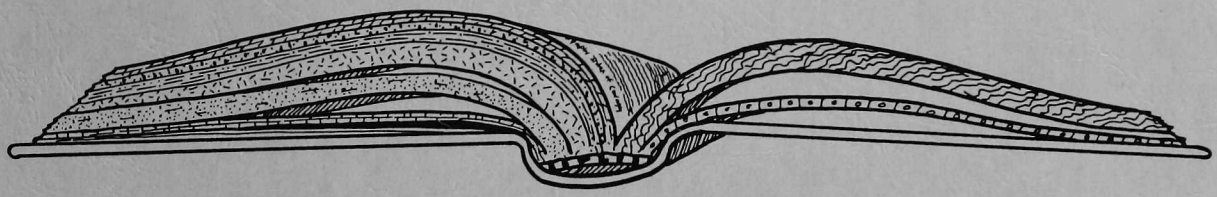
Information Series 30



Bibliography and Index of Colorado Geology, 1984–1989

Colorado Geological Survey
Department of Natural Resources
Denver, Colorado
1990

Information Series 30

Bibliography and Index of Colorado Geology, 1984–1989

Selected from Publications Indexed in GeoRef

Compiled by the American Geological Institute under contract to the Colorado Geological Survey

Colorado Geological Survey
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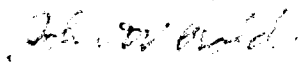
FOREWORD

In recognition of the need to more effectively utilize the immense store of published literature on the state's geology, the Colorado Geological Survey is pleased to release Information Series 30. This document updates our series of geological bibliographies and indexes through 1989. To our knowledge Colorado is the only state with a current bibliography which also extends back as far as 1875. The joint effort and contracts with the American Geological Institute began in 1976 with Bulletin 37 covering the century from 1875 through 1974, continued with Bulletin 45 covering 1975 through 1980, Information Series 19 covering 1981– 1982, Information Series 21 covering 1983 and is now complete with Information Series 30 covering 1984 through 1989. The citations in these publications are now in GEOREF and can be computer searched by arrangement with the American Geological Institute. (Current nation wide phone number is 1-800-336-4764.)

Although we believe this material to be complete and accurate, this compilation by the American Geological Institute has not been edited by the Colorado Geological Survey. If errors or omissions are found, we would appreciate their being called to our attention so they can be corrected in future bibliographies.

This series of bibliographies and indexes covers over 22,000 citations of geological literature. It will prove invaluable to those in academia, industry, government or research as they seek information on Colorado's geologic problems and mineral resources.

John W. Rold, Director



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INSTRUCTION TO USERS

Persons searching for publications dealing with Colorado geology or mineral resources should be aware that Bulletin 37 covers 1875 to 1975, Bulletin 45 covers 1975–80, Information Series 19 covers 1981–1982, Information Series 21 covers 1983 and this publication Information Series 30 covers 1984–1989. Because later bibliographies have corrected errors or omissions in previous indexes, one may have to search later indexes even if the appropriate date is known.

For simplification by AGI the Sections on County Index and Rock Unit Index were merged into a broader Subject Index. The bibliography can be searched by location, i.e. the county or by the subject material or the rock unit name, and of course if the author's name is known one can search the Author Index. In the Subject Index the publication is listed by title and author. To determine the exact citation and the source of the publication, one must then consult the alphabetically arranged Author Index. The full official title of the publication and location of the publisher are given in the Serials sections.

Most of the indexed publications are available for study in large technical or university libraries or can be obtained from the publisher. Of course if they're still in print. Publications of the U.S. Geological Survey and Colorado Geological Survey can be purchased from those agencies.

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— First day, road log from Durango, Colorado around northwest rim of San Juan Basin via Cedar Hill, Aztec and La Plata, New Mexico and Soda Springs, Marvel, and Breen, Colorado (Fassett, James E.)
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— Foraminiferal evidence for the development of anoxic conditions, Niobrara Formation (Upper Cretaceous), Boulder, Colorado, with paleoceanographic implications for the Western Interior Seaway (Beatty, Charles A.)

— High-resolution stratigraphic correlations and geochemical analyses, Cretaceous Niobrara Formation, northwestern Denver-Julesburg Basin (Rodriguez, T. E.)

— Integrated geochemical and paleoecological approach to petroleum source rock evalution, Cretaceous Niobrara Formation, Lyons, Colorado (Barlow, L. K.)

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— The molybdenite porphyry at Jamestown, Colorado and some tectonic implications of Eocene subduction (Threlkeld, William E.)

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— Analytical data on the crystalline rocks of the Strawberry Lake area, Grand County, Colorado (Young, Edward J.)
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— Geology of the Granby and Strawberry Lake 7 1/2' quadrangles, Grand County, Colorado (Schroeder, David Alan)
— Granite of Silver Plume type; a possible source of the uranium in deposits of the Tallahassee Creek and High Park areas, Fremont and Teller counties, Colorado (Hills, Francis Allan)
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— Paleomagnetic assessment of basement rotation along the eastern flank of the Front Range near Boulder, Colorado (Davis, John Wesley)
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— Precambrian geology of the Granby and Strawberry Lake 7.5 minute quadrangles, Colorado (Schroeder, David A.)
— Precambrian history of the Northeast Front Range, Colorado (Nesse, William D.)
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— Anoxic events, a comparison of Cretaceous regimes (Fischer, Alfred G., et al.)
— Depletion of ^{13}C in Cretaceous marine organic matter; source, diagenetic, or environmental signal? (Dean, Walter E., et al.)
— Foraminifera of the Cenomanian-Turonian boundary interval, Greenhorn Formation, Rock Canyon Anticline, Pueblo, Colorado (Leckie, R. Mark)
— High resolution stratigraphy and depositional history of the Greenhorn regressive hemicyclothem, Rock Canyon Anticline, Pueblo, Colorado (Glenister, Linda M.)
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— Influence of paleoenvironmental factors on preservation of organic matter in Middle Cretaceous Greenhorn Formation, Pueblo, Colorado (Pratt, Lisa M.)
— Inorganic and organic geochemical cycles in petroleum source rocks of the Cretaceous Western Interior seaway; records of paleoceanographic change (Dean, Walter E., et al.)
— Pelagic/hemipelagic rhythmites of the Greenhorn Limestone (Upper Cretaceous) of northeastern New Mexico and southeastern Colorado (Hattin, Donald E.)
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— The rodents Pseudotomus and Quadratomus and the content of the tribe Manitshini (Paramyinae, Ischyromyidae) (Korth, William W.)

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— Geologic map and coal sections of the Sawmill Mountain Quadrangle, Rio Blanco County, Colorado (Reheis, Marith Cady C.)
— Geology and production history of the uranium deposits in the Maybell, Colorado, area (Chenoweth, William L.)
— History of faulting in the eastern Uinta Mountains, Colorado and Utah (Hansen, Wallace R.)
— Miocene hydrovolcanism in NW Colorado, USA, fuelled by explosive mixing of basic magma and wet unconsolidated sediment (Leat, P. T.)
— Neogene tectonics and geomorphology of the eastern Uinta Mountains in Utah, Colorado, and Wyoming (Hansen, Wallace R.)
— Paleontology, taphonomy, and stratigraphy of the Browns Park Formation (Oligocene and Miocene) near Maybell, Moffat County, Colorado (Honey, James G.)
— Post-Laramide tectonic history of the eastern Uinta Mountains, Utah, Colorado, and Wyoming (Hansen, Wallace R.)
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— The paleontology of the Brown's Park Formation in the Maybell, Colorado area, and a taphonomic study of two fossil quarries Colorado and Arizona (Honey, James Gilbert)

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— The Oligocene rodent Ischyromys in relation to the Paleosols of the Brule Formation (Howe, John Alfred)
— Vertebrate biochronology of Oligocene sediments in Southwest North Dakota (Kihm, Allen J.)

Brushy Basin Shale Member
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— Measured sections and environmental reconstructions of uppermost Jurassic to lowermost Upper Cretaceous rocks on the northern side of the San Juan Basin, southwestern Colorado (Aubrey, W. M.)
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— Structure in the vicinity of the C-JD-7 mining area, Paradox Valley, Montrose County, Colorado (Strauss, Robert G.)
— The Riggs Hill and Dinosaur Hill sites, Mesa County, Colorado (Chenoweth, William L.)
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— Depositional environments of the Dakota Sandstone and adjacent units in the San Juan Basin utilizing discriminant analysis of trace elements in shales (Walters, Lester J., Jr., et al.)
— Evidence for glaciation in Unaweep Canyon, Mesa County, Colorado (Cole, Rex D.)
— Measured sections and environmental reconstructions of uppermost Jurassic to lowermost Upper Cretaceous rocks on the northern side of the San Juan Basin, southwestern Colorado (Aubrey, W. M.)
— Mid-Cretaceous alluvial-plain incision related to eustasy, southeastern Colorado Plateau (Aubrey, W. M.)
— Palynological evaluation of Cedar Mountain and Burro Canyon formations, Colorado Plateau (Tschudy, R. H., et al.)
— Petrography, porosity, and depositional environments of the Burro Canyon Formation and Dakota Sandstone of Southwest Colorado (Regli, Robert)
— Remains of ancient life in Cretaceous rocks of the Dinosaur Triangle (Young, Robert G.)
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— Preliminary thermal-maturity map of the Cameo and Fairfield or equivalent coal zone in the Piceance Creek basin, Colorado (Nuccio, V. F.)
— Red Mountain Unit, Piceance Basin, Colorado; field laboratory for research and development in coal bed methane production (Wiman, Stephen K.)
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— Wallrock alteration at the Bulldog Mountain Mine, Creede, Colorado (Vergo, Norma)

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— Character and origin of natural gases from Wattenberg area, Denver Basin, Colorado (Rice, Dudley D.)
— Chemical and thermal evolution of diagenetic fluids and the genesis of uranium and copper ore in and adjacent to the Paradox Basin with emphasis on the Lisbon Valley and Temple Mountain areas, Utah and Colorado (Morrison, Stan Jay)
— Comparison of natural gases produced from Upper Cretaceous Fruitland Formation coal beds and adjacent reservoirs, San Juan Basin, New Mexico and Colorado (Rice, Dudley D.)
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— Diagenesis of late Proterozoic carbonates; the Beck Spring Dolomite of eastern California (Zempolich, William G., et al.)
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— Indigenous biogenic gas in Upper Cretaceous chalks, eastern Denver Basin (Rice, Dudley D.)
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— Organic geochemistry of Green River Formation oil shales, Piceance Creek basin, Colorado (Meddaugh, W. S., et al.)
— Origin and distribution of fractures in lower Tertiary and Upper Cretaceous rocks, Piceance Basin, Colorado, and their relation to the occurrence of hydrocarbons (Pitman, Janet K.)
— Origin and occurrence of fracture-filling cements in the Upper Cretaceous Mesaverde Formation at MWX, Piceance Creek basin, Colorado (Pitman, Janet K.)
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— Paleofluids in the copper and uranium bearing sandstones, central Colorado Plateau; fluid inclusion and isotopic evidence in calcite (Meunier, J. D.)
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— Three oil types in Paleozoic rocks of northern Denver Basin; implications for exploration (Clayton, Jerry L.)

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— Biostratigraphic units and tectonism in the mid-Cretaceous foreland of Wyoming, Colorado, and adjoining areas (Merewether, E. A.)
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— Mineralogy and genesis of the clay minerals of the Codell Sandstone, Denver Basin, Colorado (Henningsgaard, Jeffrey, et al.)
— Mountain front thrust, southeastern Front Range and northeastern Wet Mountains, Colorado (Jacob, Arthur F.)
— Natural gamma-ray spectrometry, lithofacies, and depositional environments of selected Upper Cretaceous marine mudrocks, Western United States, including Tropic Shale and Tununk Member of Mancos Shale (Zelt, Frederick Bruce)
— Petrography, diagenesis and depositional environments of the Codell Sandstone and Juana Lopez members of the Carlile Shale (Upper Cretaceous), south-central Colorado (Resser, Kurt Douglas)
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— Relation of hydrocarbon type to maturity of organic matter in Upper Cretaceous chalks, eastern Denver Basin (Rice, Dudley D.)
— Stratigraphic and paleostructural controls on hydrocarbon migration in Cretaceous D and J sandstones of the Denver Basin (Tainter, Patrick A.)
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— Tectonic, sedimentary, and seismic models for D sandstone, Zenith Field area, Denver Basin, Colorado (Sonnenberg, Stephen A.)
— The Carlile-Niobrara (Upper Cretaceous) unconformity in southeastern Colorado, southwestern Kansas, and northeastern New Mexico (Laferriere, Alan P.)
— The marine transgressive surface as a sequence boundary; a case study of the upper Coniacian transgression in the San Juan Basin (Nummedal, Dag)
— Thermal maturity of Codell Sandstone-Carlile Shale interval (Cretaceous) in part of Denver Basin, Colorado (Ritchie, James G.)
— Undrilled shallow giant trap in Denver Basin, Colorado; mountain-front thrust (Jacob, Arthur F.)
— Use of rhythmic bedding patterns for locating structural features, Niobrara Formation, United States Western Interior (Laferriere, Alan P.)

Carpenter Ridge Tuff
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— Fish Canyon Tuff, Colorado; the problem of two magnetic polarities in a single tuff (Ellwood, Brooks B., et al.)
— High-resolution $^{40}Ar/^{39}Ar$ chronology of Oligocene volcanic rocks, San Juan Mountains, Colorado (Lanphere, Marvin A.)
— Mafic fiamme from the Carpenter Ridge Tuff, central San Juan volcanic field; evidence for alkaline magmatism (Dorais, Michael J., et al.)
— Magmatic conditions and development of chemical zonation in the Carpenter Ridge Tuff, central San Juan volcanic field, Colorado (Whitney, James A., et al.)
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— The Carpenter Ridge Tuff; the development of chemical and thermal gradients through magma mixing in a periodically replenished magma chamber (Whitney, James A., et al.)
— The mafic enclaves of the Dinkey Creek Granodiorite and the Carpenter Ridge Tuff; a mineralogical, textural, and geochemical study of their origins with implications for the generation of silicic batholiths (Dorais, Michael John)
— The Mammoth Mountain and Wason Park tuffs; magmatic evolution in the central San Juan volcanic field, southwestern Colorado (Webber, Karen Louise)
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coal: Map, directory, and statistics of permitted Colorado coal mines, 1983 (Rushworth, Peter, et al.)
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geologic hazards: Avalanche atlas; San Juan County, Colorado (Miller, Len, et al.)

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— Flora of the Lower Cretaceous Cedar Mountain Formation of Utah and Colorado; Part IV, Palaeopiceoxylon thinosus (Protopinaceae) (Tidwell, W. D.)
— Palynological evaluation of Cedar Mountain and Burro Canyon formations, Colorado Plateau (Tschudy, R. H., et al.)
— Remains of ancient life in Cretaceous rocks of the Dinosaur Triangle (Young, Robert G.)

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— Mineral resource potential map of the Vasquez Peak Wilderness Study Area, and the St. Louis Peak and Williams Fork Roadless Areas, Clear Creek, Grand, and Summit counties, Colorado (Theobald, P. K., et al.)

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— Minturn and Sangre de Cristo formations of southern Colorado; a prograding fan delta and alluvial fan sequence shed from the ancestral Rocky Mountains (Lindsey, David A., et al.)

— Reference section for the Minturn Formation (Middle Pennsylvanian), northern Sangre de Cristo Range, Custer County, Colorado (Lindsey, D. A., et al.)

— Stratigraphic sections, depositional environment, and metal content of the upper part of the Middle Pennsylvanian Minturn Formation, northern Sangre de Cristo Range, Custer and Saguache counties, Colorado (Clark, R. F.)

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— Fossil crocodilian eggs from the Eocene of Colorado (Hirsch, Karl F.)
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— Field relations between dikes and joints; emplacement processes and paleostress analysis (Delaney, Paul T., et al.)
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— Horizontal-stress directions in the Denver and Illinois basins from the orientations of borehole breakouts (Dart, Richard)
— In situ geomechanics of crystalline and sedimentary rocks; Part IV, Continued field testing of the modified U.S. Geological Survey 3-D borehole stress probe (Nichols, T. C., Jr.)
— Laramide deformation of the Uncompahgre Plateau; geometry and mechanisms (Heyman, O. G., et al.)
— Mechanical properties of silicic intrusions based on patterns of deformation around the Creede Caldera (Gephart, J. W.)
— Origin and occurrence of fracture-filling cements in the Upper Cretaceous Mesaverde Formation at MWX, Piceance Creek basin, Colorado (Pitman, Janet K.)
— Results of the Multiwell Experiment; in situ stresses, natural fractures, and other geological controls on reservoirs (Lorenz, John C., et al.)
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— The nature and origin of dolomite in the upper Fountain Formation (Pennsylvanian), east flank of Colorado Front Range, central Colorado (Kindred, Valerie Prescott)
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— Petrology of flecked gneisses in the northern Wet Mountains, Fremont County, Colorado (Trumbull, Robert B.)

— Petrology of flecked gneisses in the northern Wet Mountains, Fremont County, Colorado (Trumbull, Robert Bruce)

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— Comparison of organic matter in concretions and adjacent shale; possible means to study migration processes (Pratt, L. M., et al.)

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— Codell and Juana Lopez in south-central Colorado (McLane, Michael)

— Dakota Group of the northeast flank of the Canon City Embayment, Colorado (Blackwood, Charles F.)

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— Middle Jurassic age of the fish-bearing horizon in the Cañon City Embayment, Colorado (Schultze, Hans-Peter)

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— Geology and resources of thorium and associated elements in the Wet Mountains area, Fremont and Custer counties, Colorado (Armbrustmacher, Theodore J.)

— Maps showing trace-element geochemistry of the Sangre de Cristo Wilderness Study Area, south-central Colorado (Zimbelman, D. R.)

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— Geochemical data, Red Mountains mining district, San Juan Mountains, Colorado (Fisher, Frederick S.)

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— Geochemical and mineralogical data for altered rocks and soils collected in and near the Williams Fork and St. Louis Peak Roadless Areas, Clear Creek, Grand, and Summit counties, Colorado (Eppinger, R. G., et al.)

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— A regionally extensive altered air-fall ash for use in correlation of lithofacies in Upper Cretaceous Williams Fork Formation, northeastern Piceance Creek and southern Sand Wash basins, Colorado (Johnson, Edward A.)

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Proterozoic: A Proterozoic volcano-plutonic terrane, Gunnison and Salida areas, Colorado (Bickford, M. E.)
— Evolution of the early Proterozoic Colorado Province; constraints from U-Pb geochronology; with Suppl. Data 87-31 (Reed, John C., Jr., et al.)
— U-Pb geochronology of the Proterozoic volcano-plutonic terrane in the Gunnison and Salida areas, Colorado (Bickford, M. E., et al.)

Gunnison County—geomorphology
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— Rock glaciers of the Fossil Ridge area, Gunnison, Colorado (Goldstein, Barry S.)

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— Aeromagnetic map of the Powderhorn Wilderness Study Area and Cannibal Plateau Roadless Area, Gunnison and Hinsdale counties, Colorado (Martin, R. A.)
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— Aeromagnetic map of the Powderhorn Wilderness Study Area and Cannibal Plateau Roadless Area, Gunnison and Hinsdale counties, Colorado (Martin, R. A.)
— Gravity and aeromagnetic maps of the Maroon Bells-Snowmass Wilderness and additions, Pitkin and Gunnison counties, Colorado (Campbell, D. L.)
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— Seismic and borehole evidence for important pre-Laramide faulting along the axial arch in Northwest Colorado (Stone, Donald S.)
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Gunnison County—hydrogeology
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— Water-quality data for streams in the upper North Fork of the Gunnison River, Colorado (Norris, J. Michael)
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Gunnison County—petrology
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— Pegmatites of Ohio City, Colorado and the origin of complex pegmatites (Doten, R. K.)
— The carbonatite complex at Iron Hill, Powderhorn District, Gunnison County, Colorado (Armbrustmacher, Theodore J.)
intrusions: Oxygen and hydrogen isotope variations in mid-Tertiary intrusions, Gunnison County, Colorado (Weidemann, Donna Elizabeth)
— Oxygen isotope variations in Oligocene intrusives, Gunnison County, Colorado (Weidemann, Donna E.)
— Petrography of certain Tertiary igneous intrusives of north-central Gunnison County, Colorado (Kramsky, Melvin Bernard)
— Reverse zoning in the resurgent intrusions of the Grizzly Peak Cauldron, Sawatch Range, Colorado (Fridrich, Christopher J.)
— The geology of Upper Spring Creek and a petrographic analysis of the igneous intrusives of the area (Conyers, William Patrick)
magmas: Petrology of alkaline rocks in the carbonatite complex at Iron Hill, Powderhorn District, Gunnison County, Colorado; new geochemical and isotopic data (Armbrustmacher, Theodore J.)
maps: Deformational and metamorphic history of a Precambrian terrane in Gunnison and Saguache counties, Colorado (Cummings, David O.)
— Geology of the Mt. Aetna volcanic center, Chaffee and Gunnison counties, Colorado (Toulmin, Priestley, III)
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Gunnison County—sedimentary petrology
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Gunnison County—stratigraphy
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Cretaceous: An assessment of gas resources in low-permeability sandstones of the Upper Cretaceous Mesaverde Group, Piceance Basin, Colorado (Johnson, Ronald C., et al.)
— Cross sections showing correlation of coal beds and coal zones in the Mesaverde Formation in the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, Margaret S., et al.)
— Geologic history and hydrocarbon potential of Late Cretaceous-age, low-permeability reservoirs, Piceance Basin, western Colorado (Johnson, Ronald C.)
— Stratigraphy of the Mesaverde Formation, Mt. Gunnison coal property, Gunnison County, Colorado (Wellborn, Jewel E. F.)
— Structure contour map of the top of the Rollins Sandstone Member of the Mesaverde Formation and Trout Creek Sandstone Member of the Iles Formation, Piceance Creek basin, Colorado (Johnson, R. C.)
Devonian: Stratigraphy of the Devonian Chaffee Formation of northeastern Gunnison County, Colorado (Thomas, William Andrew)
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Ordovician: Manitou, Harding, Fremont and Leadville formations of northeastern Gunnison County, Colorado (Eldridge, Charles A.)
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— Structural geology and stratigraphy of the Jack's Cabin cutoff area, Gunnison County, Colorado (Schlight, Harold N.)
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— Pennsylvanian-Permian paleostructure and stratigraphy as interpreted from seismic data in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
— Stratigraphic analysis of the Gothic Formation (Desmoinesian), Pitkin and Gunnison counties, Colorado (Levorsen, Mark K.)
— Stratigraphy and sedimentology of the Pennsylvanian Gothic Formation in the Crested Butte area, Colorado (Leighton, Cheryl D.)
Permian: Pennsylvanian-Permian paleostructure and stratigraphy as interpreted from seismic data in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
Pleistocene: Late Pleistocene vertebrates from Gunnison County, Colorado (Emslie, Steven D.)
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— The petrology and structural geology of the Tolver Peak area, Gunnison County, Colorado (Leach, Carl L.)
— Timing and nature of shearing deformation of Proterozoic rocks near Gunnison, Colorado (Hetherington, Eric D.)

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gymnosperms—Coniferales
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Harding Sandstone
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— Geology of the Steer Creek area northeast of Salida, Colorado (Thayer, James Bliss)
— Lower Paleozoic of Northwest Colorado; a summary (Ross, Reuben J., Jr.)
— Manitou, Harding, Fremont and Leadville formations of northeastern Gunnison County, Colorado (Eldridge, Charles A.)
— The enigmatic Middle Ordovician fossil Archeognathus and its relations to conodonts and vertebrates (Klapper, Gilbert)

Harpole Mesa Formation
Evidence for glaciation in Unaweep Canyon, Mesa County, Colorado (Cole, Rex D.)

