau of Mines and Geology and New Mexico Bureau of Mines and Mineral Resources. Socorro, New Mexico
- Isotope Geoscience: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Jour. Environ. Quality: Journal of Environmental Quality, American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Madison, Wisconsin
- Jour. Geochem. Exploration: Journal of Geochemical Exploration, Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Jour. Geology: Journal of Geology, University of Chicago Press. Chicago, Illinois
- Jour. Geophys. Research: Journal of Geophysical Research, American Geophysical Union. Washington, D.C.
- Jour. Hydrology: Journal of Hydrology, Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Jour. Paleontology: Journal of Paleontology, Society of Economic Paleontologists and Mineralogists and The Paleontological Society. Tulsa, Oklahoma
- Jour. Petroleum Tech.: Journal of Petroleum Technology, Society of Petroleum Engineers of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Richardson, Texas
- Jour. Sed. Petrology: Journal of Sedimentary Petrology, Society of Economic Paleontologists and Mineralogists. Tulsa, Oklahoma
- Jour. Vertebrate Paleontology: Journal of Vertebrate Paleontology, Los Angeles County Museum of Natural History. Los Angeles, California
- Kali und Steinsalz: Kaliverein. Hannover, Federal Republic of Germany
- Univ. Kansas, Museum Anthropology, Project Rept. Series: University of Kansas, Museum of Anthropology, Project Report Series. Lawrence, Kansas
- Lapidary Jour.: Lapidary Journal, Lapidary Journal, Inc. San Diego, California
- Lawrence Berkeley Lab., Rept.: Lawrence Berkeley Laboratory, Report, University of California. Berkeley, California
- Los Alamos Natl. Lab., Rept.: Los Alamos National Laboratory, Report. Los Alamos, New Mexico
- Meteoritics: Journal of the Meteoritical Society, Department of Astronomy, University of Southern California. Los Angeles, California
- Univ. Michigan, Museum Anthropology, Tech. Rept.: University of Michigan, Museum of Anthropology, Technical Report. Ann Arbor, Michigan
- Micronews
- Mineral. Abs.: Mineralogical Abstracts, The Mineralogical Society of Great Britain and The Mineralogical Society of America. London, England
- Mineral. Record: Mineralogical Record. Tucson, Arizona
- Mineral. Soc. America, Symp.: Mineralogical Society of America, Symposium. Washington, D.C.
- Mining Engineering: Society of Mining Engineers of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Littleton, Colorado
- Mining Mag.: Mining Magazine, The Mining Journal, Ltd. London, England
- Monograph Series on Mineral Deposits: Gebrüder Borntraeger Verlag. Stuttgart, Federal Republic of Germany
- Montana Bureau Mines and Geology, Spec. Publ.: Montana Bureau of Mines and Geology, Special Publication. Butte, Montana
- Mtn. Geologist: The Mountain Geologist, Rocky Mountain Association of Geologists. Denver, Colorado
- Natl. Acad. Sci., rept.; Studies in Geophysics: National Academy of Sciences, report; Studies in Geophysics. Washington, D.C.
- Natl. Aeronautics and Space Admin., Tech. Memorandum: National Aeronautics and Space Administration, Technical Memorandum
- Natl. Tech. Inf. Serv., Rept.: National Technical Information Service, Report, U.S. Department of Commerce. Springfield, Virginia
- Natl. Water Well Assoc., Proc.: National Water Well Association, Proceedings. Dublin, Ohio
- Natural Resources Jour.: Natural Resources Journal, University of New Mexico, School of Law. Albuquerque, New Mexico
- Nature: Macmillan Limited. London, England
- New Mexico Bureau Mines Mineral Resources, Ann. Rept.; Bull.; Circ.; Geol. Map; Hydro. Rept.; Open-file Rept.: New Mexico Bureau of Mines and Mineral Resources, Annual Report; Bulletin; Circular; Geologic Map; Hydrologic Report; Open-file Report. Socorro, New Mexico
- New Mexico Energy and Minerals Dept., Ann. Resources Rept.: New Mexico Energy and Minerals Department, Annual Resources Report. Albuquerque, New Mexico
- New Mexico Energy Research and Develop. Inst., Rept.: New Mexico Energy Research and Development Institute, Report. Santa Fe, New Mexico
- New Mexico Geol. Soc., Guidebook: New Mexico Geological Society, Guidebook, New Mexico Bureau of Mines and Mineral Resources. Socorro, New Mexico

- New Mexico Geology: New Mexico Bureau of Mines and Mineral Resources. Socorro, New Mexico
- New Mexico Health and Environ. Dept., Environ. Improvement Div., Rept.; Environ. Evaluation Group, Rept.: New Mexico Health and Environment Department, Environmental Improvement Division, Report; Environmental Evaluation Group, Report. Santa Fe, New Mexico
- New Mexico Inst. Mining and Tech., Geophysics Open-file Rept.; New Mexico Mineral Symp.: New Mexico Institute of Mining and Technology, Geophysics Open-file Report; New Mexico Mineral Symposium. Socorro, New Mexico
- New Mexico Jour. Sci.: New Mexico Journal of Science, New Mexico Academy of Science, New Mexico Highlands University. Las Vegas, New Mexico
- New Mexico Mag.: New Mexico Magazine, State of New Mexico. Santa Fe, New Mexico
- New Mexico State Engineer, Map; rept.: New Mexico State Engineer, Map; report. Santa Fe, New Mexico
- New Mexico State Univ., Agric. Exp. Station, Research Rept.; Water Resources Research Inst., Rept.: New Mexico State University, Agricultural Experiment Station, Research Report; Water Resources Research Institute, Report. Las Cruces, New Mexico
- North Dakota Geol. Soc., Publ.: North Dakota Geological Society, Publication. Bismarck, North Dakota
- Ohio Jour. Sci.: The Ohio Journal of Science, Ohio State University and Ohio Academy of Science. Columbus, Ohio
- Oil and Gas Compact Bull.: Oil and Gas Compact Bulletin, Interstate Oil Compact Commission. Oklahoma City, Oklahoma
- Oil and Gas Jour.: Oil and Gas Journal, Penn Well Publishing Company. Tulsa, Oklahoma
- Palaeogeography, Palaeoclimatology, Palaeoecology: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Palaeontographica Americana: Paleontological Research Institution. Ithaca, New York
- Palaeontology: Palaeontological Association, The Open University. Milton Keynes, England
- Paleobiology. Jacksonville, New York
- Palynology: Journal of Palynology, Palynological Society of India. New Delhi, India
- Petroleum Frontiers: Petroleum Information Corporation. Denver, Colorado
- Phil. Trans. Royal Soc. London: Philosophical Transactions of the Royal Society of London. London, England
- Photogrammetric Engineering and Remote Sensing: American Society of Photogrammetry (after 1985, American Society of Photogrammetry and Remote Sensing). Falls Church, Virginia
- Quaternary Research: Academic Press. New York, New York
- Radioactive Waste Management, Harwood Academic Publishers. London, England
- Reviews of Geophysics (formerly Reviews of Geophysics and Space Physics): American Geophysical Union. Washington, D.C.
- Reviews of Palaeobotany and Palynology: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Rock and Gem: Behn-Miller Publishers, Inc. Encino, California
- Rocky Mtn. Assoc. Geologists, Guidebook: Rocky Mountain Association of Geologists, Guidebook. Denver, Colorado
- Rocky Mtn. Caving: Rocky Mountain Caving
- Royal Astron. Soc., Geophys. Jour.: Geophysical Journal of the Royal Astronomical Society. London, England
- Sandia Natl. Lab., Rept.: Sandia National Laboratories, Report. Albuquerque, New Mexico
- Science: Journal of the American Association for the Advancement of Science. Washington, D.C.
- Sed. Geology: Sedimentary Geology, Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Seismol. Soc. America, Bull.: Seismological Society of America, Bulletin. El Cerrito, California
- Sel. Water Resources Abs.: Selected Water Resources Abstracts, U.S. Department of the Interior. Washington, D.C.
- Smithsonian Contr. Anthropology: Smithsonian Contributions to Anthropology, Smithsonian Institution. Washington, D.C.
- Soc. Econ. Paleontologists and Mineralogists, 1st Natl. Midyear Mtg., Tech. Program; Permian Basin Sec., Symp.: Society of Economic Paleontologists and Mineralogists, 1st National Midyear Meeting, Technical Program; Permian Basin Section, Symposium. Midland, Texas, and Tulsa, Oklahoma
- Soc. Petroleum Engineers, Jour.; Trans.: Society of Petroleum Engineers, Journal; Transactions, Society of Petroleum Engineers of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Richardson, Texas
- Soil Sci. Soc. America, Jour.: Soil Science Society of America, Journal. Madison, Wisconsin
- Tech. Inf. Center, Rept.: Technical Information Center, Report, U.S. Department of Energy. Oak Ridge, Tennessee
- Tectonics: American Geophysical Union. Washington, D.C.
- Tectonophysics: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- Univ. Texas (Austin), Bureau Econ. Geology, Geologic Atlas Texas; Open-file Rept.; Rept. Inv.: University of Texas (Austin), Bureau of Economic Geology, Geologic Atlas of Texas; Open-file Report; Report of Investigation. Austin, Texas
- Uranium: Elsevier Scientific Publishing Company. Amsterdam, The Netherlands
- U.S. Bureau Land Management, Rept.: U.S. Bureau of Land Management, Report. Washington, D.C.
- U.S. Bureau Mines, Inf. Circ.; Open-file Rept.; Rept.: U.S. Bureau of Mines, Information Circular; Open-file Report; Report. Washington, D.C.
- U.S. Bureau Reclamation, rept.: U.S. Bureau of Reclamation, report. Washington, D.C.
- U.S. Dept. Agriculture, Soil Conserv. Serv., rept.: U.S. Department of Agriculture, Soil Conservation Service, report. Washington, D.C.
- U.S. Dept. Energy, Rept.: U.S. Department of Energy, Report. Washington, D.C.
- U.S. Geol. Survey, Bull.; Circ.; Geol. Quad. Map; Misc. Field Studies Map; Misc. Inv. Ser., Map; Open-file Rept.; Prof. Paper; Water-data Rept.; Water-resources Inv., Rept.; Water-supply Paper: U.S. Geological Survey, Bulletin; Circular; Geologic Quadrangle Map;

Miscellaneous Field Studies Map; Miscellaneous Investigation Series, Map; Open-file Report; Professional Paper; Water-data Report; Water-resources Investigation, Report; Water-supply Paper. Reston, Virginia

Univ. Utah, Research Inst., Earth Science Lab., Open-file Rept.: University of Utah, Research Institute, Earth Science Laboratory, Open-file Report. Salt Lake City, Utah

Vermont Geol. Soc.: Vermont Geological Society. Montpelier, Vermont

Water Resources Monograph: American Geophysical Union. Washington, D.C.

Water Resources Research: American Geophysical Union. Washington, D.C.

West Texas Geol. Soc., Bull.: West Texas Geological Society, Bulletin. Midland, Texas

Western Oil Reporter: Hart Publications. Denver, Colorado

World Oil: Gulf Publishing Company. Houston, Texas

## Acronyms

|        |   |
|--------|---|
| AWR    | Arkansas, White, and Red River                              |
| COCORP | Consortium for Continental Reflection Profiling             |
| CSAMT  | controlled source audiofrequency magnetotelluric techniques |
| CSDP   | Continental Scientific Drilling Program                     |
| EDTA   | ethylenediamine tetraacetic acid                            |
| EOR    | enhanced oil recovery                                       |
| FERC   | Federal Energy Regulatory Commission                        |
| MDO    | maximum-degree-of-order                                     |
| MVT    | Mississippi Valley-type                                     |
| NURE   | National Uranium Resource Evaluation Program                |
| RARE   | Roadless Area Review and Evaluation                         |
| RASA   | Regional Aquifer System Analysis Program                    |
| RBV    | Return Beam Vidicom   |
| SPOT   | Satellite pour l'Observation de la Terre                    |
| SWIFT  | Sandia Waste-Isolation Flow and Transport model             |
| TIMS   | Thermal Infrared Multi-spectral Scanner                     |
| UIC    | Underground Injection Control Program                       |
| WIPP   | Waste Isolation Pilot Plant                                 |
| WSA    | Wilderness Study Area                                       |
| WWTP   | waste water treatment plant                                 |



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**1984b** Hydrologic testing of crushed Bandelier Tuff: Los Alamos Natl. Lab., Rept. LA-10037-MS, 22 p.; Natl. Tech. Inf. Serv., Rept. DE84 011 022  
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**1984a** Stratigraphy, structure, and geochemistry of volcanic rocks in the northern Black Range, Sierra County, New Mexico—evidence for the northern margin of the Emory cauldron, lat. 33°15'00"N. (abs.): New Mexico Inst. Mining and Tech., New Mexico Geol. Soc., 1984 Spring Mtg., Abs. with Programs; New Mexico Geology, v. 6, no. 4, p. 83  
**1984b** Volcanic geology and geochemistry of the northeastern Black Range Primitive Area and vicinity, Sierra County, New Mexico: M.S. thesis, Univ. New Mexico, 121 p.
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**1984** Palynology of Pleistocene lacustrine sediments of the western United States (abs.): Geol. Soc. America, Abs. with Programs, v. 16, no. 6, p. 425
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**1984** Annual development paper for west Texas and eastern New Mexico (abs.): West Texas Geol. Soc., Bull., v. 23, no. 9, p. 18  
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*see* Jurich and Adams, 1984
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*see* Haynes, C. V., and Agogino, 1984
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- aragonite**, Given and Lohmann (1984); Gonzalez, L. A., Given, and Lohmann (1984)
- Arkansas, White, and Red River basin**, Tysseling and McDonald (1984)
- Arroyo Peñasco Group**  
 Espiritu Santo Formation, Ulmer (1984)  
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- Artesia Group**  
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 Tansill Formation, Biggers (1984a,b); Rosenblum (1984)  
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- Baca Formation**, Cather and Johnson (1984); Lucas (1984d,e)
- Bandelier National Monument**, Inglis, Budge, and Ebert (1984)
- Bandelier Tuff**, *see* Tewa Group
- barite**, Cato (1984); Filsinger (1984); North and McLemore (1984a)
- Basin and Range province**, Bedinger (1984); Bedinger, Sargent, and Reed (1984); Brady (1984); Brady, Bedinger, and Hart (1984); Brady, Mulvihill, Hart, and Langer (1984); Chen and Mitchell (1984); Coney and Harms (1984); Eggleston, R. E., and Reiter (1984); Furlong and Londe (1984); Hills, F. A., and Sargent (1984); Jenness, Roggensack, and Lopez (1984); Johnson, W. D. (1984a,b); Jowett and Jarvis (1984); Lintz (1984); Londe and Furlong (1984); Sargent and Bedinger (1984); Thompson, Chappell, and Hart (1984); Wilkins, J. (1984a,b); Williams, T. R., and Bedinger (1984); Zorin, Lepina, and Lysak (1984); Zuber, Parmentier, and Fletcher (1984)
- Bernalillo County**  
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- beryllium**, Richter and Sharp (1984i)
- bibliographies**  
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- Big Hatchet Mountains**, Measures (1984a); Moore, D. G. (1984b); Wilkening (1984)
- bioherms**, Jackson, W. D. (1984); Jackson, W. D., and De Keyser (1984a,b); Pol (1984)
- Bisti area**, Been, Hassemer, and Murrey (1984); Erickson and Hassemer (1984)
- Black Prince Limestone**, Goldhammer and Elmore (1984)
- Black Range**  
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- Blackwater Draw Formation**, Gutentag, Heimes, Krothe, Luckey, and Weeks (1984); Holliday (1984b)
- Blanco Basin Formation**, Lucas (1984b)
- Blewater Creek**, Jacobi and Smolka (1984c)
- Burro Canyon Formation**, Tschudy, Tschudy, and Craig (1984); U.S. Geological Survey (1984kk)
- cadmium**, O'Connor, O'Connor, and Cline (1984)
- calcite**, Given and Lohmann (1984); Gonzalez, L. A., Given, and Lohmann (1984)
- Camp Rice Formation**, *see* Santa Fe Group
- Canadian River**  
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- Canadian River valley**, Dolliver (1984); Gustavson and Finley (1984)
- Cañoncito Indian Reservation**, U.S. Geological Survey (1984f)
- Capitan Limestone or reef complex**, Biggers (1984a,b); Given and Lohmann (1984); Gonzalez, L. A., Given, and Lohmann (1984); Handford, Kendall, Prezbindowski, Dunham, and Logan (1984); Owen, D. R. (1984); Wilson, L., and Holland (1984)
- carbon dioxide**, Anonymous (1984a); Taber (1984a); Thrash (1984); Tiab (1984); Wash (1984a); Wood, W. W., and Petraitis (1984)
- carbonates**, Measures (1984a); Nurmi (1984)
- Carlsbad Caverns**, Wilson, W. L., and Ash (1984a,b)
- Carrizo Mountains**, Pertl (1984); Pertl, Campbell, and Kudo (1984)
- Castile Formation**, Anderson, R. Y. (1984); Billo (1984); Coons, W. E., Meyer, Olsen, and Register (1984); Lambert and Carter (1984); Madsen (1984)
- Catron County**  
 Blue Range Wilderness, Ratté and Raabe (1984)  
 Cerro Prieto 7<sup>1</sup>/<sub>2</sub>' quadrangle, Campbell (1984)  
 Clifton 2° quadrangle, U.S. Geological Survey (1984r)  
 Fence Lake 1:50,000 quadrangle, Campbell and Roybal (1984)  
 Gila Wilderness, Ratté and Stotelmeyer (1984)  
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 Lower San Francisco Wilderness Study Area, Ratté and Lane (1984); U.S. Geological Survey (1984bb)  
 Mogollon mining district, Bornhorst, Kent, Mann, and Richey (1984); U.S. Geological Survey (1984a); Wolfe (1984)  
 Saint Johns 2° quadrangle, U.S. Geological Survey (1984x)  
 Salt Lake coal field, Arkell (1984a); Campbell (1984); Campbell and Roybal (1984); Love, Hawley, and Palmer (1984); McLellan, Biewick, and Landis (1984); Stone (1984f)  
 Techado 7<sup>1</sup>/<sub>2</sub>' quadrangle, Arkell (1984a)  
 Veteado Mountain 7<sup>1</sup>/<sub>2</sub>' quadrangle, Arkell (1984b)
- Cenozoic**, Dolliver (1984)
- Cerros del Rio Basalt**, Crowley (1984a)
- Cerros del Rio volcanic field**, Fisher, R. V., Heiken, Purtymun, and Wohletz (1984)
- Chaco Canyon**, Betancourt (1984); Donaldson (1984); Fredlund (1984); Fredlund and Johnson (1984); Gillespie (1984a,b); McFadden, Wells, and Schultz (1984); Simmons (1984)
- Chaco Culture National Historical Park**, Scott, O'Sullivan, and Weide (1984); U.S. Geological Survey (1984nn)
- Chaco River**, Smith, L. N. (1984)
- Chama Basin**, U.S. Geological Survey (1984kk)
- Chaves County**  
 Abo Formation, Guzman (1984)  
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 Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)  
 Garnsey Spring site, Hall (1984c); Parry, W. J., and Speth (1984)

- land use, Diemer and Morrison (1984)  
 Pecos Slope Abo field, Broadhead (1984a,d); Perusek (1984)  
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 Roswell 2° quadrangle, U.S. Geological Survey (1984w)  
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- Chihuahuan Desert**, Van Devender (1984); Van Devender, Betancourt, and Wimberly (1984)
- Chinle Formation**, *see* Dockum Group
- Cibola County**  
 Bluewater Creek, Jacobi and Smolka (1984c)  
 Cerro Prieto 7<sup>1</sup>/<sub>2</sub>' quadrangle, Campbell (1984)  
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 Jackpile Sandstone Member, Owen, D. E., Walters, and Beck (1984)  
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 Salt Lake coal field, Arkell (1984a); Campbell (1984); Campbell and Roybal (1984); Love, Hawley, and Palmer (1984); McLellan, Biewick, and Landis (1984); Roybal, G. H., and Campbell (1984); Stone (1984f)  
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 The Dyke 7<sup>1</sup>/<sub>2</sub>' quadrangle, Campbell (1984)  
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- clay**, Barker, J. M. (1984); Kittrick (1984); Mazzullo and Mazzullo (1984); Nichols (1984); Patterson and Murray (1984)
- Cliff House Sandstone**, *see* Mesaverde Group
- coal**  
 Alamo Band Navajo Indian Reservation, U.S. Geological Survey (1984d)  
 Basin and Range province, Brady (1984)  
 Burnam mine, D'Lugosz and Busby (1984)  
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 Ramah Indian Reservation, U.S. Geological Survey (1984e)  
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 Salt Lake coal field, McLellan, Biewick, and Landis (1984); Roybal, G. H., and Campbell (1984)  
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- colbalt**, Richter and Sharp (1984g)
- Colfax County**  
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- Colorado Plateau**  
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 tectonics, Aldrich and Laughlin (1984); Londe and Furlong (1984); Steiner (1984)
- Colorado River basin**, Freethey, Kimball, Wilberg, and Hood (1984)
- copper**  
 Cerrillos mining district, Cobban, R. R. (1984)  
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 Sierra County, Baron and Norman (1984); Baron, Norman, and Kyle (1984); Dunn (1984)  
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- Cordillera**, Coney and Harms (1984); Dickinson, W. R. (1984); Eaton (1984); Lintz (1984); Livaccari and Keith (1984); Silberling and Jones (1984)
- Cow Springs Sandstone**, Peterson, F., and Condon (1984)
- Cretaceous**  
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 biostratigraphy, Cobban, W. A., and Hook (1984); Westermann (1984)  
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 San Juan Basin, Clarkson (1984); Fassett (1984b); Manfrino (1984a,b)  
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 Socorro County, Hook (1984)
- Cretaceous-Tertiary boundary**, Alvarez, Alvarez, Asaro, and Michel (1984); Bohor, Foord, Modreski, and Triplehorn (1984); Butler, R. F. (1984b); Dingus (1984); Gilmore, Knight, Orth, Pillmore, and Tschudy (1984); Lindsay (1984); Lindsay, Butler, Klute, Johnson, and Zeitler (1984); Pillmore and Flores (1984); Pillmore, Tschudy, Orth, Gilmore, and Knight (1984); Schimmelmann and DeNiro (1984); Shoemaker, Steiner, Fassett, and Tschudy (1984); Strum (1984); Tschudy, Pillmore, Orth, Gilmore, and Knight (1984); U.S. Geological Survey (1984i,q,aa); Williams, C. A. (1984)
- Crevasse Canyon Formation**, *see* Mesaverde Group  
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- Culebra Dolomite**, *see* Rustler Formation
- Curry County**  
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- Dakota Sandstone**  
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- Encinal Canyon Member, Aubrey and Bartlett (1984)  
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- Dalhart Basin**, Gustavson and Finley (1984)
- De Baca County**  
 Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)  
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- Delaware Basin**  
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 Rustler Formation, Powers and Holt (1984)  
 Salado Formation, Stein (1984); Stein and Krumhansl (1984)  
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- Delaware Mountain Group**  
 Permian Basin, Cromwell (1984)  
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- Devonian**  
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- diatomite**, Richter and Sharp (1984l)
- Dockum Group**  
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 Santa Rosa Sandstone, Broadhead (1984e); Forster, Fox, and Pao (1984); McKallip (1984)
- Doña Ana County**  
 Cerro de Cristo Rey, Bullock (1984); Turnsek, LeMone, and Scott (1984)  
 El Paso 2° quadrangle, U.S. Geological Survey (1984t)  
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 Franklin Mountains, Kondelin (1984); Madden, H. D. (1984)  
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 Las Cruces geothermal field, Cochran (1984)  
 Organ Mountains, Newcomer (1984)  
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 Palm Park mine, Cato (1984); Filsinger (1984)  
 Potrillo maar, Newsom and Palme (1984)  
 Riley maar, Lindberg (1984a)  
 San Diego Mountain, Grigsby, J. D. (1984)  
 Santa Fe Group, Riley (1984)  
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- East Potrillo Mountains**, Dyer, Keller, Campbell, and Harkey (1984)
- Eddy County**  
 Artesia Group, Rosenblum (1984)  
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 Carlsbad Caverns, Wilson, W. L., and Ash (1984a,b)  
 Carlsbad potash district, Helms (1984)  
 Eagle Creek field, Pyron (1984)  
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 Guadalupe Escarpment Wilderness Study Area, Hayes and Thompson (1984)  
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 land use, Diemer and Morrison (1984)  
 Nash Draw, Lambert and Robinson (1984)  
 Parkway-Empire South field, James (1984)  
 Pecos River, Smolka and Tague (1984)  
 petroleum and natural gas, Anonymous (1984j); Mickey (1984a)  
 Sitting Bull Falls, Chafetz and Folk (1984)  
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- El Paso Group**  
 Franklin Mountains, Kondelin (1984)  
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 paleontology, Clemons (1984b)
- El Rito Formation**, Lucas (1984b)
- Emory cauldron**, Abitz (1984a)
- engineering geology**  
 adobe, Austin (1984b)  
 Albuquerque, Clary, Korecki, and Mondragon (1984)  
 Bandelier Tuff, Abeele (1984a,b)  
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 coal-mine subsidence, Ewy and Hood (1984); Johnpeer (1984)  
 evaporites, Nelson, J. W., and Kelsall (1984); Preece and Wawersik (1984)  
 expansive soil pavement design, McKeen and Lytton (1984)  
 mill tailings, Larson (1984)  
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 Palo Duro Basin, Stone and Webster Engineering Corporation (1984a,b)  
 rock mechanics, Butler, D. K. (1984)  
 soil mechanics, Glos and Hinkle (1984)  
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 Ute Dam, U.S. Bureau of Reclamation (1984a)  
 Waste Isolation Pilot Plant, Bechtel National, Inc. (1984a-d); Harrington, T. J., Chabannes, and Shukla (1984); Holt and Powers (1984); Krieg (1984)
- Entrada Sandstone**, *see* San Rafael Group
- environmental geology**  
 Albuquerque, Clary, Korecki, and Mondragon (1984)  
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 PCB adsorption, Fairbanks and O'Connor (1984)  
 radionuclides, Millard, Gray, and O'Neal (1984)  
 Shiprock uranium mill tailings site, Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); U.S. Department of Energy (1984a,b,d)  
 Waste Isolation Pilot Plant, Phillips, R. H. (1984); Spiegler (1984)
- Escabrosa Group**  
 Keating Formation, Moore, D. G. (1984b)  
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- Española Basin**  
 geomorphology, Demsey (1984); Dethier and Demsey (1984); Harrington, C. D., and Aldrich (1984b)  
 hydrogeology, Coons, L. M., and Kelly (1984)  
 Los Pinos Formation, May, S. J. (1984b)  
 petroleum and natural gas, Black, B. A. (1984a,b)  
 Rio Grande rift, Golombek (1984)  
 Santa Fe Group, May, S. J. (1984b)  
 seismology, Black, B. A. (1984b)  
 soil science, Demsey (1984); Dethier and Demsey (1984)  
 Tesuque Formation, Ekas, Ingersoll, Baldrige, and Shafiqullah (1984); May, S. J. (1984a)  
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- Espinazo Formation**, Brown, L. L., and Golombek (1984a)
- Estancia Valley**  
 El Cuervo Butte, North and McLemore (1984a)  
 uranium, Brookins and Olsen (1984)
- evaporites**  
 bacterial precipitation, Chafetz and Folk (1984)  
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 brine pockets, Bartel (1984); Black, S. R., Beauheim, and Register (1984); Coons, W. E., Meyer, Olsen, and Register (1984); Lambert and Carter (1984); Stein and Krumhansl (1984)  
 Castile Formation, Billo (1984); Coons, W. E., Meyer, Olsen and Register (1984)  
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 Palo Duro Basin, Baumgardner (1984c); Kreitler, Fisher, Senger,

- Hovorka, and Dutton (1984)  
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 Salado Formation, Boyd and Murphy (1984); Stein (1984); Stein and Krumhansl (1984); Wawersik (1984)  
 San Andres Formation, Boyd and Murphy (1984); Chapman (1984); Fisher, R. S., and Hovorka (1984); Schenk and Richardson (1984)  
 Seven Rivers Formation, Boyd and Murphy (1984)  
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- feldspar**, Lindberg (1984b)  
**Florida Mountains**, Matheny (1984); Matheny and Brookins (1984)  
**fluorite**, North and McLemore (1984a); Richter and Sharp (1984k); Sheppard and Murnpton (1984); Van Allen, Wilson, and Hunter (1984)  
**Fort Hancock Formation**, *see* Santa Fe Group  
**Four Corners**  
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 guidebook, Brew (1984)  
 power plant, Zoutomou and Torma (1984)  
**Fra Cristobal Range**, Hunter, J. C., and Nelson (1984)  
**Franklin Mountains**, Kondelin (1984); Madden, H. D. (1984); McEvers (1984)  
**Fruitland Formation**  
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 coal-bed methane, Choate, Lent, and Rightmire (1984); Meissner (1984)  
 coal maturation, Clarkson (1984); Clarkson and Reiter (1984b)  
 petroleum and natural gas, Anonymous (1984d)  
 stratigraphy, Manfrino (1984a,b)  
 tonsteins, Bohor and Triplehorn (1984)  
**Fusselman Dolomite**, McEvers (1984)
- galena**, North and McLemore (1984a)  
**Galisteo Formation**, Lucas (1984b)  
**Gallinas Mountains**, Brouillard (1984)  
**Gallup Sandstone**, *see* Mesaverde Group  
**garnet**, Aines and Rossman (1984); Smith, D. L., and Ehrenberg (1984); Williams and Grambling (1984)  
**geochemistry**  
 Abo Formation, Wilhelm (1984)  
 Ah-Shi-Sle-Pah Wilderness Study Area, Erickson and Hassemer (1984)  
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 Bisti Wilderness Study Area, Erickson and Hassemer (1984)  
 Black Range volcanics, Abitz (1984b)  
 Capitan Limestone or reef complex, Given and Lohmann (1984); Gonzalez, L. A., Given, and Lohmann (1984)  
 Castile Formation, Billo (1984); Coons, W. E., Meyer, Olsen, and Register (1984)  
 Cerros del Rio Basalt, Crowley (1984a)  
 coal, Affolter, Hildebrand, and Simon (1984)  
 Copper Flat copper deposit, Baron and Norman (1984); Baron, Norman, and Kyle (1984)  
 De-Na-Zin Wilderness Study Area, Erickson and Hassemer (1984)  
 Deep-Basin Brine aquifer, Fisher, R. S. (1984b); Orr, Senger, Smith, and Fisher (1984)  
 Dockum Group ground water, Dutton, A. R., and Simpkins (1984)  
 evaporites, Wilgus and Holser (1984)  
 fluid-inclusion studies, Anthony, Reynolds, and Beane (1984); Barker, C., and Robinson (1984); Baron and Norman (1984); Baron, Norman, and Kyle (1984); Gerwe and Norman (1984a,b); Hawksworth and Meinert (1984); Hodge and Norman (1984); Norman, Ting, Putnam, and Smith (1984); Ting (1984); Turner and Bowman (1984)  
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- radiocarbon**  
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- Rb-Sr**  
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- U-Pb isotopes and U series**  
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- geologic history**  
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- COCORP**  
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 Grants uranium district, U.S. Geological Survey (1984j)
- heat flow**  
 Basin and Range province, Eggleston, R. E., and Reiter (1984); Furlong and Londe (1984); Londe and Furlong (1984); Zorin, Lepina, and Lysak (1984)  
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- magnetic surveys**  
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- magnetotelluric surveys**  
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- seismology**  
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- Texas panhandle, Pennington and Davis (1984)  
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- stress analysis**  
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 Ojo Caliente hot springs, Vuataz, Stix, Goff, and Pearson (1984)  
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- Gila Formation**, Gude and Sheppard (1984); Leopoldt and Kortemeier (1984); Sheppard and Mumpton (1984)
- Gila River**, Aldridge and Hales (1984)
- Glorieta Sandstone**, *see* San Andres Formation
- gold**, Heylman (1984); McHugh (1984); McLemore and North (1984); North and McLemore (1984b); Richter and Sharp (1984e); Sillitoe and Bonham (1984); Wilkins, J. (1984a,b); Wolfe (1984); Wronekiewicz, Norman, Parkison, and Emanuel (1984)
- Grant County**  
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 Hanover-Fierro area, Turner and Bowman (1984)  
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 Santa Rita copper deposit, Anthony, Reynolds, and Beane (1984); Parry, W. T., Ballantyne, and Jacobs (1984)  
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 Gallup Sandstone, Shuey and Robinson (1984)  
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 Grants uranium district, Longmire, Thomson, and Brookins (1984); Stevens (1984)  
 High Plains aquifer, Heimes (1984); Luckey (1984b); Weeks and Gutentag (1984); Wood, W. W., and Petraitis (1984)  
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- mine-water inflow, Winter, Bloomsburg, and Williams (1984)  
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Roosevelt County, Hudson, J. D. (1984d)  
Rustler Formation, Lambert and Robinson (1984); Neuman, Walter, Bentley, Ward, and Gonzalez (1984)  
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Chinle Formation, Kues, Kietzke, and Lucas (1984)  
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Newkirk field, McCallip (1984)  
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Tansill Formation, Biggers (1984a,b)
- guidebooks**  
Basin and Range province, Lintz (1984)  
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Four Corners, Brew (1984)  
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Rocky Mountains, Woodward, J., Meissner, and Clayton (1984)  
San Juan Basin, Brew (1984)
- Harding County**  
Bravo Dome CO<sub>2</sub> field, Anonymous (1984a); Tiab (1984); Wash (1984a)  
Dalhart 2° quadrangle, Texas Bureau of Economic Geology (1984a)  
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Raton 2° quadrangle, U.S. Geological Survey (1984v)  
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**hazardous-waste disposal**, Boyle (1984); Hawley (1984a); O'Connor (1984); Stone (1984c)  
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**helium**, Been, Hassemer, and Murrey (1984)  
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**Hueco Bolson**, Stuart and Willingham (1984)  
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- Rio Grande basin, Quinlan (1984)
- Rocky Mountains, Potter, L. D., Goze, and Carlson (1984)
- San Juan Basin, Hejl (1984)
- San Juan County, Klausning and Welder (1984)
- Santa Ana Pueblo, Craig (1984)
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- Waste Isolation Pilot Plant, Gonzalez, D. D., and Bentley (1984); Lambert and Carter (1984); Mercer (1984); Rehfeldt (1984); U.S. Geological Survey (1984p); Ward, D. S., Reeves, and Duda (1984)
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- water management, Tysseling and McDonald (1984)
- water quality, Coons, L. M. (1984a); Garber (1984a,b); Garn (1984); Kelly and Coons (1984); Stone (1984g); Wright, J. I. (1984)
- water use, Aiken (1984); Gates, White, and Leggat (1984); McAda (1984); Replogle and others (1984); Tysseling and McDonald (1984); U.S. Bureau of Reclamation (1984b); Westrick, Mello, and Thomas (1984)
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- White Sands Missile Range, Cruz (1984)
- Zia Pueblo, Craig (1984)
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- Jemez fault zone**, Self, Gardner and Goff (1984)
- Jemez lineament**, Aldrich, Chapin, and Laughlin (1984); Aldrich and Harrington (1984); Aldrich and Laughlin (1984); U.S. Geological Survey (1984k,l)
- Jemez Mountains**
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- geomorphology, Harrington, C. D., and Aldrich (1984a,b)
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- magnetotelluric survey, Ander, Goss, and Strangway (1984)
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- Puye Formation, McPherson, Waresback, and Flannery (1984); McPherson, Waresback, Turbeville, and Self (1984); Turbeville and Self (1984); Wright, J. V., Turbeville, and Self (1984)
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- Tesuque Formation, Dethier and Martin (1984)
- Toledo caldera, Goff, Heiken, Tamanyu, Gardner, Self, Drake, and Shafiqullah (1984)
- Tschicoma Mountain, Turbeville and Self (1984); Wright, J. V., Turbeville, and Self (1984)
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- Jemez Pueblo**
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- Jemez River**
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- San Juan Basin, Condon and Huffman (1984); Huffman, Condon, and Thaden (1984)
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- Kirtland Shale**, Lehman (1984)
- La Jencia Basin**, U.S. Geological Survey (1984jj)
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- Laborcita Formation**, *see* Magdalena Group
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- Lea County**
- ground water, Hudson, J. D. (1984b,c); McAda (1984)
- ground-water contamination, Stephens and Spalding (1984)
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- Langley Deep field, Henderson, Lake, and Douglas (1984)
- Maljamar field, Foster, R. W. (1984a)
- McDonald field, Roberts (1984)
- petroleum and natural gas, Anonymous (1984j)
- lead**, Richter and Sharp (1984d)
- Lewis Shale**, Manfrino (1984a,b)
- limonite**, Kruse (1984a,b); Raines (1984)
- Lincoln County**
- Capitan Mountains Wilderness, Tuftin (1984)
- Carrizo Mountain, Blagbrough (1984)
- Carrizo Mountains, Pertl (1984); Pertl, Campbell, and Kudo (1984)
- Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)
- Helen Rae mine, Porter and Hasenohr (1984)
- land use, Diemer and Morrison (1984)
- Rio Ruidoso, Smolka and Jacobi (1984)
- rock glaciers, Blagbrough (1984)
- Roswell 2° quadrangle, U.S. Geological Survey (1984w)
- Vera Cruz Mountains, Sheftick (1984)
- White Mountain Wilderness, Segerstrom and Stotelmeyer (1984)
- Llano Estacado**, McGrath (1984)
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- Lobo Formation**, Mack (1984)
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- Polvadera RARE II area, Manley and Lane (1984)
- Los Alamos National Laboratory**
- Continental Scientific Drilling Program, Continental Scientific Drilling Committee (1984); Goff, Rowley, Gardner, Hawkins, Goff, Charles, Pisto, White, Eichelberger, and Younker (1984); Mangold and Tsang (1984); Morgan, B. A. (1984)
- hot dry rock, Anonymous (1984c); Dreesen, Murphy, Zylvoski, McEligot, Dash, and Nicholson (1984); Dreesen and Nicholson (1984); Fehler (1984); Fehler and Pearson (1984); Gonzales (1984); Grigsby, C. O., Goff, Trujillo, and Counce (1984); House and Kranz (1984); Kaieda (1984); Keppler (1984); Miera, Langhorst, McEllin, and Montoya (1984); Murphy, H. D., and Fehler (1984); Nicholson, Dreesen, and Turner (1984); Pearson and Albright (1984); Pettitt and White (1984); Prueitt and House (1984); Pruess and Bodvarsson (1984); Rowley (1984); Zylvoski (1984)
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- radioactive-waste disposal, Bechtel National, Inc. (1984e); Nyhan, DePoorter, Drennon, Simanton, and Foster (1984); Nyhan, Drennon, Abeele, Trujillo, Herrera, Wheeler, Booth, and Purtymun (1984)
- radionuclide-migration project, Daniels and Thompson (1984)
- seismology, Tera Corporation (1984)
- Los Pinos Formation**, May, S. J. (1984b)
- Luna County**
- Capitol Dome 7<sup>1</sup>/<sub>2</sub>' quadrangle, Clemons (1984a)
- Douglas 2° quadrangle, U.S. Geological Survey (1984s)
- El Paso 2° quadrangle, U.S. Geological Survey (1984t)
- Florida Mountains, Matheny (1984); Matheny and Brookins (1984)
- Granite Hill, Broderick (1984)