Hartland Shale Member
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— Oxygen-deficient biofacies of the Western Interior seaway; evidence from the Hartland Shale Member of the Greenhorn Formation (Sageman, B. B.)
— Pelagic/hemipelagic rhythmites of the Greenhorn Limestone (Upper Cretaceous) of northeastern New Mexico and southeastern Colorado (Hattin, Donald E.)

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heat flow—heat sources
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— Environmental influences upon mercury, radon and helium concentrations in soil gases at a site near Denver, Colorado (Klusman, Ronald W.)
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Hell Creek Formation
Correlation of early Paleocene palynomorph biozones, Montana, Colorado, and New Mexico (Newman, Karl R.)

— Latest Cretaceous occurrence of nodosaurid ankylosaurs (Dinosauria, Ornithischia) in western North America and the gradual extinction of the dinosaurs (Carpenter, Kenneth)
— Linking impacts in plant extinctions (Leahy, Guy D., et al.)

Henson Member
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Hermosa Formation
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— Deposition and diagenesis of Middle Pennsylvanian (Desmoinesian) phylloid algal banks, Paradox Formation, Ismay Zone, Ismay Field and San Juan Canyon, Paradox Basin, Utah and Colorado (Brinton, Lise)
— Discovery of the Silver Creek molybdenum deposit, Rico, Colorado (Cameron, D. E., et al.)
— Early salt dissolution; Pennsylvanian of Paradox Basin, Colorado and Utah (Kendall, Alan C.)
— Geochemical study of authigenic minerals in the Salt Wash Member of the Morrison Formation, Slick Rock District, San Miguel County, Colorado (Breit, George Nicholas)
— Hydrocarbon potential in Paradox Basin; an overview (Fallin, J. A. Tony)
— Laramide oblique-slip, high-angle faults, southern San Juan Mountains, Colorado (Morse, Earl L.)
— Mineral resources of the Dolores River Canyon Wilderness Study Area, Montrose and San Miguel counties, Colorado (Gerlitz, Carol N., et al.)
— Narraguinnep Springs (gas) (Roth, George)
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— Relationship of authigenic minerals to the V-U and Cu mineralization of the Salt Wash Member of the Morrison Formation, San Miguel County, Colorado (Breit, G. N.)
— Sedimentary petrology and paleontology of part of the Hermosa Group (Pennsylvanian) between Durango and Silverton, Colorado (McDonald, David Wilson)
— Sedimentology and architecture of Gilbert-and mouth bar-type fan deltas, Paradox Basin, Colorado (Wood, Maria L.)
— Seismic exploration for Pennsylvanian algal mounds of the Paradox Basin (Moriarty, Bruce J.)
— Seismic exploration for Pennsylvanian algal mounds, Paradox Basin (Moriarty, Bruce)
— Siliciclastic influence on carbonate deposition in the Hermosa Formation, San Juan County, Colorado (Karnes, Kerri A.)
— Stratigraphy and oil and gas production of Southwest Colorado (Irwin, C. Dennis)
— Use of epigenetic barite to document the origin and movement of brines on the Colorado Plateau, Colorado and Utah (Breit, George N.)
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High Plains Aquifer
Digital simulation of ground-water flow in the High Plains Aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Luckey, Richard R., et al.)
— Divisions of potential fracture permeability, based on distribution of structures and lineaments, in sedimentary rocks of the Rocky Mountains-High Plains region, Western United States (Cooley, Maurice E.)
— Effects of future ground-water pumpage on the High Plains Aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Luckey, Richard R., et al.)
— Evaluating vertical variability of hydraulic conductivity and specific yield in fluvial deposits (Gutentag, E. D., et al.)
— Evaluating vertical variability of hydraulic conductivity and specific yield in fluvial deposits (Gutentag, E. D., et al.)
— Geohydrology of the High Plains Aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Gutentag, Edwin D., et al.)
— Machine-readable files developed for the High Plains Regional Aquifer-System Analysis in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Ferrigno, Carmelo F.)
— Mapping irrigated cropland from Landsat data for determination of water use from the High Plains Aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Thelin, Gail P.)
— Summary of the High Plains Regional Aquifer-System Analysis in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming (Weeks, John B., et al.)

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— Geologic map of the Courthouse Mountain Quadrangle, Gunnison, Hinsdale, and Ouray counties, Colorado (Dickinson, R. G.)
— Geologic map of the Durango Quadrangle, southwestern Colorado (Steven, T. A., et al.)
— Geologic map of the Gladiator Mine, Lake City, Colorado (Kirk, A. R., et al.)
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— Geologic map of the Piedra Wilderness Study Area, Archuleta and Hinsdale counties, Colorado (Condon, S. M., et al.)
— Geologic map of the Rudolph Hill Quadrangle, Gunnison, Hinsdale, and Saguache counties, Colorado (Olson, J. C.)
— Geologic reconnaissance map of the Bear Mountain and Oakbrush Ridge quadrangles, Hinsdale and Archuleta counties, Colorado (Hail, W. J., Jr.)
— Geologic, alteration, and vein maps of the Redcloud Peak (Lake City Caldera) and Handies Peak Wilderness Study Areas, Hinsdale County, Colorado (Hon, Ken)
— Geology and mineral deposits of the region surrounding the American Flats Wilderness Study Area, western San Juan Mountains, Colorado (Hon, Ken, et al.)
San Juan Mountains: Geology of the western San Juan Mountains (Baars, Don L.)
Williams Creek region: Geology of the Williams Creek area, Hinsdale and Archuleta counties (Moore, George E.)

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— Geology of the veins and vein sediments, of the Golden Wonder Mine, Lake City, Colorado; an epithermal hot springs gold-alunite deposit (Kalliokoski, J.)
— U-Pb isochron age and Pb isotope systematics of the Golden Fleece vein; implications for the relationship of mineralization to the Lake City Caldera, western San Juan Mountains, Colorado (Hon, Ken, et al.)
— Underground geologic maps of the Golden Wonder Mine, Lake City, Hinsdale County, Colorado (Billings, Patty)
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— Map showing areas of limonitic hydrothermal alteration in the Lake City Caldera area, western San Juan Mountains, Colorado (Lee, Keenan)
— Mineral investigation of the La Garita Wilderness Additions, Hinsdale and Saguache counties, Colorado (Scott, David C.)
— Mineral investigation of the Redcloud Peak (CO-030-208) and the Handies Peak (CO-030-241) Wilderness Study Areas, Hinsdale County, Colorado (Korzeb, Stanley L.)
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— Underground geologic maps of the Golden Wonder Mine, Lake City, Hinsdale County, Colorado (Billings, Patty)
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— Cannibal Plateau Roadless Area and Powderhorn Wilderness Study Area, Colorado (Sharp, William N.)
— Electrical studies conducted on the Lake City Caldera, Colorado, July 1984 (Pierce, Herb)
— Episodic metallization in the western San Juan Caldera complex, Colorado (Grauch, R. I., et al.)
— Geologic map of the Handies Peak Quadrangle, San Juan, Hinsdale, and Ouray counties, Colorado (Luedke, R. G.)
— Study areas contiguous to the Uncompahgre Primitive Area, Colorado (Steven, Thomas A.)
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— Geochemical data for mineralized rocks in the Lake City area, San Juan volcanic field, Southwest Colorado (Sanford, Richard F., et al.)
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— The mineral zones of the Whitecross District and neighboring deposits in Hinsdale County, Colorado (Brown, William Horatio)
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underground installations: Underground geologic maps of the Golden Wonder Mine, Lake City, Hinsdale County, Colorado (Billings, Patty)

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— Oxygen isotope variations in Tertiary solfataric deposits, San Juan Mountains, Colorado (Larson, Peter B.)
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— Geochemistry of precious- and base-metal veins, Lake City area, Colorado (Sanford, Richard F.)
— Magmatic conditions and development of chemical zonation in the Carpenter Ridge Tuff, central San Juan volcanic field, Colorado (Whitney, James A., et al.)

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Oligocene: U-Pb isochron age and Pb isotope systematics of the Golden Fleece vein; implications for the relationship of mineralization to the Lake City Caldera, western San Juan Mountains, Colorado (Hon, Ken, et al.)
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— Paleomagnettic evidence for the timing of collapse and resurgence of the Lake City Caldera, San Juan Mountains, Colorado (Reynolds, Richard L., et al.)

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— Application of techniques to identify coal-mine and power-generation effects on surface-water quality, San Juan River basin, New Mexico and Colorado (Goetz, C. L., et al.)

— Geochemical kinetics (Claassen, Hans C.)

Hinsdale County—petrology

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Proterozoic: A geologic investigation of the early Proterozoic Irving Formation, southeastern Needle Mountains, Colorado (Gonzales, David A.)

— Revised interpretation of the age of allochthonous rocks of the Uncompahgre Formation, Needle Mountains, Colorado (Tewksbury, B. J.)

Quaternary: Quaternary deposits and soils in the Durango area, southwestern Colorado (Gillam, Mary L., et al.)

— Road Log; Quaternary deposits and soils in the Durango area, southwestern Colorado (Moore, David W.)

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— Petrogenesis of the Silver Plume, Log Cabin and Sherman granites, Colorado and Wyoming (Fountain, J. C., et al.)
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— Petrology of the San Isabel Batholith, southern Wet Mountains, Colorado (Griffin, Thomas)
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— Petrology and U-Th potential of the eastern portion of the Precambrian Rawah Batholith, Larimer County, Colorado (Burch, Alvin L.)
— Proterozoic geology of the Middle Mountain area, Needle Mountains, Colorado (Gonzales, David A.)

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— Mineral inclusions in diamonds from the Sloan diatremes, Colorado-Wyoming state line kimberlite district, North America (Otter, M. L.)
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— Exploration for kimberlite and geophysical delineation of diatremes, W. State Line District, Colo./Wyo. (Carlson, Jon Andrew)
— Multispectral remote sensing techniques applied to exploration for kimberlite diatremes, Laramie Range, Wyoming-Colorado (Marks, Janet E.)
distribution: Use of reflectance spectra and digital processing to identify kimberlite diatremes in the Colorado-Wyoming district (Marks, Janet E.)
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— Cooling rate estimates from mineral zonation; resolving power and applications (Wilson, C. R.)
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— Zoned minerals in peridotite nodules; clues to mantle dynamics (Smith, D., et al.)
inclusions: Trace element, isotopic and seismic velocity characteristics of eclogites and other inclusions derived from the lower crust of southern Australia and the Colorado Plateau (Arculus, R. J., et al.)
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— Preliminary results of resistivity investigations of Colorado-Wyoming kimberlite diatremes (Memmi, J. M., et al.)
— Remote sensing techniques applied to kimberlite exploration in Southeast Wyoming and north-central Colorado (Marks, Janet E.)
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— Dyke emplacement at Spanish Peaks, Colorado (Smith, R. P.)
— Petrologic evidence of a Paleozoic rift system in Oklahoma and Colorado (Larson, Edwin E., et al.)
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— Mapping dikes from thematic mapper imagery; Raton Basin (Merin, Ira S.)
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— Contrasts in the anatomy of neighboring alkalic carbonatitic complexes (Heinrich, E. W.)
— Field relations between dikes and joints; emplacement processes and paleostress analysis (Delaney, Paul T., et al.)
— Interpretation of rock and vapor phase relations in the Ruby Mountain volcanic complex, Chaffee County, Colorado (Schooler, Richard A.)
— Paleomagnetism of Cambro-Ordovician intrusives from Colorado (Lynnes, C. G., et al.)
— Reinterpretation of the geology of the Henderson porphyry molybdenum deposit, Colorado (Carten, Richard B., et al.)
— Tertiary intrusive activity and mineralization in the Empire mining district, Grand, Gilpin and Clear Creek counties, Colorado (Myint, Khin Maung)
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— The Mount Antero and California intrusions, Chaffee County, Colorado; evidence for early evolution of pegmatitic fluids (Shannon, James R.)
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— The petrology of Tertiary intrusions associated with epithermal veins in the Georgetown-Silver Plume region, Clear Creek County, Colo. (Connors, Katherine A., et al.)
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— Zircons; a petrogenic indicator in the San Isabel Batholith, Wet Mountains, Colorado (King, Harvey Dennis)

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— Stable isotopic composition of fluid inclusions in a porphyry-style hydrothermal system near Silverton, San Juan Mountains, Colorado (Ringrose, C. R., et al.)

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— The geology of Upper Spring Creek and a petrographic analysis of the igneous intrusives of the area (Conyers, William Patrick)
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— Apatite fission-track age for the Bull Domingo boulder pipe, Custer County, Colorado (Sharp, W. N.)
— Geological, fluid inclusion and sulfur isotopic studies of Au-Ag-Pb-Zn-Cu breccia pipe deposits, Central City, Colorado (Spry, Paul G.)
— Geology, geochemistry, and genesis of the Engineer Pass breccia pipe and intrusive complex, western San Juan Mountains, Colorado (Maher, Brian J.)
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— Geochemistry and evolution of the South Platte granite-pegmatite system, Jefferson County, Colorado (Simmons, W. B., et al.)
— Geochemistry of the Proterozoic igneous and metaigneous rocks near Gunnison, Colorado (Blackburn, W. H.)
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— Petrology and geochemistry of the Silver Plume-age plutons of the southern and central Wet Mountains, Colorado (Bender, Russell Berryman, Jr.)

— The petrology of foliated plutons at Garell Peak and Oak Creek, northern Wet Mountains, Colorado (McCabe, Marc)

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— Silicic magmas derived by fractional crystallization from Miocene minette, Elkhead Mountains, Colorado (Leat, P. T., et al.)

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— Rb-Sr whole-rock age of the Eldora-Bryan Stock, Front Range, Colorado (Brookins, D. G.)

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— Henderson porphyry molybdenum deposit; cyclic alteration-mineralization and geochemical evolution of topaz- and magnetite-bearing assemblages (Seedorff, Charles Eric)

— Tilting of Urad-Henderson and Climax porphyry molybdenum systems, central Colorado, as related to northern Rio Grande Rift tectonics (Geraghty, Ennis P., et al.)

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— Systematic stress evolution indicated by vein patterns related to stock crystallization, Henderson Mine, CO (Geraghty, Ennis P.)

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— Comparison of field-based studies of the Henderson porphyry molybdenum deposit, Colorado, with experimental and theoretical models of porphyry systems (Carten, R. B., et al.)

— Geologic setting and petrochemistry of the Late Cretaceous-early Tertiary intrusives in the northern Front Range mineral belt, Colorado (Gable, Dolores J.)

— Natural analogues; Alamosa River monzonite intrusive into tuffaceous and andesitic rocks (Brookins, Douglas G., et al.)

— Ore petrology and geochemistry of Tertiary gold telluride deposits of the Colorado mineral belt (Saunders, James A.)

— Trace element mineralogy in the porphyry molybdenum environment (Gunow, Alexander James)

— Trace metal geochemistry and hydrothermal alteration of three molybdenum-bearing stocks, Gunnison and Pitkin counties, Colorado (Perkins, R. A.)

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— Cyclic development of hydrothermal mineral assemblages related to multiple intrusions at the Henderson porphyry molybdenum deposit, Colorado (Seedorff, Eric)

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— Benthic invertebrates in selected streams of the Piceance Creek basin, northwestern Colorado, water years 1977-81 (Covay, Kenneth J., et al.)

— Data compilation of benthic invertebrates from tributary streams of the Yampa and North Platte River basins, northwestern Colorado (Britton, L. J.)

— Reconnaissance of benthic invertebrates from tributary streams of the Yampa and North Platte River basins, northwestern Colorado (Britton, Linda J.)

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— Disruption of the terrestrial plant ecosystem at the Cretaceous-Tertiary boundary, Western Interior (Tschudy, R. H., et al.)

— Stratigraphy and depositional environments of the Cretaceous-Tertiary boundary clay and associated rocks, Raton Basin, New Mexico and Colorado (Pillmore, Charles L.)

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— Iridium anomaly at the Cretaceous-Tertiary boundary in the Raton Basin (Orth, Charles J., et al.)

— Raton Basin magnetostratigraphy near Cretaceous-Tertiary boundary (Wolberg, Donald L., et al.)

— Stratigraphy of the Cretaceous-Tertiary boundary in the southern Raton Basin, New Mexico and Colorado (Pillmore, C. L., et al.)

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— Reactive iron transport in an acidic mountain stream in Summit County, Colorado; a hydrologic perspective (McKnight, Diane M.)
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— Precambrian geology of the northern Front Range, Colorado (Braddock, William A.)

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— Proterozoic geology of the Middle Mountain area, Needle Mountains, Colorado (Gonzales, David A.)
— Proterozoic geology of the Needle Mountains; a summary (Tewksbury, Barbara J.)
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— Sedimentology of a Precambrian quartz-pebble conglomerate, Southwest Colorado (Ethridge, Frank G., et al.)
— The Irving Formation and the Proterozoic sequence in the Needle Mountains, southwestern Colorado (Ellingson, Jack A., et al.)

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— Comparison of natural gases produced from Upper Cretaceous Fruitland Formation coal beds and adjacent reservoirs, San Juan Basin, New Mexico and Colorado (Rice, Dudley D.)
— Depletion of ^{13}C in Cretaceous marine organic matter; source, diagenetic, or environmental signal? (Dean, Walter E., et al.)
— Distinction between in-situ biogenic gas and migrated thermogenic gas in ground water, Denver Basin, Colorado (Rice, Dudley D.)
— Drought indicated in carbon-13/carbon-12 ratios of Southwestern tree rings (Leavitt, Steven W.)
— Geochemical correlation of Paleozoic oils, northern Denver Basin; implications for exploration (Clayton, J. L., et al.)
— Geochemical evidence for Paleozoic oil in Lower Cretaceous O Sandstone, northern Denver Basin (Clayton, J. L.)
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— Identification and significance of coal-bed gas, San Juan Basin, northwestern New Mexico and southwestern Colorado (Rice, Dudley D., et al.)
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— Relation of hydrocarbon occurrence to thermal maturity of organic matter in the Upper Cretaceous Niobrara Formation, eastern Denver Basin; evidence of biogenic versus thermogenic origin of hydrocarbons (Rice, Dudley D.)
— Stable carbon isotopic analysis of sedimentary organic matter by stepped combustion (Gilmour, I.)
— Stratigraphic significance of $^{13}C/^{12}C$ ratios in Mid-Cretaceous rocks on the Western Interior, U.S.A. (Pratt, Lisa M.)
— Temperature effects on kerogen and on molecular and isotopic composition of organic matter in Pierre Shale near an igneous dike (Clayton, J. L.)
— Three oil types in Paleozoic rocks of northern Denver Basin; implications for exploration (Clayton, Jerry L.)

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isotopes—gold ores
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stable isotopes: Gold in the Central City mining district, Colorado (Wallace, Alan R.)

isotopes—ground water
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— Selected soda springs of Colorado and their origins (Evans, William C., et al.)

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— Paleoclimatic significance of changes in deuterium content in Holocene wood in the San Juan Mountains of southwestern Colorado (Friedman, Irving, et al.)

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— Isotopic composition of uranium and thorium in crystalline rocks (Rosholt, John N.)
— Isotopic data bearing on the origin of Mesozoic and Tertiary granitic rocks in the Western United States (DePaolo, Donald J.)
— Origin of Colorado mineral belt Laramide-Tertiary magmatism; lead and strontium isotope evidence (Stein, Holly J.)
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— A strontium isotope study of Laramide intrusions and associated mineralisation near Central City, Colorado (Dickin, A. P., et al.)
— Compositionally-diverse Miocene-Recent rift-related magmatism in NW Colorado; partial melting, and mixing of mafic magmas from three different asthenospheric and lithospheric mantle sources (Leat, P. T., et al.)
— Oxygen and hydrogen isotope variations in mid-Tertiary intrusions, Gunnison County, Colorado (Weidemann, Donna Elizabeth)
— Silicic magmas derived by fractional crystallization from Miocene minette, Elkhead Mountains, Colorado (Leat, P. T., et al.)
— Trace-element behavior within a fossil hydrothermal zone; strontium-isotope data (Murphy, Mark Thomas)
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— Petrology and Pb-Sr isotope geochemistry of rocks related to the Lake City Caldera, western San Juan Mountains, California (Hon, Ken, et al.)
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— Mapping dikes from thematic mapper imagery; Raton Basin (Merin, Ira S.)
— Microcomputer data analysis and mapping applied to exploration in Cretaceous sands of Denver Basin (Schulman, Melvyn M.)
— Use of computer-generated maps of oil and gas development and exploration intensity for delineating producing trends, Denver Basin, Colorado, Nebraska, and Wyoming (Higley, Debra K., et al.)
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Marias River Shale
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Marmaton Group
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— Tectonic and sedimentation model for Morrow Sandstone deposition, Sorrento Field area, Denver Basin, Colorado (Sonnenberg, Stephen A.)

Maroon Formation
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— Characteristic remanent magnetization of boulders and cobbles in red beds of Pennsylvanian and Permian age in Colorado (Larson, E. E.)
— Evolution of sedimentary basins; Uinta and Piceance basins (Johnson, Samuel Y., et al.)
— Field guide and road log; Pennsylvanian and Permian depositional systems and cycles in the Eagle Basin, northwestern Colorado (Schenk, Christopher J., et al.)
— Fluvial transitions and paleogeography in upper part of Maroon Formation (Pennsylvanian and Permian), northwestern Colorado (Johnson, Samuel Y.)
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— Magnetostratigraphy of the Red Sandstone Creek section; Vail, Colorado (Miller, John D.)
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— Pre-Quaternary desert loess; significance of an example from the Maroon Formation (Pennsylvanian and Permian) in Eagle Basin, Northwest Colorado (Johnson, Samuel Y.)
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— Sediment dispersal analysis of the Maroon Formation in the Crested Butte Quadrangle, Colorado (Elkin, Robert Rich)
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— Sedimentology and paleogeography of eolian deposits in the Maroon Formation (Pennsylvanian and Permian), Eagle Basin, Northwest Colorado (Johnson, Samuel Y.)
— Seismic interpretation in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
— Significance of loessite in the Maroon Formation (Middle Pennsylvanian to Lower Permian), Eagle Basin, Northwest Colorado (Johnson, Samuel Y.)
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Masonic Park Tuff
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— High-resolution $^{40}Ar/^{39}Ar$ geochronology, central San Juan caldera complex, Colorado (Lanphere, Marvin A.)
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Mazatzal Group
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— Regional implications of Proterozoic deformation and lithostratigraphy in the Needle Mtns., Colorado (Gibson, R. G., et al.)

McCaslin Formation
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McClure Mountain Complex
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— Paleomagnetism of the Cambro-Ordovician McClure Mountian alkalic complex, Colorado (Lynnes, C. S.)

McCracken Sandstone Member
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— Paradox Basin activity to remain lively (Rountree, Russ)

McDermott Member
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— Biostratigraphy of Fruitland, Kirtland, and Animas formations (Cretaceous and Paleocene), northern San Juan Basin, Colorado (Newman, Karl R.)
— First day, road log from Durango, Colorado around northwest rim of San Juan Basin via Cedar Hill, Aztec and La Plata, New Mexico and Soda Springs, Marvel, and Breen, Colorado (Fassett, James E.)
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— Stratigraphic palynology of Cretaceous-Paleocene boundary rocks, San Juan Basin, Colorado and New Mexico (Newman, K. R.)