- Gym Peak 7<sup>1</sup>/<sub>2</sub>' quadrangle, Clemons and Brown (1984)  
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Rock Hound State Park, Anonymous (1984k)  
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- Madera Group**  
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- Magdalena Group**  
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- Mancos Shale**  
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- manganese**, Richter and Sharp (1984h)
- mantle**, Alibert and Albarede (1984); Ander (1984); Arai (1984); Farmer and DePaolo (1984); Grand and Helmberger (1984); Nelson, B. K., and DePaolo (1984a,b); Newsom and Palme (1984); Parker, Davis, Evans, Iyer, and Olsen (1984); Roden, Murthy, and Irving (1984); Smith, D. L., and Ehrenberg (1984); Williams, S. (1984)
- maps**  
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  Aztec 2° quadrangle, Machette and Personius (1984)  
  Basin and Range province, Hills, F. A., and Sargent (1984); Jenness, Roggensack, and Lopez (1984); Johnson, W. D. (1984a,b)  
  Becker SW 7<sup>1</sup>/<sub>2</sub>' quadrangle, Myers, D. A., Sharps, and McKay (1984)  
  Capitol Dome 7<sup>1</sup>/<sub>2</sub>' quadrangle, Clemons (1984a)  
  Carrizo Mountains, Pertl (1984)  
  Cerro Montoso 7<sup>1</sup>/<sub>2</sub>' quadrangle, Myers, D. A., Sharps, and McKay (1984)  
  Chaco Canyon, Scott, O'Sullivan, and Weide (1984)  
  Dakota Sandstone, Thaden and Zech (1984)  
  Dalhart 2° quadrangle, Texas Bureau of Economic Geology (1984a)  
  Fence Lake 1:50,000 quadrangle, Campbell and Roybal (1984)  
  Four Corners, Thaden and Zech (1984)  
  Gallinas Mountains, Brouillard (1984)  
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  Gym Peak 7<sup>1</sup>/<sub>2</sub>' quadrangle, Clemons and Brown (1984)  
  Hansonburg mining district, Lowey (1984)  
  Hermosa mining district, Shepard (1984a)  
  Laramide, Keith (1984)  
  Lordsburg mining district, Kruse (1984a)  
  Nogal Canyon area, Foruria (1984a)  
  Oak Spring 7<sup>1</sup>/<sub>2</sub>' quadrangle, Kirk and Zech (1984)  
  Organ 7<sup>1</sup>/<sub>2</sub>' quadrangle, Newcomer (1984)  
  Pueblo Viejo Mesa 7<sup>1</sup>/<sub>2</sub>' quadrangle, Osburn, J. C. (1984)  
  Raton 2° quadrangle, Machette and Personius (1984)  
  Rio Mora area, Baltz and O'Neill (1984)  
  Salt Lake coal field, McLellan, Biewick, and Landis (1984)  
  Silver City 2° quadrangle, Raines (1984); Richter and Sharp (1984a)  
  Socorro County, Osburn, G. R. (1984b)  
  Techado 7<sup>1</sup>/<sub>2</sub>' quadrangle, Arkell (1984a)  
  Thompson Peak area, Renshaw (1984)  
  Torrance County, McLemore (1984)  
  Vera Cruz Mountains, Sheftick (1984)  
  Veteado Mountain 7<sup>1</sup>/<sub>2</sub>' quadrangle, Arkell (1984b)
- hydrologic  
  Basin and Range province, Brady, Bedinger, and Hart (1984); Brady, Mulvihill, Hart, and Langer (1984); Thompson, Chappell, and Hart (1984)
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  Clifton 2° quadrangle, U.S. Geological Survey (1984r)  
  Douglas 2° quadrangle, U.S. Geological Survey (1984s)
- El Paso 2° quadrangle, U.S. Geological Survey (1984t)  
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- mine and prospect  
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  Cenozoic volcanic centers, Luedke and Smith (1984)  
  hydrothermal alteration, Kruse (1984a)  
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  satellite imagery, Merin and Everett (1984)  
  Trans-Pecos volcanics, Henry and Fisher (1984a-c)
- resource  
  coal, Brady (1984); Campbell and Roybal (1984)  
  petroleum and natural gas, Brady (1984)  
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  Ryan Hill RARE II area, Maxwell, Heyl, Ellis, and Scott (1984)  
  Sandia Mountain Wilderness, Hedlund, Hendzel, and Kness (1984)  
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  Torrance County, McLemore (1984)
- tectonic  
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  Oak Spring 7<sup>1</sup>/<sub>2</sub>' quadrangle, Kirk and Zech (1984)  
  seismology, Wong, Cash, and Jaksha (1984)  
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- Mesaverde Group**  
  Cliff House Sandstone, Finley (1984); Miller (1984); Palmer and Scott (1984); U.S. Geological Survey (1984nn); Wood, D. H., Palmer, and Scott (1984)  
  Crevasse Canyon Formation, Cavaroc and Flores (1984); Johansen (1984); U.S. Geological Survey (1984f)  
  Gallup Sandstone, Anderson, O. J., and Stricker (1984); Johansen (1984); Shuey and Robinson (1984); U.S. Geological Survey (1984e)  
  La Ventana Tongue, Palmer and Scott (1984)  
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  Moreno Hill Formation, Roybal, G. H., and Campbell (1984)  
  Point Lookout Sandstone, Finley (1984); U.S. Geological Survey (1984gg); Wright, R. (1984a,b); Zech (1984)
- Mesilla Bolson**, Gates, White, and Leggat (1984); Hawley (1984b); Peterson, D. M., Khaleel, and Hawley (1984); Snyder, J. T., and Swanberg (1984); Stuart and Willingham (1984); Wilson, C. A., and White (1984)
- Mesozoic**, Stott and Glass (1984)
- metamorphism**  
  Cordillera, Coney and Harms (1984)  
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  Picuris Range, Bauer (1984); Grambling (1984a)  
  Rio Mora uplift, Grambling (1984a)  
  shock-metamorphosed quartz, Bohor, Foord, Modreski, and Triplehorn (1984)  
  skarn, Turner and Bowman (1984)  
  Taos Range, Reed (1984)  
  Truchas Range, Grambling (1984a)  
  Tusas Mountains, Williams, M. L. (1984); Wobus (1984a)

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#### **mineral exploration**

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 Palm Park mine, Cato (1984)  
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 petroleum and natural gas, Christiansen (1984); Rountree (1984a,b)

#### **mining technology**

aluminum, Zoutomou and Torma (1984)  
 coal-mine planning and design, Thill (1984)  
 coal stripping, Williams, W. S. (1984)  
 drilling technology, Smith, J. E. (1984)  
 general, Ahrens (1984)  
 mine-water inflow, Winter, Bloomsburg, and Williams (1984)  
 reclamation, Beedlow and Carlile (1984); Elkins, Parker, Aldon, and Whitford (1984); Lindemann, Lindsey, and Fresquez (1984); Reith and Potter (1984); Scholl and Pase (1984)  
 smelter pollution, Dawson and Farmer (1984)  
 solution mining, Eligwe and Torma (1984); Stevens (1984); Tsui (1984); Vogt, Strom, and Venuto (1984); Vogt, Strom, Venuto, Winget, and Scoggins (1984); Wilson, L. (1984)  
 underground excavations, Ewy and Hood (1984); Scotese (1984)  
 uranium, Kuestermeyer (1984)  
 uranium tailings, Beedlow and Carlile (1984); Flynn, Justus, Sholeen, Smith, and Wynveen (1984c-r); Longmire, Brookins, and Thomson (1984); Thomson and Heggen (1984); U.S. Department of Energy (1984a,b,d)

**Mississippian**

Arroyo Peñasco Group, Ulmer (1984); Ulmer and Laury (1984)  
 Big Hatchet Mountains, Moore, D. G. (1984b)  
 Franklin Mountains, Madden, H. D. (1984)  
 Lake Valley Formation bioherms, Jackson, W. D. (1984); Jackson, W. D., and De Keyser (1984a,b)  
 limestones, Leutloff and Meyers (1984)  
 Pedregosa Basin, Armstrong, Mamet, and Burton (1984)  
 Sangre de Cristo Mountains, Baltz and Myers (1984)  
 southwest New Mexico, Moore, D. G. (1984a)  
 stratigraphy, Sutherland and Manger (1984b)

**Mogollon–Datil volcanic field**, Bobrow (1984); Elston (1984a); Kurilla (1984a,b); Lipman (1984b); McClannahan (1984); Osburn, G. R. (1984a); Ratté, Marvin, Naeser, and Bikerman (1984)

**molybdenum**, Anonymous (1984); Jones, D. M., and Norris (1984); Osborne and others (1984); Richter and Sharp (1984c); U.S. Geological Survey (1984oo)

**Montoya Group**

conodont biostratigraphy, Brimberry (1984)  
 Franklin Mountains, Kondelin (1984)  
 general, Measures (1984a,b)  
 paleokarst, Stepanek (1984)

**Mora County**

Coyote Creek mining district, Brown, C. E. (1984)  
 land use, Diemer and Morrison (1984)  
 Morphy Lake State Park, Anonymous (1984g)  
 Pecos Wilderness, Moench and Lane (1984)  
 Raton 2° quadrangle, Machette and Personius (1984); U.S. Geological Survey (1984v)  
 Rio Mora area, Baltz and O'Neill (1984); Codding (1984); Grambling (1984a)  
 Santa Fe 2° quadrangle, U.S. Geological Survey (1984y)

**Moreno Hill Formation**, *see* Mesaverde Group

**Morphy Lake State Park**, Anonymous (1984g)

**Morrison Formation**

Brushy Basin Member, Bell (1984); Fishman, Turner–Peterson, and Reynolds (1984)  
 dinosaurs, Hunt and Lucas (1984b)  
 geochronology, Brookins (1984c)  
 Jackpile Sandstone Member, Owen, D. E., Walters, and Beck (1984); Risser, Davis, Baldwin, and McAda (1984)  
 Mariano Lake–Lake Valley Drilling Project, Steele (1984b); U.S. Geological Survey (1984mm)  
 paleontology, Padian and Olsen (1984)  
 petrology, Hansley (1984); Steele (1984a,b)  
 Recapture Member, Peterson, F., and Condon (1984)  
 San Juan Basin, Steele (1984a)  
 uranium, Day (1984); Fishman, Turner–Peterson, and Reynolds (1984); Hansley and Turner–Peterson (1984); Spirakis and Pierson (1984)  
 Westwater Canyon Member, Day (1984); Fishman, Turner–Peterson, and Reynolds (1984); Hansley and Turner–Peterson (1984); Lowy and Brookins (1984); U.S. Geological Survey (1984tt)

**Nacimiento Formation**, Lucas (1984c,f); Phillips, F. M., Peeters, and Tansey (1984)

**Nacimiento Mountains**, Crabaugh and McPherson (1984)

**Nacimiento uplift**, Pinnell (1984)

**Naco Group**

Horquilla Limestone, Armstrong, Mamet, and Burton (1984)

**Navajo volcanic field**, Alibert and Albarede (1984); Arai (1984); England and Houseman (1984); Laughlin, Charles, and Aldrich (1984); Smith, D. L., and Ehrenberg (1984)

**New Mexico Bureau of Mines and Mineral Resources**, Eveleth (1984); Kottowski and staff (1984)

**New Mexico Water Resources Research Institute**, Bahr (1984)

**nickel**, Richter and Sharp (1984g)

**Ogallala Formation or aquifer**

depletion, Aiken (1984)  
 general, Hawley (1984d); Osterkamp and Wood (1984a); Reeves (1984); Whetstone (1984)  
 ground water, McAda (1984); Whetstone (1984)  
 hydrogeology, Gutentag, Heimes, Krothe, Luckey, and Weeks (1984); Kreitler and Dutton (1984)  
 hydrology, Stone (1984d); Wood, W. W., and Osterkamp (1984a,c); Wood, W. W., and Petraitis (1984)  
 oil-well brine contamination, Stephens and Spalding (1984)

pollution, Olsovsky and Taylor (1984)

uranium, Otten (1984)

**Ojo Alamo Sandstone**, Phillips, F. M., Peeters, and Tansey (1984)

**Ordovician**

El Paso Group, Clemons (1984b)

Franklin Mountains, Kondelin (1984)

**ore deposits**

barite, Cato (1984); Filsinger (1984)

Central mining district, Hawksworth and Meinert (1984)

Chloride mining district, Harrison, R. W. (1984)

copper, Baron and Norman (1984); Baron, Norman, and Kyle (1984); Dunn (1984); Lueth (1984a,b); Piatt (1984)

Cordillera, Eaton (1984)

El Cuervo Butte, North and McLemore (1984a)

epithermal, Dreier (1984); Gerwe and Norman (1984a,b); Hodge and Norman (1984); Norman, Bazrafshan, and Eggleston (1984); Porter and Hasenohr (1984)

gold, Wilkins, J. (1984a,b); Wronkiewicz, Norman, Parkison, and Emanuel (1984)

Hermosa mining district, Shepard (1984a)

Luis Lopez manganese deposit, Norman, Bazrafshan, and Eggleston (1984)

Luna County, Staples (1984)

Mississippi Valley-type deposits, Norman, Ting, Putnam, and Smith (1984)

molybdenum, Anonymous (1984); Osborne and others (1984)

potash, Helms (1984)

Rio Grande rift, Wilkins, J. (1984b)

silver, Canby and Evatt (1984); Freeman and Harrison (1984); Wilkins, J. (1984a,b); Wronkiewicz, Norman, Parkison, and Emanuel (1984)

skarn, Catlin (1984); Lueth (1984a,b)

tectonics, Dreier (1984)

tin, Eggleston, T. L., and Norman (1984a,b)

titanium, Force and Lynd (1984)

uranium, Day (1984); Hansley and Turner–Peterson (1984); Huffman, Zech, Phelps, and Northrup (1984); Ludwig, Simmons, and Webster (1984); Otten (1984); Riese and Brookins (1984); Spirakis and Pierson (1984); Toens (1984); U.S. Geological Survey (1984b,j,ee,hh,kk)

volcanics, Elston (1984b); Sillitoe and Bonham (1984)

zinc, Graeme and Graeme (1984)

**Organ Mountains**

geochronology, Kelley (1984)

Sugarloaf Peak quartz monzonite, Newcomer (1984)

**Ortega Group**, Bauer (1984); Grambling (1984a,d); Kepes (1984);

Soegaard (1984); Soegaard and Eriksson (1984); Williams, M. L.

(1984); Williams, M. L., and Wobus (1984)

**Ortiz Mountains**, Sillitoe and Bonham (1984)

**Otero County**

Abo Formation, Guzman (1984)

land use, Diemer and Morrison (1984)

Little Dog and Pup Canyons RARE II area, Hayes and Bigsby (1984)

petroleum and natural gas, Jacobson, Rankin, Saxton, and Ruth (1984b)

Roswell 2° quadrangle, U.S. Geological Survey (1984w)

Wind Mountain, Boggs (1984)

**Overthrust Belt**, Dickinson, W. R. (1984); Howland (1984b)

**Paleocene**, Dingus (1984); Gordon (1984); Taylor (1984)

**paleoecology**

Quaternary, Harris, A. H. (1984)

Recent, Spaulding (1984)

**paleoenvironments**

Abo Formation, Lemley (1984)

Baca Basin, Cather and Johnson (1984)

Basin and Range province, Williams, T. R., and Bedinger (1984)

Carthage–La Joya Basin, Cather and Johnson (1984)

Chaco Canyon, Betancourt (1984); Donaldson (1984); Fredlund (1984); Fredlund and Johnson (1984); Gillespie (1984a); Simmons (1984)

Chihuahuan Desert, Van Devender (1984); Van Devender, Betancourt, and Wimberly (1984)

Dakota Sandstone, West (1984)

diatoms, Bradbury (1984)

Fossil Forest area, Hunt (1984)

Garnsey Spring site, Hall (1984c)

- Glorieta Sandstone, McGookey, Hovorka, and Kolker (1984)  
 Helms Formation, Lopez (1984)  
 Las Cruces area, Neilson (1984)  
 Mancos Shale, West (1984)  
 Menefee Formation, Jameossanaie (1984)  
 Milankovitch theory, Berger and others (1984)  
 Montoya Group, Brimberry (1984); Measures (1984b)  
 Morrison Formation, Bell (1984)  
 Ogallala Formation, Reeves (1984)  
 Ortega Group, Soegaard and Eriksson (1984)  
 Palo Duro Basin, Caran (1984); Chapman (1984)  
 Plains of San Agustin, Forester and Markgraf (1984); Markgraf, Bradbury, Forester, Singh, and Sternberg (1984)  
 Point Lookout Sandstone, U.S. Geological Survey (1984gg); Wright, R. (1984a,b); Zech (1984)  
 Quaternary, Betancourt and Van Devender (1984)  
 Raton Formation, Strum (1984)  
 Recent, Spaulding (1984)  
 San Juan Basin, Condon and Huffman (1984); Huffman, Condon, and Thaden (1984); Phillips, F. M., Tansey, Peeters, Davis, Cheng, and Long (1984); Wright, R. (1984b)  
 Sangre de Cristo Formation, Brown, C. E. (1984)  
 Sarten Sandstone, Hyde (1984)  
 southern High Plains, Caran and Neck (1984); Hall (1984a,b,e); Holliday (1984a); Reeves (1984); Stafford (1984)  
 Todilto Limestone, Kietzke and Lucas (1984b)  
 Westwater Canyon Sandstone Member, U.S. Geological Survey (1984tt)
- paleogeography**  
 Jurassic-Cretaceous, Westermann (1984)  
 mulluscan, Cobban, W. A., and Hook (1984)  
 Palo Duro Basin, Herron (1984)  
 Taos trough, Dickerson (1984)  
 Todilto Limestone, Ridgley (1984)  
 Wanakah Formation, Ridgley (1984)
- paleolimnology**, Bradbury (1984)
- paleomagnetism**  
 Colorado Plateau, Steiner (1984)  
 Fossil Forest area, Hunt (1984)  
 Latir volcanic field, U.S. Geological Survey (1984ff)  
 Mogollon-Datil volcanic field, McClannahan (1984)  
 Ortiz Mountains, Brown, L. L., and Golombek (1984a)  
 Paleocene, Gordon (1984)  
 Pedernal Hills, Jackson, M., and Van der Voo (1984)  
 Plains of San Agustin, Markgraf, Bradbury, Forester, Singh, and Sternberg (1984)  
 Questa caldera, Snyder, G. R. (1984); U.S. Geological Survey (1984ff)  
 Rio Grande rift, Brown, L. L., and Golombek (1984b)  
 San Juan Basin, Butler, R. F. (1984a,b); Shoemaker, Steiner, Fassett, and Tschudy (1984)
- paleontology**  
 Alamosa Formation, Rogers (1984)  
 ammonites, Cobban, W. A. (1984a); Kennedy and Wright (1984)  
 Baca Formation, Lucas (1984d,e)  
 brachiopods, Dutro (1984); Kues (1984b); Simpson, R. D. (1984); Sutherland and Manger (1984a)  
 camels, Haynes, G., and Stanford (1984)  
 Chaco Canyon, Betancourt (1984); Donaldson (1984); Gillespie (1984a,b); Simmons (1984)  
 Chinle Formation, Kues, Kietzke, and Lucas (1984); Lucas and Kietzke (1984)  
 conodonts, Brimberry (1984); Cook and Norman (1984); Moore, D. G. (1984a); Wardlaw and Harris (1984); Wilkening (1984)  
 coral, Turnsek, LeMone, and Scott (1984)  
*Coryphodon*, Lucas (1984a,g,h)  
 Cretaceous, Hook (1984)  
 Cretaceous-Tertiary boundary, Lindsay (1984)  
 crinoids, Leutloff and Meyers (1984)  
 diatoms, Bradbury (1984)  
 dinosaurs, Hunt and Lucas (1984a,b); Lozinsky, Hunt, Wolberg, and Lucas (1984)  
 Dockum Group, Litwin (1984)  
 fish, Kietzke and Lucas (1984a); Schaeffer and Patterson (1984)  
 flora, Litwin (1984); Litwin and Traverse (1984); U.S. Geological Survey (1984aa)  
 foraminifera, Bullock (1984)  
 Fossil Forest area, Hunt (1984)  
 fusulinid, King, W. E. (1984)  
 Guadalupe County, Lucas, Kietzke, Sobus, Weadock, Mateer, and Hunt (1984)  
 Helms Formation, Lopez (1984)  
 horses, Lucas and Logan (1984); MacFadden (1984)  
 Kirtland Shale, Lehman (1984)  
 Madera Formation, Kues (1984a)  
 Madera Group, Kues (1984b)  
 mammals, Lehman (1984); Logan (1984); Lucas (1984d,e); Taylor (1984); Wilson, J. A. (1984)  
 mammoths, Sobus and Logan (1984)  
 McRae Formation, Lozinsky, Hunt, Wolberg, and Lucas (1984)  
 middens, Betancourt (1984); Van Devender (1984); Van Devender, Betancourt, and Wimberly (1984)  
 Mississippian, Madden, H. D. (1984)  
 mollusks, Cobban, W. A. (1984b); Cobban, W. A., and Hook (1984); Hoare and Smith (1984); Kues (1984a)  
 Morrison Formation, Padian and Olsen (1984)  
 Nacimiento Formation, Lucas (1984c,f)  
*Nuia siberica*, Clemons (1984b)  
 Ogallala Formation, Reeves (1984)  
 Ordovician, Kondelin (1984)  
 ostracods, Forester and Markgraf (1984)  
 oysters, West (1984)  
*Pantolambda*, Lucas (1984i)  
 Pennsylvanian, Kues (1984c)  
 proboscidea, Lucas, Lozinsky, and Logan (1984)  
 reptiles, Brinkman, Berman, and Eberth (1984); Hutchison (1984)  
 San Juan Basin, Archer and Hattin (1984); Lucas (1984a,c,f-i); Taylor (1984)  
 San Rafael Group, Schaeffer and Patterson (1984)  
 Santa Fe Group, Logan (1984); Logan, Lucas, and Sobus (1984); Lucas and Logan (1984); Lucas, Lozinsky, and Logan (1984)  
 sharks, Wolberg (1984)  
 Socorro County, Hook (1984)  
 southern High Plains, Reeves (1984)  
*Stegomastodon*, Madden, C. T. (1984)  
*Titanoides*, Lucas (1984i)  
 Todilto Limestone, Kietzke and Lucas (1984b)  
 Triassic fauna, Kues, Kietzke, and Lucas (1984)  
 Upper Cretaceous trace fossils, Archer and Hattin (1984)  
 vertebrates, Gillespie (1984b); Wolberg, Hunt, and Wentworth (1984)
- Paleozoic**  
 tectonics, Goldstein (1984)
- Palo Duro Basin**, Baumgardner (1984a-c); Budnik (1984a-d); Caran (1984); Chapman (1984); Collins (1984); Conti, Senger, Wirojanagud, and Herron (1984); Dutton, A. R., and Orr (1984); Dutton, A. R., and Simpkins (1984); Dutton, S. P. (1984); Fisher, R. S. (1984a,b); Fisher, R. S., and Hovorka (1984); Fracasso and Hovorka (1984); Fukui (1984); Gustavson and Budnik (1984b); Gustavson and Finley (1984); Herron (1984); Knauth and Hubbard (1984); Kolker (1984); Kreitler and Dutton (1984); Kreitler, Fisher, Senger, Hovorka, and Dutton (1984); McGookey (1984); Orr (1984); Orr and Senger (1984); Orr, Senger, Smith, and Fisher (1984); Ruppel and Dutton (1984a,b); Ruppel, Fracasso, and Johns (1984); Ruppel and others (1984); Senger (1984); Senger and Fogg (1984); Senger and Richter (1984); Simpkins (1984a,b); Stone and Webster Engineering Corporation (1984a-r); Texas Bureau of Economic Geology (1984b); Wirojanagud, Kreitler, and Smith (1984)
- palynology**  
 Burro Canyon Formation, Tschudy, Tschudy, and Craig (1984)  
 Chaco Canyon, Fredlund (1984); Fredlund and Johnson (1984)  
 Cretaceous-Tertiary boundary, Tschudy, Pillmore, Orth, Gilmore, and Knight (1984); Williams, C. A. (1984)  
 Garnsey Spring site, Hall (1984c)  
 Menefee Formation, Jameossanaie (1984)  
 Plains of San Agustin, Adam (1984); Forester and Markgraf (1984)  
 pollen distribution, Hall (1984d)  
 Raton Basin, Tschudy, Pillmore, Orth, Gilmore, and Knight (1984); Williams, C. A. (1984)  
 San Juan Basin, Manfrino (1984a,b)  
 southern High Plains, Hall (1984a,b)  
 Tucumcari Formation, Bint (1984)  
 York Canyon, Schimmelmann and DeNiro (1984)
- Paradise Formation**, Armstrong, Mamet, and Burton (1984)
- Paradox Basin**, Anonymous (1984i)
- Pecos greenstone belt**, Nelson, B. K., and DePaolo (1984a); Robertson and Condie (1984)

**Pecos River**

water quality, Smolka and Tague (1984)

**Pecos River basin**, Quinlan (1984); Tysseling and McDonald (1984)

**Pederal Hills**, Jackson, M., and Van der Voo (1984); Keller, G. R., Cordell, and Suleiman (1984)

**Pedregosa Basin**, Armstrong, Mamet, and Burton (1984); Goldhammer and Elmore (1984); Howland (1984b); McCaslin (1984a); Mickey (1984b); Robinson, J. P. (1984)

**pegmatite**

Harding pegmatite, London (1984a,b)

holmquistite, London (1984b)

lithium minerals, London (1984a)

tantalum, Gaupp, Möller, and Morteani (1984)

tourmaline, London (1984b)

**Peloncillo Mountains**, Hudson, J. (1984)

**Pennsylvanian**

bioherms, Pol (1984)

fusulinid, King, W. E. (1984)

Hueco Mountains, Pol (1984)

Morrowan brachiopods, Sutherland and Manger (1984a)

paleosols, Goldhammer and Elmore (1984)

Pedregosa Basin, Armstrong, Mamet, and Burton (1984); Goldhammer and Elmore (1984)

Sangre de Cristo Mountains, Baltz and Myers (1984); Kues (1984c)

stratigraphy, Sutherland and Manger (1984b)

**Percha Shale**, Moore, D. G. (1984b)

**perlite**, Breese (1984); Harben and Bates (1984)

**Permian**

brachiopods, Simpson, R. D. (1984)

Guadalupe Mountains, Biggers (1984a,b)

Guadalupean facies, Ward, R. F., Kendall, and Harris (1984)

Sangre de Cristo Mountains, Baltz and Myers (1984)

varves, Anderson, R. Y. (1984)

**Permian Basin**

Bouguer gravity anomaly, Keller, G. R., Peeples, and Roy (1984)

Delaware Mountain Group, Cromwell (1984)

Guadalupean facies, Ward, R. F., Kendall, and Harris (1984)

hydrogeology, Atwood, Siminitz, and Warman (1984); Atwood and Smith (1984)

magnetic survey, Keller, G. R., Peeples, and Roy (1984)

petroleum and natural gas, Adams (1984); Adams and others (1984); Anonymous (1984e,j); Horak (1984); Howland (1984a); Howland and Stremel (1984); McGinley and McKnight (1984); Smith, L. R. (1984); Ward, R. F., Kendall, and Harris (1984); Wash (1984c,d)

radioactive-waste disposal, Atwood, Siminitz, and Warman (1984); Atwood and Smith (1984)

structural geology, Ewing (1984)

tectonics, Erdlac, (1984); Horak (1984)

uranium, Pingitore, Schmidt, and Keller (1984)

**Permian reef complex**, *see* Capitan Limestone or reef complex

**petroleum and natural gas**

Abo Formation, Broadhead (1984a,d); Perusek (1984)

Albuquerque Basin, McCaslin (1984d)

Ar-Ar thermochronology, Harrison, T. M. (1984a,b)

Basin and Range province, Brady (1984)

Chaves County, Anonymous (1984j); Broadhead (1984a,d); Perusek (1984); Pyron (1984)

coal-bed methane, Choate (1984); Choate, Lent, and Rightmire (1984); Jurich and Adams (1984); Meissner (1984); Mickey (1984e); Rightmire, Eddy, and Kirr (1984); Savage (1984); Smith, D. M., and Williams (1984)

Colorado Plateau, Wardlaw and Harris (1984)

Curry County, Green (1984)

Delaware Basin, Fix and Robertson (1984); Hills, J. M. (1984); Kumar (1984); Thrash (1984)

Delaware Mountain Group, Murphy, R. P., and Cranston (1984)

Eddy County, Anonymous (1984j); James (1984); McCormack, Dunbar, and Sharp (1984); Mickey (1984a); Pyron (1984)

enhanced recovery, Anonymous (1984a); Dowd (1984); McKallip (1984); Morrow and others (1984); Smith, L. R. (1984); Specter (1984); Taber (1984a,b); Thrash (1984)

Española Basin, Black, B. A. (1984a)

Fruitland Formation, Anonymous (1984d)

gamma-ray survey, Zelt (1984)

general, Broadhead (1984c); McCaslin (1984f); New Mexico Energy and Minerals Department, Oil Conservation Division, and Petroleum Information Corporation (1984); Ramey (1984)

ground-water contamination, Anonymous (1984h); Olsovsky and Taylor (1984)

Guadalupe County, McKallip (1984)

history, Christiansen (1984); Rountree (1984a,b)

Lea County, Anonymous (1984j); Foster, R. W. (1984a); Henderson, Lake, and Douglas (1984); Roberts (1984); Wash (1984b)

Morrowan sandstones, Mazzullo and Mazzullo (1984)

Nacimiento uplift, Pinnell (1984)

oil-well brine injection, Hydro Geo Chem (1984)

Otero County, Jacobson, Rankin, Saxton, and Ruth (1984b)

Palo Duro Basin, Dutton, S. P. (1984); Ruppel and Dutton (1984a,b); Stone and Webster Engineering Corporation (1984c,e,f)

Paradox Basin, Anonymous (1984i)

Pedregosa Basin, Howland (1984b); McCaslin (1984a); Mickey (1984b); Robinson, J. P. (1984)

Permian Basin, Adams (1984); Anonymous (1984e,j); Horak (1984); Howland (1984a); Howland and Stremel (1984); McGinley and McKnight (1984); Smith, L. R. (1984); Taber (1984a); Ward, R. F., Kendall, and Harris (1984); Wash (1984c,d)

production forecasting, Chesnut (1984)

Raton Basin, Choate (1984); McCaslin (1984c); Savage (1984); Woodward, L. A. (1984b)

Rocky Mountains, Woodward, J., Meissner, and Clayton (1984)

Roosevelt County, Green (1984)

San Andres Formation, Schenk and Richardson (1984)

San Juan Basin, Anonymous (1984d,h); Bond (1984); Choate (1984);

Finley (1984); McCaslin (1984b,e); Mickey (1984c-e); Pugmire (1984); Savage (1984); U.S. Geological Survey (1984dd); Woodward, J., Meissner, and Clayton (1984)

Santa Rosa Sandstone, Broadhead (1984e); Forster, Fox, and Pao (1984); McKallip (1984)

seismology, McCormack, Dunbar, and Sharp (1984)

Sierra County, Jacobson, Rankin, Saxton, and Ruth (1984a)

southeastern New Mexico, Adams and others (1984)

southwestern New Mexico, Howland (1984b); Mickey (1984b)

sulfur production, Cantrell (1984)

surface-water contamination, Anonymous (1984h)

synchronous high mapping, Pyron (1984)

Trans-Pecos region, Riess (1984)

Tucumcari Basin, McCaslin (1984c,g)

**petrology**

Abo Formation, Wilhelm (1984)

Albuquerque Basin basalts, Gottlieb (1984)

Ambrosia Lake uranium district, U.S. Geological Survey (1984hh)

Arroyo Peñasco Group, Ulmer (1984); Ulmer and Laury (1984)

Fusselman Dolomite, McEvers (1984)

garnet, Aines and Rossman (1984)

Gila Formation, Sheppard and Mumpton (1984)

granite, Farmer and DePaolo (1984)

Kelly Formation, Leutloff and Meyers (1984)

Lake Valley Limestone, Leutloff, and Meyers (1984)

Mesaverde Group, Johansen (1984)

Mogollon-Datil volcanic field, Bobrow (1984)

Montoya Group, Measures (1984b)

Morrison Formation, Hansley (1984); Steele (1984a,b)

Navajo volcanic field, Arai (1984); Smith, D. L., and Ehrenberg (1984)

Organ Mountains, Newcomer (1984)

Palo Duro Basin, Fukui (1984)

pegmatites, London (1984a)

phlogopite, Arai (1984)

Pierre Shale, Jones, R. L., and Blatt (1984)

pisolites, Johnson, D. B. (1984)

Precambrian, Grambling (1984a)

Questa magma chamber, U.S. Geological Survey (1984g)

Riley travertine, Barker, J. M. (1984)

Santa Rita copper deposit, Anthony, Reynolds, and Beane (1984)

Sarten Sandstone, Hyde (1984)

topaz rhyolites, Ludington, Reed, and Lawrence (1984)

travertine, Chafetz and Folk (1984)

Westwater Canyon Member, Lowy and Brookins (1984)

**Pictured Cliffs Sandstone**, Fassett (1984b); Finley (1984); Manfrino (1984a,b); Meissner (1984); Stone (1984b)

**Picuris Range**

Precambrian, Bauer (1984); Duncan and Shore (1984); Grambling (1984a)

road logs, Manley (1984b)

**Pierre Shale**, Brookins (1984c); Jones, R. L., and Blatt (1984)

**Plains of San Agustin**, Adam (1984); Markgraf, Bradbury, Forester,

Singh, and Sternberg (1984); Menges, Kawaguchi, Lozinsky, and McFadden (1984); Menges, Kawaguchi, Ritter, McFadden, and Lozinsky (1984); Myers, R. G. (1984); Ritter, Kawaguchi, Menges, McFadden, and Lozinsky (1984)

#### **Pleistocene**

lakes and marshes, Williams, T. R., and Bedinger (1984)  
Plains of San Agustin, Adam (1984)  
rock glaciers, Blagbrough (1984)