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— Chemical analyses of coal samples from Jan Juan River region (Khalsa, Nirbhao S.)
— Coal deposits in Cretaceous and Tertiary fluvial systems of the Rocky Mountain region (Flores, Romeo M.)
— Comparative analysis of coal accumulation in Cretaceous alluvial deposits, southern United States Rocky Mountain basins (Flores, Romeo M.)
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— History of gas produced from coal seams; San Juan Basin (Dugan, Thomas A.)
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— Seam profiling of three coals from Upper Cretaceous Menefee Formation near Durango, Colorado (Pawlewicz, Mark J.)
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— The non-transferability of a Cretaceous coal model in the San Juan Basin of New Mexico and Colorado (Fassett, James E.)
— Upper Cretaceous geology, coal, and the potential for methane recovery from coalbeds in San Juan Basin; Colorado and New Mexico (Choate, R., et al.)

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— Supplemental road log Douglas Pass to FAA radar station (Dayvault, Richard D.)
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— Cross sections showing correlation of coal beds and coal zones in the Mesaverde Formation in the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, Margaret S., et al.)
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— Mineral investigation of the Dolores River Canyon Wilderness Study Area (CO-030-290) and a part of the Sewemup Mesa Wilderness Study Area (CO-070-176), Mesa, Montrose, and San Miguel counties, Colorado (Martin, Clay M.)

— Mineral resources of the Black Ridge Canyons (CO-070-113)/Black Ridge Canyons West (CO-070-113A/UT-060-116/117), and Westwater Canyon (UT-060-118) Wilderness Study Areas, Mesa County, Colorado, and Grand County, Utah (Chatman, Mark L.)

— Mineral resources of the Black Ridge Canyons Wilderness Study Area, Mesa County, Colorado, and Grand County, Utah, and Westwater Canyon Wilderness Study Area, Grand County, Utah (Dickerson, Robert P., et al.)

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— Geology and mineral resource potential of the Palisade Wilderness Study Area, Mesa County, Colorado (GEM Phase 2) (Hovorka, D. S., et al.)

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— Mineral investigation of the Dolores River Canyon Wilderness Study Area (CO-030-290) and a part of the Sewemup Mesa Wilderness Study Area (CO-070-176), Mesa, Montrose, and San Miguel counties, Colorado (Martin, Clay M.)

— Mineral resources of the Black Ridge Canyons (CO-070-113)/Black Ridge Canyons West (CO-070-113A/UT-060-116/117), and Westwater Canyon (UT-060-118) Wilderness Study Areas, Mesa County, Colorado, and Grand County, Utah (Chatman, Mark L.)

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— Mineral resources of the Dominguez Canyon Wilderness Study Area, Delta, Mesa, and Montrose counties, Colorado (Toth, Margo I., et al.)

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— Remote sensing study in support of mineral resource appraisal of the Black Ridge Canyons and Black Ridge Canyons West Wilderness Study Areas, Mesa County, Colorado, and Grand County, Utah, and the Westwater Canyon Wilderness Study Area, Grand County, Utah (Lee, Keenan)

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— Determination of widths of meander-belt sandstone reservoirs from vertical downhole data, Mesaverde Group, Piceance Creek basin, Colorado (Lorenz, John C., et al.)

— Fracture studies in Cretaceous and Paleocene strata in and around the Piceance Basin, Colorado; preliminary results and their bearing on a fracture-controlled natural-gas reservoir at the MWX site (Verbeek, Earl R.)

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— Southern Piceance Basin model; Cozzette, Corcoran and Rollins sandstones (Brown, Charles A., et al.)

oil shale: 1982 report on the prototype oil shale leasing program (Anonymous)

— Simulation of mine drainage for preliminary development of oil shale and associated minerals, Piceance Basin, northwestern Colorado (Taylor, O. James)

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— Geology, structure, and uranium deposits of the Moab Quadrangle, Colorado and Utah (Williams, P. L.)

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— Colorado River basin salinity control project, Grand Valley Unit, stage two development; draft environmental impact statement (U. S. Bureau of Reclamation)

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— Geohydrology and potential hydrologic effects of underground coal mining in the Rapid Creek basin, Mesa County, Colorado (Brooks, Tom)

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— Hydrologic and biotic effects of grazing versus nongrazing near Grand Junction, Colorado (Lusby, G. C.)

— Land use and land cover and associated maps for Grand Junction, Colorado; Utah (U. S. Geological Survey)

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— Remote sensing study in support of mineral resource appraisal of the Sewemup Wilderness Study Area, Mesa and Montrose counties, Colorado (Lee, Keenan)
seismic surveys: Pennsylvanian-Permian Block faulting in subsurface of Piceance Basin, Colorado (Waechter, Noel B.)
— Pennsylvanian-Permian paleostructure and stratigraphy as interpreted from seismic data in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
— Seismic and borehole evidence for important pre-Laramide faulting along the axial arch in Northwest Colorado (Stone, Donald S.)
— Seismic interpretation in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)

Mesa County—hydrogeology
ground water: Hydrogeology of the Leadville Limestone and other Paleozoic Rocks in northwestern Colorado, with results of aquifer tests at Glenwood Springs (Geldon, Arthur L.)
— Hydrostratigraphic characterization of Paleozoic formations in northwestern Colorado (Geldon, A. L.)
— Reconnaissance of ground-water resources in the lower Gunnison River basin, southwestern Colorado (Brooks, Tom)
— The impact of longwall mining on the hydrologic balance; premining data collection (Evans, Ginger S.)
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maps: Discharge and water quality of springs in Roan and Parachute Creek basins, northwestern Colorado, 1981-83 (Butler, David L.)
springs: Discharge and water quality of springs in Roan and Parachute Creek basins, northwestern Colorado, 1981-83 (Butler, David L.)
— Geohydrology and potential hydrologic effects of underground coal mining in the Rapid Creek basin, Mesa County, Colorado (Brooks, Tom)
— Hydrologic data from Roan Creek and Parachute Creek basins, northwestern Colorado (Adams, D. Briane, et al.)
— Simulation of mine drainage for preliminary development of oil shale and associated minerals, Piceance Basin, northwestern Colorado (Taylor, O. James)

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Reptilia: A possible "hatchling" Camarasaurus from the Upper Jurassic Morrison Formation (Dry Mesa Quarry, Colorado) (Britt, Brooks B.)
— Cretaceous rocks of the Dinosaur Triangle (Cole, R. D.)
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— Dinosaur Valley; Colorado's new paleontological museum, Grand Junction, Colorado (Averett, Walter R.)
— Fruita; a place for wee fossils (Callison, George)
— Paleontological significance of the Dinosaur Triangle (Armstrong, Harley J.)
— Stratigraphic correlation of dinosaur quarries near Grand Junction, Colorado (Armstrong, Harley J.)
— Terrestrial lepidosaurs from Fruita; making a living beneath Late Jurassic behemoths (Callison, George)
— The great dinosaur discoveries, Dry Mesa, Colorado (Chenoweth, William L.)
— The Museum of Western Colorado and its Dinosaur Valley exhibit (Prosser, Judy)
— The Riggs Hill and Dinosaur Hill sites, Mesa County, Colorado (Chenoweth, William L.)
— Triassic and Jurassic rocks in the Dinosaur Triangle (Young, Robert G.)
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— The Fruita microvertebrate site; environment of deposition and paleoecology (Callison, George, et al.)

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— Submarine debris-flow, slump-block, and turbidite deposits in Mancos Shale (Cretaceous) of northwestern Colorado (Lorenz, John C.)
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— Cretaceous through Holocene history of the Douglas Creek Arch, Colorado and Utah (Johnson, Ronald C.)
— Cross sections showing correlation of coal beds and coal zones in the Mesaverde Formation in the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, Margaret S., et al.)
— Depositional controls on the late Campanian Sego Sandstone and implications for associated coal-forming environments in the Uinta and Piceance basins (Franczyk, Karen J.)
— Geologic map and cross sections of parts of the Grand Junction and Delta 30′ × 60′ quadrangles, west-central Colorado (Ellis, Margaret S.)
— Geologic map showing coal beds in the Dakota Sandstone, Harley Dome Quadrangle and parts of the Bitter Creek Well, Westwater 4 SE, and Westwater 4 SW quadrangles, Colorado and Utah (Ellis, M. S.)
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— Stratigraphic sections of Middle Jurassic San Rafael Group and related rocks from Dewey Bridge, Utah, to Uravan, Colorado (O'-Sullivan, R. B.)
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— Laramide deformation of the Uncompahgre Plateau; geometry and mechanisms (Heyman, O. G., et al.)
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— Regional compression as the cause for Laramide deformation of the northwesten Uncompahgre Plateau, western Colorado and eastern Utah (Heyman, Oscar Glenn)

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— Regional correlation of Dakota Group disconformities; Front Range, New Mexico to Wyoming (Mateer, Niall J.)
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— A case study of a stimulation experiment in a fluvial, tight, sandstone gas reservoir (Warpinski, N. R., et al.)
— A depositional model for middle Mesaverde coals, Yampa Field, northwestern Colorado (Fenske, John M., Jr.)
— A geologic analysis of the Fruitland Formation coal and coal-bed methane resources of the San Juan Basin, southwestern Colorado and northwestern New Mexico (Kelso, Bruce S.)
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— A model for fracture genesis; application to Mesaverde Group, Piceance Creek basin, Colorado (Teufel, Lawrence W., et al.)
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— A regionally extensive altered air-fall ash for use in correlation of lithofacies in the Upper Cretaceous Williams Fork Formation, northeastern Piceance Creek and southern Sand Wash basins, Colorado (Brownfield, Michael E.)
— A regionally extensive altered air-fall ash for use in correlation of lithofacies in Upper Cretaceous Williams Fork Formation, northeastern Piceance Creek and southern Sand Wash basins, Colorado (Johnson, Edward A.)
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— An assessment of gas resources in low-permeability sandstones of the Upper Cretaceous Mesaverde Group, Piceance Basin, Colorado (Johnson, Ronald C., et al.)
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— Appropriate stratigraphic nomenclature for coal reservoirs in Piceance Basin, Colorado (Decker, David)
— Capillary pressures and gas relative permeabilities of low-permeability sandstone (Ward, J. S.)
— Case history of hydraulic fracture performance in the naturally fractured paludal zone; the transitory effects of damage (Branagan, P. T., et al.)
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— Case study of gas migration in the Wasatch and Mesaverde formations of the Piceance Basin, Colorado (Mercer, J. C., et al.)
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— Clay identification and amount measured by laboratory techniques compared to well log responses; application to tight gas sands and shales (Heinze, David M.)
— Coal-bed methane and tight gas sands interrelationships (Rightmire, Craig T.)
— Comparison of in situ dynamic moduli and laboratory moduli of Mesaverde rocks (Lin, W.)
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— Depositional history and sedimentology of Upper Cretaceous Mancos Shale and lower Mesaverde Group, northwestern Colorado; migrating shelf-bar and wave-dominated shoreline deposits (Boyles, Joseph Michael)
— Depositional systems of a tight gas-productive barrier-strandplain sequence: Corcoran and Cozzette sandstones, Northwest Colorado (Finley, Robert J.)
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— Description and origin of the lower part of the Mesaverde Group in Rifle Gap, Garfield County, Colorado (Madden, Dawn J.)
— Detection and delineation of lenticular-type sand bodies by the vertical seismic profiling method (Lee, Myung W.)
— Determination of in situ stress from anelastic strain recovery measurments of oriented core; comparison to hydraulic fracture stress measurements in the Rollins Sandstone, Piceance Basin, Colorado (Teufel, Lawrence W.)

— Determination of textural signature and their relation to paleoenvironment for nine fluvial channel sequences from the Upper Cretaceous Mesaverde Group of Piceance Creek Basin, northwestern, Colorado (North, Robert)

— Determination of widths of meander-belt sandstone reservoirs from vertical downhole data (Lorenz, John C.)

— Determination of widths of meander-belt sandstone reservoirs from vertical downhole data, Mesaverde Group, Piceance Creek basin, Colorado (Lorenz, John C., et al.)

— Differences in fracture characteristics and related production of natural gas in different zones of the Mesaverde Formation, northwestern Colorado (Lorenz, J. C.)

— Differences in fracture characteristics and related production; Mesaverde Formation, northwestern Colorado (Lorenz, J. C.)

— Dual leakoff behavior in hydraulic fracturing of tight, lenticular gas sands (Warpinski, N. R.)

— Early Cenozoic history of the Uinta and Piceance Creek basins, Utah and Colorado, with special reference to the development of Eocene Lake Uinta (Johnson, Ronald C.)

— Estimates of vertical hyraulic conductivity and regional ground-water flow rates in rocks of Jurassic and Cretaceous age, San Juan Basin, New Mexico and Colorado (Frenzel, Peter F.)

— Estuarine and anastomosing fluvial systems of the lower Mesaverde Group, northwestern Colorado (Nelson, Katherine Helen)

— Estuarine and fluvial systems, lower Mesaverde Group (Campanian), northwestern Colorado (Nelson, Katherine)

— Facies analysis of the lower cycles of the Mesaverde Group (Upper Cretaceous) in northwestern Colorado (Kiteley, Louise W.)

— Facies relationships and reservoir potential of Ohio Creek Interval across Piceance Creek basin, northwestern Colorado (Rutledge, Anne K.)

— Facies relationships in Campanian wave-dominated coastal deposits in Sand Wash Basin (Siepman, Bret R.)

— Facies relationships, reservoir potential of Ohio Creek interval across the Piceance Creek basin (Lorenz, John C.)

— First day, road log from Durango, Colorado around northwest rim of San Juan Basin via Cedar Hill, Aztec and La Plata, New Mexico and Soda Springs, Marvel, and Breen, Colorado (Fassett, James E.)

— Fluorescent spectral types of selected Colorado bituminous coals (Pasley, Mark A.)

— Fluvial sedimentology of the Mesaverde Formation as revealed in continuous subsurface core (Lorenz, John C.)

— Fracture characteristics and reservoir behavior of stress-sensitive fracture systems in flat-lying lenticular formations (Lorenz, J. C., et al.)

— Fracture studies in Cretaceous and Paleocene strata in and around the Piceance Basin, Colorado; preliminary results and their bearing on a fracture-controlled natural-gas reservoir at the MWX site (Verbeek, Earl R.)

— Fracturing and testing case study of paludal, tight, lenticular gas sands (Warpinski, N. R., et al.)

— General hydrogeology of the aquifers of Mesozoic age, upper Colorado River basin; excluding the San Juan Basin; Colorado, Utah, Wyoming, and Arizona (Freethey, Geoffrey W., et al.)

— General surface- and ground-water quality in a coal-resource area near Durango, southwestern Colorado (Butler, David L.)

— Geologic and engineering implications of production history from five Mesaverde wells in central Piceance Creek basin, Northwest Colorado (Chancellor, R. E.)

— Geologic characterization of a field laboratory for coalbed methane exploration and development (Wiman, Stephen K., et al.)

— Geologic evidence of Quaternary faulting near Carbondale, Colorado, with possible associations to the 1984 Carbondale earthquake swarm (Stover, Bruce K.)

— Geologic history and hydrocarbon potential of Late Cretaceous-age, low-permeability reservoirs, Piceance Basin, western Colorado (Johnson, Ronald C.)

— Geologic history and hydrocarbon potential of Late Cretaceous-age, low-permeability reservoirs, Piceance Basin, western Colorado; final report (Johnson, R. C.)

— Geologic implications of coal dewatering (Law, B. E., et al.)

— Geologic map and cross sections of parts of the Grand Junction and Delta 30′ × 60′ quadrangles, west-central Colorado (Ellis, Margaret S.)

— Geologic map of the Mt. Axtell Quadrangle, Gunnison County, Colorado (Gaskill, D. L., et al.)

— Geologic overview, coal deposits, and potential for methane recovery from coalbeds, Piceance Basin; Colorado (Choate, R., et al.)

— Geologic overview, coal deposits, and potential methane recovery from coalbeds of the Uinta Basin; Utah and Colorado (Adams, M. A.)

— Geologic overview, coal, and coalbed methane resources of the greater Green River coal region; Wyoming and Colorado (McCord, J. P.)

— Geological and production characteristics of the nonmarine part of the Mesaverde Group, Rulison Field area, Piceance Basin, CO (Peterson, R. E.)

— Geology and energy resources of the Piceance Creek basin (Donnell, John R.)

— Geology and overview of coalbed methane resources and activity in the Piceance Creek basin, Colorado (Larsen, Veryl E.)

— Geology and petrography of Crested Butte Laccolith, Gunnison County, Colorado (Bevier, Mary Lou)

— History of gas produced from coal seams in the San Juan Basin (Dugan, Thomas A.)

— History of gas produced from coal seams; San Juan Basin (Dugan, Thomas A.)

— Hydraulic fracture stimulation and openhole testing of a deeply buried coal seam in the Piceance Basin, Colorado (Logan, T. L., et al.)

— Hydraulic fracture stimulation results and diagnostics in deeply buried coal seams, Piceance Basin, Colorado (Logan, Terry L., et al.)

— Hydrogeochemical characterization of the Durango, Colorado, tailings and raffinate pond areas (Kearl, Peter)

— Hydrogeology of the upper part of the Mesaverde Group, Williams Fork Mountains, Routt and Moffatt counties, Colorado (Stewart, Michael)

— In situ stress and natural fracture distribution at depth in the Piceance Basin, Colorado; implications to stimulation and production of low permeability gas reservoirs (Teufel, Lawrence W.)

— In-situ dynamic moduli of Mesaverde rocks, compared to static and dynamic laboratory moduli (Lin, W.)

— In-situ stress measurements at U.S. DOE's multiwell experiment site, Mesaverde Group, Rifle, Colorado (Warpinski, N. R., et al.)

— In-situ stresses in low-permeability, nonmarine rocks (Warpinski, N. R.)

— Influence of shale conductivities on the electrical conductivity of low-permeability rocks (Volk, L. J., et al.)

— Insights into natural gas production from low-permeability reservoirs (Northrop, D. A.)

— Insights into the relationship between wellbore breakouts, natural fractures, and in situ stress (Teufel, Lawrence W.)

— Interference testing of the naturally fractured Cozzette Sandstone; a case study at the DOE MWX site (Branagan, Paul, et al.)

— Interpretation of azimuthal vertical seismic profile survey at multi-well experimental site, Garfield County, Colorado (Lee, Myung W.)

— Joint patterns on the northwest side of the San Juan Basin, (Southern Ute Indian Reservation), Southwest Colorado (Condon, Steven M.)

— Late Cretaceous (Campanian) estuarine and fluvial systems associated with rapid subsidence, northwestern Colorado (Nelson, K.)

— Late Cretaceous Mesaverde Group outcrops at Rifle Gap, Piceance Creek basin, northwestern Colorado (Lorenz, J. C.)

— Late Cretaceous through early Tertiary general stratigraphy and structural geology of the Piceance Creek basin, Colorado (Johnson, Ronald C.)

— Log analysis techniques for quantifying the permeability of submillidarcy sandstone reservoirs (Kukal, G. C.)

— Log-derived evaluation of shaly sandstone reservoirs (Fertl, Walter H.)

— Dinoflagellates as indicators of depositional environments in Craig, Colorado; Upper Cretaceous (Marti#2.nez Herna#2.ndez, Enrique)

— Mechanical properties of Mesaverde shale and sandstone at high pressure (Wunan Lin)

— Mineral investigation of the Hack Lake Wilderness Study Area, Garfield County, Colorado (Kluender, Steven E.)

— Neutronic properties of Mesaverde sands: I, Calibration of the Advanced Reactivity Measurement Facility (Lysne, P.)

— Neutronic properties of Mesaverde sands: II, Results (Lysne, P.)

— On the performance of noncontinuous tight gas sands (Ubani, E. A.)

— Origin and distribution of fractures in lower Tertiary and Upper Cretaceous rocks, Piceance Basin, Colorado, and their relation to the occurrence of hydrocarbons (Pitman, Janet K.)