#### **Point Lookout Sandstone**, *see* Mesaverde Group

#### **pollution**

Grants uranium district, Longmire, Thomson, and Brookins (1984); Popp, Love, Hawley, and Novo-Gradac (1984); Sautter (1984)  
hot dry rock geothermal project, Gonzales (1984)  
Los Alamos National Laboratory, Bechtel National, Inc. (1984e)  
nitrate contamination, Mahrer and Wesling (1984); Thomson and McQuillan (1984)  
oil-well brine, Anonymous (1984h); Stephens and Spalding (1984)  
PCB, Fairbanks and O'Connor (1984)  
petroleum-product contamination, Olsovsky and Taylor (1984)  
plutonium, Foster, G. R., and Hakonson (1984)  
Red River, Garn (1984); Jacobi and Smolka (1984a); Williams, R. B., Tamburini, and Miller (1984)  
Rio Grande, Brandvold, Popp, Lynch, and Brandvold (1984); Garn (1984); New Mexico Health and Environment Department (1984a); Wilson, D. B., Tague, Snavely, and Babcock (1984)  
Rio Hondo, Jacobi and Smolka (1984b,d)  
San Juan Basin, Anonymous (1984h); Shuey and Robinson (1984)  
Shiprock, Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); U.S. Department of Energy (1984a,b,d)  
smelter pollution, Dawson and Farmer (1984)  
solution mining, Wilson, L. (1984)  
uranium, Greene (1984); Rankin (1984)  
water, Garber (1984a); Kelly and Coons (1984); Lippy and Waltrip (1984); McQuillan (1984a,b); Stone (1984g); Thomson and McQuillan (1984)

#### **Polvadera Group**, Loeffler (1984)

#### **Portales Valley**, *see* Roosevelt County

#### **Porvenir Formation**, Baltz and Myers (1984)

#### **potash**

Carlsbad potash district, Helms (1984)  
general, Harben and Bates (1984)

#### **Precambrian**

Arroyo Hondo granite, Barker, C., and Robinson (1984)  
Cerro Azul, Kepes (1984)  
Cimarron Canyon, Leyenberger (1984); Wobus (1984c)  
crust, Condie and Bowring (1984)  
general, Denison, Lidiak, Bickford, and Kisvarsanyi (1984); Harrison, J. E., and Peterman (1984)  
geochronology, Bowring, Reed, and Condie (1984)  
Marquenas Quartzite, Soegaard (1984)  
migmatites, Metcalf (1984)  
north-central New Mexico, Grambling (1984b,c)  
northern New Mexico, Silver (1984); Soegaard (1984); Soegaard and Eriksson (1984)  
Ortega Group, Grambling (1984d); Soegaard (1984); Soegaard and Eriksson (1984)  
Pecos greenstone belt, Nelson, B. K., and DePaolo (1984a); Robertson and Condie (1984)  
Pedernal Hills, Jackson, M., and Van der Voo (1984)  
Picuris Range, Bauer (1984); Duncan and Shore (1984); Grambling (1984a)  
Rio Mora area, Codding (1984)  
Rio Mora uplift, Grambling (1984a)  
Sandia granite, Majumdar, Brookins, Wilson, and Baksi (1984)  
Sandia Mountains, Brookins and Majumdar (1984)  
Sangre de Cristo Mountains, Bennett and DePaolo (1984); Bowring, Reed, and Condie (1984)  
Santa Fe County, Metcalf (1984)  
Taos County, Zelenka (1984)  
Taos Range, Daggett (1984); Reed (1984)  
tectonics, U.S. Geological Survey (1984k)  
Tijeras Canyon, Nelson, B. K., and DePaolo (1984b)  
Tijeras Greenstone, Nelson, B. K., and DePaolo (1984a)  
Truchas Range, Grambling (1984a)  
Tusas Mountains, Williams, M. L. (1984); Williams, M. L., and Wobus (1984); Wobus (1984a,b,d)  
Vadito Group, Duncan and Shore (1984); Grambling (1984d)  
Wheeler Peak area, U.S. Geological Survey (1984k)

#### **Puye Formation**, *see* Santa Fe Group

**quartz**, Barker, C., and Robinson (1984); Bohor, Foord, Modreski, and Triplehorn (1984)

#### **Quaternary**

Chaco Canyon, Fredlund and Johnson (1984); Gillespie (1984b); McFadden, Wells, and Schultz (1984)  
Española Basin, Demsey (1984); Dethier and Demsey (1984); Harrington, C. D., and Aldrich (1984b)  
faults, Machette and Personius (1984); Menges, Kawaguchi, Lozinsky, and McFadden (1984); Menges, Kawaguchi, Ritter, McFadden, and Lozinsky (1984); Personius and Machette (1984); U.S. Geological Survey (1984jj)  
general, Hawley (1984c)  
Jemez Mountains, Harrington, C. D., and Aldrich (1984a,b)  
lacustrine environments, Bradbury (1984)  
Las Cruces area, Neilson (1984)  
paleoecology, Harris, A. H. (1984)  
Palo Duro Basin, Caran (1984)  
palynology, Hall (1984a,b)  
Plains of San Agustin, Forester and Markgraf (1984); Ritter, Kawaguchi, Menges, McFadden, and Lozinsky (1984)  
rainfall, Betancourt and Van Devender (1984)  
sedimentation, Love (1984)  
southern High Plains, Caran and Neck (1984); Hall (1984a,b); Holliday (1984a,b); Stafford (1984)  
vertebrates, Gillespie (1984b); Wolberg, Hunt, and Wentworth (1984)

#### **Quay County**

Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)  
land use, Diemer and Morrison (1984)  
oil-well brine injection, Hydro Geo Chem (1984)  
Ute Dam, U.S. Bureau of Reclamation (1984a)

#### **radioactive-waste disposal**

Basin and Range province, Bedinger (1984); Bedinger, Sargent, and Reed (1984); Sargent and Bedinger (1984)  
bibliographies, Glanzman (1984); Owen, P. T., Knox, Chilton, and Baldauf (1984)  
evaporites, Harrison, W. (1984)  
general, Schneider and Trask (1984)  
Los Alamos National Laboratory, Bechtel National, Inc. (1984e); Nyhan, DePoorter, Drennon, Simanton, and Foster (1984); Nyhan, Drennon, Abeele, Trujillo, Herrera, Wheeler, Booth, and Purtymun (1984)  
Palo Duro Basin, Caran and Neck (1984); Fukui (1984); Stone and Webster Engineering Corporation (1984a,b,d,g-r)  
Permian Basin, Atwood, Siminitz, and Warman (1984); Atwood and Smith (1984)  
radionuclide transport, Rankin (1984)  
shallow burial, Payne (1984)  
Waste Isolation Pilot Plant, Bartel (1984); Bechtel National, Inc. (1984a-d); Brookins (1984a); Chaturvedi (1984a,b); Chaturvedi and Rehfeldt (1984); Coons, W. E., Meyer, Olsen, and Register (1984); Gonzalez, D. D., and Bentley (1984); Harrington, T. J., Chabannes, and Shukla (1984); Holt and Powers (1984); Hunter, T. O. (1984); IT Corporation (1984); Knowles (1984); Krieg (1984); Lambert and Carter (1984); Lambert and Robinson (1984); Matalucci and Hunter (1984); Mercer (1984); Morgan, H. S. (1984); Neuman, Walter, Bentley, Ward, and Gonzalez (1984); Phillips, R. H. (1984); Powers and Holt (1984); Rehfeldt (1984); Roedder (1984); Schneider and Trask (1984); Simpson, H. J., Herczeg, Trier, Anderson, and Mathieu (1984); Spiegler (1984); Stein and Krumhansl (1984); Stormont, Matalucci, and Morgan (1984); Tyler (1984); U.S. Department of Energy (1984c); U.S. Geological Survey (1984p); Ward, D. S., Reeves, and Duda (1984); Weart (1984)

*see also* hazardous-waste disposal

#### **radionuclides**

chlorine-36, Davis, S. N., Bentley, Phillips, and Elmore (1984); Phillips, F. M., Goff, Vuataz, Bentley, Elmore, and Gove (1984); Phillips, F. M., Trotman, Bentley and Davis (1984)  
Church Rock tailings spill, Sautter (1984)  
Grants uranium district, Cary and Gallaher (1984); Popp, Love, Hawley, and Novo-Gradac (1984)  
ground water, Rankin (1984); Shuey and Robinson (1984)  
Los Alamos National Laboratory, Daniels and Thompson (1984);



- Nyhan, Drennon, Abeele, Trujillo, Herrera, Wheeler, Booth, and Purtymun (1984)
- Rio Grande, Brandvold, Popp, Lynch, and Brandvold (1984)
- Sandia National Laboratories, Millard, Gray, and O'Neal (1984)
- Waste Isolation Pilot Plant, Knowles (1984); Spiegler (1984)
- radium**, Simpson, H. J., Herczeg, Trier, Anderson, and Mathieu (1984)
- radon**, Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); Schery, Gaeddert, and Wilkening (1984); U.S. Department of Energy (1984a,b,d)
- Ramah Indian Reservation**, U.S. Geological Survey (1984e)
- Rancheria Formation**, Madden, H. D. (1984)
- RARE II areas**, Hayes and Bigsby (1984); Hayes and Brown (1984); Manley and Lane (1984); Marsh, Kropschot, and Dickinson (1984); Maxwell and Ellis (1984); Maxwell, Heyl, Ellis, and Scott (1984); Ratté and Briggs (1984); Ratté and Lane (1984); Ridgley and Light (1984); U.S. Geological Survey (1984c,bb)
- see also* Wilderness Study Areas (WSAs)
- rare earths**, Crowley (1984a,b); U.S. Geological Survey (1984qq)
- Raton Basin**
- coal, Choate (1984); Pillmore and Flores (1984); Savage (1984)
- coal-bed methane, Jurich and Adams (1984)
- Cretaceous–Tertiary boundary, Bohor, Foord, Modreski, and Triplehorn (1984); Gilmore, Knight, Orth, Pillmore, and Tschudy (1984); Pillmore and Flores (1984); Pillmore, Tschudy, Orth, Gilmore, and Knight (1984); Schimmelmann and DeNiro (1984); Tschudy, Pillmore, Orth, Gilmore, and Knight (1984); U.S. Geological Survey (1984i,q,aa)
- hydrology, Geldon and Abbott (1984)
- paleontology, U.S. Geological Survey (1984aa)
- palyminology, Tschudy, Pillmore, Orth, Gilmore, and Knight (1984); Williams, C. A. (1984)
- petroleum and natural gas, Choate (1984); McCaslin (1984c); Savage (1984); Woodward, L. A. (1984b)
- Raton Formation, Strum (1984)
- remote sensing, Merin and Everett (1984)
- Raton Formation**, Jurich and Adams (1984); Strum (1984)
- Red River**, Garn (1984); Jacobi and Smolka (1984a); Williams, R. B., Tamburini, and Miller (1984)
- remote sensing**, Connors, Gardner, Peterson, Eyton, and Baumer (1984); Giglierano (1984); Inglis and Budge (1984); Inglis, Budge, and Ebert (1984); Kruse (1984a,b); Kruse and Raines (1984); Kurilla (1984a,b); Mayhew (1984); Merin and Everett (1984); Satterwhite, Rice, and Shipman (1984); Teng (1984); U.S. Geological Survey (1984n,gg); Watson and Hummer–miller (1984); Zech (1984)
- Rincon Valley Formation**, *see* Santa Fe Group
- Rio Arriba County**
- Aztec 2° quadrangle, Machette and Personius (1984)
- Caballo RARE II area, Manley and Lane (1984)
- Chama River Canyon Wilderness, Ridgley and Light (1984)
- Cruces Basin Wilderness, Hannigan (1984)
- geothermal energy, Vuataz, Stix, Goff, and Pearson (1984)
- land use, Diemer and Morrison (1984)
- Ojo Caliente, Vuataz, Stix, Goff, and Pearson (1984)
- paleontology, Brinkman, Berman, and Eberth (1984)
- Pecos Wilderness, Moench and Lane (1984)
- Polvadera RARE II area, Manley and Lane (1984)
- Raton 2° quadrangle, Machette and Personius (1984); U.S. Geological Survey (1984v)
- San Pedro Parks Wilderness, Santos and Weisner (1984)
- Tusas Mountains, Williams, M. L. (1984); Williams, M. L., and Wobus (1984); Wobus (1984a,b,d)
- uranium, Goodknight and Dexter (1984a)
- Rio Grande**
- Caballo Dam, Williams, G. P., and Wolman (1984)
- Caballo Reservoir, Lara (1984)
- mercury, New Mexico Health and Environment Department (1984a)
- Rio Grande gorge, Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984)
- trace metals, Brandvold, Popp, Lynch, and Brandvold (1984); Foster, G. R., and Hakonson (1984); Garn (1984)
- water quality, Potter, D. U. (1984a,b,d); Wilson, D. B., Tague, Snaveley, and Babcock (1984)
- water rights, DuMars, O'Leary, and Utton (1984)
- Rio Grande basin**
- ground water, Stone (1984c)
- hydrology, Quinlan (1984)
- Rio Grande del Rancho**, Leopold and Emmett (1984)
- Rio Grande rift**
- Albuquerque Basin, Golombek (1984)
- basalt, Crowley (1984b)
- Bougouer gravity anomaly, Cordell and Keller (1984b); Dyer, Keller, Campbell, and Harkey (1984); Keller, G. R., Cordell, Davis, Peeples, and White (1984); Sinno (1984); Sinno, Keller, Daggett, Wen, and Morgan (1984)
- Cerro del Rio Basalt, Crowley (1984a)
- copper, McLemore and North (1984)
- crustal structure, Carpenter (1984); Cordell and Keller (1984a,b); Iyer (1984a); Morgan, P., and Golombek (1984); Sinno (1984); Sinno, Keller, Daggett, Wen, and Morgan (1984)
- Española Basin, Black, B. A. (1984b); Brown, L. L., and Golombek (1984a,b); Golombek (1984)
- general, Ander (1984); Baldrige, Olsen, and Callender (1984a,b); Riecker (1984)
- geochronology, Kelley and Duncan (1984); Seager, Shafiqullah, Hawley, and Marvin (1984)
- gold, McLemore and North (1984); Wilkins, J. (1984b)
- guidebook, Baldrige, Dickerson, Riecker, and Zidek (1984)
- heat flow, Clarkson and Reiter (1984a); Zorin, Lepina, and Lysak (1984)
- hydrogeology, Coons, L. M., and Kelly (1984); Wilkins, D. W. (1984)
- magma bodies, Iyer (1984b)
- magnetic surveys, Cordell and Keller (1984b)
- mantle, Parker, Davis, Evans, Iyer, and Olsen (1984)
- microearthquakes, Carpenter (1984)
- northern New Mexico, Crowley (1984a)
- paleomagnetism, Brown, L. L., and Golombek (1984a,b)
- sedimentation, Stuart and Willingham (1984)
- seismology, Butler (1984a); Carpenter (1984); Carpenter and Sanford (1984); Cash and Wolff (1984); Davis, P. M., Parker, Dahlheim, Evans, Iyer, and Olsen (1984); Davis, P. M., Parker, Evans, Iyer, and Olsen (1984); Iyer (1984a,b); Jarpe (1984); Jarpe and Sanford (1984); Jarpe, Sanford, and Jaksha (1984); Lillie (1984); Sinno (1984); Sinno, Keller, Daggett, Wen, and Morgan (1984)
- silver, McLemore and North (1984); Wilkins, J. (1984b)
- Socorro County, Carpenter and Sanford (1984); Chamberlin and Osburn (1984); Iyer (1984b); Jarpe (1984); Jarpe and Sanford (1984); Jarpe, Sanford, and Jaksha (1984); Larsen, Reilinger, and Brown (1984)
- southern New Mexico, Kelley (1984); Seager, Shafiqullah, Hawley, and Marvin (1984); Stuart and Willingham (1984)
- Taos Plateau, Manley (1984a)
- tectonics, Aldrich, Chapin, and Laughlin (1984); Brown, L. L., and Golombek (1984a,b); Dokka and Pilger (1984); Elston (1984c); Kelley and Duncan (1984); Larsen, Reilinger, and Brown (1984); Morgan, P., and Golombek (1984)
- uranium, McLemore and North (1984)
- volcanism, Williams, S. (1984)
- Rio Hondo**, Jacobi and Smolka (1984b,d)
- Rio Mora area uplift**, Baltz and O'Neill (1984); Codding (1984); Grambling (1984a)
- Rio Puerco**, Amin and Khaleel (1984); Condit (1984a); Sautter (1984); U.S. Geological Survey (1984h)
- Rio Ruidoso**, Smolka and Jacobi (1984)
- Rio Salado**, U.S. Geological Survey (1984h)
- road logs**
- Picuris Range, Manley (1984b)
- Rocky Mountains, Woodward, J., Meissner, and Clayton (1984)
- San Juan Basin, Huffman, Condon, and Thaden (1984)
- Taos County, Lipman and Reed (1984); Manley (1984b); Manley and May (1984)
- rock glaciers**, Blagbrough (1984)
- Rock Hound State Park**, Anonymous (1984k)
- Rocky Mountains**
- coal, Flores (1984); Houghton and Clausen (1984)
- heat flow, Clarkson and Reiter (1984a)
- hydrology, Potter, L. D., Goze, and Carlson (1984)
- petroleum and natural gas, Woodward, J., Meissner, and Clayton (1984)
- Roosevelt County**
- ground water, Coons, L. M. (1984a); Hudson, J. D. (1984d)
- land use, Diemer and Morrison (1984)
- meteorites, Sipiera (1984)