— Origin and distribution of fractures in Tertiary and Cretaceous rocks, Piceance Basin, Colorado, and their relation to hydrocarbon occurrence (Pitman, Janet K.)
— Origin and occurrence of fracture-filling cements in the Upper Cretaceous Mesaverde Formation at MWX, Piceance Creek basin, Colorado (Pitman, Janet K.)
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— Petrography, mineralogy, and reservoir characteristics of the Upper Cretaceous Mesaverde Group in the east-central Piceance Basin, Colorado (Pitman, Janet K., et al.)
— Petrology of selected sandstones in the MWX wells (Northwest Colorado) and its relationship to borehole geophysical-log analysis and reservoir quality (Pitman, Janet K.)
— Petrology, provenance, and tectonic significance of Upper Cretaceous Ohio Creek Member, Williams Fork Formation, Piceance Creek basin, Colorado (Whited, Joseph Michael)
— Porosity, permeability, and pore structure of the tight Mesaverde Sandstone, Piceance Basin, Colorado (Soeder, D. J.)
— Porphyrin types and epimers of triterpanes and steranes in coals of different ranks in southeastern Uinta region (Gu, Yong-da, et al.)
— Pre-frac interference testing of a naturally fractured, tight fluvial reservoir (Branagan, P. T., et al.)
— Predicting the influences of post-mining conditions on surface and groundwater resources (Day, Michael J., et al.)
— Prediction of subsurface fracture patterns from surface studies of joints; an example from the Piceance Creek basin, Colorado (Verbeek, Earl R.)
— Predictions of size and orientations of lenticular reservoirs in the Mesaverde Group, northwestern Colorado (Lorenz, J. C.)
— Preliminary sedimentology and biostratigraphy, Upper Cretaceous Williams Fork Formation (Mesaverde Group), Rio Blanco County, Piceance Creek basin, NW Colorado (Noll, Michael D.)
— Production characterization of tight lenticular gas sands in the Rulison area of western Colorado (Mercer, J. C.)
— Production strategies for tight gas sands; a case study of the upper Cozzette blanket sand (Bezilla, M., et al.)
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— Red Mountain Unit, Piceance Basin, Colorado; field laboratory for research and development in coal bed methane production (Wiman, Stephen K.)
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— Regional correlation of the middle coal group of the Upper Cretaceous Mesaverde Group, Yampa coal field, Moffat and Routt counties, Colorado (Johnson, E. A.)
— Remains of ancient life in Cretaceous rocks of the Dinosaur Triangle (Young, Robert G.)
— Reservoir characteristics of ancient fluvial deposits with emphasis on Rocky Mountain and Midcontinent regions (Ethridge, Frank G.)
— Reservoir characterization for numerical simulation of Mesaverde meanderbelt sandstone, northwestern Colorado (Jones, Jon Rex, Jr.)
— Reservoir characterization of Mesaverde (Campanian) bedload fluvial meanderbelt sandstones, northwestern Colorado (Jones, Jon R., Jr.)
— Reservoir sedimentology of Mesaverde rocks at the MWX site (Lorenz, John C.)
— Results of the Multiwell Experiment; in situ stresses, natural fractures, and other geological controls on reservoirs (Lorenz, John C., et al.)
— Reworked Cretaceous palynomorphs in late Quaternary deposits from central Colorado, USA (Scott, L.)
— Sandstone petrography of the Mesaverde Group of northwestern Colorado (Rogers, D. J.)
— Second day, road log from Durango, Colorado around northeast rim of San Juan Basin via Bayfield, Chimney Rock, Arboles, Allison, and Ignacio, Colorado and back to Durango (Fassett, James E.)
— Sedimentological aspects of stratigraphic correlations in the Upper Cretaceous Ericson Sandstone, Greater Green River basin, Wyoming, Colorado, and Utah (Law, B. E., et al.)
— Segmented vitrinite reflectance profile from the Deep Seam Project, Piceance Creek basin, Colorado; evidence of previous high pore pressure (Law, Ben E.)
— Seismic interpretation in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
— Seismic investigation of the Big Pie Structure, a probable laccolithic intrusion, Routt County, Colorado (Hickenlooper, John W.)
— Shallow marine depositional environments in the Upper Cretaceous of northern Colorado (Kiteley, Louise W.)
— Significance of drilling and coring-induced fractures in Mesaverde core, northwestern Colorado (Finley, Sharon J.)
— Source areas and paleotectonic implications of Upper Cretaceous Ohio Creek Member of Mesavarde Group, Piceance Basin, Colorado (Whited, Mike)
— Source rock evaluation; a method of predicting dominant reservoir mechanisms of deeply buried, low-permeability coal reservoirs (Decker, A. D.)
— Stimulation-fluid systems for naturally fractured tight gas sandstones; a general case study from Multiwell Experiment stimulations (Sattler, A. R., et al.)
— Stratigraphic distribution suggesting environmental significance of pollen in Late Cretaceous upper Iles and lower Williams Fork formations, Rifle Gap, Garfield County, Colorado (Madden-McGuire, Dawn J.)
— Stratigraphic framework of Upper Cretaceous (Campanian) coal in western Colorado (Newman, Karl R.)
— Stratigraphy and depositional environments of a portion of upper Campanian Mesaverde Group, central Grand Hogback, Northwest Colorado (Madden, Dawn J.)
— Stratigraphy and palynology of Late Cretaceous and early Tertiary rocks, Tommy's Draw, Rio Blanco County, Colorado (Zeiler, Rose M.)
— Stratigraphy and petroleum potential of Trout Creek and Twentymile sandstones (Upper Cretaceous), Sand Wash Basin, Colorado (Siepman, Bret R.)
— Stratigraphy of Grand Hogback Coalfield, upper Campanian Mesaverde Group, Rifle Gap to New Castle, Garfield County, Colorado (Madden, Dawn J.)
— Stratigraphy of the Mesaverde Formation, Mt. Gunnison coal property, Gunnison County, Colorado (Wellborn, Jewel E. F.)
— Stratigraphy, depositional environments, and paleogeography of coal-bearing strata in the Upper Cretaceous Mesaverde Group, central Grand Hogback, Garfield County, Colorado (Madden, Dawn J.)
— Stress-dependent permeability and porosity of coal (McKee, Chester R., et al.)
— Structural and thermal history of Piceance Creek basin, Colorado, in relationship to hydrocarbon occurrence in Mesaverde Group (Johnson, Ronald C.)
— Structural and thermal history of the Piceance Creek basin, western Colorado, in relation to hydrocarbon occurrence in the Mesaverde Group (Johnson, Ronald C.)
— Structure contour map of the top of the Rollins Sandstone Member of the Mesaverde Formation and Trout Creek Sandstone Member of the Iles Formation, Piceance Creek basin, Colorado (Johnson, R. C.)
— Surface and subsurface correlations showing depositional environments of the Upper Cretaceous Mesaverde Group and associated formations, Cow Creek in Southwest Wyoming to Mount Harris in Northwest Colorado (Roehler, H. W.)
— Surface-subsurface correlations of the Mesaverde Group and associated Upper Cretaceous formations, Rock Springs, Wyoming, to Mount Harris, Colorado (Roehler, H. W.)
— The Debeque Canyon landslide (Stover, Bruce K.)
— The effects of depositional environment on petrophysical properties of Mesaverde reservoirs, northwestern Colorado (Lorenz, J. C., et al.)
— The geologic aspects of reservoir characterization for numerical simulation; Mesaverde meanderbelt sandstone, northwestern Colorado (Jones, J. R., et al.)
— The Ignacio Blanco gas field, northern San Juan Basin, Colorado (Harr, Clarence L.)
— The multiwell experiment core program, II (Sattler, A. R.)
— The paleobiological and paleoenvironmental importance of dinosaur footprints (Lockley, Martin G.)
— Thermal maturation and burial history of the Upper Cretaceous Mesaverde Group, including the Multiwell Experiment (MWX), Piceance Creek basin, Colorado (Nuccio, Vito F.)
— Thermal maturity and hydrocarbon source-rock potential of the Eagle Basin, northwestern Colorado (Nuccio, Vito F.)
— Tidal influences on Cretaceous Fox Hills barrier-strandplain sandstone geometries (Horne, John C., et al.)
— Upper Cretaceous and Tertiary cross sections, Moffat County, Colorado (Irwin, C. Dennis)

— Variation of mechanical strength with rank of gassy coals (Bell, G. J.)
— Variations in shoreline sandstones from a Late Cretaceous interdeltaic embayment, Sego Sandstone (Campanian), northwestern Colorado (Noe, David Charles)
— Variations in vitrinite reflectance values for the Upper Cretaceous Mesaverde Formation, southeastern Piceance Basin, northwestern Colorado; implications for burial history and potential hydrocarbon generation (Nuccio, Vito F.)
— Vertical seismic profiles at the multi-well experiment site, Garfield County, Colorado (Lee, Myung W.)
— Vertically stacked barrier island systems, Sego Sandstone (Campanian), Northwest Colorado (Stancliffe, Richard John)
— Vitrinite reflectance and temperature gradient models applied at a site in Piceance Basin, Colorado (Bostick, Neely H.)

Mesozoic *see* Cretaceous; Jurassic; Triassic
see under stratigraphy *under* Archuleta County; Colorado Plateau; Delta County; Dolores County; El Paso County; Garfield County; Gunnison County; Jackson County; Jefferson County; La Plata County; Montezuma County; Montrose County; Pueblo County; Rio Blanco County; San Miguel County; Western U.S.

Mesozoic—petrology
plutonic rocks: Tabulation of uranium and thorium data on the Mesozoic-Cenozoic intrusive rocks of known chemical composition in Colorado (Phair, George)

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see under biogeochemical methods *under* mineral exploration
see under economic geology *under* Alamosa County; Archuleta County; Boulder County; catalogs; Chaffee County; Clear Creek County; Conejos County; Custer County; data processing; Delta County; Dolores County; Eagle County; Fremont County; Gilpin County; Grand County; Gunnison County; Hinsdale County; Huerfano County; Jackson County; La Plata County; Lake County; Larimer County; Las Animas County; Mesa County; Mineral County; North America; Ouray County; Pitkin County; Rio Grande County; Routt County; Saguache County; San Juan County; San Miguel County; Summit County; Teller County; United States; Western U.S.
see under geobotanical methods *under* mineral exploration
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see under geochemistry *under* arsenic; copper; fluid inclusions; gold; hydrogen; lead; silver; tellurium; zinc
see under geologic thermometry *under* fluid inclusions
see under geological methods *under* mineral exploration
see under volcanic rocks *under* igneous rocks
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metal ores—genesis
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epithermal processes: Comparative anatomy of volcanic-hosted epithermal deposits; acid-sulfate and adularia-sericite types (Heald, Pamela, et al.)

metal ores—properties
evaluation: Report of the bi-metallic mine (McCulloch, Richard)

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metals—geochemistry
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sedimentary rocks: Stratigraphic sections, depositional environment, and metal content of the upper part of the Middle Pennsylvanian Minturn Formation, northern Sangre de Cristo Range, Custer and Saguache counties, Colorado (Clark, R. F.)
sediments: Dilution mixing estimates of trace metal concentrations in suspended sediments (Marcus, W. Andrew)
soils: A reconnaissance study of the bioavailability of copper, iron, lead, magnesium, manganese, silver and zinc on the polymetallic Aqueduct Prospect, Breckenridge, Colorado (McDonald, Cecilia Louise)
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— Geochemistry and dissolved metals in St. Kevin Gulch, an acidic mountain stream near Leadville, Colorado (Kimball, Briant A., et al.)
— Practical aspects of tracer experiments in acidic, metal enriched streams (Zellweger, Gary W., et al.)
thermal waters: Analytical results for 38 hot spring samples collected in the Western United States (Ficklin, Walter H., et al.)
vegetation: Temporal variation of metal concentrations in biogeochemical samples over the Royal Tiger Mine, Colorado; Part I, Within year variation (Stednick, J. D., et al.)
water: Heavy metal concentrations from abandoned mine drainage in Coal Creek, Colorado (Hilton, Joanne)

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metamorphic rocks—amphibolites
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geochemistry: Geochemistry and petrogenesis of early Proterozoic amphibolites, west-central Colorado, U.S.A. (Knoper, Michael W.)
mineral composition: Migmatitic amphibolite; a newly-defined isograd in the northern Colorado Front Range (Shaver, Kenneth C.)

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whole rock: Metamorphic fluid flow; a question of scale, crustal depth and bulk rock composition (Tracy, Robert J.)

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— Evidence for two stages of Precambrian metamorphism in the Salida area, central Colorado (Boardman, Shelby J.)
— Geochemistry and origin of Proterozoic amphibolites from Salida, Colorado (Boardman, Shelby J.)
— Middle Proterozoic metamorphism; central Front Range, Colorado (Swayze, Gregg A.)
— Precambrian geology of the Iris area, Gunnison and Saguache counties, Colorado (Afifi, Abdulkader M.)
— Proterozoic geology of the Needle Mtns., Colorado (Tewksbury, B. J.)
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— Granulite facies and related xenoliths from Colorado-Wyoming kimberlite (Bradley, S. D.)
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— The Irving Formation and the Proterozoic sequence in the Needle Mountains, southwestern Colorado (Ellingson, Jack A., et al.)

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— Changes in chemical parameters around a massive sulfide deposit (Ririe, G. T.)
— Geochemistry and petrotectonic setting of bimodal volcanic and volcaniclastic rocks, Cochetopa Canyon area, central Colorado (Bennett, Gregory S., et al.)
— Geochronology and geochemistry of Proterozoic metamorphic rocks, near Eldora, Colorado (Abashian, Mark S.)

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— The granites and derived gneisses of the Pikes Peak folio of the geologic atlas of the United States (Mathews, E. B.)
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— The Precambrian of the Rocky Mountain region (Hedge, Carl E., et al.)
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— Timing of crenulation cleavage development in metapelites of the Precambrian Uncompahgre Formation, Needle Mountains, Colorado (Tewksbury, B. J.)
— Variation in distribution patterns of Precambrian Al_2SiO_5 minerals in the Rocky Mountains (Heinrich, E. W.)
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— Early Proterozoic bimodal volcanic rocks in central Colorado, U.S.A.: Part II, Geochemistry, petrogenesis and tectonic setting (Boardman, Shelby J.)
petrography: A geologic investigation of the early Proterozoic Irving Formation, southeastern Needle Mountains, Colorado (Gonzales, David A.)
— Early Proterozoic bimodal volcanic rocks in central Colorado, U.S.A.; Part I, Petrography, stratigraphy and depositional history (Boardman, Shelby J.)

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— Variations in abundance and density of CO_2-rich fluid inclusions within a migmatite (Olsen, Sakiko N.)
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— Structural and petrologic studies of a Proterozoic terrain; "Gold Brick District", Gunnison County, Colorado (Earley, Drummond, III)
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metamorphism—burial metamorphism
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— Cretaceous and lower Tertiary coals as sources for gas accumulations in the Rocky Mountain area (Meissner, Fred F.)
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metamorphism—grade
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— The Cretaceous-Tertiary (K-T) boundary interval, Raton Basin, Colorado and New Mexico, and its content of shock-metamorphosed minerals; implication concerning the K-T boundary impact-extinction theory (Izett, Glen A.)
quartz: Abrupt appearance of shocked quartz at the Cretaceous-Tertiary boundary, Raton Basin, Colorado and New Mexico (Izett, Glen A.)

metasomatic rocks *see* igneous rocks; metamorphic rocks; metamorphism; metasomatism

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— Infinite variations on a fenite theme (Heinrich, E. William)
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— Map showing areas of limonitic hydrothermal alteration in the Lake City Caldera area, western San Juan Mountains, Colorado (Lee, Keenan)
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— Paleohydrology of the Bonanza trapdoor caldera, N.E. San Juan volcanic field, Colorado; oxygen isotopes and hydrothermal metamorphism of Rawley Andesite (Smith, Brian M., et al.)
— Statistical analysis of trace element distributions in rocks and soils of the Breckenridge mining district, Summit County, Colorado (Hasenohr, Edward Joseph)
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— Silver stockwork mineralization and associated wall rock alteration of Creede, Colorado (O'Brient, James D.)
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— Bibliography and index of the geology of the Creede mining district and vicinity, Colorado (Hayba, Daniel O.)
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— Chama-Southern San Juan Mountains Wilderness Study Area, Colorado (Brock, Maurice R.)
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— Mineralogy and geochemistry of the southern Amethyst vein system, Creede mining district, Colorado (Hemingway, Mark P.)
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— Stable isotope geochemistry of the Creede, Colorado, hydrothermal system (Rye, Robert O., et al.)
— The Creede mining district, Colorado as a target for drilling into the roots of a hydrothermal system (Bethke, P. M.)
— The Creede, Colorado ore-forming system; a summary model (Bethke, Philip M.)
— The isotopic composition of ore lead of the Creede mining district and vicinity, San Juan Mountains, Colorado (Foley, N. K., et al.)
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petroleum: Oil and gas potential of the Chama-Southern San Juan Mountains Wilderness Study Area, Colorado (Ryder, Robert T.)
— Petroleum geology and hydrocarbon plays of the San Juan Basin petroleum province (Huffman, A. Curtis, Jr.)
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— Geothermal systems and epithermal ores; lessons from Creede, Colorado (Bethke, Philip M.)
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— K-Ar geochronology of the Bonanza Caldera, NE San Juan Mountains, Colorado; the oldest known San Juan Caldera (Varga, Robert J.)
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— Principal facts for gravity stations in the vicinity of Creede, Mineral County, Colorado (Abrams, Gerda A., et al.)
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— Geochemical kinetics (Claassen, Hans C.)
— Use of the chloride ion in determining hydrologic-basin water budgets; a 3-year case study in the San Juan Mountains, Colorado, U.S.A. (Claassen, Hans C., et al.)

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— Studies of stress and deformation in the Earth's crust; I, Determining the state of stress in the Earth from earthquake focal mechanism data, II, Deformation around the Creede Caldera, San Juan volcanic field, Southwest Colorado; implications for caldera mechanics (Gephart, John Wesley)
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— Physical-chemical controls of dolomite hosted sherman-type mineralization, Lake and Park counties, Colorado (Johansing, Robert J.)
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— Mineralization at the convergence of the Amethyst and Oh fault systems, Creede District, Mineral County, Colorado (Giudice, Philip Michael)
— Tectonic setting of Mesozoic alkaline rock-related precious metal systems of the North American Cordillera (Satkoski, Jack J., et al.)
— The structural control of epithermal vein deposits in western North America (Drier, John)

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— The physico-chemical conditions during porphyry-copper-related magma-crystallization from southwestern North America (Ren Qijiang)
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— Mineralized veins and breccias of the Cripple Creek District, Colorado (Thompson, Tommy B., et al.)
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— Mineralogy and geochemistry of gold-silver veins at the Hock Hocking Mine, Alma, Colorado (Raabe, Kenneth Charles)

— The Sunnyside Mine, Eureka mining district, San Juan County, Colorado (Rosemeyer, Tom)

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— Characteristics that distinguish types of epithermal deposits (Hayba, D. O., et al.)

— Comparative anatomy of epithermal precious- and base-metal districts hosted by volcanic rocks (Heald-Wetlaufer, P., et al.)

— Comparative anatomy of volcanic-hosted epithermal deposits; acid-sulfate and adularia-sericite types (Heald, Pamela, et al.)

— Epithermal metallization at the Klondike Mine, Saguache County, Colorado (Phillips, Stephen E.)

— Epithermal vein and carbonate replacement mineralization in Cunningham Gulch, Silverton, Colorado (Hardwick, James F.)

— Geologic, mineralogic, and geochemical characteristics of volcanic-hosted epithermal precious-metal deposits (Hayba, D. O., et al.)

— Geology and ore deposits of the Cross Mine, Boulder County, Colorado (Dentler, Patricia L.)

— The lower pH limit on advanced argillic alteration in epithermal environments (Stoffregen, Roger E.)

— The mineralogy and geochemistry of the southern Amethyst vein system at Creede, Colorado (Hemingway, Mark P.)

— Tops of epithermal veins in the Axell District, Platoro Caldera, San Juan Mountains, southwestern Colorado (Butler, Brian F.)

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— Allard Stock, La Plata Mountains, Colorado; an enigmatic porphyry copper-precious metals deposit (Werle, James L.)

— Alteration biotite chemistry and nature of deep hydrothermal system beneath Silverton District, Colo. (Gilzean, M. N.)

— Altered igneous rocks around Rocky Mountain manto deposits; the Gilman (Colorado) example (O'Neill, T. F., et al.)

— Hypogene quartz-alunite±pyrite alteration formed by moderately saline, ascendant hydrothermal solutions (Bruha, D. J.)

— Stable isotope geochemistry of a porphyry-style hydrothermal system, West Silverton District, San Juan Mountains, Colorado, U.S.A. (Ringrose, Christopher R., et al.)

— The Creede, Colorado ore-forming system; a summary model (Bethke, Philip M.)

— Wallrock alteration at the Bulldog Mountain Mine, Creede mining district, Colorado (Vergo, Norma)

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— The Tomichi Prospect, Colorado; a link between porphyry copper and porphyry molybdenum systems (Jacobson, Herbert S.)

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— Documentation of thermal and salinity gradients and interpretation of the hydrologic conditions in the OH Vein, Creede, Colorado (Hayba, Daniel O.)

— Fluid inclusions and geochemistry of selected veins and mantos in the Leadville District, Colorado (Osborne, Lesslie W., Jr.)

— Geological and geochemical evolution of enargite-bearing veins at the Togo Mine, Central City mining district, Colorado (Taylor, Lisa Gale)

— K/Ar geochronology of the composite volcano and trap-door caldera at Bonanza, NE San Juan Mountains, and implications for mid-Tertiary volcanism in Colorado (Smith, Brian M.)

— Mineralogy and geochemistry of the southern Amethyst vein system, Creede mining district, Colorado (Hemingway, Mark P.)

— Ore mineralogy and fluid inclusion study of the southern Amethyst Vein system, Creede, Colorado (Robinson, Richard W.)

— Paragenetic and fluid inclusion study of the Smith Vein, Smith Mine, Blackhawk, Colorado (Kramer, Ann M.)

— Quantitative analysis of fluid-inclusion gases; applications to studies of ore deposits (Landis, G. P., et al.)

— Regional study of mineralizing fluids, Breckenridge mining district, Colorado (Gerdenich, Michael J., et al.)

— The petrology of Tertiary intrusions associated with epithermal veins in the Georgetown-Silver Plume District; Clear Creek County, Colorado (Connors, Katherine A.)

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— Halogens in biotite, sericite, and apatite in relation to alteration and mineralization in the vicinity of Mount Manitou, Bonanza mining district, Saguache County, Colorado (Woodland, Alan Butler)

— Mineral resources of the Black Canyon and South Piney Creek Wilderness Study Areas, Saguache County, Colorado (Lindsey, David A., et al.)

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— The occurrence of aluminum phosphate-sulfate minerals in the advanced argillic alteration assemblage (Stoffregen, R. E.)

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— Deep environment of volcanogenic epithermal mineralization; proposed research drilling at Creede, Colorado (Bethke, Philip M.)
— Episodic metallization in the western San Juan Caldera complex, Colorado (Grauch, R. I., et al.)

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— Central City, Colorado; the upper part of an alkaline porphyry molybdenum system (Rice, C. M., et al.)
— Cyclic development of hydrothermal mineral assemblages related to multiple intrusions at the Henderson porphyry molybdenum deposit, Colorado (Seedorff, Eric)
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— Cyclic development of igneous features and their relationship to high-temperature hydrothermal features in the Henderson porphyry molybdenum deposit, Colorado (Carten, Richard B., et al.)
— Evolution of immiscible Cl- and F-rich liquids from ore magmas, Henderson porphyry molybdenum deposit, Colorado (Carten, Richard B.)
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— Trace element mineralogy in the porphyry molybdenum environment (Gunow, Alexander James)
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— Henderson porphyry molybdenum deposit, Colorado; space-time evolution of the hydrothermal system (Seedorff, Eric)
— The Mount Emmons porphyry molybdenum deposit, Colorado; magmatic degassing and meteoric water overprinting (Taylor, B. E., et al.)
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— Genesis of acid-sulfate alteration and Au-Cu-Ag mineralization at Summitville, Colorado (Stoffregen, Roger E.)
— Geochemistry of precious- and base-metal veins, Lake City area, Colorado (Sanford, Richard F.)
— Solfataric alteration in the San Juan Mountains, Colorado; oxygen isotope variations in a boiling hydrothermal environment (Larson, Peter B.)
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— Genetic traits of climax-type granites and molybdenum mineralization, Colorado mineral belt (Stein, Holly J.)
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— Stable isotope geochemistry of the Creede, Colorado, hydrothermal system (Rye, Robert O., et al.)
— The Silver Plume-Georgetown District (Bookstrom, A. A.)
— The Virginius vein ore deposit, northwestern San Juan Mountains, Colorado; a study of the mineralogy, structure, and fluid inclusions of an epithermal base-metal and silver vein in a volcanic environment (Coxe, Berton Woodward)
— Three major types of epithermal precious-metal deposits (Bonham, Harold F., Jr.)
— Tops of epithermal veins in the Axell District, Platoro Caldera, San Juan Mountains, Colorado (Butler, Brian F.)
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— Geology of the Central City area, Colorado; a Laramide mining district (Sims, P. K.)
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— Mineralogy and fluid inclusion study of the southern Amethyst vein system, Creede mining district, Colorado (Robinson, Richard W.)

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— Significance of mineral variations in time and space along the Bulldog Mountain vein system with respect to the district-wide hydrology, Creede District, Colorado (Heald-Wetlaufer, P.)

— Silver stockwork mineralization and associated wall rock alteration of Creede, Colorado (O'Brient, James D.)

— The Creede Formation silver deposit (Rice, John A.)

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— Geology and uranium deposits of the Cochetopa and Marshall Pass districts, Saguache and Gunnison counties, Colorado (Olson, Jerry C.)

— Geology of volcanogenic uranium deposits within the Tallahassee Creek Conglomerate, Tallahassee Creek uranium district, Colorado (Hon, Ken)

— The Hansen uranium orebody, Tallahassee Creek District, Fremont County, Colorado (Chapin, Charles E., et al.)

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— Geochemical processes affecting the zonation of vanadium, iron, and chromium, and implications for vanadium-uranium ore formation in the Colorado Plateau (Wanty, Richard B., et al.)

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— Episodic uranium mineralization in the western San Juan caldera complex, Colorado (Grauch, Richard I., et al.)

— Geology and origin of the Schwartzwalder uranium deposit, Front Range, Colorado, USA (Wallace, A. R.)

— The age and origin of the Schwartzwalder uranium deposit, Front Range, Colorado (Wallace, A. R., et al.)

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— Geology and uranium mineralization of the Florida Mountain area, Needle Mountains, southwestern Colorado (Collier, James D.)

— The Schwartzwalder uranium deposit; III, Alteration, vein mineralization, light stable isotopes, and genesis of the deposit (Wallace, Alan R.)

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— Uraniferous Proterozoic marginal marine sediments; precursors to major uranium deposits in metamorphic rocks (Nash, J. Thomas)

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— The formation and alteration of tabular-type uranium-vanadium deposits as a variant of normal diagenetic processes in organic-rich sediments (Spirakis, Charles S.)

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— Water resources and potential hydrologic effects of oil-shale development in the southeastern Uinta Basin, Utah and Colorado (Lindskov, K. L.)
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— Geology and production history of the uranium deposits in the Maybell, Colorado, area (Chenoweth, William L.)
vanadium ores: Geology and mineralogy of uranium-vanadium deposits in the Skull Creek area, Colorado (Brownfield, Michael E., et al.)
— The significance of clay mineralogy in the amenability of sandstone vanadium ores (Hausen, D. M.)
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Moffat County—environmental geology
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— Little Snake resource management plan and environmental impact statement, Moffat, Rio Blanco, and Routt counties, Colorado; draft (Anonymous)
— Little Snake resource management plan and final environmental impact statement; Moffat, Rio Blanco, and Routt counties, Colorado (Anonymous)
— Savery Project preference right coal lease applications (U. S. Bureau of Land Management, Rawlins District)
— Simulated effects of proposed reservoir-development alternatives on streamflow quantity in the White River, Colorado and Utah (Kuhn, Gerhard)
— Water resources and potential hydrologic effects of oil-shale development in the southeastern Uinta Basin, Utah and Colorado (Lindskov, K. L.)
— Wilderness technical supplement to the Little Snake resource management plan and environmental impact statement, Moffat County, Colorado and Daggett and Uintah counties, Utah; draft (Anonymous)
land use: General management plan, development concept plans, land protection plan, environmental assessment; Dinosaur National Monument, Colorado-Utah (Anonymous)
— General management plan, development concept plans, land protection plan, environmental assessment; Dinosaur National Monument, Moffat County, Colorado, Uintah County, Utah (Anonymous)
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— Chemical analyses of coal samples from the Green River region (Khalsa, Nirbhao S.)
— Selected trace-element data for streams in the northern Yampa River basin, northwestern Colorado (Maura, Wendy S.)

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— Gravity survey data and a Bouguer gravity anomaly map of southwestern Wyoming, northeastern Utah, and northwestern Colorado (Bankey, Viki)
maps: Gravity survey data and a Bouguer gravity anomaly map of southwestern Wyoming, northeastern Utah, and northwestern Colorado (Bankey, Viki)
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— Seismic and borehole evidence for important pre-Laramide faulting along the axial arch in Northwest Colorado (Stone, Donald S.)
— The Willow Creek Fault, eastern Uinta Mountains; geological analysis of a foreland subthrust play (Powers, Richard B.)

Moffat County—hydrogeology
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— Hydrostratigraphic characterization of Paleozoic formations in northwestern Colorado (Geldon, A. L.)
— Reconnaissance of ground-water resources in a part of the Yampa River basin between Craig and Steamboat Springs, Moffat and Routt counties, Colorado (Brogden, R. E.)

hydrology: A case study of minimum streamflow for fishery habitat in the Yampa River (O'Brien, J. S.)
— Calibration of a dissolved-solids model for the Yampa River basin between Steamboat Springs and Maybell, northwestern Colorado (Parker, Randolph S.)
— Data compilation of benthic invertebrates from tributary streams of the Yampa and North Platte River basins, northwestern Colorado (Britton, L. J.)
— Determination of annual sediment load for the Yampa River, Dinosaur National Monument, Colorado (Elliott, John G.)
— Quantity and quality of streamflow in the White River basin, Colorado and Utah (Boyle, Jeanne M., et al.)
— Reconnaissance of benthic invertebrates from tributary streams of the Yampa and North Platte River basins, northwestern Colorado (Britton, Linda J.)
— Sediment transport in the lower Yampa River, northwestern Colorado (Elliott, John G., et al.)

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Reptilia: Dinosaur National Monument; paleontology in the public eye (Chure, Daniel J.)
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Moffat County—petrology
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Moffat County—sedimentary petrology
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— Variations in vitrinite reflectance values for the Upper Cretaceous Mesaverde Formation, southeastern Piceance Basin, northwestern Colorado; implications for burial history and potential hydrocarbon generation (Nuccio, Vito F.)

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— An assessment of gas resources in low-permeability sandstones of the Upper Cretaceous Mesaverde Group, Piceance Basin, Colorado (Johnson, Ronald C., et al.)
— Cretaceous through Holocene history of the Douglas Creek Arch, Colorado and Utah (Johnson, Ronald C.)
— Cross section showing correlations of Upper Cretaceous Fox Hills Sandstone and Lance Formation, and lower Tertiary Fort Union and Wasatch formations, southeastern Washakie Basin, Wyoming, and eastern Sand Wash Basin, Colorado (Honey, J. G.)
— Depositional environment of Upper Cretaceous Lewis sandstones of the Lewis Shale, Sand Wash Basin, Colorado (Cain, Mary Reinarts)
— Facies analysis of the lower cycles of the Mesaverde Group (Upper Cretaceous) in northwestern Colorado (Kiteley, Louise W.)
— Facies relationships in Campanian wave-dominated coastal deposits in Sand Wash Basin (Siepman, Bret R.)
— Dinoflagellates as indicators of depositional environments in Craig, Colorado; Upper Cretaceous (Marti#2.nez Herna#2.ndez, Enrique)
— Regional correlation of the middle coal group of the Upper Cretaceous Mesaverde Group, Yampa coal field, Moffat and Routt counties, Colorado (Johnson, E. A.)
— Stratigraphy and petroleum potential of Trout Creek and Twentymile sandstones (Upper Cretaceous), Sand Wash Basin, Colorado (Siepman, Bret R.)
— Structural development and oil occurrence on northeast flank of Uinta Mountains near Irish Canyon, northwestern Colorado (Roehler, Henry W.)
— The Frontier Formation and associated rocks of northeastern Utah and northwestern Colorado (Molenaar, Cornelius M.)
— Upper Cretaceous and Tertiary cross sections, Moffat County, Colorado (Irwin, C. Dennis)
— Variations in vitrinite reflectance values for the Upper Cretaceous Mesaverde Formation, southeastern Piceance Basin, northwestern Colorado; implications for burial history and potential hydrocarbon generation (Nuccio, Vito F.)
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— Correlation of surface sections of the intertongued Eocene Wasatch and Green River formations across the central part of the Sand Wash Basin, Northwest Colorado, and eastern part of the Washakie Basin, Southwest Wyoming (Roehler, H. W.)
— Correlation of surface sections of the intertongued Eocene Wasatch and Green River formations along the western margins of the Sand Wash Basin, Northwest Colorado, and Washakie Basin, Southwest Wyoming (Roehler, H. W.)
— New names for units in the lower part of the Green River Formation, Piceance Creek basin, Colorado (Johnson, Ronald C.)
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Neogene: Neogene tectonics and geomorphology of the eastern Uinta Mountains in Utah, Colorado, and Wyoming (Hansen, Wallace R.)
— The paleontology of the Brown's Park Formation in the Maybell, Colorado area, and a taphonomic study of two fossil quarries Colorado and Arizona (Honey, James Gilbert)
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— The geology of the Cross Mountain Anticline, Moffatt County, Colorado (Vinson, George L.)

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Molas Formation
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— Grenadier fault block, Coalbank to Molas passes, Southwest Colorado (Baars, D. L., et al.)
— The stratigraphy of the Molas Formation of southwestern Colorado (Winar, Richard Marion)

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Mollusca—Ammonoidea
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— Tarrantoceras Stephenson and related ammonoid genera from Cenomanian (Upper Cretaceous) rocks in Texas and the Western Interior of the United States (Cobban, William A.)
— The Upper Cretaceous (Cenomanian) ammonites Metengonoceras dumbli (Cragin) and M. acutum Hyatt (Cobban, William A.)
— The Upper Cretaceous ammonite Watinoceras Warren in the Western Interior of the United States (Cobban, William A.)

Mollusca—Archaeogastropoda
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Mollusca—Bivalvia
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Mollusca—Desmoceratida
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Mollusca—Lytoceratida
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Mollusca—Monoplacophora
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— Ammonites in clasts of the Juana Lopez Member of the Carlile Shale (Upper Cretaceous) near Pueblo, Colorado (Cobban, William A.)
— An ammonoid fauna from the Glencairn Shale Member of the Lower Cretaceous Purgatoire Formation, Baca County, Colorado (Cobban, William A.)
— Biostratigraphic correlation of Cretaceous-Tertiary boundary rocks, Colorado to San Juan Basin, New Mexico (Newman, Karl R.)
— Biostratigraphic correlation of K-T rocks from northwestern Colorado to San Juan Basin, Colorado and New Mexico (Newman, Karl R.)
— Geologic and biostratigraphic map of the Pierre Shale in the Colorado Springs-Pueblo area, Colorado (Scott, Glenn R.)
— Geologic, biostratigraphic, and structure map of the Pierre Shale between Loveland and Round Butte, Colorado (Scott, G. R.)
— Significance of the rate of deposition of uppermost Upper Cretaceous rocks of the San Juan Basin, New Mexico and Colorado (Fassett, James E.)
— Stratigraphy of Grand Hogback Coalfield, upper Campanian Mesaverde Group, Rifle Gap to New Castle, Garfield County, Colorado (Madden, Dawn J.)
— The ages of the continental, Upper Cretaceous, Fruitland Formation and Kirtland Shale based on a projection of ammonite zones from the Lewis Shale, San Juan Basin, New Mexico and Colorado (Fassett, James E.)

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— Cretaceous stratigraphy and paleontology in the Dry Cimarron Valley, New Mexico, Colorado and Oklahoma (Kues, Barry S.)
— Iridium abundance maxima in the upper Cenomanian extinction inverval (Orth, C. J., et al.)
— Mid-Cretaceous molluscan biostratigraphy and paleogeography of southwestern part of Western Interior, United States (Cobban, William A.)
— Stratigraphy and depositional environments of a portion of upper Campanian Mesaverde Group, central Grand Hogback, Northwest Colorado (Madden, Dawn J.)
— Texigryphaea in the Glencairn Formation near Two Buttes, Colorado, with notes on an assemblage of Texigryphaea from the Kiowa Formation of southern Kansas (Kues, Barry S.)
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Mesozoic: The stratigraphy of the Nugget Sandstone (Doelger, Nancy M.)
Pennsylvanian: A field guide to the Pennsylvanian biofacies of the Minturn Formation, Bond-McCoy area, central Colorado Trough (Houck, Karen J.)
Pleistocene: Nonmarine mollusks as indicators of local paleoenvironments in fluvial deposits; an example from the Pleistocene of Northwest Colorado (Evanoff, Emmett)
— Paleoclimatic implications of fluvial deposits and nonmarine mollusks in Pleistocene terraces along the White River, near Meeker, Colorado (Evanoff, Emmett)
Quaternary: Pleistocene and Holocene dune stratigraphy, Wray dune field, Colorado-Nebraska (Madole, Richard F.)
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— The Carlile-Niobrara (Upper Cretaceous) unconformity in southeastern Colorado, southwestern Kansas, and northeastern New Mexico (Laferriere, Alan P.)
Jurassic: Paleobiocenoses presumably related to submarine springs in a sedimentary environment; the pseudobioherms of the Terres Noires Formation (southeastern France) and the tepee buttes of the Pierre Shale Formation, Colorado, U.S.A. (Gaillard, C.)

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The Creede Formation silver deposit (Rice, John A.)

Monotony Tuff
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— Depositional environments of the Fox Hills Sandstone (Upper Cretaceous), Cheyenne Basin, Colorado (Nibbelink, Kenneth A.)

Montezuma County—areal geology
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— Road log from Trout Lake to Dunton and Rico areas, San Miguel, Dolores, and Montezuma counties, Colorado (Anonymous)
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— Chipeta (oil) (Armstrong, Karen, et al.)
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petroleum: McClean Field, T37N, R19W, Montezuma County, Colorado (Matheny, J. Paul)
— Petroleum geology and hydrocarbon plays of the San Juan Basin petroleum province (Huffman, A. Curtis, Jr.)
water resources: Water resources of the Cottonwood Wash watershed, Ute Mountain Ute Indian Reservation, southwestern Colorado (Geldon, Arthur L.)

Montezuma County—environmental geology
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geologic hazards: Regional hydrology of the Dolores River basin, eastern Paradox Basin, Colorado and Utah (Weir, J. E., Jr., et al.)
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— Resource Management Plan for the San Juan and Uncompahgre resource areas (U. S. Bureau of Land Management, Montrose District)
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Montezuma County—geochronology
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Montezuma County—geophysical surveys
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Montezuma County—hydrogeology
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— Plan of study for the regional aquifer-system analysis of the San Juan structural basin, New Mexico, Colorado, Arizona, and Utah (Welder, G. E.)
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springs: Water resources of the Cottonwood Wash watershed, Ute Mountain Ute Indian Reservation, southwestern Colorado (Geldon, Arthur L.)

Montezuma County—paleobotany
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Montezuma County—paleontology
Mammalia: An associated partial skeleton of Symbos cavifrons (Artiodactyla: Bovidae) from Montezuma County, Colorado (McDonald, Jerry N., et al.)

Montezuma County—sedimentary petrology
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Montezuma County—soils
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Paleosols: Calcareous Paleosols in the Triassic Dolores Formation, southwestern Colorado (Blodgett, Robert H.)

Montezuma County—stratigraphy
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— Palynology in Montezuma County, southwestern Colorado; the local history of the pinyon pine (Pinus edulis) (Petersen, Kenneth Lee)
Mesozoic: Stratigraphy and oil and gas production of Southwest Colorado (Irwin, C. Dennis)
Paleozoic: Stratigraphy and oil and gas production of Southwest Colorado (Irwin, C. Dennis)
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Triassic: Calcareous Paleosols in the Triassic Dolores Formation, southwestern Colorado (Blodgett, Robert H.)
— Nonmarine depositional environments and Paleosol development in the Upper Triassic Dolores Formation, southwestern Colorado (Blodgett, Robert H.)

Montezuma Stock
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Montrose County—areal geology
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— Geologic map of the Washboard Rock Quadrangle, Gunnison, Montrose, and Ouray counties, Colorado (Dickinson, R. G.)
— Geologic reconnaissance map of the Government Springs Quadrangle, Montrose and Ouray counties, Colorado (Hail, William J., Jr.)
— Geologic reconnaissance map of the Log Hill Mesa area, Ouray, Montrose, and San Miguel counties, Colorado (Hail, W. J., Jr.)
— Geologic reconnaissance map of the Montrose West Quadrangle, Montrose County, Colorado (Hail, William J., Jr.)
— Reconnaissance geologic map of the Colona Quadrangle, Montrose and Ouray counties, Colorado (Hail, W. J., Jr.)
— Reconnaissance geologic map of the Horsefly Peak Quadrangle, Ouray, Montrose, and San Miguel counties, Colorado (Hail, W. J., Jr.)

Montrose County—economic geology
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copper ores: Chemical and thermal evolution of diagenetic fluids and the genesis of uranium and copper ore in and adjacent to the Paradox Basin with emphasis on the Lisbon Valley and Temple Mountain areas, Utah and Colorado (Morrison, Stan Jay)
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— Stratigraphic sections of Middle Jurassic San Rafael Group and related rocks from Uravan to Telluride in southwestern Colorado (O'Sullivan, R. B.)
— Stratigraphy and oil and gas production of Southwest Colorado (Irwin, C. Dennis)
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— Mineral investigation of a part of the Dominguez Canyon Wilderness Study Area (CO-070-150), Delta, Mesa, and Montrose counties, Colorado (Schreiner, Russell A.)
— Mineral investigation of the Dolores River Canyon Wilderness Study Area (CO-030-290) and a part of the Sewemup Mesa Wilderness Study Area (CO-070-176), Mesa, Montrose, and San Miguel counties, Colorado (Martin, Clay M.)
— Mineral resources of the Dolores River Canyon Wilderness Study Area, Montrose and San Miguel counties, Colorado (Gerlitz, Carol N., et al.)
— Mineral resources of the Gunnison Gorge Wilderness Study Area, (CO-030-388), Delta and Montrose counties, Colorado (Brown, S. Don)
— Mineral resources of the Gunnison Gorge Wilderness Study Area, Montrose and Delta counties, Colorado (Armbrustmacher, Theodore J., et al.)
mineral resources: Analytical results and sample locality maps of stream-sediment and heavy-mineral-concentrate samples from Dolores River Canyon Wilderness Study Area (CO-030-290), Montrose and San Miguel counties, Colorado (Bullock, John H., Jr., et al.)

— Geology and mineral resource potential of the Dominguez Canyon Wilderness Study Area, Delta, Mesa, and Montrose counties, Colorado (GEM phase 2) (Toth, M. I., et al.)

— Geology and mineral resource potential of the Sewemup Mesa Wilderness Study Area, Mesa and Montrose counties, Colorado (GEM phase 2) (Soulliere, S. J., et al.)

— Mineral investigation of a part of the Dominguez Canyon Wilderness Study Area (CO-070-150), Delta, Mesa, and Montrose counties, Colorado (Schreiner, Russell A.)

— Mineral investigation of the Dolores River Canyon Wilderness Study Area (CO-030-290) and a part of the Sewemup Mesa Wilderness Study Area (CO-070-176), Mesa, Montrose, and San Miguel counties, Colorado (Martin, Clay M.)

— Mineral resources of the Dolores River Canyon Wilderness Study Area, Montrose and San Miguel counties, Colorado (Gerlitz, Carol N., et al.)

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— Granite-tectonics of the Pikes Peak intrusive center of Pikes Peak composite batholith, Colorado (Hutchinson, Robert M.)
— Rare-earth-element zonation in the Pikes Peak Batholith (Simmons, William B., et al.)
— Recognition of tin-bearing granites by multivariate statistical analysis, Pikes Peak Batholith, Colorado (Erwin, Leslie Eugene)
— The distribution and chemistry of rare-earth minerals in the South Platte pegmatite district, Colorado, and their genetic implications (Brewster, Renee Harrison)
— Transect of northern part of Pikes Peak Batholith (Hutchinson, Robert M.)

Pikes Peak Granite
Application of the potassium-calcium geochronometer to problems in geochronology and petrogenesis (Marshall, Brian David)
— Field guide and road log to the Lake George intrusive center, Pikes Peak Batholith (Field Trip #1, Sunday, June 1) (Wobus, R. A.)
— Geology of the Steer Creek area northeast of Salida, Colorado (Thayer, James Bliss)
— Granite-tectonics of Pikes Peak composite batholith (Hutchinson, R. M.)
— Petrogenetic studies and precise age determinations using the K-Ca geochronometer (Marshall, Brian D.)
— Relationship between alteration and strength in South Table Mountain Lavas and Pikes Peak Granite, Jefferson County, Colorado (Borges, Cesar O.)
— The Florissant Fossil Beds National Monument, Teller County, Colorado (Hutchinson, Robert M.)
— The Garden of the Gods and basal Phanerozoic nonconformity in and near Colorado Springs, Colorado (Noblett, Jeffrey B., et al.)
— The Pikes Peak Batholith and associated plutons, Colorado (Wobus, Reinhard A.)

— Topaz in Pikes Peak Batholith (Michalski, Thomas C.)

Pine Butte Member
Paleogeography and facies distribution of the Todilto Limestone and Pony Express Limestone Member of the Wanakah Formation, Colorado and New Mexico (Ridgley, Jennie L.)

Pine Gulch coal bed
Stratigraphy of the Trinidad Sandstone and Vermejo Formation (Upper Cretaceous), Canon City coal field, Fremont County, Colorado (Gaffke, Thresa M.)

Pinedale Till
Low-energy seismic survey of Quaternary materials, Rocky Mountain National Park, Colorado (Locke, William W.)

Piney Creek Alluvium
Reinterpretation of Holocene alluvial chronology in major valleys of the northern Colorado piedmont (Madole, Richard F.)

Pinkerton Trail Formation
Grenadier fault block, Coalbank to Molas passes, Southwest Colorado (Baars, D. L., et al.)

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Pisces *see* fish
see under paleontology

Pisces—Chondrichthyes
Pennsylvanian: Pennsylvanian predators: a preliminary report on some Carboniferous shark remains from Colorado (Lockley, Martin G.)

Pisces—faunal studies
Eocene: Paleontology of the Green River Formation, with a review of the fish fauna; second edition (Grande, Lance)
Holocene: Cranial osteology, functional morphology, systematics and paleoenvironment of Limnoscelis paludis Williston (Fracasso, Michael Anthony)

Pisces—occurrence
Tertiary: Collecting fossils (Jones, Bob)

Pisces—Osteichthyes
Triassic: A Triassic freshwater coelacanth from Colorado (Raines, T.)

Pitkin County—areal geology
Aspen region: The geologic story of the Aspen region; mines, glaciers and rocks (Bryant, Bruce)
guidebook: New interpretations of Northwest Colorado geology; road log (Pruss, Edward F.)
maps: Geologic map and cross sections of the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, M. S.)
— Geologic map of the Holy Cross Quadrangle, Eagle, Lake, Pitkin, and Summit counties, Colorado (Tweto, Ogden)
— Geologic map of the Holy Cross Wilderness, Eagle, Pitkin, and Lake counties, Colorado (Wallace, A. R., et al.)
— Reconnaissance geologic map of the Mount Elbert 15-minute Quadrangle, Lake Chaffee, and Pitkin counties, Colorado (Tweto, Ogden)
regional: New interpretations of Northwest Colorado geology (Stone, Donald S.)
— The geology around the junction of the Roaring Fork and Frying Pan rivers, Eagle and Pitkin counties, Colorado (Hodgden, H. Jerry)
Thomasville-Woods Lake: Geology of the Thomasville-Woods Lake area, Eagle and Pitkin counties, Colorado (Mackey, Ian H.)

Pitkin County—economic geology
barite deposits: The origin of the Aspen District, Colorado, based on geochemistry and petrology of the Smuggler Mine manto ores (Stegen, Ralph J., et al.)
bibliography: Leadville 1° by 2° Quadrangle, Colorado; a pre-assessment (Wallace, Alan R., et al.)
coal: Cross sections showing correlation of coal beds and coal zones in the Mesaverde Formation in the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, Margaret S., et al.)
— First annual report; evaluation of coking-coal deposits in Colorado (Jones, David C.)
— Geology and coal deposits, Ragged-Chair Mountain area, Pitkin and Gunnison counties, Colorado (Hanks, Ted L.)
— Maroon Bells-Snowmass Wilderness and additions, Colorado (Freeman, Val L.)
— Petrography and programmed pyrolysis of coal and natural coke intruded by an igneous dike coal basin, Pitkin County, Colorado (Bostick, Neely H.)
— Preliminary thermal-maturity map of the Cameo and Fairfield or equivalent coal zone in the Piceance Creek basin, Colorado (Nuccio, V. F.)
fuel resources: Seismic interpretation in the Piceance Basin, Northwest Colorado (Waechter, Noel B.)
— Summary of vitrinite reflectance and Rock-Eval pyrolysis data, Eagle Basin, northwestern Colorado (Nuccio, Vito F., et al.)
— The Eagle Basin; a new exploration frontier (Dodge, Constance Nuss)
— Thermal maturity and hydrocarbon source-rock potential of the Eagle Basin, northwestern Colorado (Nuccio, Vito F.)
gold ores: Hunter-Fryingpan Wilderness and Porphyry Mountain Wilderness Study Area, Colorado (Ludington, Steve)
lead-zinc deposits: Central Colorado karst-controlled lead-zinc-silver deposits (Leadville, Gilman, Aspen, and others); a late Paleozoic mississippi valley-type district (De Voto, R. H.)
maps: Mineral investigation of the Eagle Mountain Wilderness Study Area, Pitkin County, Colorado (Kluender, Steven E.)
— Mineral resource potential maps of the Maroon Bells-Snowmass Wilderness and additions, Gunnison and Pitkin counties, Colorado (Freeman, V. L., et al.)
— Mineral resources of the Collegiate Peaks Wilderness, Chaffee, Gunnison, Lake, and Pitkin counties, Colorado (Baskin, G. David)
— Mineral resources of the Holy Cross Wilderness Area, Eagle, Pitkin, and Lake counties, Colorado (Wallace, Alan R., et al.)
— Mineral resources of the Holy Cross Wilderness, Eagle, Lake, and Pitkin counties, Colorado (Lundby, William)
— Preliminary thermal-maturity map of the Cameo and Fairfield or equivalent coal zone in the Piceance Creek basin, Colorado (Nuccio, V. F.)
metal ores: Central Colorado karst-controlled lead-zinc-silver deposits (Leadville, Gilman, Aspen, and others); a late Paleozoic mississippi valley-type district (De Voto, R. H.)
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mineral resources: Analytical results and sample locality map of stream-sediment, soil, heavy-mineral-concentrate, and rock samples from the Maroon Bells-Snowmass Wilderness, Gunnison and Pitkin counties, Colorado (McHugh, J. B., et al.)
— Geology and mineralization of the Paradise Pass area, Pitkin County, Colorado (Pillmore, Kathryn A.)
— Hunter-Fryingpan Wilderness and Porphyry Mountain Wilderness Study Area, Colorado (Ludington, Steve)
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— Geology and overview of coalbed methane resources and activity in the Piceance Creek basin, Colorado (Larsen, Veryl E.)
— Petrography, mineralogy, and reservoir characteristics of the Upper Cretaceous Mesaverde Group in the east-central Piceance Basin, Colorado (Pitman, Janet K., et al.)
— Southern Piceance Basin model: Cozzette, Corcoran and Rollins sandstones (Brown, Charles A., et al.)
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silver ores: Central Colorado karst-controlled lead-zinc-silver deposits (Leadville, Gilman, Aspen, and others); a late Paleozoic mississippi valley-type district (De Voto, R. H.)