- petroleum and natural gas, Green (1984)  
Portales Valley, Hudson, J. D. (1984d)
- Rustler Formation**  
Culebra Dolomite Member, Lambert and Robinson (1984); Rehfeldt (1984)  
Delaware Basin, Wilgus and Holser (1984)  
depositional environments, Powers and Holt (1984)  
dissolution history, Powers and Holt (1984)  
ground-water movement, Neuman, Walter, Bentley, Ward, and Gonzalez (1984)  
Magenta Dolomite Member, Lambert and Robinson (1984)
- Sacramento Mountains**  
Abo Formation, Wilhelm (1984)  
conodonts, Brimberry (1984)  
Holder Formation, Yocum (1984)  
Laborcita Formation, Nelson, R. H. (1984)  
Montoya Group, Brimberry (1984); Measures (1984a)  
Muleshoe Mound, Jackson, W. D. (1984); Jackson, W. D., and De Keyser (1984a,b)  
paleoenvironments, Van Devender, Betancourt, and Wimberly (1984)
- Salado Formation**  
authigenic quartz, Stein (1984)  
brine pockets, Stein and Krumhansl (1984)  
Delaware Basin, Wilgus and Holser (1984)  
evaporites, Boyd and Murphy (1984)  
gases, Chaturvedi (1984a)  
ground-water geochemistry, Lambert and Robinson (1984)  
hydraulic fracturing, Wawersik (1984)
- San Andres Formation**  
evaporites, Boyd and Murphy (1984); Fisher, R. S., and Hovorka (1984); Schenk and Richardson (1984)  
Glorieta Sandstone, McGookey, Hovorka, and Kolker (1984)  
ground water, Wilson, L., and Holland (1984)  
Palo Duro Basin, Chapman (1984); Dutton, A. R., and Orr (1984); Fracasso and Hovorka (1984)  
petroleum and natural gas, Foster, R. W. (1984a); Pyron (1984); Schenk and Richardson (1984)  
porosity-permeability relationships, Nurmi (1984)
- San Andres Mountains**, Sorauf (1984)
- San Jose Formation**, Lucas (1984a); Phillips, F. M., Peeters, and Tansey (1984)
- San Juan Basin**  
biostratigraphy, Lucas (1984c,f); West (1984)  
Cliff House Sandstone, Miller (1984); Palmer and Scott (1984); Wood, D. H., Palmer, and Scott (1984)  
coal, Anonymous (1984d); Choate (1984); Fassett (1984a); Feldman (1984); Hejl (1984); Mickey (1984e); Reith and Potter (1984); Savage (1984); Williams, W. S. (1984)  
coal-bed methane, Choate, Lent, and Rightmire (1984); Meissner (1984)  
coal maturation, Clarkson (1984); Clarkson and Reiter (1984b)  
Cow Springs Sandstone, Peterson, F., and Condon (1984)  
Cretaceous, Fassett (1984b)  
Cretaceous-Tertiary boundary, Alvarez, Alvarez, Asaro, and Michel (1984); Butler, R. F. (1984b); Dingus (1984); Lindsay (1984); Lindsay, Butler, Klute, Johnson, and Zeitler (1984); Shoemaker, Steiner, Fassett, and Tschudy (1984)  
Dakota Sandstone, Aubrey and Bartlett (1984); Thaden and Zech (1984)  
Fossil Forest area, Hunt (1984)  
Fruitland Formation, Anonymous (1984d); Manfrino (1984a,b)  
geochronology, Brookins (1984c)  
geomorphology, Jercinovic (1984); Smith, L. N. (1984)  
ground water, Anonymous (1984h); Klausning and Welder (1983); Phillips, F. M., Peeters, and Tansey (1984); Phillips, F. M., and Tansey (1984); Shuey and Robinson (1984); Stephens (1984b); Tansey (1984); Wilson, L., and Holland (1984)  
guidebook, Brew (1984)  
heat flow, Clarkson (1984); Clarkson and Reiter (1984b)  
hydrology, Hejl (1984)  
Jurassic, Condon and Huffman (1984); Huffman, Condon, and Thaden (1984)  
Laramide orogeny, Butler, R. F. (1984a)  
Lewis Shale, Manfrino (1984a,b)  
Menefee Formation, Miller (1984)  
Mesozoic sedimentation, Faz (1984)
- Morrison Formation, Bell (1984); Fishman, Turner-Peterson, and Reynolds (1984); Hansley (1984); Hansley and Turner-Peterson (1984); Lowy and Brookins (1984); Peterson, F., and Condon (1984); Steele (1984a)
- Nacimiento Formation, Lucas (1984f)
- Paleocene, Dingus (1984)
- paleoenvironments, Phillips, F. M., Tansey, Peeters, Davis, Cheng, and Long (1984)
- paleogeothermal gradients, Bond (1984)
- paleomagnetism, Butler, R. F. (1984a,b)
- paleontology, Archer and Hattin (1984); Hunt and Lucas (1984a,b); Lehman (1984); Lucas (1984a,c,g-i); Taylor (1984)
- petroleum and natural gas, Anonymous (1984d,h); Bond (1984); Choate (1984); Finley (1984); McCaslin (1984b,e); Mickey (1984c-e); Pugmire (1984); Savage (1984); U.S. Geological Survey (1984dd); Woodward, J., Meissner, and Clayton (1984)
- Pictured Cliffs Sandstone, Manfrino (1984a,b); Stone (1984b)
- Point Lookout Sandstone, U.S. Geological Survey (1984gg); Wright, R. (1984a,b); Zech (1984)
- road log, Huffman, Condon, and Thaden (1984)
- San Jose Formation, Lucas (1984a)
- seismology, Jaksha and Evans (1984)
- stratigraphy, Molenaar (1984); Peterson, F., and Condon (1984)
- uranium, Hansley and Turner-Peterson (1984); U.S. Geological Survey (1984o)
- San Juan County**  
Ah-Shi-Sle-Pah Wilderness Study Area, Been, Hassemer, and Murrey (1984); Erickson and Hassemer (1984)  
Bisti Wilderness Study Area, Been, Hassemer, and Murrey (1984); Erickson and Hassemer (1984)  
coal, U.S. Bureau of Land Management (1984)  
De-Na-Zin Wilderness Study Area, Been, Hassemer, and Murrey (1984); Erickson and Hassemer (1984)  
Fossil Forest area, Hunt (1984)  
Gallegos Canyon, Lucas (1984c)  
hydrology, Klausning and Welder (1984)  
La Plata mine, U.S. Bureau of Mines (1984)  
land use, Diemer and Morrison (1984)  
Navajo mine, Stone (1984e)  
San Juan coal mine, Lindemann, Lindsey, and Fresquez (1984)  
Shiprock, Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); U.S. Department of Energy (1984a,b,d)  
uranium, Chenoweth and Learned (1984)
- San Juan Mountains**, Clarkson (1984)
- San Juan River**, U.S. Geological Survey (1984ii)
- San Juan volcanic field**, Clarkson (1984)
- San Luis Basin**, Coons, L. M., and Kelly (1984); Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984); Keller, G. R., Cordell, Davis, Peebles, and White (1984); Rogers (1984)
- San Luis uplift**, Baars and Ellingson (1984); Baars and Stevenson (1984)
- San Mateo Mountains**, Foruria (1984a); U.S. Geological Survey (1984rr)
- San Miguel County**  
land use, Diemer and Morrison (1984)  
Pecos Wilderness, Moench and Lane (1984)  
Santa Fe 2° quadrangle, U.S. Geological Survey (1984y)  
Villanueva State Park, Foster, R. W. (1984b)
- San Rafael Group**  
Entrada Sandstone, Reese (1984); Schaeffer and Patterson (1984)  
Todilto Formation, Kietzke and Lucas (1984a)  
Todilto Limestone, Kietzke and Lucas (1984b); Reese (1984); Ridgley (1984); Schaeffer and Patterson (1984)  
Wanakah Formation, Ridgley (1984); Schaeffer and Patterson (1984)
- Sandia granite**, Majumdar, Brookins, Wilson, and Baksi (1984)
- Sandia Mountains**  
geochronology, Brookins and Majumdar (1984)
- Sandia National Laboratories**  
seismology, Tera Corporation (1984)
- Sandoval County**  
Algodones, Mayne, Jones, and Dumas (1984)  
Aztec 2° quadrangle, Machette and Personius (1984)  
Baca geothermal field, Faust, Mercer, Thomas, and Balleau (1984); Fox (1984); Grant, Garg, and Riney (1984); Mangold and Tsang (1984); Smith, S. P. (1984); White, Delany, Truesdell, Janik, Goff, and Crecraft (1984)  
Cochiti mining district, Maassen, Bolivar, and Parkison (1984);

- Parkison, Emanuel, Wronkiewicz, and Norman (1984); Wronkiewicz, Norman, Parkison, and Emanuel (1984)
- geothermal energy, Fenton Hill site, Anonymous (1984c); Dreesen, Murphy, Zylvoski, McEligot, Dash, and Nicholson (1984); Dreesen and Nicholson (1984); Fehler (1984); Fehler and Pearson (1984); Gonzales (1984); Grigsby, C. O., Goff, Trujillo, and Counce (1984); House and Kranz (1984); Kaieda (1984); Keppler (1984); Miera, Langhorst, McEllin, and Montoya (1984); Murphy, H. D., and Fehler (1984); Nicholson, Dreesen, and Turner (1984); Pearson and Albright (1984); Pettitt and White (1984); Prueitt and House (1984); Pruess and Bodvarsson (1984); Rowley (1984); Zylvoski (1984)
- Jemez Springs, Chafetz and Folk (1984)
- land use, Diemer and Morrison (1984)
- magnetic survey, Mahrer, Bradley, and Newsom (1984)
- Rio Puerco Resource Area, McLemore and others (1984)
- Ruiz Peak, Bailey (1984); Durović, Weiss, and Backhaus (1984)
- Sandia Mountain Wilderness, Hedlund, Hendzel, and Kness (1984); Hedlund and Kness (1984)
- seismology, House and Kranz (1984); Kaieda (1984); Keppler (1984); Murphy, H. D., and Fehler (1984); Prueitt and House (1984)
- soil subsidence, Mayne, Jones, and Dumas (1984)
- sandstone**
- diagenesis, Grigsby, J. D. (1984)
- paleotectonic indicators, Mack (1984)
- sandstone dikes, Owen, D. R. (1984)
- Sangre de Cristo Formation**, Brown, C. E. (1984)
- Sangre de Cristo Mountains**
- Arroyo Peñasco Group, Ulmer (1984); Ulmer and Laury (1984)
- Bouguer gravity survey, Keller, G. R., Cordell, and Suleiman (1984)
- geochronology, Bennett and DePaolo (1984); Bowring, Reed, and Condie (1984)
- magnetic survey, Keller, G. R., Cordell, and Suleiman (1984)
- Pecos greenstone belt, Robertson and Condie (1984)
- Pennsylvanian, Kues (1984c)
- Precambrian, Bowring, Reed, and Condie (1984); Codding (1984)
- Rio Mora area, Baltz and O'Neill (1984); Codding (1984)
- Sangre de Cristo Formation, Brown, C. E. (1984)
- stratigraphy, Baltz and Myers (1984)
- volcanic geology, U.S. Geological Survey (1984oo)
- Santa Ana Pueblo**
- hydrology, Craigg (1984)
- Santa Fe County**
- Cerrillos mining district, Cobban, R. R. (1984)
- El Cuervo Butte, North and McLemore (1984a)
- land use, Diemer and Morrison (1984)
- Ortiz Mountains, Sillitoe and Bonham (1984)
- Pecos Wilderness, Moench and Lane (1984)
- Precambrian, Metcalf (1984)
- Santa Fe 2° quadrangle, U.S. Geological Survey (1984y)
- Thompson Peak area, Renshaw (1984)
- Santa Fe Group**
- Abiquiu Formation, May, S. J. (1984b)
- Camp Rice Formation, Leopoldt and Kortemeier (1984); Mack (1984); Riley (1984); Stuart and Willingham (1984)
- Ceja member, Logan (1984); Logan, Lucas, and Sobus (1984)
- Chama-El Rito Member, Dethier and Martin (1984); May, S. J. (1984a,b)
- Edith formation, Lucas and Logan (1984)
- Fort Hancock Formation, Riley (1984); Stuart and Willingham (1984)
- geochronology, Leopoldt and Kortemeier (1984)
- Hayner Ranch Formation, Grigsby, J. D. (1984)
- paleontology, Logan (1984); Logan, Lucas, and Sobus (1984); Lucas and Logan (1984); Lucas, Lozinsky, and Logan (1984); Sobus and Logan (1984)
- Palomas Formation, Lucas, Lozinsky, and Logan (1984)
- Puye Formation, McPherson, Waresback, and Flannery (1984); McPherson, Waresback, Turbeville, and Self (1984); Turbeville and Self (1984); Waresback, McPherson, and Self (1984); Wright, J. V., Turbeville, and Self (1984)
- Rincon Valley Formation, Grigsby, J. D. (1984); Mack (1984)
- Tesuque Formation, Ekas, Ingersoll, Baldrige, and Shafiqullah (1984); Renault (1984)
- Santa Fe River**, Potter, D. U., and Jacobi (1984)
- Santa Rosa Sandstone**, *see* Dockum Group
- Sarten Sandstone**, Hyde (1984)
- sedimentation**
- Abo Formation, Crabaugh and McPherson (1984)
- Baca Basin, Cather and Johnson (1984)
- Blackwater Draw Formation, Holliday (1984b)
- Caballo Reservoir, Lara (1984)
- Camp Rice Formation, Stuart and Willingham (1984)
- Canadian River, Williams, G. P., and Wolman (1984)
- Capitan Limestone, Biggers (1984a,b)
- Carthage-La Joya Basin, Cather and Johnson (1984)
- Castile Formation, Anderson, R. Y. (1984)
- Chinle Formation, Blakey and Gubitosa (1984)
- Cliff House Sandstone, Palmer and Scott (1984); Wood, D. H., Palmer, and Scott (1984)
- coal-bearing sequences, Rahmani and Flores (1984)
- Cretaceous-Tertiary boundary, Lindsay, Butler, Klute, Johnson, and Zeitler (1984)
- Delaware Basin, Hills, J. M. (1984)
- Fort Hancock Formation, Stuart and Willingham (1984)
- Fossil Forest area, Hunt (1984)
- Glorieta Sandstone, McGookey, Hovorka, and Kolker (1984)
- Helms Formation, Lopez (1984)
- Holder Formation, Yocum (1984)
- Hueco Bolson, Stuart and Willingham (1984)
- Hueco Mountains, Pol (1984)
- Jemez River, Williams, G. P., and Wolman (1984)
- lake sediments, Avnimelech, McHenry, and Ross (1984)
- Laramide orogeny, Bilodeau (1984)
- Marquenas Quartzite, Soegaard (1984)
- Mesaverde Group, Johansen (1984)
- Mesilla Bolson, Stuart and Willingham (1984)
- Montoya Group, Brimberry (1984)
- Morrison Formation, Bell (1984)
- Mulshoe Mound, Jackson, W. D. (1984); Jackson, W. D., and De Keyser (1984a,b)
- Ortega Group, Soegaard (1984); Soegaard and Eriksson (1984)
- Pedregosa Basin, Robinson, J. P. (1984)
- Pictured Cliffs Sandstone, Fassett (1984b); Stone (1984b)
- Pierre Shale, Jones, R. L., and Blatt (1984)
- Plains of San Agustin, Adam (1984)
- Point Lookout Sandstone, Wright, R. (1984a,b)
- Puye Formation, McPherson, Waresback, and Flannery (1984); Waresback, McPherson, and Self (1984)
- Quaternary, Love (1984)
- Rio Grande, Foster, G. R., and Hakonson (1984); Williams, G. P., and Wolman (1984)
- Rio Grande rift, Stuart and Willingham (1984)
- San Juan Basin, Fassett (1984b); Faz (1984)
- Sangre de Cristo Formation, Brown, C. E. (1984)
- Santa Fe Group, Riley (1984)
- Sarten Sandstone, Hyde (1984)
- southern High Plains, Holliday (1984a)
- southwest New Mexico, Moore, D. G. (1984a)
- Tansill Formation, Biggers (1984a,b)
- Taos trough, Dickerson (1984)
- Tesuque Formation, Ekas, Ingersoll, Baldrige, and Shafiqullah (1984)
- uranium, Olsen and Brookins (1984)
- varves, Anderson, R. Y. (1984)
- Westwater Canyon Sandstone, Day (1984); Lowy and Brookins (1984)
- Yates Formation, Johnson, D. B. (1984)
- sericite**, Parry, W. T., Ballantyne, and Jacobs (1984)
- Servilleta Formation**, Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom and Haskin (1984)
- Seven Rivers Formation**, *see* Artesia Group
- Sierra County**
- Black Colt mine, Sanders and Giordano (1984)
- Black Range Primitive Area, Erickson and Leland (1984)
- Copper Flat copper deposit, Baron and Norman (1984); Baron, Norman, and Kyle (1984); Dunn (1984)
- Emory cauldron, Abitz (1984a)
- Fra Cristobal Range, Hunter, J. C., and Nelson (1984); Van Allen, Wilson, and Hunter (1984)
- geothermal energy, Mahoney (1984)
- Hermosa mining district, Shepard (1984a,b)
- Kingston mining district, Canby and Evatt (1984)
- land use, Diemer and Morrison (1984)
- paleontology, Lozinsky, Hunt, Wolberg, and Lucas (1984); Lucas,