— Hunter-Fryingpan Wilderness and Porphyry Mountain Wilderness Study Area, Colorado (Ludington, Steve)

Pitkin County—environmental geology
geologic hazards: Landslides near Aspen, Colorado (Harden, Carol Patricia)
impact statements: Glenwood Springs resource management plan (U. S. Bureau of Land Management, Grand Junction District Office)
land use: Land use and land cover and associated maps for Leadville, Colorado (U. S. Geological Survey)
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maps: Analytical results and sample locality map of stream-sediment, soil, heavy-mineral-concentrate, and rock samples from the Maroon Bells-Snowmass Wilderness, Gunnison and Pitkin counties, Colorado (McHugh, J. B., et al.)
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Pitkin County—geochronology
Proterozoic: Evolution of the early Proterozoic Colorado Province; constraints from U-Pb geochronology; with Suppl. Data 87-31 (Reed, John C., Jr., et al.)

Pitkin County—geophysical surveys
magnetic surveys: Aeromagnetic map of Mt. Massive and vicinity, Colorado (Godson, R. H., et al.)
— Aeromagnetic map of the Holy Cross Wilderness Area, Eagle, Lake, and Pitkin counties, Colorado (Campbell, D. L.)
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Pitkin County—hydrogeology
ground water: Hydrogeology of the Leadville Limestone and other Paleozoic Rocks in northwestern Colorado, with results of aquifer tests at Glenwood Springs (Geldon, Arthur L.)
— Hydrostratigraphic characterization of Paleozoic formations in northwestern Colorado (Geldon, A. L.)

Pitkin County—mineralogy
nitrates: Crystal structure of naturally occurring mercury(II) amidonitrate (Randall, C. J., et al.)

Pitkin County—petrology
intrusions: Reverse zoning in the resurgent intrusions of the Grizzly Peak cauldron, Sawatch Range, Colorado (Fridrich, Christopher J.)

Pitkin County—sedimentary petrology
sedimentary rocks: Evidence for multiple episodes and styles of brecciation, Smuggler Mine, Aspen, Colorado (Stegen, Ralph J., et al.)
— Significance of loessite in the Maroon Formation (Middle Pennsylvanian to Lower Permian), Eagle Basin, Northwest Colorado (Johnson, Samuel Y.)
— Variations in vitrinite reflectance values for the Upper Cretaceous Mesaverde Formation, southeastern Piceance Basin, northwestern Colorado; implications for burial history and potential hydrocarbon generation (Nuccio, Vito F.)

Pitkin County—seismology
earthquakes: The Carbondale, Colorado, earthquake swarm of April-May, 1984 (Goter, Susan K., et al.)

Pitkin County—stratigraphy
Cretaceous: Cross sections showing correlation of coal beds and coal zones in the Mesaverde Formation in the Carbondale 30′ by 60′ Quadrangle, west-central Colorado (Ellis, Margaret S., et al.)
— Structure contour map of the top of the Rollins Sandstone Member of the Mesaverde Formation and Trout Creek Sandstone Member of the Iles Formation, Piceance Creek basin, Colorado (Johnson, R. C.)
— Variations in vitrinite reflectance values for the Upper Cretaceous Mesaverde Formation, southeastern Piceance Basin, northwestern Colorado; implications for burial history and potential hydrocarbon generation (Nuccio, Vito F.)
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— The Eagle Basin; a new exploration frontier (Dodge, Constance Nuss)
Permian: The Fryingpan Member of the Maroon Formation; a Lower Permian(?) basin-margin dune field in northwestern Colorado (Johnson, Samuel Y.)
Triassic: Stratigraphic and sedimentologic studies of the Upper Triassic Chinle Formation, western Colorado (Dubiel, Russell F.)

Pitkin County—structural geology
faults: Seismic and borehole evidence for important pre-Laramide faulting along the axial arch in Northwest Colorado (Stone, Donald S.)
tectonics: Structural reinterpretation of Ruedi and Woody Creek quadrangles, Pitkin and Eagle counties, Colorado; a central Colorado overthrust belt (Zoerner, Frederick P.)

placers—gold ores
Grand County: Mineral resources of the Black Ridge Canyons Wilderness Study Area, Mesa County, Colorado, and Grand County, Utah, and Westwater Canyon Wilderness Study Area, Grand County, Utah (Dickerson, Robert P., et al.)
Mesa County: Mineral resources of the Black Ridge Canyons Wilderness Study Area, Mesa County, Colorado, and Grand County, Utah, and Westwater Canyon Wilderness Study Area, Grand County, Utah (Dickerson, Robert P., et al.)
Summit County: Famous mineral localities; Breckenridge, Colorado (Raines, Ed)

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Clear Creek County: Placer mining at Pauline Placer, Clear Creek Co., Colorado (Rombauer, Alfred B.)

Plainview Sandstone Member
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— The Dakota Group and the Kiowa-Skull Creek Cyclothem in the Canon City-Pueblo area, Colorado (Gustason, Edmund R.)
— The Dakota Group of northeastern New Mexico and southern Colorado (Mateer, Niall J.)

Plantae *see* algae; algal flora; angiosperm flora; angiosperms; bacteria; ferns; fungi; gymnosperms; ichnofossils; palynomorphs; problematic fossils; pteridophytes

Plantae—fossilization
fossil wood: Gemstones; search for identity (Taylor, Raymond C.)
— Zeolites replacing plant fossils in the Denver Formation, Lakewood, Colorado (Modreski, Peter J., et al.)

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Eocene: Fossils from the Green River Formation, Douglas Pass area, Colorado (Dayvault, Richard)
Holocene: A Colorado-Wyoming border diatreme and a possible potential kimberlite indicator plant (Collins, Donna B.)
Oligocene: Collecting fossils (Jones, Bob)
— Florissant Fossil Beds National Monument (Anonymous)

plants—biostratigraphy
Cretaceous: Cretaceous stratigraphy and paleontology in the Dry Cimarron Valley, New Mexico, Colorado and Oklahoma (Kues, Barry S.)
— Raton Basin magnetostratigraphy near Cretaceous-Tertiary boundary (Wolberg, Donald L., et al.)

Oligocene: The Florissant Fossil Beds National Monument, Teller County, Colorado (Hutchinson, Robert M.)

plants—paleoecology
Holocene: Archaeology of the Jurgens Site (Scott, Douglas D.)
Quaternary: Comparison of plant macrofossils in woodrat (Neotoma sp.) and porcupine (Erethizon dorsatum) middens from the western United States (Betancourt, Julio L., et al.)

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plate tectonics *see under* tectonophysics
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plate tectonics—movement
hot spots: Hotspot tracks on continents and unconformities (Morgan, W. Jason)

Platoro Complex
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Pleistocene *see under* geochronology *under* Great Plains; Montezuma County
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Pliocene *see under* stratigraphy *under* Southwestern U.S.

plutonic rocks *see under* igneous rocks

plutonium—geochemistry
soils: Plutonium distribution in Rocky Flats soil (Little, C. A.)
— Size characteristics of plutonium particles in Rocky Flats soil (McDowell, L. M.)

plutonium—isotopes
ecology: Ecological considerations of the behavior of plutonium in the environment (Hanson, Wayne C.)
Pu-239: Plutonium-239 contamination in the Denver area ; reply (Poet, S. E.)
— Plutonium-239 contamination in the Denver area; discussion (Krey, Philip W.)
Pu-240/Pu-239: Remote plutonium contamination and total inventories from Rocky Flats ; discussion (Merrill, G. L., Jr., et al.)

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Point Lookout Sandstone
A preliminary interpretation of carbon and oxygen isotopic data from surface rocks, Southern Ute Indian Reservation, southwestern Colorado (Henry, Mitchell E.)
— Stratigraphic framework of Upper Cretaceous (Campanian) coal in western Colorado (Newman, Karl R.)
— Stratigraphy and oil and gas production of Southwest Colorado (Irwin, C. Dennis)
— The Ignacio Blanco gas field, northern San Juan Basin, Colorado (Harr, Clarence L.)

Poison Canyon Formation
Alteration zones related to igneous activity, Spanish Peaks area, Las Animas and Huerfano counties, Colorado (Hutchinson, Robert M.)
— Chemical interaction between major dissolved components in acidic uranium tailings fluids and adjacent bedrock (Gerlitz, Carol Nan)
— Coal deposits in Cretaceous and Tertiary fluvial systems of the Rocky Mountain region (Flores, Romeo M.)
— Field guide and discussions of coal deposits, depositional environments and the Cretaceous-Tertiary boundary, southern Raton Basib (field trip 3) (Pillmore, Charles L.)
— Field guide to the continental Cretaceous-Tertiary boundary in the Raton Basin, Colorado and New Mexico (Pillmore, C. L., et al.)
— Geochemical interactions between acidic tailings fluid and bedrock; use of the computer model MINTEQ (Davis, Andy)
— Ground-water flow and quality near Canon City, Colorado (Hearne, Glenn A.)
— Sedimentology of Upper Cretaceous and Tertiary siliciclastics and coals in the Raton Basin, New Mexico and Colorado (Flores, Romeo M.)
— Stratigraphy and depositional environments of the Cretaceous-Tertiary boundary clay and associated rocks, Raton Basin, New Mexico and Colorado (Pillmore, Charles L.)
— Tectonic control on alluvial paleoarchitecture of the Cretaceous and Tertiary Raton Basin, Colorado and New Mexico (Flores, Romeo M.)
— Tectonic framework of northeastern New Mexico and adjacent parts of Colorado, Oklahoma and Texas (Woodward, Lee A.)
— The effect of thermal metamorphism on quartz shape; Fourier-series analysis (Murray, David H., Jr.)
— The hydrogeochemical effects of past mining on the Raton Basin, Colorado (Howard, W. Brant)

pollen *see* palynomorphs

pollution *see under* engineering geology; environmental geology; ground water; isotopes
see reclamation; waste disposal
see under applications *under* well-logging
see under data processing *under* environmental geology
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— Location of abandoned wells by magnetic surveys; location maps and aeromagnetic contour maps (Frischknecht, F. C., et al.)
controls: Hydraulic gradient control for groundwater contaminant removal (Atwood, Dorothy Fisher)

pollution—pollutants
radioactive isotopes: Ecological considerations of the behavior of plutonium in the environment (Hanson, Wayne C.)

pollution—surface water
acid mine drainage: Oxygen and sulfur isotope variations in oxidation of sulfides during formation of acid mine drainage (Wheeler, Mark C.)
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pollution—waste disposal
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— Uranium mill tailings; radium geochemistry (Landa, Edward R.)

pollution—water
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water quality: EPA, ASTM, and column leaching of processed oil shale; a comparative study (Sorini, S. S.)

polymetallic ores *see under* economic geology
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see under economic geology *under* Chaffee County; Eagle County; Gilpin County; Hinsdale County; La Plata County; Mineral County; Rio Grande County; Summit County
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Pony Express Limestone Member
Paleogeography and facies distribution of the Todilto Limestone and Pony Express Limestone Member of the Wanakah Formation, Colorado and New Mexico (Ridgley, Jennie L.)

Popo Agie Formation
Dinosaur tracksites of western Colorado and eastern Utah (Lockley, Martin G.)
— Dinosaur trackways (Lockley, Martin G.)

Post-Piney Creek Alluvium
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potassium—geochemistry
connate waters: Geochemical techniques applied to the identification and disposal of connate coal water (Decker, A. D., et al.)
igneous rocks: Reconnaissance geologic mapping in north-central Colorado using multispectral gamma-ray data (Moll, Stanton H.)
— The concentration and transport of molybdenum in magmatic systems, experimental evidence (Tingle, Tracy N.)
metasomatism: Potash metasomatism in the La Plata Mountains, Colorado (Schultz, Leonard Gene)
shale: Gamma-ray spectrometry of marine shales in outcrop; a tool for petroleum exploration and basin analysis (Zelt, Frederick B.)
weathering: Dissolved mineral salts derived from Mancos Shale (Evangelou, V. P., et al.)

Powderhorn Granite
The carbonatite complex at Iron Hill, Powderhorn District, Gunnison County, Colorado (Armbrustmacher, Theodore J.)
— Titanium resource in Colorado equals all other US deposits (Thompson, James V.)

Precambrian *see* Archean; Proterozoic
see under stratigraphy *under* El Paso County; Grand County; Rocky Mountains; Routt County; San Juan County; United States

Precambrian—petrology
igneous rocks: Fertile granites in the Archean and Aphebian fields of rare-element pegmatites; crustal environment, geochemistry and petrogenetic relationships (C#3/erny#2., P.)

precious stones *see* gems

Price River Formation
Depositional control of diagenesis in tight gas sands, Corcoran and Cozzette Sandstone members of Price River Formation (Upper Cretaceous), Book Cliffs of western Colorado (Palmer, Beth A.)
— Depositional systems of a tight gas-productive barrier-strandplain sequence; Corcoran and Cozzette sandstones, Northwest Colorado (Finley, Robert J.)
— Geologic overview, coal deposits, and potential methane recovery from coalbeds of the Uinta Basin; Utah and Colorado (Adams, M. A.)
— Preliminary thermal-maturity map of the Cameo and Fairfield or equivalent coal zone in the Piceance Creek basin, Colorado (Nuccio, V. F.)
— Production strategies for tight gas sands; a case study of the upper Cozzette blanket sand (Bezilla, M., et al.)
— Reservoir properties and gas productivity of the Corcoran and Cozzette tight sandstones, Colorado (Finley, R. J.)

Primates *see under* Mammalia

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problematic fossils—morphology
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Proboscidea *see under* Mammalia

Proterozoic *see* Precambrian
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see under stratigraphy *under* Chaffee County; Gunnison County; Hinsdale County; La Plata County; Saguache County; San Juan County

Proterozoic—economic geology
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Prowers County—economic geology
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Prowers County—geophysical surveys
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Prowers County—hydrogeology
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— Calibration and use of an interactive-accounting model to simulate dissolved solids, streamflow, and water-supply operations in the Arkansas River basin, Colorado (Burns, Alan W.)
— Geohydrology of Baca and southern Prowers counties, southeastern Colorado (Hershey, L. A.)
— Quality of the Arkansas River and irrigation-return flows in the lower Arkansas River valley, Colorado (Cain, Doug)
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— Relations of specific conductance to streamflow and selected water-quality characteristics of the Arkansas River basin, Colorado (Cain, Doug)

Prowers County—stratigraphy
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— Stigmarian petrifactions from the Pennsylvanian of Colorado (Jennings, James R.)

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Pueblo County—areal geology
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Beulah Colorado: Geology of the Beulah area, Pueblo County, Colorado (Schwarzbach, Theodore Jeremiah)
maps: Geologic map of the Trinidad Quadrangle, south-central Colorado (Johnson, R. B.)
Rye Quadrangle: Geology of the Rye Quadrangle, Pueblo and Huerfano counties, Colorado (McGuire, Emily)

Pueblo County—economic geology
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fuel resources: Stratigraphy of upper Morrison and lower Dakota Group of Front Range, Colorado; new play in central Denver Basin? (Wyatt, Danny J.)
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— Greenhorn Mountain Wilderness Study Area, Colorado (Toth, Margo Irene)
— Mineral resource potential of the Greenhorn Mountain Wilderness Study Area, Huerfano and Pueblo counties, Colorado (Toth, M. I., et al.)
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Pueblo County—engineering geology
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— The Dakota Aquifer near Pueblo, Colorado; faults and flow patterns (Banta, Edward R.)
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— Calibration and use of an interactive-accounting model to simulate dissolved solids, streamflow, and water-supply operations in the Arkansas River basin, Colorado (Burns, Alan W.)
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— Quality of the Arkansas River and irrigation-return flows in the lower Arkansas River valley, Colorado (Cain, Doug)
— Selected hydrologic data for Fountain Creek and Monument Creek basins, east-central Colorado (Kuhn, Gerhard)
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— Oxygen-deficient biofacies of the Western Interior seaway; evidence from the Hartland Shale Member of the Greenhorn Formation (Sageman, B. B.)
— Stratigraphy of the Codell Sandstone and Juana Lopez members of the Carlile Formation (Upper Cretaceous), El Paso and Fremont counties, Colorado (Aulia, Karsani)
— Stratigraphy of the upper Carlile Shale and lower Niobrara Formation (Upper Cretaceous), Fremont and Pueblo counties, Colorado (Pinel, Mark J.)
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— Biogeographic influences on Early Cretaceous paleocommunities, Western Interior (Scott, R. W.)
— Black Mesa mining district (Lucas, Spencer G.)
— Geomorphological and geoarcheological investigations at the U.S. Army Fort Carson-Pinon Canyon maneuver site, Las Animas County, Colorado (Schuldenrein, Joseph)
— Investigation of the Rampart Range Fault at the Air Force Academy Trench Site, Colorado Springs, Colorado (Dickson, Peter A.)
— The Dakota Aquifer near Pueblo, Colorado; faults and flow patterns (Banta, Edward R.)
— The Garden of the Gods and basal Phanerozoic nonconformity in and near Colorado Springs, Colorado (Noblett, Jeffrey B., et al.)
— The Triassic System in the Dry Cimarron Valley, New Mexico, Colorado and Oklahoma (Lucas, Spencer G., et al.)

Puye Formation
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— Uranium-series nuclides in the Golden Fault, Colorado, U.S.A., dating latest fault displacement and measuring recent uptake of radionuclides by fault-zone materials (Szabo, B. J.)

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— Colorado; the legacy of uranium mining (Hazle, Albert J.)
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Ralston Creek Formation
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— Lacustrine environments in the Jurassic Morrison Formation; a carbonate record in the Canon City area, Colorado (Sweet, Rebecca G.)
— Middle Jurassic age of the fish-bearing horizon in the Cañon City Embayment, Colorado (Schultze, Hans-Peter)
— Paleoenvironmental analysis of the Ralston Creek Formation within the Canon City Embayment, Canon City, Colorado (Carter, Michael Howard)
— Paleozoic-Mesozoic section; Red Rocks Park, I-70 road cut, and Rooney Road, Morrison area, Jefferson County, Colorado (Weimer, Robert J.)
— The Jurassic Ralston Formation in the southern Colorado Front Range (Cramer, John A., Jr.)
— The record of an evaporating lake system in the lower part of the Jurassic Ralston Creek Formation, Colorado (Donovan, R. Nowell)

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— The carbonatite complex at Iron Hill, Powderhorn District, Gunnison County, Colorado (Armbrustmacher, Theodore J.)
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— Proterozoic anorogenic two-mica granites; Silver Plume and St. Vrain batholiths of Colorado (Anderson, J. Lawford)
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— Rare-earth element (REE) and mineralogic changes in size fractions of soils and sediment during weathering of the San Isabel Batholith, Wet Mountains, USA (Cullers, Robert L., et al.)
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— Strontium isotope and rare earth element analyses of Rio Grande Rift basalts; implications for magmagenesis in continental rifts (Crowley, Julia Coolidge)
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— Rare earth-element mineralogy of the White Cloud Pegmatite, Jefferson County, Colorado (Wayne, David Matthew)
— The distribution and chemistry of allanite and samarskite in the South Platte pegmatite district and their genetic implications (Brewster, Renee Harrison)
— The distribution and chemistry of rare-earth minerals in the South Platte pegmatite district, Colorado, and their genetic implications (Brewster, Renee Harrison)
— The South Platte pegmatite district revisited (Simmons, William B.)
radioactive waste: Radwaste storage in crystalline rocks; a natural analog (Brookins, Douglas G., et al.)
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— Petrology of flecked gneisses in the northern Wet Mountains, Fremont County, Colorado (Trumbull, Robert B.)
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— Rare-earth-element compositions of Cenozoic volcanic rocks in the Southern Rocky Mountains and adjacent areas (Lipman, Peter W.)
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Rat Creek Tuff
Common-Pb isotopic characteristics of central San Juan ash flow tuffs (Matty, David J., et al.)

— Correlation of late crystal-rich tuffs from the central San Juan caldera cluster, Colorado (Sawyer, D. A., et al.)
— High-resolution $^{40}Ar/^{39}Ar$ chronology of Oligocene volcanic rocks, San Juan Mountains, Colorado (Lanphere, Marvin A.)
— High-resolution $^{40}Ar/^{39}Ar$ geochronology, central San Juan caldera complex, Colorado (Lanphere, Marvin A.)
— Mineralogy, petrology, and magmatic conditions from the Fish Canyon Tuff, central San Juan volcanic field, Colorado (Whitney, James A.)
— Paleomagnetism of Oligocene ash-flow tuffs, central San Juan Mountains, Colorado (Rosenbaum, J. G., et al.)

Raton Formation
Chemical analyses of coal samples from the Raton Mesa region and the Canon City Field (Khalsa, Nirbhao S.)
— Coal bed methane desorption data (Tremain, Carol M.)
— Coal deposits in Cretaceous and Tertiary fluvial systems of the Rocky Mountain region (Flores, Romeo M.)
— Comparative analysis of coal accumulation in Cretaceous alluvial deposits, southern United States Rocky Mountain basins (Flores, Romeo M.)
— Disruption of the terrestrial plant ecosystem at the Cretaceous-Tertiary boundary, Western Interior (Tschudy, R. H., et al.)
— Field guide and discussions of coal deposits, depositional environments and the Cretaceous-Tertiary boundary, southern Raton Basib (field trip 3) (Pillmore, Charles L.)
— Field guide to the continental Cretaceous-Tertiary boundary in the Raton Basin, Colorado and New Mexico (Pillmore, C. L., et al.)
— Fluorescent spectral types of selected Colorado bituminous coals (Pasley, Mark A.)
— Fossil Scenedesmus (Chlorococcales) from the Raton Formation, Colorado and New Mexico, U.S.A. (Fleming, R. Farley)
— Geologic framework of nonmarine Cretaceous-Tertiary boundary sites, Raton Basin, New Mexico and Colorado (Pillmore, C. L., et al.)
— Interpretation of vitrinite reflectance data for the Raton Basin, southern Colorado-northern New Mexico (Close, Jay C.)
— Iridium abundance anomalies at the palynological Cretaceous/Tertiary boundary in coal beds of the Raton Formation, Raton Basin, New Mexico and Colorado (Pillmore, C. L., et al.)
— Mineralogy and petrology of the Cretaceous-Tertiary boundary clay bed and adjacent clay-rich rocks, Raton Basin, New Mexico and Colorado (Pollastro, Richard M.)
— More drilling heating up Raton Basin play (McCaslin, John C.)
— Paleoenvironmental significance of fossil chlorococcalean algae from the Raton Formation, Colorado and New Mexico (Fleming, R. Farley)
— Palynology of Upper Cretaceous and lower Tertiary strata from the northern Raton Basin, south-central Colorado (Williams, Carol Alvis)
— Raton Basin magnetostratigraphy near Cretaceous-Tertiary boundary (Wolberg, Donald L., et al.)
— Sedimentology of Upper Cretaceous and Tertiary siliciclastics and coals in the Raton Basin, New Mexico and Colorado (Flores, Romeo M.)
— Stratigraphy and depositional environments of the Cretaceous-Tertiary boundary clay and associated rocks, Raton Basin, New Mexico and Colorado (Pillmore, Charles L.)
— Stratigraphy of the Cretaceous-Tertiary boundary in the southern Raton Basin, New Mexico and Colorado (Pillmore, C. L., et al.)
— Structure of the Raton Basin from a regional seismic line (Applegate, James K.)
— Tectonic control on alluvial paleoarchitecture of the Cretaceous and Tertiary Raton Basin, Colorado and New Mexico (Flores, Romeo M.)
— Tectonic framework of northeastern New Mexico and adjacent parts of Colorado, Oklahoma and Texas (Woodward, Lee A.)
— The hydrogeochemical effects of past mining on the Raton Basin, Colorado (Howard, W. Brant)
— Trace element patterns at a non-marine Cretaceous-Tertiary boundary (Gilmore, J. S., et al.)

Rawah Batholith
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— Petrology and U-Th potential of the eastern portion of the Precambrian Rawah Batholith, Larimer County, Colorado (Burch, Alvin L.)

Rawley Andesite
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— Halogens in biotite, sericite, and apatite in relation to alteration and mineralization in the vicinity of Mount Manitou, Bonanza mining district, Saguache County, Colorado (Woodland, Alan Butler)
— K/Ar geochronology of the composite volcano and trap-door caldera at Bonanza, NE San Juan Mountains, and implications for mid-Tertiary volcanism in Colorado (Smith, Brian M.)
— Meteoric hydrothermal circulation along the Trapdoor Ring Fault system of the Bonanza Caldera, N.E. San Juan volcanic field, Colorado (Smith, Brian M.)
— Paleohydrology of the Bonanza trapdoor caldera, N.E. San Juan volcanic field, Colorado; oxygen isotopes and hydrothermal metamorphism of Rawley Andesite (Smith, Brian M., et al.)

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Red Cliff Member
Field Trip No. 6: Sedimentology, dolomitization, mineralization and karstification of the Leadville Limestone (Mississippian), central Colorado (De Voto, Richard H.)
— Stratigraphy of the Leadville Dolomite (Beaty, David W.)

Red Creek Quartzite
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— Basement in the Uintas: an enigma? (Ritzma, Howard R.)
— Precambrian geochronology of northern Utah (Hedge, Carl E.)
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Red Mountain Rhyolite
I, An $^{18}O/^{16}O$ investigation of the Lake City Caldera, San Juan Mountains, Colorado; II, $^{18}O/^{16}O$ relationships in Tertiary ash-flow tuffs from complex caldera structures in central Nevada and San Juan Mountains, Colorado (Larson, Peter Brennan)
— Paleomagnetism and tectonic setting of the Red Mountain intrusive complex (Henderson molybdenum deposit); Clear Creek County, Colorado (Graaskamp, Garret)
— Paleomagnetism of the Red Mountain intrusive complex (Henderson molybdenum deposit), Empire, Colorado (Graaskamp, G. W., et al.)

Redskin Granite
Topaz in Pikes Peak Batholith (Michalski, Thomas C.)

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— The Ojo Alamo Sandstone and the Cretaceous-Tertiary boundary, San Juan Basin, New Mexico and Colorado (Fassett, James E.)

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— North America's largest dinosaur trackway site; implications for Morrison Formation paleoecology (Lockley, Martin G., et al.)
— Paleoecology of the dinosaur-bearing Morrison Formation (Dodson, Peter, et al.)
— Reconstruction of a Late Jurassic lacustrine ecosystem (Lockley, M. G., et al.)
— The land of the terrible lizards (Keith, Sandra L.)
— The Purgatoire Valley dinosaur tracksite region, Southeast Colorado (Lockley, Martin G.)
— Tiny dinosaurs; are they fully grown? (Callison, George)
Mesozoic: Dinosaurs near Denver (Lockley, Martin G.)
— In the footsteps of dinosaurs?; discussion (Farlow, James O.)
— The paleobiological and paleoenvironmental importance of dinosaur footprints (Lockley, Martin G.)
— The sedimentology of the Purgatoire tracksite region, Morrison Formation of southeastern Colorado (Prince, Nancy K.)
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Reptilia *see under* paleontology

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Paleogene: Osteology and systematic affinities of the horned alligator Ceratosuchus (Reptilia, Crocodilia) (Bartels, William S.)

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— Dinosaur footprints from the Dakota Group of eastern Colorado (Lockley, Martin G.)
— Remains of ancient life in Cretaceous rocks of the Dinosaur Triangle (Young, Robert G.)
Jurassic: Fertile fossil field (Averett, Walter R.)
— Stratigraphic correlation of dinosaur quarries near Grand Junction, Colorado (Armstrong, Harley J.)
— Textural and mineralogical analysis of a Stegosaurus (Reptilia; Ornithischia) plate (Brinkman, Daniel L.)
— The great dinosaur discoveries, Dry Mesa, Colorado (Chenoweth, William L.)
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— Dinosaur Valley; Colorado's new paleontological museum, Grand Junction, Colorado (Averett, Walter R.)
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— Paleontological significance of the Dinosaur Triangle (Armstrong, Harley J.)
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— Triassic and Jurassic rocks in the Dinosaur Triangle (Young, Robert G.)
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Triassic: A guide to dinosaur tracksites of the Colorado Plateau and American Southwest (Lockley, Martin)

Reptilia—faunal studies
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Reptilia—Pterosauria
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— The oldest (?) Morrison Formation dinosaur, Gunnison, Colorado (Bartleson, Bruce L.)

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— New interpretation of the stratigraphic relationship between the Fountain Formation and its Glen Eyrie Member (Suttner, Lee J., et al.)

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— Seam profiling of three coals from Upper Cretaceous Menefee Formation near Durango, Colorado (Pawlewicz, Mark J.)

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— Fungi as potential indicators of periglacial soils (Christensen, Martha)

— Geoarchaeology and late Quaternary geomorphology of the middle South Platte River, northeastern Colorado (Holliday, Vance T.)

— Geochemical variability of soils and plants in the Piceance Basin, Colorado (Tuttle, Michele, et al.)

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— Location of irrigation wells and application rates for irrigated cropland during 1980 in the Northern High Plains of Colorado (Borman, R. G.)

— Lower Gunnison Basin unit (U. S. Bureau of Reclamation, Grand Junction Projects Office)

— Movement of ice-cemented rock glaciers by hydrostatic pressure; an example from Mount Mestas, Colorado (Giardino, J. R.)

— Overland flow and sediment delivery; an experiment with small subdrainage in southwestern Ponderosa pine forests (Colorado, U.S.A.) (Heede, Burchard H.)

— Plutonium distribution in Rocky Flats soil (Little, C. A.)

— Radon in earth-sheltered structures (Landa, Edward R.)

— Remote plutonium contamination and total inventories from Rocky Flats ; discussion (Merrill, G. L., Jr., et al.)

— Sample design and analysis for regional geochemical studies (Klusman, R. W.)

— Sampling soil vapors to detect subsurface contamination; a technique and case study (Nadeau, Royal J., et al.)

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— Soil solution chemistry in an alpine watershed, Front Range, Colorado, U.S.A. (Litaor, M. Iggy)

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— The Fourth of July Valley; glacial geology and archeology of the timberline ecotone (Benedict, James B.)

— The Frazier Site, Colorado (Wormington, H. M.)

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— The solubility product of soil maghemite (Sadiq, Muhammad)

— The spatial variation of soil loss and soil loss controls (Bovis, Michael J.)

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— Soil survey of Rifle area, Colorado; parts of Garfield and Mesa counties (Harman, Jerry B.)
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— Relative dating and soils of late Quaternary deposits, Devil's Thumb Lake valley, Colorado Front Range (Albino, Katharine Chase)
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— Potential selenium problems in Great Plains soils (Boon, David Y.)
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South Mountain Latite
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— Upper Mississippian grainstone reservoirs in the Ladder Creek Field area, Cheyenne County, Colorado (Canter, Karen Lyn)

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Stanaker Formation
Stratigraphy of the Upper Triassic Stanaker formations of the eastern Uinta Mountain area, northeastern Utah and northwestern Colorado (Sikich, S. W.)

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A paleomagnetic investigation of the Permo-Carboniferous Maroon and Upper Permian-Lower Triassic State Bridge formations in north-central Colorado (Christensen, F. Deon)
— Late Paleozoic stratigraphy and syndepositional tectonism, Northwest Colorado (De Voto, Richard H., et al.)
— Stratigraphic and sedimentologic studies of late Paleozoic strata in the Eagle Basin and northern Aspen Sub-basin, Northwest Colorado (Johnson, Samuel Y.)
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Storm King Mountain Shale Member
Foraminifera of the Storm King Mountain Shale Member, Mancos Shale, western Colorado (Von Holdt, Laura Lynn)

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— A partial muskox skeleton from eolian deposits, Southwest Colorado (Clay, Vickie L.)
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— Arapaho Pass; glacial geology and archeology at the crest of the Colorado Front Range (Benedict, James B.)
— Archaeological geology in the Colorado Piedmont and High Plains of southeastern Wyoming (Holliday, Vance T.)
— Archaeomagnetism and magnetic anomalies in the American Southwest (Sternberg, Robert S.)
— Chronology and sedimentology of some North American cold climate dune fields (Ahlbrandt, Thomas S.)
— Colorado site yields valuable information on Folsom hunters (Harney, Thomas)
— Geoarchaeology and late Quaternary geomorphology of the middle South Platte River, northeastern Colorado (Holliday, Vance T.)
— Geological significance of a new radiocarbon date from the Lindenmeier Site (Haynes, C. Vance)
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— Man and environment in the Dolores River valley, SW Colorado; some pollen evidence (Petersen, Kenneth Lee)
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— Origin of Haystack Cave; an archeologic site near Gunnison, Colo. (Burns, Lary K., et al.)
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— Abrupt appearance of shocked quartz at the Cretaceous-Tertiary boundary, Raton Basin, Colorado and New Mexico (Izett, Glen A.)
— Alamosaurus and the sauropod hiatus in the Cretaceous of the North American Western Interior (Lucas, Spencer G.)
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— Biostratigraphic correlation of K-T rocks from northwestern Colorado to San Juan Basin, Colorado and New Mexico (Newman, Karl R.)
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— Field guide to the continental Cretaceous-Tertiary boundary in the Raton Basin, Colorado and New Mexico (Pillmore, C. L., et al.)
— Fluvial sedimentology of the Mesaverde Formation as revealed in continuous subsurface core (Lorenz, John C.)
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— Graphic correlation of high-resolution event and biostratigraphic data; a Mid-Cretaceous test case (Kirkland, J. I.)
— Hummocky cross-stratification and associated erosional features; description and depositional processes (Boyles, J. Michael)
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isostasy: Isostatic compensation of the Denver Basin (Babits, Steven J.)
mantle: Geothermal studies in Wyoming, Colorado, and Montana (Heasler, H. P., et al.)
— Nd in the Colorado Front Range and implications for crust formation and mantle evolution in the Proterozoic (DePaolo, Donald J.)
paleomagnetism: Anisotropy of magnetic susceptibility data; an aid in evaluating remanent magnetic data (Ellwood, Brooks B.)
plate tectonics: Early Proterozoic tectonic history in Colorado (Knoper, Michael W., et al.)
— Factors controlling the phases and styles of extension in the northern Rio Grande Rift (Morgan, Paul)
— Rio Grande Rift; problems and perspectives (Baldridge, W. Scott, et al.)

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Teller County—areal geology
Florissant Fossil Beds National Monument: Florissant Fossil Beds National Monument (Anonymous)
maps: Reconnaissance geologic map of the Florissant 15-minute Quadrangle, Park and Teller counties, Colo. (Wobus, R. A.)

Teller County—economic geology
dolostone deposits: Mineral resources of the Beaver Creek Wilderness Study Area, Fremont, El Paso, and Teller counties, Colorado (Lindsey, David A., et al.)
gems: Field trip; Colorado amazonite (Voynick, Steve)
— Outstanding mineral specimens from the Pikes Peak Batholith (Muntyan, Barbara L.)
— Pegmatite cavities in the Lake George area, Colorado (Kile, Daniel E.)
gold ores: A geophysical investigation of the San Juan Belt and its relationship to mineralization at Cripple Creek, Colorado (Whitacre, Thomas James)
— Cripple Creek, Cresson, Camp Bird (Poss, John R.)
— Mineralized veins and breccias of the Cripple Creek District, Colorado (Thompson, Tommy B., et al.)
— West of Denver (Norwood, Victor G. C.)
maps: Mineral resources of the Beaver Creek Wilderness Study Area, (CO-050-016), El Paso, Fremont, and Teller counties, Colorado (Kreidler, Terry J.)
— Problems of using rock volume data in predictive resource studies (Howarth, Richard J.)
metal ores: Cripple Creek, Cresson, Camp Bird (Poss, John R.)
mineral resources: Analytical results and sample locality map of stream-sediment and heavy-mineral-concentrate samples from the western three-quarters of the Pueblo 1° by 2° Quadrangle, south-central Colorado (Zimbelman, David R., et al.)
— Analytical results and sample locality map of stream-sediment, heavy-mineral-concentrate, and rock samples from the Beaver Creek Wilderness Study Area (CO-050-016), El Paso, Fremont, and Teller counties, Colorado (Detra, David E., et al.)
— Mineral appraisal of the San Isabel National Forest, Colorado (U. S. Bureau of Mines, Intermountain Field Operations Center)
— Mineral resources of the Beaver Creek Wilderness Study Area, (CO-050-016), El Paso, Fremont, and Teller counties, Colorado (Kreidler, Terry J.)
— Mineral resources of the Beaver Creek Wilderness Study Area, Fremont, El Paso, and Teller counties, Colorado (Lindsey, David A., et al.)
pegmatite: Geology of the Ten Percenter pegmatite mine, Lake George District, Teller County, Colorado (Wobus, Reinhard A., et al.)
— Pegmatite cavities in the Lake George area, Colorado (Kile, Daniel E.)
rare earth deposits: The Black Cloud Pegmatite, Teller County, Colorado (Simmons, William B.)
silver ores: West of Denver (Norwood, Victor G. C.)

uranium ores: Granite of Silver Plume type; a possible source of the uranium in deposits of the Tallahassee Creek and High Park areas, Fremont and Teller counties, Colorado (Hills, Francis Allan)
— Problems of using rock volume data in predictive resource studies (Howarth, Richard J.)
water resources: Water-resources appraisal of the upper Arkansas River basin from Leadville to Pueblo, Colorado (Crouch, Thomas M., et al.)

Teller County—geochemistry
maps: Analytical results and sample locality map of stream-sediment and heavy-mineral-concentrate samples from the western three-quarters of the Pueblo 1° by 2° Quadrangle, south-central Colorado (Zimbelman, David R., et al.)
— Analytical results and sample locality map of stream-sediment, heavy-mineral-concentrate, and rock samples from the Beaver Creek Wilderness Study Area (CO-050-016), El Paso, Fremont, and Teller counties, Colorado (Detra, David E., et al.)

Teller County—geochronology
Proterozoic: Evolution of the early Proterozoic Colorado Province; constraints from U-Pb geochronology; with Suppl. Data 87-31 (Reed, John C., Jr., et al.)

Teller County—geophysical surveys
magnetic surveys: Aeromagnetic map of part of the Pike National Forest and vicinity, Colorado (U. S. Geological Survey)
maps: Aeromagnetic map of part of the Pike National Forest and vicinity, Colorado (U. S. Geological Survey)
remote sensing: A geophysical investigation of the San Juan Belt and its relationship to mineralization at Cripple Creek, Colorado (Whitacre, Thomas James)
— Air-photo lineament analysis; east-central Front Range, Colorado (Steele, S. G.)
— High resolution geologic remote sensing of the Cripple Creek/Canon City area, Teller County, Colorado (Taranik, Dan L.)
— Mapping hydrothermally altered rocks with Landsat data—Cartographie Landsat de roches altérées par hydrothermalisme (U. S. Geological Survey)
— Plans for integrated airborne geophysical study of the Geophysics Environmental and Minerals demonstration area, south-central Colorado (Watson, Kenneth, et al.)
— The nature and characteristics of lineaments mapped from satellite and aerial imagery in an area of south-central Colorado bounded by 105°00′ to 105°30′ west longitude to 38°15′ to 38°52′30″ north latitude (Rowan, Charles David V.)

Teller County—mineralogy
framework silicates, alkali feldspar: What's new in minerals? (Wilson, Wendell E.)
miscellaneous minerals: The Cresson Vug, Cripple Creek (Smith, Arthur E., Jr., et al.)

Teller County—paleobotany
angiosperms: Attached leaves, inflorescences, and fruits of Fagopsis, an extinct genus of fagaceous affinity from the Oligocene Florissant flora of Colorado, U.S.A. (Manchester, Steven R.)

Teller County—petrology
fluid inclusions: Geology, mineralization, and fluid inclusion analysis of the Ajax vein system, Cripple Creek, Colorado (Dwelley, Peter C.)
igneous rocks: Petrology of the alkalic hypabyssal and volcanic rocks at Cripple Creek, Colorado (Eriksson, Carl L.)
— Tabulation of modal and chemical analyses for Silver Plume Quartz Monzonite (Silver Plume Granite), Berthoud Plutonic Suite, Front Range, Colorado (Gable, Dolores J.)

Teller County—stratigraphy
Cretaceous: Codell and Juana Lopez in south-central Colorado (McLane, Michael)
Oligocene: Araneid taphonomy; a paleothermometer (Licht, Edwin L.)
— The Florissant Fossil Beds National Monument, Teller County, Colorado (Hutchinson, Robert M.)
Pennsylvanian: Climatic influence on Fountain sedimentation in the Manitou Embayment (Suttner, Lee J.)
— New interpretation of the stratigraphic relationship between the Fountain Formation and its Glen Eyrie Member (Suttner, Lee J., et al.)
— Sedimentology of the Fountain fan-delta complex near Manitou Springs and Canon City, Colorado (Suttner, Lee J., et al.)
— Sedimentology of the Fountain fan-delta complex near Manitou Springs, Colorado (Langford, Richard P.)

Teller County—structural geology
tectonics: Air-photo lineament analysis; east-central Front Range, Colorado (Steele, S. G.)
— Tectonic history of the Front Range, Colorado (Bilodeau, William L.)
— The nature and characteristics of lineaments mapped from satellite and aerial imagery in an area of south-central Colorado bounded by 105°00′ to 105°30′ west longitude to 38°15′ to 38°52′30″ north latitude (Rowan, Charles David V.)

Telluride Conglomerate
Geological and geochemical controls of metal precipitation in epithermal systems, western San Juans, Colorado (Kyle, J. Richard, et al.)
— Laramide oblique-slip, high-angle faults, southern San Juan Mountains, Colorado (Morse, Earl L.)

tellurides *see under* mineralogy; minerals

tellurites *see under* mineralogy; minerals

tellurium—geochemistry
metal ores: Trace element distribution around precious/base metal veins, Idaho Springs Dist., CO (Budge, Suzanne)

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Tenmile Granite
Grenadier fault block, Coalbank to Molas passes, Southwest Colorado (Baars, D. L., et al.)
— Proterozoic geology of the Needle Mountains; a summary (Tewksbury, Barbara J.)
— Proterozoic geology of the Needle Mtns., Colorado (Tewksbury, B. J.)

Tensleep Sandstone
Permeability transects in eolian sands and their use in generating random permeability fields (Goggin, D. J., et al.)

tephrochronology *see under* geochronology

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terrestrial crust *see* crust

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Terry Sandstone Member
Albitization in the Upper Cretaceous Terry Sandstone, Denver Basin, Colorado (Pittman, Edward D.)
— Character and origin of natural gases from Wattenberg area, Denver Basin, Colorado (Rice, Dudley D.)
— Depositional history of the Terry and Hygiene sandstone members, Cheyenne Basin (Patton, Jean J.)
— Diagenesis in the Terry Sandstone Member of the Pierre Shale, Denver Basin, Colorado (Hays, Phillip D.)
— Diagenesis of Terry Sandstone (Upper Cretaceous), Spindle Field, Colorado (Pittman, Edward D.)
— Marine-shelf bar sand/channelized sand shingled couplet, Terry Sandstone Member of Pierre Shale, Denver Basin, Colorado (Siemers, C. T.)
— Shallow oil fields of the Denver Basin, Colorado and Nebraska, U.S.A. (deChadenedes, J. F.)
— The Carter Sandstone Member of the Pierre Shale; a Cretaceous shoreline (Mieras, Barbara L.)

Tertiary *see* Eocene; Miocene; Neogene; Oligocene; Paleocene; Paleogene; Pliocene
see under geochronology *under* Conejos County; Custer County; Grand County; Hinsdale County; Jackson County; Mineral County; Saguache County; San Juan County
see under stratigraphy *under* Garfield County; Huerfano County; Las Animas County; Moffat County; North America; San Juan County

Tertiary—stratigraphy
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chemostratigraphy: The Cretaceous-Tertiary boundary problem; an assessment from lead isotope systematics (Dia, Aline, et al.)
paleomagnetism: Magnetic properties of K/T and E/O microspherules; origin by combustion? (Cisowski, Stanley M.)

Thatcher Limestone Member
Depositional history of the Graneros Shale (Cenomanian), Rock Canyon Anticline (Kauffman, Erle G.)

theoretical studies *see under* deformation
see under sheet silicates, chlorite group *under* phase equilibria

thermal analysis *see* chemical analysis; spectroscopy; X-ray analysis

thermal conductivity *see under* heat flow
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thermal waters *see* geothermal energy: springs

thermoluminescence *see under* geochronology

Thermopolis Shale
Hydrocarbon generation in Lower Cretaceous Mowry and Skull Creek shales of the northern Rocky Mountain area (Burtner, R. L.)

— Quantified assemblage zones; a case study in nearshore facies from the Lower Cretaceous of the Western United States (Metzger, Ellen P.)
— Stratigraphy and depositional environments of the Muddy Sandstone in North and Middle Parks basin, Jackson and Grand counties, Colorado (Murphy, W. Dale)

Thirteen Finger Limestone
Paleohydraulic parameters of a Morrowan point-bar complex, Salt Lake and Haswell fields, Kiowa County, Colorado (Wingate, Thomas P.)