- Lozinsky, and Logan (1984); Madden, C. T. (1984)  
petroleum and natural gas, Jacobson, Rankin, Saxton, and Ruth (1984a)  
Sierra Cuchillo, Eggleston, T. L., and Norman (1984b)  
soil survey, Neher (1984)  
St. Cloud mine, Freeman and Harrison (1984); Harrison, R. W. (1984)  
Sunset Ridge fluorite deposit, Van Allen, Wilson, and Hunter (1984)  
Taylor Creek tin district, Eggleston, T. L., and Norman (1984a,b); Harvey (1984)  
U.S. Treasury mine, Harrison, R. W. (1984)
- Silurian**, McEvers (1984)
- silver**  
Cochiti mining district, Wronkiewicz, Norman, Parkison, and Emanuel (1984)  
general, North and McLemore (1984b); Wilkins, J. (1984a,b)  
Hermosa mining district, Shepard (1984b)  
Kingston mining district, Canby and Evatt (1984); Sanders and Giordano (1984)  
Rio Grande rift, McLemore and North (1984)  
Silver City 2° quadrangle, Richter and Sharp (1984e)  
St. Cloud mine, Freeman and Harrison (1984)
- skarn**, Catlin (1984); Lueth (1984a,b); Turner and Bowman (1984)
- Smelertown formation**, Bullock (1984)
- Socorro County**  
Abo Formation, Lemley (1984)  
Bear Mountains mining district, North (1984)  
Becker SW 7<sup>1</sup>/<sub>2</sub>' quadrangle, Myers, D. A., Sharps, and McKay (1984)  
Cerro Montoso 7<sup>1</sup>/<sub>2</sub>' quadrangle, Myers, D. A., Sharps, and McKay (1984)  
Cretaceous, Hook (1984)  
Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)  
Gallinas Mountains, Brouillard (1984)  
general, Osburn, G. R. (1984b)  
ground water, Jim Yeh, Gelhar, and Wierenga (1984)  
Hansonburg mining district, Lowey (1984); Norman, Ting, Putnam, and Smith (1984); Ting (1984)  
hazardous-waste disposal, Boyle (1984)  
hydrogeology, Myers, R. G. (1984)  
hydrology, Duffy, Gelhar, and Wierenga (1984); Stephens, Gelhar, and Young (1984)  
La Jencia fault, U.S. Geological Survey (1984jj)  
land use, Diemer and Morrison (1984)  
Luis Lopez manganese deposit, Norman, Bazrafshan, and Eggleston (1984)  
magma body, Iyer (1984b); Jarpe (1984); Jarpe and Sanford (1984); Jarpe, Sanford, and Jaksha (1984); Sanford and Ake (1984)  
Nogal Canyon area, Foruria (1984a)  
paleontology, Lucas (1984d,e); Wolberg (1984); Wolberg, Hunt, and Wentworth (1984)  
Pueblo Viejo Mesa 7<sup>1</sup>/<sub>2</sub>' quadrangle, Osburn, J. C. (1984)  
Riley travertine, Barker, J. M. (1984)  
Roswell 2° quadrangle, U.S. Geological Survey (1984w)  
Ryan Hill RARE II area, Maxwell and Ellis (1984); Maxwell, Heyl, Ellis, and Scott (1984); U.S. Geological Survey (1984c)  
San Acacia, Duffy, Gelhar, and Wierenga (1984)  
San Jose mining district, Foruria (1984b)  
San Mateo Mountains, U.S. Geological Survey (1984rr)  
seismology, Ake (1984); Ake, Jarpe, and Sanford (1984); Carpenter and Sanford (1984); Iyer (1984b); Jarpe (1984); Jarpe and Sanford (1984); Jarpe, Sanford, and Jaksha (1984); Reinke and Olsen (1984); Sanford and Ake (1984)  
structural geology, Chamberlin and Osburn (1984)  
tectonics, Larsen, Reilinger, and Brown (1984)  
Trinity site, Reinke and Olsen (1984)  
uranium, U.S. Geological Survey (1984rr)  
volcanics, Bobrow (1984); Kedzie (1984)
- soil science**  
adobe, Austin (1984b)  
Bernalillo County, U.S. Geological Survey (1984pp)  
cadmium sorption, O'Connor, O'Connor, and Cline (1984)  
calcareous soils, Gardner, L. R. (1984)  
calcretes, McGrath (1984)  
carbon, Nichols (1984)  
Chaco Canyon, McFadden, Wells, and Schultz (1984)  
chlorite, Kittrick (1984)  
creosote-bush communities, Cox, Parker, and Stroehlein (1984)  
Doña Ana County, Cox, Parker, and Stroehlein (1984); Gardner, L. R. (1984); U.S. Geological Survey (1984pp)  
eastern New Mexico, Nichols (1984)  
Eddy County, Cox, Parker, and Stroehlein (1984)  
Española Basin, Demsey (1984); Dethier and Demsey (1984)  
expansive soil pavement design, McKeen and Lytton (1984)  
geochemistry, Shacklette and Boerngen (1984)  
hazardous-waste disposal, O'Connor (1984)  
hydraulic conductivity, Stephens (1984a)  
infiltration characteristics, Boyle (1984); Coons, L. M. (1984b); Phillips, F. M., Trotman, Bentley, and Davis (1984)  
isotope geochemistry, Gardner, L. R. (1984)  
Llano Estacado, McGrath (1984)  
mine reclamation, Elkins, Parker, Aldon, and Whitford (1984)  
PCB adsorption, Fairbanks and O'Connor (1984)  
paleosols, Goldhammer and Elmore (1984)  
Pedregosa Basin, Goldhammer and Elmore (1984)  
piping, Condit (1984a)  
Plains of San Agustin, Menges, Kawaguchi, Lozinsky, and McFadden (1984); Menges, Kawaguchi, Ritter, McFadden, and Lozinsky (1984); Ritter, Kawaguchi, Menges, McFadden, and Lozinsky (1984)  
radon studies, Schery, Gaeddert, and Wilkening (1984)  
remote sensing, Teng (1984)  
Rio Puerco valley, Condit (1984a)  
Sandoval County, Mayne, Jones, and Dumas (1984)  
Sierra County, Neher (1984)  
soil mechanics, Glos and Hinkle (1984)  
soil subsidence, Mayne, Jones, and Dumas (1984)  
thermoluminescence dating, Machette (1984); May, R. J., and Machette (1984); U.S. Geological Survey (1984pp)
- southern High Plains**, Caran and Neck (1984); Gustavson and Budnik (1984a); Gutentag, Heimes, Krothe, Luckey, and Weeks (1984); Hall (1984a,b,e); Holliday (1984a,b); Kromm and White (1984); Luckey (1984a); Machenberg (1984a-c); Machenberg and Caran (1984); Nichols (1984); Osterkamp and Wood (1984a,b); Otten (1984); Potter, L. D., Goze, and Carlson (1984); Reeves (1984); Stafford (1984); Wood, W. W., and Osterkamp (1984a-c); Wood, W. W., and Petraitis (1984); Wright, J. I. (1984); Zeitz and Libert (1984)  
*see also* Llano Estacado
- speleology**  
Bishop Cap Cave, King, M. E. (1984)  
Carlsbad Caverns, Wilson, W. L., and Ash (1984a,b)  
Sandia Cave, Haynes, C. V., and Agogino (1984)  
speleogenesis, Wilson, W. L., and Ash (1984b)  
Wayne's Womb Cave, Williams, A. E. (1984)
- Springerville volcanic field**, Condit (1984b)
- stratigraphy**  
Abo Formation, Broadhead (1984d)  
Bandelier Tuff, Kite and Self (1984)  
Big Hatchet Mountains, Moore, D. G. (1984b); Wilkening (1984)  
Black Range, Abitz (1984a)  
Blackwater Draw Formation, Holliday (1984b)  
Burro Canyon Formation, Tschudy, Tschudy, and Craig (1984)  
Carlsbad Caverns, Wilson, W. L., and Ash (1984a)  
Cerro del Rio volcanic field, Fisher, R. V., Heiken, Purtymun, and Wohletz (1984)  
Chaco Canyon, U.S. Geological Survey (1984nn)  
Chinle Formation, U.S. Geological Survey (1984l)  
Cliff House Sandstone, Miller (1984); U.S. Geological Survey (1984nn)  
conodont biostratigraphy, Brimberry (1984); Wilkening (1984)  
Cretaceous, Hook (1984); Westermann (1984)  
Cretaceous-Tertiary boundary, Shoemaker, Steiner, Fassett, and Tschudy (1984)  
Dakota Sandstone, Aubrey and Bartlett (1984); U.S. Geological Survey (1984kk); West (1984)  
Delaware Basin, Bachman (1984)  
diatom biostratigraphy, Bradbury (1984)  
Entrada Sandstone, Reese (1984)  
Fossil Forest area, Hunt (1984)  
Four Corners, Baars and Ellingson (1984)  
Franklin Mountains, Kondelin (1984); Madden, H. D. (1984); McEvers (1984)  
Fruitland Formation, Manfrino (1984a,b)  
Fusselman Dolomite, McEvers (1984)

- Gallup Sandstone, Anderson, O. J., and Stricker (1984)  
 Guadalupe County, Lucas, Kietzke, Sobus, Weadock, Mateer, and Hunt (1984)  
 Hansonburg mining district, Lowey (1984)  
 Horquilla Limestone, Armstrong, Mamet, and Burton (1984)  
 Jackpile Sandstone Member, Owen, D. E., Walters, and Beck (1984)  
 Jurassic, Condon and Huffman (1984); Westermann (1984)  
 Lewis Shale, Manfrino (1984a,b)  
 Los Pinos Formation, May, S. J. (1984b)  
 Mancos Shale, West (1984)  
 Menefee Formation, Miller (1984); U.S. Geological Survey (1984nn)  
 Mississippian, Sutherland and Manger (1984b)  
 Montoya Group, Brimberry (1984); Measures (1984a)  
 Morrison Formation, Day (1984); Steele (1984b); U.S. Geological Survey (1984mm)  
 Muleshoe Mound, Jackson, W. D. (1984); Jackson, W. D., and De Keyser (1984a,b)  
 Nacimiento Formation, Lucas (1984c,f)  
 Ortega Group, Bauer (1984)  
 Paleocene, Gordon (1984)  
 Palo Duro Basin, Herron (1984); Ruppel, Fracasso, and Johns (1984); Ruppel and others (1984)  
 Paradise Formation, Armstrong, Mamet, and Burton (1984)  
 Pennsylvanian, Kues (1984c); Sutherland and Manger (1984b)  
 Permian Basin, McGinley and McKnight (1984)  
 Pictured Cliffs Sandstone, Manfrino (1984a,b)  
 Puye Formation, Waresback, McPherson, and Self (1984)  
 Raton Basin, Pillmore and Flores (1984)  
 Rio Grande gorge, Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984)  
 Salt Lake coal field, Roybal, G. H., and Campbell (1984)  
 San Andres Mountains, Sorauf (1984)  
 San Juan Basin, Condon and Huffman (1984); Huffman, Condon, and Thaden (1984); Molenaar (1984); Peterson, F., and Condon (1984); Shoemaker, Steiner, Fassett, and Tschudy (1984)  
 Sangre de Cristo Formation, Brown, C. E. (1984)  
 Sangre de Cristo Mountains, Baltz and Myers (1984)  
 Santa Fe Group, May, S. J. (1984b)  
 Santa Rosa Sandstone, Broadhead (1984e)  
 Sarten Sandstone, Hyde (1984)  
 Smelertown formation, Bullock (1984)  
 Socorro County, Hook (1984)  
 Tesuque Formation, Dethier and Martin (1984); Ekas, Ingersoll, Baldrige, and Shafiqullah (1984)  
 Todilto Limestone, Reese (1984)  
 Tres Hermanos Formation, Anderson, O. J., and Stricker (1984)  
 Vadito Group, Bauer (1984)  
 Valles caldera, Anonymous (1984b)  
 Waste Isolation Pilot Plant, Krieg (1984)  
 Westwater Canyon Sandstone Member, U.S. Geological Survey (1984tt)
- structural geology**  
 Cordillera, Dickinson, W. R. (1984); Livaccari and Keith (1984)  
 crustal structure, Carpenter (1984); Iyer (1984a); Soegaard (1984)  
 Española Basin, Black, B. A. (1984b)  
 Fra Cristobal Range, Hunter, J. C., and Nelson (1984)  
 Jemez fault zone, Self, Gardner, and Goff (1984)  
 Jemez lineament, Aldrich and Harrington (1984); U.S. Geological Survey (1984k,ll)  
 La Jencia fault, U.S. Geological Survey (1984jj)  
 Latir volcanic field, U.S. Geological Survey (1984ff)  
 Mogollon-Datil volcanic field, Kurilla (1984b)  
 Nacimiento fault, Cordell and Keller (1984a)  
 Organ Mountains, Newcomer (1984)  
 Palo Duro Basin, Budnik (1984b); Collins (1984); Gustavson and Budnik (1984b)  
 Pecos-Picuris fault, Cordell and Keller (1984a)  
 Permian Basin, Ewing (1984)  
 Picuris Range, Bauer (1984)  
 Precambrian, Soegaard (1984)  
 Reserve graben, U.S. Geological Survey (1984ll)  
 Rio Grande rift, Carpenter (1984); Chamberlin and Osburn (1984); Cordell and Keller (1984b); Iyer (1984a); Morgan, P., and Golumbek (1984); Sinno (1984); Sinno, Keller, Daggett, Wen, and Morgan (1984)  
 Salt Lake coal field, Roybal, G. H., and Campbell (1984)  
 San Juan Basin, Molenaar (1984)  
 San Luis Basin, Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984)  
 southwestern New Mexico, Bilodeau (1984)  
 Taos Plateau region, Personius and Machette (1984)  
 Tijeras-Cañoncito fault zone, Woodward, L. A. (1984a)  
 Toledo caldera, Goff, Heiken, Tamanyu, Gardner, Self, Drake, and Shafiqullah (1984)  
 VLA fault, Menges, Kawaguchi, Lozinsky, and McFadden (1984); Menges, Kawaguchi, Ritter, McFadden, and Lozinsky (1984)
- sulfur**, Cantrell (1984)
- surface water**  
 Abo Wash, U.S. Geological Survey (1984h)  
 acid rainfall, Popp, Ohline, Brandvold, and Brandvold (1984)  
 agricultural watersheds, Duffy, Gelhar, and Wierenga (1984)  
 Bernalillo County, Diniz (1984)  
 bibliography, Longmire, Oppenheimer, Jercinovic, and McQuillan (1984)  
 Bluewater Creek, Jacobi and Smolka (1984c)  
 Caballo Reservoir, Lara (1984)  
 Canadian River, Dolliver (1984); U.S. Bureau of Reclamation (1984a)  
 Clean Lakes Program, Potter, D. U. (1984c)  
 erosion, Foster, G. R., and Hakonson (1984); Nyhan, DePoorter, Drennon, Simanton, and Foster (1984); Simpkins (1984a)  
 floods, Aldridge and Hales (1984); Wang, B.-H. (1984)  
 general, Harris, L. G. (1984b); New Mexico State Engineer (1984a,b)  
 Gila River, Aldridge and Hales (1984)  
 gold, McHugh (1984)  
 Jemez River, U.S. Geological Survey (1984h)  
 mercury, New Mexico Health and Environment Department (1984a)  
 Mimbres River, Jacobi and Potter (1984)  
 Palo Duro Basin, Baumgardner (1984a,c)  
 Pecos River, Smolka and Tague (1984)  
 playas, Osterkamp and Wood (1984b); Wood, W. W., and Osterkamp (1984a-c); Wood, W. W., and Petraitis (1984)  
 pollution, Brandvold, Popp, Lynch, and Brandvold (1984); Cary and Gallaher (1984); Garn (1984); Lippy and Waltrip (1984); Longmire, Oppenheimer, Jercinovic, and McQuillan (1984); Sautter (1984)  
 rainfall runoff, Coons, L. M. (1984b); Fischer, Rote, and Borland (1984)  
 Red River, Garn (1984); Jacobi and Smolka (1984a); Williams, R. B., Tamburini, and Miller (1984)  
 Rio Grande, Brandvold, Popp, Lynch, and Brandvold (1984); DuMars, O'Leary, and Utton (1984); Garn (1984); New Mexico Health and Environment Department (1984a); Potter, D. U. (1984a,b,d); Wilson, D. B., Tague, Snavelly, and Babcock (1984)  
 Rio Grande del Ranchos, Leopold and Emmett (1984)  
 Rio Hondo, Jacobi and Smolka (1984b,d)  
 Rio Puerco, Amin and Khaleel (1984); Sautter (1984); U.S. Geological Survey (1984h)  
 Rio Ruidoso, Smolka and Jacobi (1984)  
 Rio Salado, U.S. Geological Survey (1984h)  
 San Juan Basin, Hejl (1984)  
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 Santa Fe River, Potter, D. U., and Jacobi (1984)  
 sediment, Foster, G. R., and Hakonson (1984)  
 trace metals, Brandvold, Popp, Lynch, and Brandvold (1984); Cary and Gallaher (1984); Garn (1984); Popp, Love, Hawley, and Novo-Gradac (1984); Wang, J. (1984)  
 uranium, Cary and Gallaher (1984); Olsen and Brookins (1984); Popp, Love, Hawley, and Novo-Gradac (1984)  
 water quality, Diniz (1984); Jacobi and Potter (1984); Jacobi and Smolka (1984a-d); McQuillan (1984a); New Mexico Health and Environment Department (1984b); Potter, D. U. (1984a-d); Potter, D. U., and Jacobi (1984); Smolka and Jacobi (1984); Smolka and Tague (1984); U.S. Geological Survey (1984ii); Williams, R. B., Tamburini, and Miller (1984); Wilson, D. B., Tague, Snavelly, and Babcock (1984)  
 watersheds, Jercinovic (1984); Potter, D. U. (1984c); Smith, L. N. (1984)
- Tansill Formation**, *see* Artesia Group
- Taos County**  
 Amalia Formation, Meyers (1984)  
 Arroyo Hondo granite, Barker, C., and Robinson (1984)  
 Aztec 2° quadrangle, Machette and Personius (1984)  
 Cerro Azul, Kepes (1984)