Thirtynine Mile Volcanic Series
Geology and uranium geochemistry of the western margin of the Thirtynine Mile volcanic field, Park, Chaffee and Fremont counties, Colorado (Smith, Larry B.)

thorium—geochemistry
basalts: Uranium, thorium, and trace elements in geologic occurrences as analogues of nuclear waste repository conditions (Wollenberg, H. A., et al.)
igneous rocks: Reconnaissance geologic mapping in north-central Colorado using multispectral gamma-ray data (Moll, Stanton H.)
monazite: Reversal of normal role of thorium in fractional crystallization (Phair, George)
plutonic rocks: Redistribution of U and Th in shallow plutonic environments (Gosnold, William D., Jr.)
sedimentary rocks: Natural gamma-ray spectrometry, lithofacies, and depositional environments of selected Upper Cretaceous marine mudrocks, Western United States, including Tropic Shale and Tununk Member of Mancos Shale (Zelt, Frederick Bruce)
shale: Gamma-ray spectrometry of marine shales in outcrop; a tool for petroleum exploration and basin analysis (Zelt, Frederick B.)

thorium—isotopes
radioactive isotopes: Uranium and thorium endowment, distribution and mobilization in a uraniferous Precambrian granite (Silver, Leon T., et al.)
Th-230: Isotopic composition of uranium and thorium in crystalline rocks (Rosholt, J. N.)
— Uranium-series nuclides in the Golden Fault, Colorado, U.S.A., dating latest fault displacement and measuring recent uptake of radionuclides by fault-zone materials (Szabo, B. J.)
Th-232/Th-230: Isotopic composition of uranium and thorium in crystalline rocks (Rosholt, John N.)
Th/U: Granite of Silver Plume type; a possible source of the uranium in deposits of the Tallahassee Creek and High Park areas, Fremont and Teller counties, Colorado (Hills, Francis Allan)

thorium ores *see under* economic geology
see under economic geology *under* Custer County; Fremont County; Larimer County

thrust faults *see under* displacements *under* faults
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Tidwell Member
Interpretation of the Morrison Formation as a time-transgressive unit (Bowman, Sue Ann Bilbey, et al.)

time scales *see under* geochronology
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Timpas Limestone
VSP interval velocities from traveltime inversion (Stewart, R. R.)

tin ores *see under* economic geology
see under economic geology *under* Grand County; Jackson County

Tintic Quartzite
Altered igneous rocks around Rocky Mountain manto deposits; the Gilman (Colorado) example (O'Neill, T. F., et al.)

titanium—geochemistry
igneous rocks: Igneous dikes of the eastern Uinta Mountains, Utah and Colorado (Ritzma, Howard R.)

titanium ores *see under* economic geology *under* Gunnison County

Tocito Sandstone
Chipeta (oil) (Armstrong, Karen, et al.)
— The marine transgressive surface as a sequence boundary; a case study of the upper Coniacian transgression in the San Juan Basin (Nummedal, Dag)

Todilto Formation
Depositional history and petrography of the Todilto Formation (Jurassic), New Mexico and Colorado (McCrary, Megan Marie)
— Evaporitic environments as a source of petroleum (Evans, Robert)
— Paleogeography and facies distribution of the Todilto Limestone and Pony Express Limestone Member of the Wanakah Formation, Colorado and New Mexico (Ridgley, Jennie L.)
— Paleontological evidence of a non-marine, saline, model of deposition of the Jurassic Todilto Formation, northern New Mexico and southwestern Colorado (Kietzke, Kenneth K.)

Tongue River Member
Paleoenvironmental significance of fossil chlorococcalean algae from the Raton Formation, Colorado and New Mexico (Fleming, R. Farley)

trace elements *see under* geochemistry
see under affinities *under* gold ores; silver ores
see under eclogite *under* metamorphic rocks
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see under geochemistry *under* Adams County; Alamosa County; Arapahoe County; Chaffee County; Clear Creek County; Costilla County; Custer County; Delta County; El Paso County; Elbert County; Fremont County; Garfield County; Gilpin County; Grand County; Gunnison County; Hinsdale County; Huerfano County; igneous rocks; Jackson County; Jefferson County; La Plata County; Lake County; Las Animas County; lava; magmas; Mesa County; metamorphic rocks; Mineral County; Moffat County; Montrose County; organic materials: Park County; Pueblo County; rare earths; Rio Blanco County; Routt County; Saguache County; San Juan County; sedimentary rocks; sediments; Summit County; Weld County; Western U.S.
see under monzonites *under* igneous rocks

trace-element analyses *see under* emission spectroscopy *under* spectroscopy
see under methods *under* chemical analysis

tracks *see under* biogenic structures *under* sedimentary structures
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tracks and trails *see* ichnofossils

Travesser Formation
Copper deposits in Sheep Pen Sandstone (Triassic) in Cimarron County, Oklahoma, and adjacent parts of Colorado and New Mexico (Fay, Robert O.)
— The Triassic System in the Dry Cimarron Valley, New Mexico, Colorado and Oklahoma (Lucas, Spencer G., et al.)
— Triassic and Jurassic vertebrate-dominated trace fossil assemblages of the Cimarron Valley region; implications for paleoecology and biostratigraphy (Conrad, Kelly, et al.)
— Triassic stratigraphy in the Dry Cimarron Valley, New Mexico, Colorado and Oklahoma (Lucas, Spencer G., et al.)

Treasure Mountain Tuff
Cyclical ash-flow tuff volcanism, Platoro-Summitville caldera complex, Southeast San Juan volcanic field, south-central Colorado (Dungan, M. A.)
— Genesis of high-K calc-alkaline lavas and ash-flow tuffs from alkaline and subalkaline parent magmas; Platoro-Summitville caldera complex, SE San Juan volcanic field, Co. (Colucci, M. T., et al.)
— Geochemistry and evolution of post-collapse lavas, Platoro-Summitville caldera complex, Southeast San Juan Mountains, Colorado (Ferguson, K. M., et al.)
— Geologic systems as analogs for long-term radioactive waste isolation (Wollenberg, Ernesto A., et al.)
— Magnetostratigraphy of the Treasure Mountain Tuff, Platoro-Summitville caldera complex, San Juan volcanic field, Colorado (Brown, Laurie L.)
— Oligocene volcanic rocks in the La Veta Pass area, northern Sangre De Cristo Mountains, south-central Colorado (Kearney, Barbara Cowles)
— Petrologic evolution of the Conejos Formation; pre-collapse intermediate volcanism of the Platoro caldera complex, Southeast San Juan volcanic field (Colucci, M., et al.)

tree rings *see under* geochronology

Triassic *see under* stratigraphy *under* Colorado Plateau; Dolores County; Eagle County; Garfield County; Gunnison County; Jefferson County; La Plata County; Lake County; Mesa County; Montezuma County; Ouray County; Pitkin County; Rio Blanco County; San Juan County; San Miguel County; Summit County; Western U.S.

Trilobita—occurrence
Cambrian: Collecting fossils (Jones, Bob)

Trimble Granite
Geology and uranium mineralization of the Florida Mountain area, Needle Mountains, southwestern Colorado (Collier, James D.)
— Mid-Proterozoic postorogenic granites, and associated uranium mineralization of the Needle Mountains, southwestern Colorado (Collier, James D.)
— Proterozoic geology of the Needle Mtns., Colorado (Tewksbury, B. J.)

— Trace-element evidence for the evolution of the Eolus Batholith, Needle Mountains, southwestern Colorado (Collier, James D.)

Trinidad Sandstone
Field guide and discussions of coal deposits, depositional environments and the Cretaceous-Tertiary boundary, southern Raton Basib (field trip 3) (Pillmore, Charles L.)
— Field guide to the continental Cretaceous-Tertiary boundary in the Raton Basin, Colorado and New Mexico (Pillmore, C. L., et al.)
— New wildcat strengthens Raton Basin hunt (McCaslin, John C.)
— Petrology and diagenesis of Trinidad Sandstone (Upper Cretaceous), Huerfano and Las Animas counties, Colorado (Dunaway, Sabrina G.)
— Possible basin centered gas accumulation, Raton Basin, southern Colorado (Rose, P. R., et al.)
— Potential basin-centered gas accumulation in Cretaceous Trinidad Sandstone, Raton Basin, Colorado (Rose, Peter R., et al.)
— Raton Basin magnetostratigraphy near Cretaceous-Tertiary boundary (Wolberg, Donald L., et al.)
— Sedimentology of Upper Cretaceous and Tertiary siliciclastics and coals in the Raton Basin, New Mexico and Colorado (Flores, Romeo M.)
— Stratigraphy and depositional environments of the Cretaceous-Tertiary boundary clay and associated rocks, Raton Basin, New Mexico and Colorado (Pillmore, Charles L.)
— Stratigraphy of the Trinidad Sandstone and Vermejo Formation (Upper Cretaceous), Canon City coal field, Fremont County, Colorado (Gaffke, Thresa M.)
— Structure of the Raton Basin from a regional seismic line (Applegate, James K.)
— The hydrogeochemical effects of past mining on the Raton Basin, Colorado (Howard, W. Brant)

Trinity Complex
Aeromagnetic data and crustal structure of the Western United States (Johnson, P. R.)

tritium *see* deuterium; hydrogen

Tropic Shale
Natural gamma-ray spectrometry, lithofacies, and depositional environments of selected Upper Cretaceous marine mudrocks, Western United States, including Tropic Shale and Tununk Member of Mancos Shale (Zelt, Frederick Bruce)
— Tarrantoceras Stephenson and related ammonoid genera from Cenomanian (Upper Cretaceous) rocks in Texas and the Western Interior of the United States (Cobban, William A.)

Troublesome Formation
Miocene mammals from the central Colorado Rocky Mountains (Kron, Donald Gordon)
— Rapid alteration of primary magnetizations in Tertiary and Quaternary tephra from the Western United States (Summa, Lori L.)

Trout Creek Sandstone Member
A depositional model for middle Mesaverde coals, Yampa Field, northwestern Colorado (Fenske, John M., Jr.)
— Description and origin of the lower part of the Mesaverde Group in Rifle Gap, Garfield County, Colorado (Madden, Dawn J.)
— Facies relationships in Campanian wave-dominated coastal deposits in Sand Wash Basin (Siepman, Bret R.)
— Predicting the influences of post-mining conditions on surface and groundwater resources (Day, Michael J., et al.)
— Stratigraphic distribution suggesting environmental significance of pollen in Late Cretaceous upper Iles and lower Williams Fork formations, Rifle Gap, Garfield County, Colorado (Madden-McGuire, Dawn J.)
— Stratigraphic framework of Upper Cretaceous (Campanian) coal in western Colorado (Newman, Karl R.)
— Stratigraphy and depositional environments of a portion of upper Campanian Mesaverde Group, central Grand Hogback, Northwest Colorado (Madden, Dawn J.)
— Stratigraphy and petroleum potential of Trout Creek and Twentymile sandstones (Upper Cretaceous), Sand Wash Basin, Colorado (Siepman, Bret R.)
— Stratigraphy of Grand Hogback Coalfield, upper Campanian Mesaverde Group, Rifle Gap to New Castle, Garfield County, Colorado (Madden, Dawn J.)
— Stratigraphy, depositional environments, and paleogeography of coal-bearing strata in the Upper Cretaceous Mesaverde Group, central Grand Hogback, Garfield County, Colorado (Madden, Dawn J.)
— Structure contour map of the top of the Rollins Sandstone Member of the Mesaverde Formation and Trout Creek Sandstone Member of the Iles Formation, Piceance Creek basin, Colorado (Johnson, R. C.)

Tucumcari Shale
Biogeographic influences on Early Cretaceous paleocommunities, Western Interior (Scott, R. W.)
— Regional correlation of Dakota Group disconformities; Front Range, New Mexico to Wyoming (Mateer, Niall J.)
— The Dakota Group of northeastern New Mexico and southern Colorado (Mateer, Niall J.)

Tullock Member
Correlation of early Paleocene palynomorph biozones, Montana, Colorado, and New Mexico (Newman, Karl R.)
— Linking impacts in plant extinctions (Leahy, Guy D., et al.)

tungsten ores *see under* mineral deposits, genesis
see under economic geology *under* Boulder County; Huerfano County; North America; Pueblo County

tunnels *see under* engineering geology
see under engineering geology *under* Clear Creek County; data processing; Garfield County; Lake County; Summit County

tunnels—design
rock mechanics: Exploration strategy and technology; update and review (Sinha, Raghupati S.)

turbidity current structures *see under* sedimentary structures

turbidity currents *see under* transport *under* sedimentation

Tusas Granite
Reports on field investigations of uranium anomalies (Goodknight, Craig S.)

Twentymile Sandstone Member
Facies relationships in Campanian wave-dominated coastal deposits in Sand Wash Basin (Siepman, Bret R.)
— Predicting the influences of post-mining conditions on surface and groundwater resources (Day, Michael J., et al.)
— Stratigraphy and petroleum potential of Trout Creek and Twentymile sandstones (Upper Cretaceous), Sand Wash Basin, Colorado (Siepman, Bret R.)

Twilight Gneiss
Correlations and revisions of Precambrian stratigraphy, Needle Mountains, southwest Colorado, and Tusas Mountains, north-central New Mexico (Burns, L. K.)
— Grenadier fault block, Coalbank to Molas passes, Southwest Colorado (Baars, D. L., et al.)
— Polyphase deformation in allochthonous rocks of the Precambrian Uncompahgre Formation, Needle Mountains, southwestern Colorado (Tewksbury, Barbara J.)
— Proterozoic geology of the Needle Mountains; a summary (Tewksbury, Barbara J.)
— Proterozoic geology of the Needle Mtns., Colorado (Tewksbury, B. J.)
— The Irving Formation and the Proterozoic sequence in the Needle Mountains, southwestern Colorado (Ellingson, Jack A., et al.)

Twin Lakes Formation
Timing of Cenozoic magmatism and tectonism in the Sawatch Uplift and northern Rio Grande Rift, Colorado (Shannon, J. R., et al.)

Twowells Sandstone
Depositional environments of the Dakota Sandstone and adjacent units in the San Juan Basin utilizing discriminant analysis of trace elements in shales (Walters, Lester J., Jr., et al.)
— Is it possible to identify eustatic sea-level-change events in the Upper Cretaceous rocks of the San Juan Basin, New Mexico and Colorado? (Fassett, James E.)

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Uinta Formation
A debris-flow model for the origin of high-level sloping surfaces on the northern flanks of Battlement Mesa, Garfield County, Colorado (Stover, Bruce K.)
— Chart showing correlation of selected parts of the Eocene Uinta and Green River formations, southeastern Piceance Creek basin, Colorado (O'Sullivan, R. B.)
— Chart showing intertongued units of the Eocene Green River and Uinta formations, northwestern Piceance Creek basin, northwestern Colorado (Hail, W. J., Jr.)
— Computer modeling of interaction of TOSCO II leachate with weathered Uinta Formation (Esmaili, Esmail, et al.)
— Detailed lithologic, rock quality, and hydrologic data from four drill holes in the

central Piceance Creek basin, Rio Blanco County, Colorado (Daub, G. J., et al.)
— Development of a pore interaction model for hydrodynamic dispersion (Baker, F. G.)
— Development of a pore interaction model for hydrodynamic dispersion during flow through porous media (Baker, Fred G.)
— Early joints within penecontemporaneous slump blocks of the Eocene Uinta Formation, Piceance Creek basin, northwestern Colorado (Grout, Marilyn A.)
— Effect of solid-solution ratio on the variability of distribution coefficient values in a complex rock-fluid system (Pavlik, Hannah F.)
— Final environmental impact statement; Federal prototype oil shale tract C-a, offtract lease (U. S. Bureau of Land Management, White River Resource Area)
— Final environmental impact statement; Wolf Ridge Corporation mine plan for a nahcolite solution mine (Anonymous)
— Fracture history of the northern Piceance Creek basin, northwestern Colorado (Verbeek, Earl R.)
— Geochemical modeling and evaluation of lithium and fluoride distribution coefficients using batch and column methods; oil shale leachate in contact with Uinta Formation Sandstone, Piceance Creek basin, Colorado (Pavlik, Hannah Flora)
— Geotechnical characterization for underground mining at the Colony shale oil property (Brechtel, C. E., et al.)
— Hydrogeologic characterization of the Colony Shale Oil Project area (Day, Michael J.)
— Preliminary report on solid bitumens in Eocene rocks of Piceance Creek basin, northwestern Colorado (O'Sullivan, R. B.)
— Reconstruction of reaction pathways in a rock-fluid system using MINTEQ (Pavlik, H. F.)
— Seismotectonic evaluation of the Dudley Gulch Graben in the Piceance Creek basin (Clift, Anne Eckert)
— Simulated oil-shale mine dewatering using a confined multiaquifer model, Piceance Basin, Colorado, U.S.A. (Weeks, John B.)
— The geology and seismology of the Dudley Gulch Graben and related faults, Piceance Creek basin, northwestern Colorado (Eckert, Anne Douglas)
— The rodents Pseudotomus and Quadratomus and the content of the tribe Manitshini (Paramyinae, Ischyromyidae) (Korth, William W.)
— Two case histories on the design and pump testing of individual aquifers with dual completed wells (Jehn, James L.)
— Vitrinite reflectance and temperature gradient models applied at a site in Piceance Basin, Colorado (Bostick, Neely H.)

Uinta Mountain Group

A model for the tectonic evolution of the PC-X (?) Red Creek Quartzite, Utah and Colorado (Sears, James W., et al.)
— An interpretation of the subsurface structural style of the Beaver Creek Anticline, Moffat and Routt counties, Colorado (Morel, John A., et al.)
— Igneous dikes of the eastern Uinta Mountains, Utah and Colorado (Ritzma, Howard R.)
— Interpretation of a seismic section across the Danforth Hills Anticline (Maudlin Gulch) and axial arch in Northwest Colorado (Richard, J. J.)
— Precambrian geochronology of northern Utah (Hedge, Carl E.)
— Rb-Sr ages of the Uinta Mountain Group of Utah and Colorado (Chaudhuri, S.)
— Seismic and borehole evidence for important pre-Laramide faulting along the axial arch in Northwest Colorado (Stone, Donald S.)
— The accretion of Proterozoic crust in Colorado; igneous, sedimentary, deformational, and metamorphic history (Bickford, M. E.)
— The Precambrian of the Rocky Mountain region (Hedge, Carl E., et al.)

ultramafics *see under* igneous rocks

Uncompahgre Formation

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— Basement-cover relationships in Southwest Colorado; implications for early to middle Proterozoic crustal evolution of the Southwest USA (Harris, C. W., et al.)
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— Potential well yields from the Ogallala Aquifer in the northern High Plains of Colorado (Lindner-Lunsford, Juli B.)

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— The Mammoth Mt. Tuff and other shallow zoned rhyolitic ash-flow tuffs, central San Juan volcanic field (Krause, Karen W., et al.)

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— Uranium mill tailings; radium geochemistry (Landa, Edward R.)
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— Carbon dioxide injection and resultant alteration of Weber Sandstone (Pennsylvanian-Permian), Rangely Field, Colorado (Bowker, K. A.)
— Cretaceous and Pennsylvanian oil and gas production at Elk Springs and Winter Valley pools, Moffat County, Colorado (MacMillian, Logan)
— Field guide and road log; Pennsylvanian and Permian depositional systems and cycles in the Eagle Basin, northwestern Colorado (Schenk, Christopher J., et al.)
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— Reservoir development using offset VSP techniques in the Denver-Julesberg Basin (Cramer, P. W.)

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— Oil, gas potential of West U.S. wilderness lands (Miller, Betty M.)
— Paleoenvironmental and source rock assessment of black shales of Pennsylvanian age, Powder River and northern Denver basins (Clayton, J. L., et al.)
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Wheeler Formation
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White Cloud Pegmatite
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Coarse- and medium-grained wind ripples and avalanches in modern and ancient eolian dunes (Langford, Richard P.)
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White River alluvial aquifer
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— Magnetostratigraphy of the White River Group and its implications for Oligocene geochronology (Prothero, Donald R., et al.)
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— Potential for artificial recharge of the northern High Plains of Colorado (Warner, James W., et al.)
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Whitehorn Granodiorite
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Widefield Aquifer
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Wilkins Peak Member
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— A regionally extensive altered air-fall ash for use in correlation of lithofacies in Upper Cretaceous Williams Fork Formation, northeastern Piceance Creek and southern Sand Wash basins, Colorado (Johnson, Edward A.)
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— Chemical analyses of coal samples from the Green River region (Khalsa, Nirbhao S.)
— Coal bed methane desorption data (Tremain, Carol M.)
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— Geophysical logs and sample analysis for 10 holes drilled during 1981 in the western part of the Yampa coal field, Moffat County, Colorado (Johnson, Edward A.)
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— Origin and production implications of abnormal coal reservoir pressure (Decker, A. D.)
— Petrology of selected coal seams of the Williams Fork Formation, Moffat County, Colorado (Joliat, Steven A.)
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Wire Patch Intrusive Complex

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Wolf Creek Bed

A depositional model for middle Mesaverde coals, Yampa Field, northwestern Colorado (Fenske, John M., Jr.)
— Characterization of lower Williams Fork Formation coals from the eastern Yampa coal field, Routt County, Colorado (Affolter, Ronald H.)

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Yampa Bed

A regionally extensive altered air-fall ash for use in correlation of lithofacies in Upper Cretaceous Williams Fork Formation, northeastern Piceance Creek and southern Sand Wash basins, Colorado (Johnson, Edward A.)

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waste disposal: Land use controls to protect groundwater quality in the arid Southwest (Stephenson, Larry K.)

Yuma County—geochemistry
organic materials: Relation of hydrocarbon type to maturity of organic matter in Upper Cretaceous chalks, eastern Denver Basin (Rice, Dudley D.)

Yuma County—geophysical surveys
seismic surveys: Direct detection of Niobrara gas using seismic techniques; Yuma County, Colorado (Claussen, John P.)
— Offset-amplitude seismic analysis; Bonny gas field, Yuma County, Colorado (Harwell, Jeffrey W.)

Yuma County—hydrogeology
ground water: Ground-water hydrographs, 1970-87, and water-level data, 1986-87, for the northern High Plains of Colorado (Reed, Raymond L.)
— Water-level records for the northern High Plains of Colorado, 1970-86 (Reed, Raymond L.)
maps: Ground-water hydrographs, 1970-87, and water-level data, 1986-87, for the northern High Plains of Colorado (Reed, Raymond L.)
— Potential well yields from the Ogallala Aquifer in the northern High Plains of Colorado (Lindner-Lunsford, Juli B.)

Yuma County—mineralogy
miscellaneous minerals: Who's who in mineral names; Edwin Jenkins Over, Jr. (Mitchell, Richard S.)

Z

zinc—geochemistry
metal ores: Trace element distribution around precious/base metal veins, Idaho Springs Dist., CO (Budge, Suzanne)
oxides: Adsorption of Cu, Pb, and Zn onto birnessite (Catts, John G.)
peat: Selected trace element anomalies in a Front Range bog, Larimer County, Colorado (Sarnecki, Joseph C.)
rocks: Maps showing anomaly patterns for silver, molybdenum, lead, and zinc in altered rocks and soils, Williams Fork and St. Louis Peak Roadless Areas, Clear Creek, Grand, and Summit counties, Colorado (Eppinger, R. G., et al.)
soils: Development of a DTPA soil test for zinc, iron, manganese, and copper (Lindsay, W. L.)

zinc ores *see under* economic geology
see lead-zinc deposits
see under economic geology *under* Chaffee County

zirconium—geochemistry
igneous rocks: Petrology of the alkalic hypabyssal and volcanic rocks at Cripple Creek, Colorado (Eriksson, Carl L.)

zoogeography *see* biogeography