- Columbine–Hondo Wilderness Study Area, Ludington and Brown (1984)  
 floods, Wang, B.–H. (1984)  
 ground water, Summers and Hargis (1984)  
 Harding pegmatite, London (1984a)  
 land use, Diemer and Morrison (1984)  
 Molycorp molybdenum mine, Anonymous (1984)  
 No Agua Peaks dome complex, Breese (1984)  
 Pecos Wilderness, Moench and Lane (1984)  
 Precambrian, Grambling (1984d); Zelenka (1984)  
 Questa caldera, Johnson, C. M. (1984); Lipman (1984a,b); Meyers (1984); Sillitoe and Bonham (1984); Snyder, G. R. (1984); U.S. Geological Survey (1984g,ff,oo)  
 Questa molybdenite deposit, Osborne and others (1984)  
 Raton 2° quadrangle, Machette and Personius (1984); U.S. Geological Survey (1984v)  
 Red River, Jacobi and Smolka (1984a); Williams, R. B., Tamburini, and Miller (1984)  
 Red River mining district, Emanuel, Selke, and Parkison (1984)  
 Rio Grande del Ranchos, Leopold and Emmett (1984)  
 Rio Hondo, Jacobi and Smolka (1984b,d)  
 road logs, Lipman and Reed (1984); Manley (1984b); Manley and May (1984)  
 South Fork molybdenum occurrence, Jones, D. M., and Norris (1984)  
 Taos Range, Reed (1984)  
 Twining–Gold Hill area, Daggett (1984)  
 uranium, Goodknight and Dexter (1984b); Zelenka (1984)  
 water quality, Garn (1984)  
 Wheeler Peak area, U.S. Geological Survey (1984k)  
 Wheeler Peak Wilderness, Ludington and Brown (1984)
- Taos Plateau volcanic field**, Dungan, Moorbath, McMillan, and Hoefs (1984); Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984); Manley (1984a); Manley and May (1984); McMillan and Dungan (1984); Personius and Machette (1984); Williams, S. (1984)
- Taos Range**, Daggett (1984); Lipman and Reed (1984); Reed (1984)  
**Taos trough**, Dickerson (1984)  
**Taylor Creek Rhyolite**, Eggleston, T. L., and Norman (1984b); Harvey (1984)
- tectonics**  
 Albuquerque Basin, Golombek (1984)  
 Basin and Range province, Furlong and Londe (1984); Londe and Furlong (1984)  
 Colorado Plateau, Aldrich, Chapin, and Laughlin (1984); Aldrich and Laughlin (1984); Furlong and Londe (1984); Londe and Furlong (1984); Steiner (1984)  
 Cordillera, Coney and Harms (1984); Livaccari and Keith (1984)  
 Delaware Basin, Hills, J. M. (1984)  
 Española Basin, Golombek (1984)  
 general, Howell (1984)  
 Jemez lineament, Aldrich, Chapin, and Laughlin (1984); Aldrich and Laughlin (1984); U.S. Geological Survey (1984k)  
 Jemez Mountains volcanic field, Gardner, J. N., Loeffler, and Goff (1984)  
 Laramide orogeny, Bilodeau (1984); Cather and Johnson (1984); Dickinson, W. R. (1984); Elston (1984c)  
 Mogollon–Datil volcanic field, Kurilla (1984a,b)  
 ore deposits, Dreier (1984); Eaton (1984)  
 Paleozoic, Goldstein (1984)  
 Palo Duro Basin, Budnik (1984a-d); Collins (1984); McGookey (1984)  
 Permian Basin, Erdlac (1984); Horak (1984)  
 Precambrian, Duncan and Shore (1984)  
 radioactive-waste disposal, Bedinger (1984)  
 remote sensing, Kurilla (1984a,b)  
 Rio Grande rift, Aldrich, Chapin, and Laughlin (1984); Brown, L. L., and Golombek (1984a,b); Dokka and Pilger (1984); Elston (1984c); Kelley and Duncan (1984); Larsen, Reilinger, and Brown (1984); Morgan, P., and Golombek (1984)  
 sandstone compositions, Mack (1984)  
 Sangre de Cristo Mountains, Keller, G. R., Cordell, and Suleiman (1984)  
 strain analysis, Dey, Kranz, and Holcomb (1984)  
 Tijeras–Cañoncito fault zone, Woodward, L. A. (1984a)  
 Trans-Pecos region, Price and Henry (1984)  
 Valles caldera, Dey, Kranz, and Holcomb (1984)
- Tertiary**  
 faults, Machette and Personius (1984); Personius and Machette (1984)  
 horses, MacFadden (1984)  
 paleomagnetism, Gordon (1984)  
 volcanics, Elston (1984a)
- Tesuque Formation**, *see* Santa Fe Group
- Tewa Group**  
 Bandelier Tuff, Abeele (1984a,b); Daniels and Thompson (1984); Kite and Self (1984); Nielson and Hulen (1984); Nyhan, Drennon, Abeele, Trujillo, Herrera, Wheeler, Booth, and Purtymun (1984); Self, Gardner, and Goff (1984); Teasdale and Pemberton (1984); Wohletz, McGetchin, Sanford, and Jones (1984)
- thorium**  
 Laughlin Peak, U.S. Geological Survey (1984qq)  
 Taos County, Zelenka (1984)
- Tijeras Greenstone**, Nelson, B. K., and DePaolo (1984a)
- tin**  
 Black Range, Eggleston, T. L., and Norman (1984a,b); Harvey (1984); Ludington, Reed, and Lawrence (1984); Rye, Lufkin, and Wasserman (1984)  
 Silver City 2° quadrangle, Richter and Sharp (1984f)
- titanium**, Force and Lynd (1984)
- Todilto Formation**, *see* San Rafael Group  
**Todilto Limestone**, *see* San Rafael Group
- Toledo caldera**, Kite and Self (1984); Self, Gardner, and Goff (1984)  
**topaz rhyolites**, Ludington, Reed, and Lawrence (1984)
- Torrance County**  
 Abo Formation, Lemley (1984)  
 Ft. Sumner 2° quadrangle, U.S. Geological Survey (1984u)  
 general, McLemore (1984)  
 land use, Diemer and Morrison (1984)  
 Manzano Wilderness, Maxwell and Light (1984)  
 Pedernal Hills, Jackson, M., and Van der Voo (1984); Keller, G. R., Cordell, and Suleiman (1984)  
 Santa Fe 2° quadrangle, U.S. Geological Survey (1984y)
- Trans-Pecos region**  
 magmatic province, Henry and Price (1984); McDonough and Nelson (1984)  
 paleontology, Wilson, J. A. (1984)  
 petroleum and natural gas, Riess (1984)  
 tectonics, Price and Henry (1984)  
 volcanics, Henry and Fisher (1984a-c)
- travertine**, Barker, J. M. (1984); Chafetz and Folk (1984)
- Tres Hermanos Formation**, Anderson, O. J., and Stricker (1984); Wolberg (1984)
- Tres Piedras Granite**, Wobus (1984d)
- Triassic**  
 flora, Litwin and Traverse (1984)  
 Guadalupe County, Lucas, Kietzke, Sobus, Weadock, Mateer, and Hunt (1984)
- Truchas Range**, Grambling (1984a)
- Tucumcari Basin**, McCaslin (1984c,g)  
**Tucumcari Formation**, Bint (1984)  
**tungsten**, Richter and Sharp (1984i)
- Tusas Mountains**, Manley and May (1984); Williams, M. L. (1984); Williams, M. L., and Wobus (1984); Wobus (1984a,b,d)
- Uncompahgre uplift**, Baars and Ellingson (1984)
- Union County**  
 Dalhart 2° quadrangle, Texas Bureau of Economic Geology (1984a)  
 land use, Diemer and Morrison (1984)
- uranium**  
 abandoned mines, Scotese (1984)  
 Ambrosia Lake uranium district, Ludwig, Simmons, and Webster (1984); Spirakis and Pierson (1984); U.S. Geological Survey (1984hh)  
 Black Hawk mining district, Brookins and Olsen (1984)  
 carnotite, Otten (1984)  
 Carrizo Mountains, Chenoweth and Learned (1984)  
 Chama Basin, U.S. Geological Survey (1984kk)  
 Costilla massif, Goodknight and Dexter (1984b)  
 Dakota Sandstone, U.S. Geological Survey (1984kk)  
 Estancia Valley, Brookins and Olsen (1984)  
 exploration methods, Huffman, Zech, Phelps, and Northrup (1984); Northrup (1984); Pigott, Emilia, and Johnson (1984)  
 general, Chenoweth (1984); Goodknight (1984); Hatchell (1984)

- geochemistry, Spirakis and Pierson (1984)  
geochronology, Ludwig, Simmons, and Webster (1984)  
granite, Zelenka (1984)  
Grants uranium district, Brookins and Olsen (1984); Cary and Gallaher (1984); Day (1984); Huffman, Zech, Phelps, and Northrup (1984); Longmire, Brookins, and Thomson (1984); Longmire, Thomson, and Brookins (1984); Ludwig, Simmons, and Webster (1984); Pigott, Emilia, and Johnson (1984); Popp, Love, Hawley, and Novo-Gradac (1984); Riese and Brookins (1984); Risser, Davis, Baldwin, and McAda (1984); Sautter (1984); Stevens (1984); Thomson and Heggen (1984); Tsui (1984); U.S. Geological Survey (1984b,j,ee); Vogt, Strom, and Venuto (1984); Vogt, Strom, Venuto, Winget, and Scoggins (1984)  
ground water, Greene (1984); Longmire, Brookins, and Thomson (1984); Rankin (1984); Simpson, H. J., Herczeg, Trier, Anderson, and Mathieu (1984); Stevens (1984)  
McKinley County, Olsen and Brookins (1984)  
Morrison Formation, Fishman, Turner-Peterson, and Reynolds (1984); Hansley and Turner-Peterson (1984); Spirakis and Pierson (1984)  
NURE Program, Goodknight (1984); Goodknight and Dexter (1984a,b); Pingitore, Schmidt, and Keller (1984)  
Ogallala Formation or aquifer, Otten (1984)  
Permian Basin, Pingitore, Schmidt, and Keller (1984)  
Rio Grande rift, McLemore and North (1984)  
San Juan Basin, Fishman, Turner-Peterson, and Reynolds (1984); Hansley and Turner-Peterson (1984); U.S. Geological Survey (1984o)  
San Mateo Mountains, U.S. Geological Survey (1984rr)  
sedimentation, Brookins and Olsen (1984); Olsen and Brookins (1984)  
Shiprock, Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); U.S. Department of Energy (1984a,b,d)  
Silver City 2° quadrangle, Richter and Sharp (1984j)  
solution mining, Eligwe and Torma (1984); Stevens (1984); Tsui (1984); Vogt, Strom, and Venuto (1984); Vogt, Strom, Venuto, Winget, and Scoggins (1984)  
southern High Plains, Otten (1984)  
surface water, Cary and Gallaher (1984); Popp, Love, Hawley, and Novo-Gradac (1984)  
surficial deposits, Toens (1984)  
tailings, Beedlow and Carlile (1984); Flynn, Justus, Sholeen, Smith, and Wynveen (1984a-r); Greene (1984); Longmire, Brookins, and Thomson (1984); Sautter (1984); Thomson and Heggen (1984); U.S. Department of Energy (1984a,b,d)  
Taos County, Zelenka (1984)  
Tusas Mountains, Goodknight and Dexter (1984a)
- Vadito Group**, Bauer (1984); Duncan and Shore (1984); Grambling (1984d); Williams, M. L. (1984); Williams, M. L., and Wobus (1984)
- Valencia County**  
Abo Formation, Lemley (1984)  
land use, Diemer and Morrison (1984)  
Lucero Mesa, Kues (1984a)  
Manzano Wilderness, Maxwell and Light (1984)  
paleontology, Kues (1984a)
- Valles caldera**, Anonymous (1984b); Bailey (1984); Continental Scientific Drilling Committee (1984); Dey, Kranz, and Holcomb (1984); Đurović, Weiss, and Backhaus (1984); Fox (1984); Goff, Rowley, Gardner, Hawkins, Goff, Charles, Pisto, White, Eichelberger, and Younker (1984); Holcomb, Kranz, and Dey (1984); Kite and Self (1984); Lipman (1984b); Mangold and Tsang (1984); Morgan, B. A. (1984); Nielson and Hulen (1984); Phillips, F. M., Goff, Vuataz, Bentley, Elmore, and Gove (1984); Segar (1984); Self, Gardner, and Goff (1984); Sillitoe and Bonham (1984); Trainer (1984); White and Chuma (1984); White, Delany, Truesdell, Janik, Goff, and Crecraft (1984); Wohletz, McGetchin, Sanford, and Jones (1984)
- vanadium**, Chenoweth and Learned (1984)
- Vera Cruz Mountains**, Sheftick (1984)
- Vermejo Formation**, Jurich and Adams (1984)
- Villanueva State Park**, Foster, R. W. (1984b)
- volcanics**  
Albuquerque Basin, Gottlieb (1984)  
Bandelier Tuff, Kite and Self (1984)  
basalt, Crowley (1984b); Gottlieb (1984); Theilig (1984)  
Basin and Range province, Hills, F. A., and Sargent (1984); Jenness, Roggensack, and Lopez (1984); Johnson, W. D. (1984a)  
Black Range, Abitz (1984b); Sillitoe and Bonham (1984)  
Cenozoic, Bobrow (1984); Luedke and Smith (1984); Smith, R. L., and Luedke (1984)  
Cerro del Rio Basalt, Crowley (1984a)  
Cerro del Rio volcanic field, Fisher, R. V., Heiken, Purtymun, and Wohletz (1984)  
Continental Scientific Drilling Program, Continental Scientific Drilling Committee (1984); Goff, Rowley, Gardner, Hawkins, Goff, Charles, Pisto, White, Eichelberger, and Younker (1984); Mangold and Tsang (1984); Morgan, B. A. (1984)  
Emory cauldron, Abitz (1984a)  
Española Basin, May, S. J. (1984a)  
Florida Mountains, Matheny (1984); Matheny and Brookins (1984)  
general, Dungan, Grove, and Hildreth (1984)  
geochronology, Kedzie (1984)  
Gila conglomerate, Gude and Sheppard (1984)  
Green Knobs diatreme, Aines and Rossman (1984)  
Hopi Buttes volcanic field, Alibert and Albarede (1984)  
hydrovolcanic eruptions, Wohletz, McGetchin, Sanford, and Jones (1984)  
ignimbrites, Elston (1984a)  
Jemez Mountains, Ander, Goss, and Strangway (1984); Self, Gardner, and Goff (1984)  
Jemez Mountains volcanic field, Gardner, J. N., and Goff (1984); Gardner, J. N., Loeffler, and Goff (1984)  
Kilbourne Hole, Bussod and Christie (1984); Feigenson and Stolz (1984); Mathez, Blacic, and Maggiore (1984); Mercier, Benoit, and Girardeau (1984); Newsom and Palme (1984); Polve and Kurz (1984); Roden, Murthy, and Irving (1984)  
kimberlites, England and Houseman (1984)  
Latir volcanic field, Lipman (1984b); Snyder, G. R. (1984); U.S. Geological Survey (1984g,ff)  
Iherzolites, Bussod and Christie (1984); Mathez, Blacic, and Maggiore (1984); Mercier, Benoit, and Girardeau (1984); Newsom and Palme (1984); Roden, Murthy, and Irving (1984)  
Mogollon-Datil volcanic field, Bobrow (1984); Lipman (1984b); McClannahan (1984); Osburn, G. R. (1984a); Ratté, Marvin, Naeser, and Bikerman (1984)  
Navajo volcanic field, Alibert and Albarede (1984); Arai (1984); England and Houseman (1984); Laughlin, Charles, and Aldrich (1984); Smith, D. L., and Ehrenberg (1984)  
No Agua Peaks dome complex, Breese (1984)  
ore deposits, Elston (1984b)  
Organ Mountains, Newcomer (1984)  
Ortiz Mountains, Sillitoe and Bonham (1984)  
Pearlette family ash beds, U.S. Geological Survey (1984m)  
Pecos greenstone belt, Nelson, B. K., and DePaolo (1984a); Robertson and Condie (1984)  
Pedernal Hills, Jackson, M., and Van der Voo (1984)  
Polvadera Group, Loeffler (1984)  
Potrillo maar, Newsom and Palme (1984)  
Precambrian, Silver (1984)  
Puye Formation, McPherson, Waresback, and Flannery (1984); McPherson, Waresback, Turbeville, and Self (1984); Waresback, McPherson, and Self (1984)  
Questa caldera, Johnson, C. M. (1984); Lipman (1984a,b); Meyers (1984); Sillitoe and Bonham (1984); U.S. Geological Survey (1984g,ff,oo)  
Riley maar, Lindberg (1984a)  
Rio Grande rift, Crowley (1984b)  
San Mateo Mountains, Foruria (1984a)  
Sangre de Cristo Mountains, Bowring, Reed, and Condie (1984); U.S. Geological Survey (1984oo)  
Socorro County, Bobrow (1984); Kedzie (1984)  
southwestern New Mexico, Elston (1984a)  
Springerville volcanic field, Condit (1984b)  
Taos Plateau volcanic field, Dungan, Moor bath, McMillan, and Hoefs (1984); Dungan, Muehlberger, Leininger, Peterson, McMillan, Gunn, Lindstrom, and Haskin (1984); Manley (1984a); McMillan and Dungan (1984); Williams, S. (1984)  
Tertiary, Elston (1984a)  
Tijeras Greenstone, Nelson, B. K., and DePaolo (1984a)  
Toledo caldera, Goff, Heiken, Tamanyu, Gardner, Self, Drake, and Shafiqullah (1984); Kite and Self (1984)  
tonsteins, Bohor and Triplehorn (1984)  
Trans-Pecos magmatic province, Henry and Price (1984); Mc-

- Donough and Nelson (1984)  
 Trans-Pecos region, Henry and Fisher (1984a-c)  
 Tschicomma volcanic center, Turbeville and Self (1984); Wright, J. V., Turbeville, and Self (1984)  
 Valles caldera, Anonymous (1984b); Continental Scientific Drilling Committee (1984); Goff, Rowley, Gardner, Hawkins, Goff, Charles, Pisto, White, Eichelberger, and Younker (1984); Kite and Self (1984); Lipman (1984b); Mangold and Tsang (1984); Morgan, B. A. (1984); Nielson and Hulen (1984); Sillitoe and Bonham (1984); Wohletz, McGetchin, Sanford, and Jones (1984) xenoliths, Mathez, Blacic, and Maggiore (1984); Mercier, Benoit, and Girardeau (1984); Newsom and Palme (1984); Polve and Kurz (1984)
- Wanakah Formation**, *see* San Rafael Group
- Waste Isolation Pilot Plant**, Bartel (1984); Bechtel National, Inc. (1984a-d); Brookins (1984a); Chaturvedi (1984a,b); Chaturvedi and Rehfeldt (1984); Coons, W. E., Meyer, Olsen, and Register (1984); Glanzman (1984); Gonzalez, D. D., and Bentley (1984); Harrington, T. J., Chabannes, and Shukla (1984); Holt and Powers (1984); Hunter, T. O. (1984); IT Corporation (1984); Knowles (1984); Krieg (1984); Lambert and Carter (1984); Lambert and Robinson (1984); Matalucci and Hunter (1984); Mercer (1984); Morgan, H. S. (1984); Neuman, Walter, Bentley, Ward, and Gonzalez (1984); Phillips, R. H. (1984); Powers and Holt (1984); Rehfeldt (1984); Roedder (1984); Schneider and Trask (1984); Simpson, H. J., Herczeg, Trier, Anderson, and Mathieu (1984); Spiegler (1984); Stein and Krumhansl (1984); Stormont, Matalucci, and Morgan (1984); Tyler (1984); U.S. Department of Energy (1984c); U.S. Geological Survey (1984p); Ward, D. S., Reeves, and Duda (1984); Weart (1984)
- Westwater Canyon Sandstone Member**, *see* Morrison Formation
- White Sands Missile Range**  
 floods, Wang, B.-H. (1984)  
 hydrology, Cruz (1984)
- Wild Cow Formation**, *see* Madera Group
- Wilderness Study Areas (WSAs)**, Been, Hassemer, and Murrey (1984); Erickson and Hassemer (1984); Hayes and Thompson (1984); Ludington and Brown (1984); Marsh, Kropschot, and Dickinson (1984); Ratté and Lane (1984); U.S. Geological Survey (1984bb) *see also* RARE II areas
- Yates Formation**, *see* Artesia Group
- Yeso Formation**, Hunter, J. C., and Nelson (1984)
- zeolites**, Bish (1984); Gude and Sheppard (1984); Modreski (1984); Richter and Sharp (1984)
- Zia Pueblo**  
 hydrology, Craig (1984)
- zinc**, Graeme and Graeme (1984); Richter and Sharp (1984d)
- Zuni Basin**, Anderson, O. J., and Stricker (1984)